

APPENDIX C.

REGULATION APPLICABLE TO PILGRIMS IN THE DUTCH POSSESSIONS.

The Governor-General of Netherlands India has subjected the pilgrims, by Ordinance dated the 6th July 1859, to the following prescriptions:—

1st.—Every man or woman of the native population under the authority of Government, who proposes to perform the pilgrimage to Mecca, shall be obliged to obtain a passport from the administration of his or her district.

2nd.—This passport can be obtained only from the chief executive authority of the district, who, before delivering it, shall satisfy himself that the applicants have the necessary means to defray the expenses of the journey to and fro, and that they have adopted proper measures for the maintenance of their families during their absence.

3rd.—A holder of a passport must show himself and have his passport *visé* on arrival in a locality where there is a Dutch consul or consular agent.

4th.—On his return the pilgrim is obliged to apply to the Governor or of that place in Netherlands India which he reaches first, who shall affix his *visa* to the passport, so that the pilgrim may continue his journey to his home: After his arrival at which, he is bound to present himself before the local authorities, who shall note on his passport the date of his return home.

5th.—Any person proceeding to Mecca, and being unfurnished with a passport, or who shall have infringed the provisions of Sections 3 and 5, shall be fined in a sum not less than 25 and not more than 100 florins.

6th.—Passports of pilgrims to Mecca shall be registered in special registers, arranged according to the model indicated in the Ordinance.

No. 336, dated 12th September, 1866.

From—LORD LYONS,

To—LORD STANLEY, M. P.

The report of the British Delegates to the Cholera Conference, No. 32 of the 10th instant, which is enclosed in my immediately preceding Despatch, will show your Lordship that resolutions on matters of very serious importance to Great Britain have been passed by the Conference. On some of these matters it is beyond my province to give an opinion. On being applied to by Dr. Goodeve and Dr. Dickson for advice, I recommended them to oppose temperately but decidedly all those measures which I conceived to be dangerous to our interests or to the welfare of our Indian subjects, and to be careful to give no

sanction to measures of which the tendency in these respects appeared to be doubtful. I thought that the consent of our Delegates to any such measures might in future discussion with us be used as an embarrassing argument by those who desired to carry them into effect, while the opposition made by our Delegates in the Conference need be no obstacle to the adoption by Her Majesty's Government hereafter of any measures which might on further consideration appear to be unobjectionable.

There is one point, however, connected with several of the measures recommended by the Conference on which my local experience here may justify my making some remarks.

It is recommended by the Conference that the control of sanitary matters in the Red Sea shall be given to an *international* commission. Now judging from the proceedings of the board of health here, and indeed from those of the Cholera Conference itself, there is reason to apprehend that an international commission would virtually be neither more nor less than a French Commission. We have a board of health at Constantinople, in which most nations having any pretension to maritime interests in Turkey, are represented. The French Government maintain as their Delegate to it a man of very great ability, Dr. Fauvel, sent expressly from France for the purpose, and receiving, I believe, a large salary. On almost all questions he commands a majority of the votes. The Ottoman members vote with him for fear of offending France, and appear to be easily intimidated whenever the manifest interests of Turkish shipping induce them to attempt any opposition to him. Many of the European nations have very small commercial interests in Turkey, while they have an overwhelming dread of cholera, and a great desire to please France. With others, as for instance, Italy and Greece, which have a considerable amount of shipping in Turkish waters, the fear of France and of cholera appears nevertheless to outweigh all other considerations. The powers of this board, are not very clearly defined, but still the board is subordinate to the Porte; and occasionally, in matters of considerable importance to British commerce, a very great exertion of the influence of this embassy with the Porte, and with the ministers of Foreign nations having the same interests as England, may carry a point against the opposition of the

Lord Lyons, No. 319.

French. This, as your Lordship is aware, has recently happened with respect to the passage of steamers in quarantine through the Bosphorus and the Dardanelles. But if it is extremely difficult to obtain proper consideration for the interests of England from a board constituted as is the board of health here, the difficulty in the case of such an international commission as is proposed for the Red Sea would be infinitely greater. The Porte, which has the ultimate control of the board of health here, is accessible to the influence of Great Britain, and feels its responsibility to her. But the proposed international commission would decide all questions without control by a majority of votes. All the Continental Powers now represented in the Cholera Conference would apparently be entitled to send members to the new commission. Many of these have little, if

any, commercial interest in the Red Sea, while they have an inordinate dread of cholera and an unreasoning faith in quarantine, as well as a great desire to conciliate France. There can be little chance of England's exercising an influence with such Powers equal to that of France, and of course the advantages of abstaining from interference in the politics of the continent cannot be obtained by England without a sacrifice of influence with continental States. Nor do I conceive that, intimate and friendly as our relations are with France, we can safely acquiesce in her having entire control over matters so deeply affecting our commercial interests and the safety of our Indian Empire, as the proposed sanitary measures in the Red Sea. Experience here shows that France is by no means indisposed to use her predominant influence in sanitary matters for the purpose of extending her political influence. She has little or no shipping herself in these waters, except the steam vessels of the Messageries Imperiales Company; and apparently the only commercial consideration which influences the proceedings of her Delegate to the board of health is a desire to promote the interests of that company. Neither her political nor her commercial views in Egypt and the Red Sea are so identical with those of England, as to make it safe for us to acquiesce in her obtaining a predominant influence in the direction of the large and important sanitary measures now proposed. Your Lordship will not fail to observe that one of these is the establishment of a lazaretto at Bab-el-mandeb, which would in fact be a fortress held by a strong garrison, and another the total interruption of communication between Europe and Egypt in case of cholera appearing in that country.

As a choice of evils, I think the proposal to confide the direction to an Egyptian board of health, constituted as the board of health is here, and acting under the control and authority of the Egyptian Government, decidedly preferable to making it over to an uncontrolled international commission. But should Her Majesty's Government agree to this proposal, it would be in my opinion extremely important that they should appoint a man of great knowledge and high ability as their Delegate to the Egyptian board, and should allot to him a considerable salary, and take all other proper means of strengthening his position.

Dated 12th October, 1866.

From—E. C. EGERTON, ESQ.,

To—*The Under-Secretary of State for India.*

I am directed by Lord Stanley to transmit to you, to be laid before Viscount Cranborne, a copy of a Despatch* from the British members of the Cholera Conference at Constantinople, reporting the further proceedings and the close of the Conference.

* No. 37.

No. 37, dated 1st October, 1866.

From—MESSRS. E. GOODEVE AND E. D. DICKSON,

To—LORD STANLEY, M. P.

We have the honor to inform your Lordship that, on the 25th ultimo, the Cholera Conference finished the discussion of the report of the second Committee of the third group of the programme called "Rapport sur les mesures quarentenaires applicable aux provinances cholériques."

This report was received in proof sheets only, and has not yet been properly printed, so that we are not able to forward copies.

The Conference has recommended measures of quarantine and isolation, and the establishment of lazarets; but as we shall treat upon this subject in a report which will follow this, we will not enter into the matter at present.

On the 26th the Conference received the report of the Committee of the fourth group of the programme, *viz*:—*Quelle forme définitive la Conférence devrat'elle donner aux résolutions qu'elle aura adoptées?*

The form proposed by the Committee and approved of by the Conference consists in a short statement of the work done and in an enumeration of the conclusions adopted by the latter. The report was read in manuscript, and has not yet been printed; we cannot, therefore, forward copies to your Lordship.

The labors of the Conference ended with this report. It was read in the presence of His Honor Aali Pacha, who afterwards with a short speech formally closed the meetings of the Commission.

The Conference held in all 44 meetings. About half only of the protocols have been printed; it is expected that the remainder will not be ready for several weeks.

Dated 18th October, 1866.

From—E. HAMMOND, ESQ.,

To—*The Under-Secretary of State for India.*

I am directed by Lord Stanley to transmit to you, to be laid before Viscount Cranborne, the accompanying copy of a Despatch from the British Cholera Commissioners, reporting the result of the labors of the International Sanitary Conference.

I am to add that the Despatch having been printed, you can be supplied with as many copies as Lord Cranborne may desire.

P. S.—I likewise enclose copies of a letter which Lord Stanley has addressed* to Dr. Goodeve and Dr. Dickson, approving their conduct in the International Sanitary Commission, and of a Memorandum* by Dr. Goodeve respecting the reports of the Commission which have not yet been furnished to Her Majesty's Government.

* Dated October 18th.

[Confidential.]

No. 38, dated 3rd October, 1866.

From—DOCTORS E. GOODEVE AND E. D. DICKSON,

To—LORD STANLEY.

The International Sanitary Conference has terminated its labors, and we beg, therefore, to lay before your Lordship a statement of the work performed by it. We propose to include in this an abstract of the opinions of the Conference upon the most important points connected with the origin and spread of cholera, and the means of preventing its diffusion; and finally to state our opinion upon the influence of those measures on the public health, and their bearing on the maritime communications of Great Britain.

The powers represented at the Conference, and the number of Delegates sent by them, were as follows:—

Austria, represented by 3 Delegates.	Italy, represented by 3 Delegates.
Belgium " 1 "	Holland " 3 "
Denmark " 1 "	Persia " 2 "
Spain " 2 "	Portugal " 2 "
Papal States " 2 "	Prussia " 2 "
France " 2 "	Russia " 3 "
Great Britain " 3 "	Sweden " 2 "
Greece " 2 "	Turkey and Egypt 3 "

The British Delegates at the commencement were the Honorable William Stuart, Dr. Edward Goodeve, and Dr. Edward Dalzel Dickson. Since the 6th of June, Mr. Stuart having gone away on leave, Great Britain has been represented by the two medical Delegates only.

The Conference met for the first time on the 13th of February. The meeting was opened by His Highness Aali Pacha, Minister for Foreign Affairs, and the first proceedings comprised the nomination of Committees to draw up a programme of work, and to consider a proposition of an urgent nature made by the French Delegates, for regulating the return of pilgrims from Mecca in the event of cholera breaking out in the Hedjaz during the pilgrimage of this year.

The discussions on this proposition delayed the commencement of the real work of the Conference until the 8th of March, when the pro-

gramme was adopted, and the work divided into four parts or groups, viz:—

- 1.—Origin and development of cholera.
- 2.—Mode of its propagation.
- 3.—Measures of preservation.
- 4.—Form into which the resolutions adopted by the Conference were to be embodied.

The time of the Conference has been occupied since the above date in studying, through Committees, and discussing fully the above-mentioned subjects. The Committee appointed for the study of the two first-mentioned groups was composed of all the medical Delegates, with three diplomatic members; while the Committees for the remaining groups were formed indiscriminately of diplomatic and medical members.

These several Committees presented six reports to the Conference, viz:—

- 1.—On the origin and propagation of cholera.
- 2.—A historical sketch of the epidemic of 1865.
- 3.—On measures of hygiene.
- 4.—On measures of restriction.
- 5.—On measures specially applicable to the East.
- 6.—On the form to be given to the resolutions of the Conference.

At the instance of the French Delegates, the Conference discussed also the revision of the Ottoman sanitary tariff, and made a report thereon; but in which discussion at least one-half of its members (including ourselves) took no part.

Origin of Cholera.

With reference to the origin of cholera, the Conference has pronounced that it is not a native of Europe, and that it has no spontaneous origin there. That the various epidemics which have devastated the world have always proceeded from India, and have been easily traced back to that source. It has not been able, however, to give any opinion as to the mode of its origin in India, but contents itself with stating that cholera exists there permanently or in an endemic form. The idea that it originated in the soil of the delta of the Ganges was a favourite one at the commencement of the meetings; but this opinion has been much weakened, if not altogether set aside, by the arguments which we have been able to bring forward against it; and the belief that it depended upon neglect on the part of the British Government in not keeping up in an efficient state the hydraulic works made by their predecessors has been entirely abandoned.

We beg here to note that, in our opinion, the maintenance of cholera permanently in some parts of British India is not due to any peculiarity

of the soil, but simply to the continued transmission of a communicable disease, perpetuated in localities which abound in unhealthy (but remediable) conditions engendered by man under the influence of a favoring climate. We do not attach to the word *endemic* any expression of the *mode of origin*, but we understand by it simply the fact of a permanent repetition of the disease.

Some discussion arose as to whether cholera was present in an endemic state in other parts of the East; but it was considered by the majority that proof of this was wanting. It was shown, however, that cholera has frequently prevailed in Persia; so much so as to offer grounds of suspicion that it had got *acclimated* there; but its presence probably owes this frequency to repeated importations from India. The south and south-east coasts of Arabia have been classed as *doubtful* endemic centres; but, in reality, though cholera is probably very common in those regions, we do not know much about them.

On the whole, there is no satisfactory evidence which proves that cholera exists in a permanent state anywhere except in India, from whence have radiated the epidemic streams that have spread over the world.

Transmissibility.

The Conference has declared that cholera is a disease transmissible from man to man, propagated in a special manner, and diffused in proportion to the frequency of human intercourse. It may be communicated by patients having confirmed cholera; and also by those suffering from only choleraic diarrhœa, and who are able to move about, and are, to all appearance, in a state of health.

The mode of infection is considered to be mainly, though not exclusively, through the discharges from the stomach and bowels, which may pollute air or water, and thus bring the infection within range of a large number of persons, without the necessity of *actual contact*. This peculiarity, and the manner in which apparently healthy individuals may become the unsuspected vehicles of the disease, explains the obscurity which has long been attached to the question of the transmissibility of cholera; and has solved the former difficulty, encountered while endeavouring to trace its passage, in instances in which the connecting link of infection was absent.

Incubation.

The time that elapses between exposure to infection and the manifestation of cholera, without previous diarrhœa, is probably not more than a few days; but some doubts still exist as to the duration of choleraic diarrhœa; though in cases so commencing, this stage, in the opinion of the Conference, seldom exceeds *eight days* without showing decided indications of cholera. Hence the separation of such cases for a term of *ten days* from the sources of infection would be sufficient, in the great majority of the instances, to decide whether they will pass into cholera or not. Some of the Delegates maintained that this diarrhœal period

might extend *beyond a fortnight*. But without denying the possible occurrence of such exceptional cases, the majority of the Conference was not satisfied that the evidence adduced in their support was satisfactory, and that for practical purposes it would not be justified to propose measures based upon such questionable examples.

Fomites.

The cholera poison may infect articles of clothing, houses, ships, &c., and in certain conditions be retained by them in a dormant state for a long time. These may communicate the poison to healthy individuals coming within their range, and, if movable, may convey it to distant localities.

There is no proof of infection having been given by merchandize or animals, but the Conference admits the *possibility* of such an occurrence.

Although the Conference recognizes the diffusion of the disease by human intercourse, it also admits that *unhealthy local conditions* intensify cholera epidemics. These prevail mostly in places with overcrowded populations condemned to breathe foul air, to drink impure water, and to live upon soils impregnated with decomposing, organic, and especially excrementitious matters. The Conference, therefore, does not think that transmissibility is the sole point to be guarded against, but that the utmost care should be taken that, when cholera is introduced into a place, it do not meet there a soil favorable to its development.

Briefly, it may be said that the Conference is of opinion that cholera is the product of India; that it accompanies man in his migrations; that it is carried in all directions by his agency only, and in rapidity corresponding with his movements; and that it develops itself most severely in those places which abound in bad sanitary conditions.

Measures of Prevention.

Upon the foregoing considerations the Conference has framed its measures of preservation. These comprise—

Measures of hygiene.

Measures of disinfection.

Measures of restriction.

The measures of hygiene recommended by the Conference are such as are generally known, and with the details of which we will not trouble your Lordship. They demand for every man pure and abundant air, pure water, and a pure soil. The Conference believes that these elements should constitute the permanent privilege of populations, and that their attainment should not be postponed until cholera epidemics threaten *closely*, or are actually in the midst of unhealthily-situated people. They are conditions, however, which cannot be created in a moment—they can only be the work of time.

Measures of disinfection are intended to destroy the cholera poison, and prevent it from exerting an injurious influence on healthy persons. They are applied to purify articles of clothing, buildings, ships, and goods that have been contaminated. Another great object proposed to be attained by disinfectants is the destruction of the chief source of the malady, by operating directly by chemical agents upon the discharges of the cholera sick, and thus preventing them from evolving its poison.

The thorough disinfection of ships is an elaborate process, requiring the *unloading* of the vessel, and is only called for in cases of an outbreak of cholera on board. In other instances the vessel will be subjected to measures of a less troublesome character.

Measures of restriction are intended to separate infected persons or things from the healthy. They comprise—

1.—Isolation of the first cases of cholera which occur in a place, and which may even be applied to exclude infected villages or small towns from communication with their neighbourhood. With perfect isolation, cholera could not assume the epidemic character; but owing to the difficulty encountered in effectually controlling the movements of people, this measure will seldom be practicable in Europe.

2.—Interruption of all communications with an infected port or district throughout the duration of the epidemic. This is considered a measure only applicable to exceptional cases.

3.—Quarantine.

(A).—Quarantine upon arrivals *by sea*: The Conference has fixed upon *ten days* as the period of quarantine, believing that this term will meet the requirements of every case without exacting more from commerce than the public safety demands.

A longer period of probation was proposed by some of the members, chiefly in consequence of the difficulty encountered in detecting the existence of choleraic diarrhoea among crews and passengers of ships; but this proposal was rejected by the Conference, on account of its being based upon a theory which, if accepted, would give no limit to the length of quarantine. The Conference has, therefore, adapted its system of restriction to the condition of the vessel coming from an infected port; exacting the full ten days, and even a prolonged term of quarantine, from ships having the malady on board, or that are foul from overcrowding, &c.; and favoring those which present good sanitary conditions, and allowing them, in special cases, even to count the days occupied in the voyage as part of the term of their quarantine, *viz.*, vessels carrying a surgeon, whose duty it will be to superintend the execution of certain measures of hygiene, and to testify to the state of health of the persons on board. While, moreover, vessels whose crews and passengers have enjoyed good health during a prolonged voyage of 15 to 30 days will perform only *five days'* quarantine, and those that have been at sea more than *thirty days* will, on their arrival, be detained only 2½ hours.

Quarantine, as applied to ships, has been divided into two categories :—

1.—Quarantine of observation ; which implies the seclusion of a vessel, with its cargo and passengers, for a limited period, with disinfection of the ship, wearing apparel, and goods supposed to be of a susceptible nature, but without the disembarkation of non-susceptible goods and passengers into the lazaretto. To this category belong vessels in a healthy state, and which are free from over-crowding.

2.—Strict quarantine (“ quarantine de rigueur”); which requires the discharge of the cargo and landing of all passengers into the lazaretto, followed by a thorough cleansing and disinfecting of the ship. This quarantine is only applied to vessels that have had cholera or choleraic diarrhoea, and to those over-crowded with passengers, more especially with pilgrims, emigrants, or troops.

(B).—Quarantine upon arrivals *by land*: Owing to the difficulty of efficiently maintaining it, this can seldom be successfully applied. The instances quoted by the Conference in which it might be useful are those of persons moving in masses, such as pilgrims, emigrants, and troops. Its duration will vary from *eight to ten days*, according to the distance whence the arrivals come, but will never be less than *ten days* for pilgrims, emigrants, and troops.

Lazaretto establishments for the isolation of persons and the disinfection of goods are a necessary accompaniment of all quarantine institutions. They are now proposed to be constructed upon a plan and scale that will render them much more healthy than those of the old system ; and the Conference has expressed a hope that they will be rendered as comfortable and agreeable as possible, and that they shall be regularly and frequently inspected to insure their being kept in good order. They will be placed in *isolated* situations (upon islands if possible), so as not to become sources of danger to populous towns or districts in their neighbourhood.

It is proposed that every vessel shall be furnished with a bill of health, delivered by the *local sanitary board*; and that to avoid abuses, the *consular* bills of health shall henceforth be suppressed, and that instead, the Consuls should inscribe their *visa* upon the local document.

The Conference is, moreover, of opinion that the *very first case* of cholera which manifests itself in a place should be *noted upon the bill of health*; and that mention should continue to be made of the epidemic while it lasts ; and that *fifteen days* should be allowed to elapse after its entire cessation before admitting arrivals from the compromised locality into free pratique. The bill of health, moreover, must not be *exchanged* for a new one, until the vessel has reached its ultimate destination ; and it is recommended that this document should be printed in *two languages*, French and that of the place of departure ; and that it be drawn up according to the model given by the Paris Sanitary Conference.

Finally, to prevent false declarations being made by captains of vessels on their arrival in a Turkish port, the Conference has expressed

a hope that the Ottoman Government will enact, with the least possible delay, a *Penal Code* to meet infractions against its sanitary regulations.

Although the Conference has devised measures for arresting the progress of cholera in general, it declares that the most important for the preservation of Europe are those directed to stop its development in India, and check its progress towards Europe; and that the efficacy of these measures is greater the nearer they are applied to the sources from whence the malady issues.

The Conference infers from our present knowledge that the most effectual means of checking the development of cholera in India consists in the continuance and extension of the measures of hygiene commenced by the British Government, and in the general application of the rules, slightly modified, which now regulate Hindoo pilgrimages. It wishes also to impress on the Indian Government the great advantages that might result from its undertaking researches on the origin, endemicity, and epidemicity of cholera, and which might possibly lead to the discovery of a way of exterminating the disease—the great object to be attained.

To check the progress of cholera westward, measures by land and by sea are proposed. Those by land commence with restrictions on the frontiers of the Punjab, and are extended to Persia, Central Asia, and the confines of Russia. Those by sea are applied to the usual cholera routes through the Persian Gulf and Red Sea. The rules of ordinary quarantine are deemed sufficient for the shores of the Persian Gulf; but a more elaborate scheme is devised for the Red Sea, affecting, on the one hand, the passenger traffic between India and Suez, and on the other, the movements connected with the pilgrimage to Mecca. All vessels entering the Red Sea would be inspected at Perim. Those bound to Suez would, if necessary, perform quarantine at Tor, while pilgrimages would be detained in quarantine at some station (not yet determined) in the vicinity of the Straits of Bab-el-Mandel; and they would, moreover, have to comply with the regulations of the "Indian Native Passengers' Act" of 1858, to which a few slight additions have been made by the Conference.

At Mecca measures of safety will be adopted similar to those employed by the British Government at the Hindoo shrines.

The Western pilgrims on their return would perform fifteen days' quarantine at El-Wesch, should cholera have broken out in the Hedjaz during their stay; and the land caravans would, in like circumstances, be inspected before entering Egypt or Syria, and, if necessary, perform quarantine also.

The above measures are to be carried out under the control of an international sanitary board.

Thus cholera is to be checked, step by step, in its course along the pilgrim-trains, as well as in the ordinary communications of the Red Sea; and should it finally reach the Egyptian territory, it is proposed to

put that country under an *interdiction*, and interrupt all intercourse between it and the Mediterranean during the whole period of the duration of the epidemic; the *mails* only being allowed to pass onwards.

The checks to the progress of cholera by the Red Sea, could they practically be enforced, would probably prevent any further importation of the malady through that channel. But the obstacles opposed to its march through Persia, and the Northern route, are far less likely to be efficient, owing to the much greater difficulty of arresting its progress by land.

According to our view, this is much to be regretted. We think that this channel is quite as important as that of the Red Sea; for, with the exception of the epidemic of 1865, it is by the Persian and Northern routes that cholera has always invaded Europe.

From the foregoing statement it will be apparent to your Lordship that a large share of the measures proposed by the Conference are directed towards India, and the cholera routes between India and Europe. The responsibility which attaches to India as being the source of the disease, and its connections with Europe, have been prominently brought forward by the Conference.

Impressed with the events of 1865, it has directed especial attention to the Red Sea channel, and above all to the Mahomedan pilgrims. We propose to consider in what manner the danger, if any, has increased of late years.

The ordinary traffic between India and Suez is not likely to be more dangerous now than it has been for the last twenty years, during which steam communication has been in constant operation. The pilgrim traffic between India and the Hedjaz continues to be carried on in nearly the same manner as heretofore: steam-transport being very little employed in it. In 1865 only four steamers were freighted for this purpose: they carried 894 passengers out of the 20,000 *Eastern* pilgrims said to have visited Mecca, and they had no cholera deaths amongst their crews or passengers. If any new source of apprehension, therefore, has arisen, it must lie in the application of steam-transport between the Hedjaz and Suez, and which is now largely employed for the conveyance of pilgrims. The crowding of these boats and the short duration of their passage have certainly increased the risk of an importation of the disease into Egypt, whenever it occurs in the Hedjaz during the season of the pilgrimage.

The Conference has dwelt on the dangers of the port of Singapore as a focus of cholera and a centre of dissemination. We think, however, that there is misapprehension on this point. When cholera is epidemic in the Malayan peninsula and islands, it may exist also at Singapore, owing to its commercial intercourse with the surrounding countries; but, in general, Singapore is a place remarkably free from cholera, and it can therefore seldom become a centre of emission. Cholera existed there in 1864, previous to the sailing of the pilgrim ships for the Hedjaz. The only vessels having had cholera on board, and of which we possess

any accurate account, are the *Persia* and *North Wind*; both of which, although originally sailing from Singapore, caught the disease at Mokalla, a town on the south-eastern coast of Arabia. The public mind, without paying sufficient attention to this latter circumstance and to the length of the voyage between Singapore and Jeddah (fifty to sixty days' sail), ascribed the importation of cholera into the Hedjaz directly from Singapore. Without denying the possibility of a direct importation from India, we believe that the main danger to the Hedjaz lies in the propagation of the disease from the eastern and southern coast of Arabia.

Such, my Lord, is a brief outline of the opinions expressed by the Conference on cholera, and on the measures of preservation proposed against it.

We now beg respectfully to offer a few observations of our own on this subject.

The Conference has fixed on *ten days* as the term of quarantine for maritime arrivals from an infected port. If this rule be adopted throughout Europe, it will greatly embarrass and delay our communications with the neighbouring continent; nor would it be of much use when applied to one Continental state while its communications *by land* with other states remained free; still, if such checks could be tolerated, they would increase the chances of keeping out the malady, and people moving in masses, such as emigrants, might be submitted to this restriction without much inconvenience. But if quarantine cannot be carried out between England and the continent, still it might be advantageously enforced in the communications between England and the Mediterranean, and between England and America.

The proposed system of quarantine will fall severely upon vessels having cholera and upon those that are in bad sanitary conditions, and the measure will be most felt by vessels performing *short voyages*, while first-class ships, and those that make *long voyages* and are in a healthy state, will have the delay materially reduced.

From the unfrequency of cholera in Europe these restrictive measures would not be felt there so much as they would be on our communications with India. Bombay and Calcutta are never exempt from cholera, and could never give a *clean bill* of health; hence these measures will be constantly in force against them. Fortunately, by the arrangement which allows well-conditioned and healthy ships having a surgeon on board to reckon the voyage as part of the quarantine, passenger-boats that go from Bombay to Suez in twelve days, and from Calcutta to Suez in twenty days, when free from cholera, would only meet with a detention of twenty-four hours at the latter port,—a delay which we think might safely be dispensed with, as it causes inconvenience to the vessel, without allowing sufficient time for the discovery of any latent sickness lurking on board. We further beg to observe that should the proposed *interception at Perim*, for the purpose of interrogating vessels, be abandoned, the twenty-four hours' stoppage at Suez

would not, in ordinary circumstances, materially interfere with our passenger traffic through that line ; but the case would be very different on the contemplated route by way of the Persian Gulf, where the advantages of a shortened voyage between Bombay and the head of the Persian Gulf would be lost by the increased delay applied to ships on their arrival there, so as to complete their term of ten days' quarantine, including the time of their passage.

We may here remark that, independently of self-preservation, India has strong inducements to make every effort to banish cholera from its chief ports, and especially from its future great point of communication with Great Britain, Bombay.

The objection we entertain with regard to the twenty-four hours' detention at Suez is even more applicable to vessels sailing from India by way of the Cape of Good Hope. These are sometimes three or four months at sea, and up to the present moment have never carried the disease to England, nor have they ever been subjected to any restrictive measures whatever.

As a general rule we could not admit the practicability of foreign interference in the local administration of any State, whether in sanitary matters or otherwise, and whether this applied to our own possessions, or to those of the Ottoman Government. We, therefore, could not join in the vote of the Conference for international institutions in the Red Sea.

Tor, the proposed lazaretto station for passenger ships having cholera or in bad sanitary conditions, is too far distant from Suez (more than 100 miles) ; this inconvenience will not be felt however by the passenger-boats coming from India in a *healthy* state, as the twenty-four hours' detention will not be applied at Tor, but at Suez.

The interruption of all communication with Egypt, should cholera break out there, is a measure which, if ever enforced, will most seriously affect our traffic through that land. Apart from the political and commercial interests involved in this question, masses of passengers, many of them invalids, would accumulate in Egypt for weeks or months, without the possibility of finding accommodation, and exposed to the dangers of an unsparing epidemic. A large proportion of these sufferers would be afflicted with severe tropical diseases, and seeking Europe at a great sacrifice as the only means of restoring health, and saving their lives. Whether these sick persons are detained in Egypt during its unhealthy season, or warned of this interruption, are forced to remain in the Indian climate, their lot will be a most deplorable one, often aggravated from want of means to procure the comforts and even the necessities of existence. The above picture will, in a great degree, also apply to reliefs of troops, which are in future to take the overland route.

We are of opinion that this extreme measure might be obviated without danger to Europe by allowing the overland passengers to pass through Egypt in *quarantine trains*, on condition of their performing afterwards the usual quarantine at the port of their destination.

We now beg to call your Lordship's attention to the pitiable condition of the Indian pilgrims in the Hedjaz during their pilgrimage. Men, women, and children are there exposed to every kind of hardship, to want of shelter, famine, disease, extortion, and pillage, and are often forced to sell their liberty for two or three years to enable them to procure the means of returning to their homes. We do not know to what extent Her Majesty's Indian subjects share in these lamentable hardships; and it is possible that, under the common name of Indian pilgrim, the greatest number of the sufferers belong to foreign States. We think that we have heard enough about them to prompt us to suggest respectfully to your Lordship that this question, as it affects British subjects, might be made a matter for special and careful inquiry, and that steps might be taken to prevent the recurrence in future of such disastrous scenes.

In conclusion, we beg to submit to your Lordship our opinion as to the utility of the work in which we have been privileged to share.

The Conference has pointed out all that is positively known with regard to the origin of cholera. It has shown the disease to be the product of one country, has declared its transmissibility, and established the mode of its propagation. It has traced its routes, and pointed out the best mode of checking its progress. It has raised hopes that by a judicious combination of measures of hygiene and restriction of intercourse, the disease may be averted; and encourages us to believe that cholera is not an overwhelming force against which man is helpless, and to which he must submit without effort, but rather an evil that may be overcome by a combined action of various Governments, directed with energy and perseverance.

Although we have not shared in all the opinions or given our assent to every measure proposed by the Conference, yet we think that it has pointed out the true manner of meeting cholera, and we cannot but believe, with all humility, that if its recommendations are thoroughly carried out, they will avert the evil, and contribute largely to the preservation of mankind.

Dated 18th October, 1866.

From—LORD STANLEY,

To—DOCTORS E. GOODEVE AND E. D. DICKSON.

I have to acknowledge the receipt of the British Cholera Commissioners' Despatch No. 33 of the 3rd instant, and I beg to thank you for the very able and clear report which it contains of the labors of the International Sanitary Commission.

I have at the same time much pleasure in expressing to you the approval of Her Majesty's Government for the attention which you have shown in the Commission.

Charing Cross Hotel, Strand, October 18th, 1866.

To—The RIGHT HON'BLE E. HAMMOND.

Dr. E. Goodeve presents his compliments to Mr. Hammond, and begs to inform him that the printed reports of the Conference unsent up to the time of his leaving Constantinople on the 5th instant, were "Mesures quarentinaires applicable aux provenances Cholériques," "Aperçu général de la marche et de la propagation du cholera en 1865," and the report of the Committee and Conference on the 4th group of the programme.

The two first will probably arrive with the messenger who left Constantinople on the 10th of this month. The third is mainly an enumeration of the conclusions and recommendations of the Conference, with the votes attached to each resolution. This last document cannot be sent just yet, because it has to be made up from the printed reports of the protocols of the meetings. Of these protocols about one-half only of the 44 were printed up to the 5th October. It is, therefore, probable that some weeks from that time will elapse before the remainder is issued and the enumeration abstracted and printed.

The above mentioned three reports and the 20 or 21 protocols will close the documents issued by the Conference.

Dated 9th November, 1866.

From—HERMAN MERIVALE, ESQ.,

To—The Under Secretary of State for Foreign Affairs.

I have laid before the Secretary of State for India in Council Mr. Murray's letter dated 22nd September last, communicating, for the observations of Viscount Cranborne, a letter from the British Delegates at the Cholera Conference at Constantinople, reporting the recent proceedings of the Conference, together with a Despatch from Lord Lyons, pointing out the objections to the proposed constitution of an International Commission for the supervision of sanitary measures in the Red Sea.

2. The Report of the British Commissioners, which accompanied Mr. Hammond's letter of the 18th ultimo, and which contains a concise and highly interesting resumé of the proceedings of the Cholera

Conference, has at the same time been under the consideration of Lord Cranborne.

3. The proceedings of the Conference which more directly concern England are ranged by the British Delegates under the following heads :—

Suggestions regarding the extinction of cholera in India.

Measures for preventing the exportation of cholera from India, and those proposed for arresting the passage of the disease between India and Europe.

The principal measures proposed by the Conference under the two first heads are the better regulation of the Hindoo pilgrimages in India, the prohibiting of Mahomedan pilgrims quitting India without a passport, and the extension of the provisions of a local Legislative Act regulating the number of passengers which the pilgrim ships leaving India are competent to embark. Lord Cranborne will be ready to bring these various suggestions to the notice of the Government of India, by whom he feels assured they will be considered with every desire to carry out as far as possible the objects proposed by the Conference; but he would only now remark that the extension of the Native Passengers' Act in the manner proposed by the Conference would appear to be beyond the competence of the Government of India, and that the consent of the foreign Governments concerned would probably be required before they could be carried out to their full extent.

Lord Cranborne entirely concurs in the objections so forcibly stated by Lord Lyons to the delegation to an International Commission of the control of the sanitary arrangements in the Red Sea. His Lordship, having regard to the extreme importance of guarding as far as possible against the introduction of the cholera into Europe, is not prepared to object to the subjection of Indian pilgrims to any necessary measures of inspection and quarantine. But, considering the extreme sensitiveness of the Mahomedans of India to all measures which have the least appearance of interference with their religious observances, it is absolutely necessary that any measures of quarantine against the spread of the cholera should impose as little restriction as possible on the freedom of their movements either going to or returning from their places of pilgrimage; and it is not to be expected that the requisite caution in this respect would be exercised by a Commission composed for the most part of members who have little acquaintance with Mahomedan feelings and usages; and who, while anxious above all, to promote the wishes of their respective Governments by preventing the spread of the cholera to Europe, would feel little interest in the effect which their measures might have on the minds of the Mahomedan subjects of other powers. In this view the suggestion of M. Keun, the Dutch Delegate, that the regulation of measures of restriction imposed on Mahomedan pilgrims should be enforced by the Egyptian Government seems eminently worthy of adoption.

With regard to the selection of a site for the inspection and quarantine stations for Indian pilgrims, it would seem desirable that the two stations should be placed as closely as possible in juxta-position, and the island of Camaran recommended by the British Delegates and noticed not unfavorably by the Committee of the Conference would seem not unlikely to fulfil the conditions requisite for the double purpose in view. On this point, however, Lord Cranborne would be quite prepared to acquiesce in any decision to which, after full enquiry, Lord Stanley might give his assent.

The proposed establishment of a quarantine station at Tor, at which all ships bound for Suez should be compelled to stop, seems to Lord Cranborne quite unnecessary. His Lordship is not aware that the cholera has ever been brought into Egypt by any of the mail steamers from India; and, at all events, it would seem a sufficient precaution that ships coming up the Red Sea should be subjected to sanitary inspection at Suez or its immediate neighbourhood.

The delay which would be caused by the necessity of proceeding to Tor, or any other station at a distance from Suez, would be highly objectionable in the case of mail or passenger ships from India; and even should the proposed board of health not be constituted at Suez, the Egyptian Government would doubtless be prepared to appoint a special sanitary officer at that port, to whom the duty of visiting all ships from India and of enforcing proper measures of quarantine might safely be entrusted.

Lord Cranborne is of opinion that, in the case of mail packets and other vessels sailing under contract with the Government, the power of enforcing quarantine should be conceded only in cases of absolute necessity. The British Commissioners have very properly pointed out to Lord Stanley that any detention of such vessels upon the ground of the presence of cholera at the port from which they had sailed would involve a constant and most serious interference with the communications between India and this country. Bombay and Calcutta could never be pronounced to be absolutely free from cholera, and if quarantine could be inflicted, because such ports were unable to furnish a clean bill of health, it would be uniformly applied to all vessels of the class referred to, no matter what the actual condition of the passengers might be. It would be very unadvisable to consent to the detention of such vessels, except when the disease was actually present on board, or when the surgeon should certify that some case of it had occurred during the voyage. Even under those circumstances it might be desirable to adopt the suggestion of the Commissioners that overland passengers should be allowed to proceed by "quarantine trains."

Lord Cranborne notices with great regret that both the Committee of the Cholera Conference and the Conference itself have, though not indirectly affirmative terms, recorded the opinion that all intercourse between Egypt and Europe, in the event of an outbreak of cholera in the former country, should be suspended during the whole duration of the

epidemic. The serious disturbance to the relations between this country and India which would be caused by such a measure, and the inconvenience and suffering which it would cause to individuals, are so great that Lord Cranborne is constrained to express his earnest hope that Lord Stanley will refuse, under any circumstances, to give his assent to the proposal. It is not to be expected that the steam ships which convey the mails and passengers from India shall be exempted from such reasonable measures of restriction as are ordinarily employed to prevent the spread of disease from one country to another; but Lord Cranborne can scarcely believe that a recommendation, based so evidently upon an unreasoning dread of cholera, and on an entire disregard of all opposing considerations, will secure the support of any of the European Governments, and at all events he trusts that if it should be brought under the consideration of Her Majesty's Government it will, in the interests of India alone, be met with a decided negative.

Lord Cranborne, in conclusion, notices with gratification that the idea of interfering during the prevalence of cholera with the departure from the Arabian coasts of Indian pilgrims has been relinquished by the Conference, and His Lordship has only therefore to request that, at the proper time due care may be taken that the sanitary regulations of the ports of embarkation in the Hedjaz are not such as practically to place undue restrictions on the movements of the pilgrims in question.

P. S.—It is requested that 12 copies of the despatch from the British Cholera Commissioners to Lord Stanley, No. 38, dated 3rd October last, may be transmitted to this Office.

Dated 20th October, 1866.

From—E. HAMMOND, Esq.,

To—The Under Secretary of State for India.

I am directed by Lord Stanley to transmit to you, to be laid before Viscount Cranborne, a copy of a Despatch* from Dr. Dickson, enclosing copies of Protocols and of a further Report of the International Sanitary Conference.

No. 39, dated 9th October, 1866.

From—DOCTOR E. D. DICKSON,

To—The RIGHT HON'BLE LORD STANLEY.

I have the honor to inform your Lordship that Dr. Goodeve left Constantinople on the 4th instant for London by way of Kuslerdji.

I herewith enclose copies of Protocols Nos. 21, 22, 23 and 24, and copies of the Report of the second Committee on the 3rd group (measures quarantaries.)

The annex to Protocol No. 23 (historic sketch of the epidemic of 1865) has not yet been distributed. As soon as I shall receive it, I will forward copies to your Lordship.

INTERNATIONAL SANITARY CONFERENCE MEETING

No. 21, OF THE 28TH OF JUNE 1866.

HIS EXCELLENCY SALIH EFFENDI, *Presiding.*

The International Sanitary Conference held its twenty-first meeting on the 28th June 1866, at Galata-Serai.

PRESENT :

For Austria :

M. Vetsera, Councillor to the Internonciature of His Imperial and Royal Majesty.

Dr. Polak, formerly Chief Physician to His Majesty the Shah of Persia.

For Belgium :

Count de Noidans, Secretary to the Legation of H. M. the King of the Belgians.

For Spain :

Don Antonio Maria Segovia, Consul-General, Chargé d'Affaires.

Dr. Monlau, Member of the Superior Council of Health of Spain.

For the Papal States :

Dr. Ignace Spadaro.

For France :

Count de Lallemand, Minister Plenipotentiary.

Dr. Fauvel, Sanitary Physician.

For Great Britain :

Dr. Goodeve, Surgeon-Major, Indian Army, Honorary Physician to the Queen.

For Greece :

M. Kalergi, Secretary to the Legation of His Majesty the King of the Hellenes.

Dr. G. A. Maccas, Chief Physician to the King, Professor of Clinical Medicine in the University of Athens.

For Italy :

M. A. Vernoni, Chief Interpreter to the Legation of His Majesty the King of Italy.

Professor Frederic Bosi.

Dr. G. Salvatori, Italian Delegate to the Superior Council of Health at Constantinople.

For the Netherlands :

M. Keun, Councillor to the Legation of His Majesty the King of the Netherlands.

Dr. Millingen, Dutch Delegate to the Superior Council of Health at Constantinople.

For Portugal :

Councillor Dr. Barnardino Antonio Gomez, Chief Physician to His Most Faithful Majesty.

For Russia :

Dr. Pelikan, Councillor of State, Director of the Civil Medical Department in Russia.

Dr. Lenz, Councillor of College, Attaché in the Russian Ministry of the Interior.

Dr. Bykow, Councillor of State, Assistant Military-Medical Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, and Secretary to His Legation.

Dr. Baron Hübsch.

For Turkey :

His Excellency Salih Effendi, Director of the Imperior School of Medicine at Constantinople, and Chief of the Civil Medical Department.

Dr. Bartoletti, Inspector General of the Ottoman Sanitary Department, Member of the Superior Council of Health at Constantinople.

For Egypt :

Dr. Salem Bey, Clinical and Pathological Professor in the School of Medicine at Cairo, Special Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

The meeting commenced at one P. M.

Dr. Polak informed the Conference that official documents which had just been forwarded to him by his Government, placed him in a position to acquaint the Conference with the result of the quarantines, during the last epidemic, at Venice, Martinschizza (Croatia), and Meglina (Dalmatia). These particulars formed the sequel to the analogous information furnished by him at the last meeting regarding Trieste. From them it appears : 1st, that at Venice (report of the central maritime office of the town, dated the 31st May 1866), the number of persons in quarantine in the lazaretto of Poveglia and the basin of the port of Chioggia, was 2,353, of whom 2,039 were undergoing a quarantine of observation, and 314 (250 guards of health being with them)

the rigorous quarantine. Among these 2,353 persons in quarantine, one only became ill of cholera on the 17th August, the third day of his stay in the lazaretto. He was a sailor, and no case had been reported during the passage of the ship to which he belonged. No case of disease occurred *after pratique*.

2nd. That at Martinschizza (report of the superintendent of the maritime lazaretto) the total number of persons in quarantine amounted to 1,321. No case of cholera occurred during or after observation. Two sailors, ill of cholera, who had come from Ancona, were landed at the lazaretto. One of the two died.

3rd. That at Meglina (report of the superintendent of the maritime lazaretto) the number of persons undergoing quarantine amounted to 292. Two cases had occurred during the passage; none while the passengers were under observation in the lazaretto.

Dr. Polak reminded the Conference, in connexion with this matter, that the Austrian sanitary laws contained no provision regarding measures of quarantine to be adopted against cholera. During the last epidemic, however, a quarantine of observation of seven days had been established for arrivals from suspected or infected countries; this quarantine being reduced to forty-eight hours after a passage of fourteen days. When cases of cholera were reported as having occurred during the passage, and also when a ship was under a foul bill of health, the rigorous quarantine was applied as for yellow fever.

Dr. Baron Hübsch asked whether, after this communication, the Conference thought there would be any inconvenience in making the report of the General Committee public.

Count De Lallemand announced his intention of making a similar motion, not only with regard to this report, but with reference to all the proceedings of the Conference, and said that he had only been waiting for the completion of the revision of the report by Dr. Fauvel to press his motion, but he did not think he could defer it any longer after what had just been said by Dr. Baron Hübsch. The French Government had all along thought that the publication of the proceedings of the Conference was necessary, but at the same time that the Conference, which was the sole Judge of the fitness of doing so at a certain time, alone could take the initiative in the matter.

Count de Lallemand believed that the moment had arrived to discuss the question of publicity: having concluded the preliminary etiological studies which it was necessary should be taken up before coming to measures of application, it would be well if the public were at once made acquainted with the result of these studies, which would form the base and foundation of the labors of the Conference.

After some remarks made by Drs. Lenz, Bykow, Pelikan, and Dickson, regarding the mode of this publication, the timeliness of which they did not dispute, Dr. Fauvel pointed out that the question was not whether the Conference should take upon itself the duty of this publication: the whole question was to know whether it authorised it.

Count de Lallemand thought that the Conference ought to confine itself to declaring that it did not oppose the publication of its proceedings.

The proposition thus framed was put to the vote and carried unanimously.

Dr. Fauvel asked whether members who were temporarily compelled to leave a meeting and were unable to be present at a division, might leave their votes in writing.

Dr. Monlau having objected that such a mode of voting would be irregular and contrary to the practice in legislative assemblies, a conversation upon the subject ensued between Dr. Polak, Professor Bosi, M. Segovia, Dr. Pelikan, Dr. Bartoletti, and Dr. Maccas; it was finally decided that members absent during a division could not vote by proxy, but that they might, at the next meeting, make known their views and have them entered in the minutes. It was understood, however, that these late declarations could have only a moral effect, and that, no matter how numerous they might be, they could not any way invalidate a vote to which they referred.

Dr. Fauvel remarked, on the other hand, that he had often had occasion to observe since the discussion of the Report of the General Committee had commenced, that some members, merely because they did not happen to agree with a paragraph of a chapter, thought themselves bound to refrain from voting altogether, or even to vote against the chapter in its entirety, though they approved its conclusion. Dr. Fauvel thought that, in such cases, the chapter should be voted for, care being taken to point out that a reserve was made in regard to certain views upon certain points; it had been decided, it was true, that a vote could not be modified, but that was only during the scrutiny, and every body had the right, before the scrutiny commenced, to make such a declaration.

No objection was made to these remarks.

M. Keun announced that his honorable colleague, Professor Van Geuns, taking advantage of leave of absence given him by his Government, had been obliged to return to Holland for a time, but that he had left in the firm hope of returning to Constantinople in time to be able still to share in the labors of the Conference.

Dr. Fauvel then read the question and conclusion of Chapter XXIII.

Dr. Polak proposed that the word *emigrations* should be added after the word *pilgrimage* in the conclusion; emigrations seemed to him to be, with armies, fairs, and pilgrimages, one of the four surest means of the propagation of cholera.

Dr. Fauvel replied that Chapter XXIII. related only to the propagation of cholera by land. Emigration at the present day, he said, was not carried on as it used to be, by great masses, entire nations, but by small fractions of people, and by sea. And the trans-

mission of cholera by ships was treated of in another portion of the report.

Dr. Monlau declared that henceforth he would abstain from voting upon the text of the chapters: this vote and even the discussion of the text appeared to him to be useless after it was agreed, as had been done, that the conclusions might be voted for without there being any necessity for concurring in the text.

The President put to the vote in succession the text and conclusion of Chapter XXIII. Both were adopted, the text by 21 votes against one abstention, and the conclusion unanimously.

For the text:—Dr. Polak, Count de Noidans, M. Segovia, Dr. Spadaro, Count de Lallemand, Dr. Fauvel, Dr. Goodeve, M. Kalergi, Dr. Maccaas, Professor Bosi, Dr. Salvatori, M. Keun, Dr. Millingen, Dr. Gomez, Dr. Müblig, Dr. Lenz, Dr. Bykow, M. Stenersen, Dr. Baron Hübsch, His Excellency Salih Effendi, Dr. Bartoletti.

Abstention:—Dr. Monlau.

Dr. Fauvel next read the question and conclusion of Chapter XXIV.

Dr. Maccaas approved of the distinction established with regard to dissemination, according to the time at which it was effected, that is to say, before or after an epidemic became confirmed. Useful and salutary in the first case, dissemination became, on the contrary, in point of fact, dangerous in the second. Only he thought that, for the sake of greater perspicuity, the word *tardy* should be added to the second part of the conclusion, which consequently should read thus: *but a tardy dissemination would not, &c.*

M. Stenersen feared that the anti-contagionists, relying upon the fact that the Conference, contagionist as it was, could not deny that dissemination in most cases was useless, would find in the chapter under discussion an argument in support of their views, in the same way that persons who deemed all precautionary measures useless against cholera would find their system justified in it. If, they would say, dissemination, without diminishing the danger, only served to put back the fatal moment, would it not be better to remain quietly at home, accepting the chances of dying a little sooner? For these reasons, M. Stenersen thought it would be useful slightly to modify the wording of the chapter. Might not some modification be made in what was said regarding the inefficiency of dissemination when tardy? For instance, in the first paragraph, after having said that "dissemination in such a case "diminishes the chances of propagation in the entire mass attacked," could not the following sentence be added:—"*As has been seen frequently, and notably on the occasion of the last epidemic at Constantinople*"? And similarly after the words "but it was effected in a longer "time," might be added the words "*but it is allowable to believe that if, in this case, the dissemination had been carried out sooner and under better conditions, it would not have failed to give a more favorable result.*"

M. Stenersen repeated that he did not mean in any way to attack the argument of Chapter XXIV ; he rather, so to speak, addressed a question to the Committee. Was it scientifically possible to modify what had been said of the inefficacy of tardy dissemination? It was peculiarly interesting to Sweden and Norway, the population of which lived almost entirely in the valleys, while the mountains were deserted to have this point cleared up: the inhabitants of the valleys always fled to the mountains on the appearance of cholera; were they right in doing so? did they gain anything by it?

Dr. Salem Bey and Count de Lallemand objected that when the Report spoke of the danger of dissemination it did not allude to the assembled population scattering itself and to whom such dissemination was always beneficial, but to the neighbouring localities in which the emigrants sought refuge.

Dr. Maccas admitted the justice of these remarks, only he did not believe that, when cholera had as yet only shown itself in sporadic cases, the poisoning was so complete that dissemination, which was clearly salutary to the population attacked, was as yet dangerous to the surrounding localities. On the occasion of the last epidemic which had raged at Athens, the few thousands of persons who had emigrated on its outbreak had in no instance carried cholera anywhere with them.

Dr. Monlau thought that in the 2nd part of the conclusion the words "*but that,*" &c., might be struck out: it was clear that persons ought not to carry cholera amongst others on the pretext of saving themselves from it.

Dr. Fauvel believed that dissemination, effected in time, was salutary to the population attacked; later, it appeared to him to be useless. Even then, however, he would recommend it: the population affected would, by the mere fact of being no longer gathered together, be in better hygienic conditions, but the disease would not the less follow its course. As for the localities in which the dissemination took place, there was no doubt it was always dangerous to them, even if the attacks had been very few, for it could never be asserted that there were not some among the fugitives who were suffering from premonitory diarrhœa. To mention an instance: it would be remembered that last year the emigrants who had left Alexandria before the epidemic commenced to prevail, nevertheless carried cholera with them to every place where they sought refuge. Dr. Fauvel, however, explained that no fact could be brought forward proving that tardy dissemination had been advantageous to an attacked population, and that therefore M. Stenersen's question could not be replied to with certainty. Where there was crowding the march of the epidemic was swifter; where dissemination had been effected, it was slower, and, in the latter case, it was impossible, after the cessation of the disease, to assert that it had ceased because of the dissemination. It was quite as probable that it might have ceased for want of aliment, in a word, because such persons as were in a state of receptivity had been attacked. Quite recently,

at Yambo, with regard to which place, it might be said parenthetically the assertion was confirmed that cholera had been imported by the Africans, the epidemic broke out on the 24th of May, and on the first day carried off forty-seven victims out of a population of some thousands of inhabitants, augmented by four or five thousand pilgrims; on the 26th, it had already reached its greatest intensity, (ninety-nine deaths); but from that day it diminished; 31st May, 15 deaths; 3rd June, 5; 4th, 1; from the 4th to the 7th, none. Cholera raged there among a crowded mass in the worst sanitary condition; it attacked immediately, and, as it were, with the same stroke, all who were in a state of receptivity, and died out in twelve days after having carried off five hundred and thirty-eight victims. If medical men had gone to Yambo on the 1st of June, they would not have failed to order immediate dissemination, and then, no doubt, the cessation of the epidemic would have been attributed to such dissemination. Dr. Fauvel believed that this was the case with all facts of the same kind that could be adduced.

Dr. Maccas persisted that he did not consider there was any danger in dissemination effected when cholera had as yet shown itself only in sporadic cases. In support of the contrary doctrine had been adduced the fact of the emigrants from Alexandria transmitting the epidemic before it had become confirmed in the town, but could it be affirmed that there were not some among these emigrants who had come from infected localities, and had merely passed through Alexandria. Besides, could such dissemination be prevented: in a word, could a stop be put to the emigration, which took place as soon as the first cases of sporadic cholera caused alarm to the population?

Dr. Fauvel replied that the Report could only speak in a theoretical and scientific point of view. It was clear, in point of fact, that emigration could not be stopped, but that was not the question. The Committee only considered this emigration to be dangerous to the yet uninfected localities towards which it was directed.

A division then ensued upon Chapter XXIV; the text was adopted by 20 votes against two abstentions; and the conclusion was unanimously adopted.

For the text:—Dr. Polak, Count de Noidans, M. Segovia, Dr. Spadaro, Count de Lallemand, Dr. Fauvel, Dr. Goodeve, M. Kalergi, Dr. Maccas, Professor Bosi, Dr. Salvatori, M. Keun, Dr. Millingen, Dr. Mühlhig, Dr. Lenz, Dr. Bykow, M. Stenersen, Dr. Baron Hübsch, His Excellency Salih Effendi, and Dr. Bartoletti.

Abstentions:—Drs. Monlau and Gomez.

Dr. Fauvel read the text and conclusion of Chapter XXV.

Dr. Polak explained that he had refrained from voting for the conclusion of this Chapter, because it seemed to him to contradict what was read in Chapter XIX. It was said, in fact, at the end of the first paragraph of that Chapter that cholera had been imported from the

Hedjaz into Egypt by sea; now, in the last paragraph but one of Chapter XXV, it was merely said that the fact was probable.

Dr. Fauvel disputed the statement that the Report asserted in Chapter XIX that in 1831 cholera had been imported into Egypt by sea. It confined itself to saying that if it had indeed been brought into Egypt by the pilgrims, it could have been so brought only by those who had come by sea, the caravan having reached the country uninfected.

The text and conclusion of Chapter XXV were then put to the vote and adopted, the text by twenty votes, with two abstentions, and the conclusion unanimously.

For the text:—Count de Noidans, M. Segovia, Dr. Spadaro, Count de Lallemand, Dr. Fauvel, Dr. Goodeve, M. Kalergi, Dr. Maccas, Professor Bosi, Dr. Salvatori, M. Keun, Dr. Millingen, Dr. Gomez, Dr. Mühlig, Dr. Lenz, Dr. Bykow, M. Stenersen, Dr. Baron Hübsch, His Excellency Salih Effendi, and Dr. Salem Bey.

Abstentions:—Drs. Polak and Monlau.

Dr. Fauvel read the question and conclusion of Chapter XXVI.

Dr. Pelikan said that though he concurred in the conclusions of the Committee, he thought Pettenkofer's doctrine regarding the influence of the soil in the development of the morbid principle of cholera had not been reproduced with sufficient exactness in the Report.

Dr. Mühlig had the same remark to make. Pettenkofer's researches did not refer to the quality of the soil, considered as a receptacle of the choleraic principle. Pettenkofer had established, what had already been advanced by others before him, that the quality of the soil of a locality was the most powerful among the auxiliary causes of cholera, only he went much further, in so far that he asserted that a soil possessing the qualities described by him was so essential to the development of cholera that, if the choleraic germ were imported into a locality the soil of which possessed opposite qualities, it would be perfectly innocuous. A soil favorable to the development of cholera ought to be, according to Pettenkofer, porous, easily penetrable by water and air impregnated with organic (especially excrementitious) matter, and presenting from time to time a change in the level of the subterranean waters. Now as soon as these subterranean waters receded, when consequently a certain amount of comparative dryness succeeded to unusual humidity, that, according to Pettenkofer, was the most favorable time for the development of cholera. Thus Pettenkofer concluded that two elements were indispensable to the development of cholera: 1st, the importation of the choleraic germ into a locality: 2nd, a peculiarly constituted soil. Neither the first nor the second of these elements would suffice of itself, the simultaneous action of both was necessary; the choleraic patient furnished the germ, and the soil provided certain emanations, which, entering into combination with each other, whether in the atmosphere or in the human organization itself, resulted in choleraic infection.

Dr. Mühlig believed that the Report was erroneous in attributing to Pettenkofer the opinion that the peculiar soil described by him would act only as the receptacle in which the choleraic germ would have to undergo a sort of fermentation. Now, the peculiarity of Pettenkofer's views was not manifested in that at all.

Count de Lallemand and Dr. Pelikan concurred in Dr. Mühlig's remarks.

So did Dr. Salem Bey, who had been a pupil of Pettenkofer's and Dr. Lenz. The latter gentleman stated, however, that he agreed with the Report which gave the substance of Pettenkofer's theory, though it did not exactly reproduce it.

Dr. Polak read an article published by Pettenkofer in the *Journal de Biologie* of 1865, (page 355) regarding the conditions necessary to the development of cholera. These conditions were: 1st, a stratum of earth inhabited by men, penetrable to a certain depth by water and air (the depth of the subterranean water); 2nd, a more considerable fluctuation temporarily in the degree of humidity of this stratum, which fluctuation showed itself in the simplest and surest manner by the difference in the level of the subterranean waters. The most dangerous moment was when this level sank after having attained a considerable height; 3rd, the presence of organic, and chiefly excrementitious matters, spreading themselves in a susceptible soil; 4th, the specific germ spread by human communication (the specific cause of cholera), and the principal vehicle of which was formed by the evacuations from the alimentary canal; it was possible, however, that evacuations of men who were healthy, but who came from infected places, produced the same result; 5th, an individual disposition towards cholera. Pettenkofer added that the propagating agent might be considered as a cellule or as an organic ferment, and that two hypotheses may be suggested to explain the connection existing between human communication and the soil:

1st hypothesis.—It may be supposed to be possible and probable that the infecting germ contained in choleraic excrementitious matter requires a certain sort of soil for its development, propagation, and multiplication. According to this hypothesis, the active choleraic germ would stand in need of a certain sort of work (of fermentation, said Dr. Polak) in the soil, in order to reach us and exercise its action.

2nd hypothesis.—The injurious agent which proceeds from the soil and the agent proceeding from importation, combine with each other in the organization itself, and the choleraic condition originates from this combination.

Dr. Polak observed that Pettenkofer, who at first leant towards the first theory, was now rather inclined to trust to the second.

Dr. Maccas was in favor of the Report, although he admitted that it did not perhaps reproduce, with all the precision and breadth that were necessary, Pettenkofer's theory; it was necessary to avoid as much as possible entering upon theories.

Dr. Goodeve and Bykow were of opinion that there was nothing in the text of Chapter XXVI contrary to Pettenkofer's theory; the Report, without pretending to reproduce it exactly, admitted, as he did, the necessity for the presence of the choleraic principle for the development of a choleraic epidemic: it supposed only that this principle, which was in the soil, where it could not develop itself spontaneously, ought to penetrate the soil, with choleraic *dejecta*.

Dr. Fauvel replied that it was not the duty of the Committee to develop Pettenkofer's theories, who only treated the question in the point of view of the soil, while the Report had to consider *the influence of hygienic conditions*. Moreover, there was no contradiction between what was said in the Report and Pettenkofer's theory. That savant, it was true, did not believe that the penetration of choleraic matter into the soil was indispensable in order that the exhalations from that soil should favor the development of cholera, but this was a very subtle theory into which it was clearly impossible to follow him. The report might be completed by the thorough discussion of the question, but the text ought not to be modified.

Dr. Monlau would vote for the conclusions of the Committee. He thought, however, that it would be well to give a somewhat fuller explanation of the predilection of pestilential diseases, and of cholera especially, for the poorer classes. In his opinion this predilection would be considerably lessened if correct statistics could be furnished showing the exact comparative number of persons of the laboring classes living in infected localities, and that of individuals belonging to the well-to-do classes who emigrate. It was also necessary to take into account the chances of transmission, which were much more numerous for the poor than for the rich; one of the latter could isolate and take care of himself and make use of preservatives, while the poor man, on the other hand, lived in the very contrary conditions. In support of this, Dr. Monlau pointed out that when the poor could be kept in more or less complete isolation, as was the case in hospitals, prisons, convict-dépôts, &c., they very often remained untouched, or, at any rate, the number of attacks among them did not exceed the ordinary proportion of attacks among the rich. The providential law of epidemics, which required that the number of victims should not be unlimited, applied to the poor as well as the rich. Dr. Monlau added that he would not even be surprised if the figures were to show, due proportions being kept and there being an equality in the chances of transmission, that the conditions of receptivity and consequently the attacks of cholera, were about equally shared. The facts which showed that *misery* had been spared, even under the most deplorable conditions, were rather numerous. Amongst those mentioned by the Committee, there was one which deserved attention, *viz.*, that of the seven hundred galley-slaves in the bagne of Constantinople. As the report very rightly said, every thing had not yet been said upon the auxilliary causes of cholera. The question, moreover, it should be understood, was only as to the real influence of *misery* on the number of attacks of cholera, and not at all as to the issue of the attacks: every-

thing combined to render the mortality among the poor greater than among the rich.

Repeating an observation he had already made in Committee, Dr. Monlau added that he would have wished, on the other hand, that mention had been made of the influence of the moral condition of the localities attacked, *i. e.*, the influence of the passions, and especially of fear. Fear and courage were evidently not the same thing, as was said by the ancients (*Timor et coragium sunt unum idemque.*) but cholera inspired fear, and fear powerfully contributed to its development. Dr. Monlau brought forward many facts to prove it.

Dr. Fauvel remarked that the Report only spoke of misery in the point of view of the consequences it entailed, filth, over-crowding, bad food, &c. ; with equal numbers, it was distinctly established that the poor suffered more than the rich.

Dr. Mühlig concurred in these views.

Dr. Pelikan did not believe so strongly as Dr. Monlau in the influence of fear as an auxiliary cause of cholera ; it had frequently been seen, and notably at Constantinople during the late epidemic, that cholera raged in lunatic asylums.

Dr. Maccas disputed the assertion made by the report that Dr. Pellarin was the first who had laid down the proposition that the alvine excretions of choleraic patients contained the propagating principle of the disease. Other physicians had expressed the same opinion before him. It was necessary specially to mention Professor Gietl, of Munich, who, as far back as 1831, pointed out, in the reports addressed to his Government, the great importance of choleraic dejecta in an etiological as well as in a prophylactic point of view. The same Professor Gietl, in a work published in 1832, entitled *Observations on epidemic and sporadic cholera*, said that the choleraic poison, or the contagious principle of cholera, was contained in the dejections ; that the dejections were the means, *par excellence*, of propagating the disease, since it was from these dejections that the contagious principle emanated. M. Gietl also believed in the possibility of the importation of cholera by persons suffering from diarrhoea, and by things soiled by matter proceeding from dejections. In support of what he advanced, Dr. Maccas quoted an Ordonnance of the Bavarian Government, dated the 22nd October 1836, prescribing the application of the theory of M. Gietl, *viz.*, "that the excrements of cholera patients should always and immediately be subjected to neutralization," &c. Francois de Gietl's *Cholera, according to observations made in the Munich Hospital* (1865), and the *Report on the choleraic epidemic of 1854 in Bavaria*, by Dr. Aloys Martin (Munich, 1857) might also be consulted.

Dr. Lenz believed that the Report had wrongly mentioned Pettenkofer's name alongside that of Dr. Snow, in connexion with the influence that might be exercised by water, under certain circumstances, in the development of cholera. Pettenkofer had renewed at Munich the enquiries made by Dr. Snow in England, but, as he had

himself declared, without attaining any result supporting Dr. Snow's theory.

Dr. Millingen did not approve the order followed in the Report: it should have been explained in the first place what was the generating principle of cholera, and what were its principal receptacles, and then only should the report have passed on to the circumstances favoring the development of choleraic epidemics.

Dr. Fauvel replied that, though the auxiliary causes of cholera might be known, it was not so with the choleraic principle, the nature of which was not known. The report proceeded from the known to the unknown, which was the only road it could follow.

Reverting to the observation previously made by Dr. Monlau, Dr. Goodeve said that it was proved by statistics that in England cholera had not carried off more victims among the poor than among the wealthy: the number of attacks among the former was more considerable, but, proportionately, the mortality was the same.

The Conference then divided: the text of Chapter XXVI was adopted unanimously, with the exception of Dr. Monlau, who refused to vote.

Ayes:—Dr. Polak, Count de Noidans, M. Segovia, Count de Lallemand, Dr. Fauvel, Dr. Goodeve, M. Kalergi, Dr. Maccas, Professor Bosi, Dr. Salvatori, M. Keun, Dr. Millingen, Dr. Mühlrig, Dr. Lenz, Dr. Bykow, Dr. Baron Hübsch, His Excellency Salih Effendi, and Dr. Bartoletti (total 18).

The conclusion was adopted unanimously.

The meeting terminated at 5 P. M.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE, }
DR. NARANZI, } *Secretaries.*

INTERNATIONAL SANITARY CONFERENCE. MEETING
No. 22, OF THE 2ND JULY 1866.

HIS EXCELLENCY SALIH EFFENDI, *Presiding.*

The International Sanitary Conference held its 22nd meeting at Galata-Serai at noon of the 2nd July 1866.

PRESENT:

For Austria:

M. Vetsera, Councillor of the Internonciature of His Imperial and Royal Majesty.

Dr. Polak, formerly Chief Physician to His Majesty the Shah of Persia.

For Belgium :

Count de Noidans, Secretary to the Legation of His Majesty the King of the Belgians.

For Spain :

Don Antonio Maria Segovia, Consul-General, Chargé d' Affaires.

Dr. Monlau, Member of the Superior Spanish Council of Health.

For the Papal States :

Dr. Ignace Spadaro.

For France :

Count de Lallemand, Minister-Plenipotentiary.

Dr. Fauvel, Sanitary Physician.

For Great Britain :

Dr. Goodeve, Surgeon-Major, India Army, Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to Her Britannic Majesty's Embassy, British Delegate to the Superior Council of Health at Constantinople.

For Greece :

M. Kalergi, Secretary to the Legation of His Majesty the King of the Hellenes.

Dr. G. A. Maccas, Physician to the King, Clinical Professor in the University of Athens.

For Italy :

M. A. Vernoni, Chief Interpreter to the Legation of His Majesty the King of Italy.

Professor Frederic Bosi.

Dr. G. Salvatori, Italian Delegate to the Superior Council of Health at Constantinople.

For Persia :

Mirza Malkom Khan, Aide-de-Camp-General to His Majesty the Shah, Councillor to his Legation.

Dr. Sawas Effendi, Inspector of Hygiene and Health at Constantinople, Persian Delegate to the Superior Council of Health.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargé d' Affaires.

Councillor Dr. Bernardino Antonio Gomez, Chief Physician to His Most Faithful Majesty.

For Prussia :

Baron Testa, Prussian Delegate to the Superior Council of Health.

Dr. Mühlig, Physician to the Legation, Chief Physician to the Ottoman Marine Hospital.

For Russia :

Dr. Pelikan, Councillor of State, Director of the Russian Civil Medical Department.

Dr. Lenz, Councillor of College, Attaché in the Russian Ministry of the Interior.

Dr. Bykow, Councillor of State, and Assistant-Military Medical Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, Secretary to his Legation.

Dr. Baron Hübsch.

For Turkey :

His Excellency Salih Effendi, Director of the Imperial School of Medicine at Constantinople, Chief of the Civil Medical Department.

Dr. Bartoletti, Inspector-General of the Ottoman Sanitary Department, and Member of the Superior Council of Health at Constantinople.

(For Egypt :)

Dr. Salem Bey, Clinical and Pathological Professor in the School of Medicine at Cairo, Special Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

Dr. Naranzi, one of the Secretaries, read the minutes of the meeting of the 27th June (the twentieth meeting) : they were approved. Some explanations were interchanged between MM. Millingen and Fauvel regarding the circumstance of the death of the attendant in the hospital at Therapia of black cholera in consequence of the opening of the corpse of a cholera patient. M. Millingen would wish to see the name, which was mentioned in M. Michel Lévy's work, repeated in the Report ; while M. Fauvel, on the other hand, for reasons in which the Conference concurred, would rather omit it. These explanations were followed by others between Drs. Bartoletti and Fauvel on the one hand, and M. Monlau on the other, regarding the lazarettos of the Ottoman Empire. According to M. Monlau, there were very few, if any, of these lazarettos during the late epidemic. As M. Monlau persisted in his assertion, M. Bartoletti insisted that it should be recorded in the minutes that the assertion had been triumphantly refuted by M. Fauvel, who had put in a statement of persons undergoing quarantine in eleven lazarettos—establishments worthy of the name—secluded and isolated.

M. Fauvel confirmed what Dr. Bartoletti said, and added that at Salonica, at the commencement of the epidemic, the persons undergoing quarantine performed it in the lazaretto, properly so-called, which had contained as many as thirteen hundred persons at a time. It being found by the people subsequently not to be large enough, and as excessive overcrowding was apprehended, they required that the persons in the lazaretto should perform their quarantine in tents and huts at a

distance from the town. Of the eleven lazarettos mentioned in the table, continued M. Fauvel, seven were fitted for the shelter of the people performing quarantine.

M. Bartoletti remarked that an exception must be made, however, regarding the lazaretto at Trebizond, which should be mentioned with reserve. This lazaretto having been found to afford insufficient accommodation from the commencement of the epidemic, the quarantine was performed in tents and huts.

M. Monlau replied that all these arguments proved absolutely nothing in regard to the point he had upheld. In the so-called lazaretto of Salonica, where there really was overcrowding, out of the 114 cholera patients who were there from the 1st to the 12th of August, 73 died.

After these explanations, His Excellency the President asked for the opinion of the Honorable Conference as to whether M. de Collongue should also read the minutes of the last meeting.

On the motion of Count de Lallemand, who remarked that if that were done, a great part of the sitting would be occupied in listening to the reading of the minutes, His Excellency adjourned the reading of the last minutes to the next meeting.

The order of the day being the continuation of the discussion of the general report, His Excellency the President invited the reporter to be good enough to continue the reading of it, which had been interrupted at the last meeting at Chapter XXVII.

M. Fauvel read the heading, the text, and the conclusion of Chapter XXVII.

M. Monlau remarked, with reference to the text and conclusions of this Chapter, that it was open to the same objections that he had urged with regard to ships, lazarettos, &c. All the facts given in the Chapter were, he thought, more capable of interpretation in favour of epidemicity than of transmissibility.

In this way, said M. Monlau, people commenced by supposing that, in a locality attacked by cholera, every person in the place was thrown into a choleraic *centre*, that the whole atmosphere was poisoned which, he believed, was anything but proven, and that all the inhabitants, absolutely all, were more or less infected with the choleraic poison, an assertion which was contradicted again by the fact that every body who kept himself isolated remained uninfected.

Every choleraic invasion, continued M. Monlau, commenced with more or less numerous cases, always due to importation, and the links in the connecting chain of which could be followed up with precision, especially in confined localities. Sometimes the entire series of cases in an invasion might be explained by simple transmission, and it was not till towards the end, but not always, in great towns, and on account of the impossibility of tracking out in them all the connecting circumstances of transmission, that it might be supposed a general diffusion

was at work similar to the influences of ordinary choleraic epidemics. In the majority of choleraic invasions, epidemicity performed no part; all the evil was caused by transmission. He believed firmly that in an invasion of cholera, as in every other transmissible disease, whether by inoculation or by touch, or by specific infection at a short distance, the individuals who experienced positive transmission, and who possessed the proper conditions of receptivity, were attacked; and that those who were not in possession of the necessary receptivity, remained uninfected notwithstanding the transmission.

This was all.

It was not exactly known, continued M. Monlau, what were these conditions of individual receptivity, but it appeared that non-receptivity, or *immunity*, as they desired to call it, was far from being always proportionate to the vital resistance, as was said in the report. If the trouble were taken to refer to what had occurred in armies, in hospitals, in the entire mass of men invaded by cholera, a crowd of exceptions would be met with of sufficiently great weight to counter-balance the rule. The report had indeed anticipated these exceptions, but it had simply turned them to its profit by affirming that they were merely confirmatory of its rule of proportionality. If, for instance, one person, anemic, nervous, a valetudinarian, in an indisputably wretched physiological condition, were respected, and another, a strong, vigorous man, were stricken down, instead of confessing that the resistance to contagion or to specific miasma was not in any way measured by the vital resistance, it was affirmed that attenuation was not attenuation, that vigor was not vigor, and that, in point of fact, athletic and vigorous men were only *badly balanced phenomena*.

Theoretically speaking, continued M. Monlau, it should seem that persons enfeebled by infirmities and wretchedness, incurred a fatal chance of choleraic poisoning: experience, nevertheless, did not always confirm this provision. In armies, in fact, young soldiers, full of strength, were often seen mortally stricken by cholera; and it was stated that at Paris, in 1849, cholera raged very much less in the quarter Saint Louis Popincourt and the faubourg St. Antoine than in the wealthy quarters. Analogous facts, said M. Monlau, were sufficiently numerous, and this was why, at the last meeting, he had allowed himself to invite the attention of the Conference to auxiliary causes. He (M. Monlau) admitted the deplorable influence of these auxiliary causes, and was of opinion that it would be very interesting to determine with some precision its degree and its condition.

True *immunity* in the doctrine of transmissible diseases, consisted, in his opinion, in the *immunity* acquired by the effect of inoculation; or rather it was the result of a previous attack of the disease, for *contagious diseases*, in his opinion, *never attacked a man oftener than once in a life-time*. Individuals recovering from such an attack then acquired something like real *immunity*. But this immunity, continued M. Monlau, which had been converted into a law, had its exceptions,

nevertheless, even in regard to contagious febrile diseases, such as variolla, &c., in which the exemption from any ulterior invasion was more constant. But even admitting, in regard to cholera, the benefits of real *immunity*, and the absolute exemption of those who had recovered from a first attack, it could not be admitted that alongside of this immunity, which was the exclusive property of transmissible diseases, and of which, notwithstanding this circumstance, not a word was said in the report, could be placed the pseudo-immunity of simple epidemics. In ordinary miasmatic foci, *i. e.*, such as were diffused and permanent, it happened that certain persons in certain circumstances, managed to accustom themselves to the state of things, to become acclimatised more or less slowly, but it was not so in the locality of the infectious principle of cholera, which, while he admitted that it had the air of an excipient, only acted in very close proximity to the focus of emission. The fact of having stayed in a place infected with cholera for a week or two without any deterioration in health, in no way implied immunity; the person remaining uninfected was indebted for his good fortune to his having kept himself isolated, or to his *non-receptivity*, or to his receptivity not having been put to the proof. Far from having acquired immunity by a stay of some weeks, a term which was insufficient in a cholera-infected locality, these persons were only too frequently the agents of the importation and propagation of the disease. When cholera broke out, for instance, in a ship the port of departure of which was tainted with cholera, the epidemic always commenced its ravages upon persons supposed to be enjoying immunity. Well, continued M. Monlau, this imaginary immunity, which, even according to the text of the report, was *never a guarantee for the future*, performed a great part, however, in the doctrine submitted for the approval of the Conference: it was this immunity which, in ships and in lazarettos, in pilgrimages and in armies, rapidly weakened the transmissibility of cholera; and it was it, finally, which caused the cessation of all transmissibility among populations by the *immunisation*, so to speak, of all the survivors en masse. The transmissibility, said M. Monlau, was admitted, but it was surrounded by so many obstacles, and so many correctives of it were found, that, in truth, one was tempted to believe that there was no occasion to think seriously of the effects of an invasion of cholera.

The considerations he had just urged with regard to individual immunity, applied, added M. Moulau, to localities which were only collective individualities. He mentioned as an instance the great choleric invasions of 1855 and 1856, which spread, without exception, to all the provinces of Spain. Out of a total number of twenty thousand communes, there were 5,336 localities attacked, that is to say, three-fourths of the total number escaped altogether, notwithstanding a very probable importation. Why, he would ask, did they remain uninfected? For the same reason, he thought that the town of Lyons, in spite of auxiliary causes, showed itself refractory to the greater part of the importations of cholera: because there is a specific local receptivity in the same way that there is an individual receptivity.

To sum up, said M. Monlau in conclusion, the theory of immunity as put forward and applied in the Report of the Committee, responded to the doctrine of *epidemicity* rather than that of transmissibility, which had been admitted by all the members of the Conference. He expressed the opinion, in conclusion, that it was useless and even dangerous to the prophylaxy of cholera, to invoke at every moment *places, influence, fatal evolution, phases, periods, foci*, and all the *technical apparatus* of epidemic etiology. He would refrain, therefore, from joining in the vote upon this conclusion, just as he had refrained in Committee.

M. Pelikan said that though he accepted the conclusion of the Report in substance, he had refrained from voting in Committee because he did not agree that *individual indemnity* could be explained by *vital resistance* and *predisposition to cholera* by *diminution of vital force* or *vitality*. In his opinion it should, at any rate, have been stated what were the predisposing conditions connected with a purely local injury, such, for instance, as catarrhal affections of the alimentary canals, &c.

M. de Lallemand expressed his surprise at the constant antithesis put forward by M. Monlau between epidemicity and transmissibility.

He (M. de Lallemand) confessed that he failed to perceive any such antithesis in the report. Although he was no physician, he could not admit M. Monlau's doctrine regarding vital resistance, nor could he accept the arguments he had made use of in disputing what was explained in the Report. In his (M. de Lallemand's) opinion, the *immunity* mentioned in the Report might be temporary or permanent: this immunity (if he understood the Report aright) would result from the combination of the forces which opposed themselves to the contraction of the disease by an individual, or to his sinking under if it attacked. M. de Lallemand thought that laws should not be looked for where the reporter had only stated facts; the Committee had established *immunity* with regard to cholera on known facts.

M. Polak stated that he accepted the text and conclusion of this Chapter, but he would be glad of the suppression of the entire phrase terminating with the words "these giants are, after all, only badly balanced phenomena."

M. Bykow wanted to make a brief observation on the following sentence "*but cholera does not go higher,*" *i. e.*, than 6,000 feet above the level of the sea. This sentence, in his opinion, was expressed in such a way as to allow it to be supposed that it was the opinion of the Conference. He wished that the words "*in Persia*" might be added to it to give it its correct value, for it was known that cholera could go higher, and that, in 1846 for instance, it had, in order to pass from Tiflis to Stavropol, traversed the Caucasian chain at a point 7,000 feet above the level of the sea.

M. Stenersen pointed out that in the text of Chapter XXVII, the Committee had developed the doctrine that *immunity* against cholera

was *proportionate to the vital resistance of individuals*, and that it was variable like the latter, that is to say, it was proportionate to vital resistance in general; to the vigor with which the internal forces of an individual combined to resist death under whatever form it presented itself. That was an important doctrine, and one which deserved, if it were correct, to be clearly enunciated in the conclusion. But this was not done, and in the conclusion the Committee said, "*immunity*, which attested the individual resistance to the poisoning principle," which was a tautology explaining nothing, in his opinion. It was just exactly, he thought, as if one were to say that the immunity of individuals against cholera attested the immunity of individuals against cholera. The Committee had said precisely the same thing in different words. On the other hand, continued M. Stenersen, the Committee had added that it was important to take this individual immunity seriously into account. It was altogether useless to say that, in his opinion, for the fact of the majority of the inhabitants of a place where cholera was raging resisting the disease was too important to admit of its being forgotten. Therefore, with the object of eliminating a useless phrase from the conclusion on the one hand, and of establishing in it, on the other, the scientific doctrine enunciated in the text, regarding individual immunity, he proposed the following modification in the 2nd and 3rd part of the conclusion:—

"Similarly the more or less complete and more or less durable "Immunity enjoyed by the greater number of persons placed in the "choleraic focus, an immunity proportionate to the vital resistance of "individuals, is, in an epidemic point of view, a corrective to the trans- "missibility, and in a prophylactic aspect, it supplies means adapted to "restrict the ravages of the disease."

M. Mühlig addressed some observations to M. Monlau on the subject of his opposition to a truth admitted by all medical men. It was a constant fact, he said, that a town which had been visited by an epidemic, afterwards enjoyed a species of immunity against that epidemic. This was so true that in Germany there was a vulgar expression to designate this acquired immunity: a town or locality was said to be *épidémisée*, or *cholérisée*. M. Mühlig was persuaded that M. Monlau was not ignorant of this fact. As for vital resistance, it was explained by the fact that an epidemic raged much more seriously among the poorer classes, and inflicted greater sufferings on them, though those classes comprised robust people, than the well-to-do classes. Those who were in easy circumstances guaranteed themselves better against the disease: that was how vital resistance should be understood. M. Mühlig concluded by saying that the report was right.

M. Monlau replied that he did not dispute the fact; he admitted it; he only attacked the interpretation given to it. If a town which had suffered from the epidemic enjoyed a sort of immunity, it was because all those who had been predisposed to contract the disease had died. On whom then could the disease exercise itself? He also admitted the influence of poverty, with this difference that he would be

glad if the degree of this influence were determined by precise statistics comprising all the facts in detail. Possessing such statistics, added M. Moulau, there was no doubt that it would be shown that the rich were ordinarily not so well treated by the disease as was fancied; while at the same time poverty, with its disastrous consequences, so advantageous to the epidemic, did not always find itself in the deplorable conditions attributed to it. This exaggeration of the deplorable influence of misery was to be found in the report.

M. Bosi was of opinion that M. Moulau unjustly criticised the Committee in saying that it accorded too much importance to the *epidemicity* and too little to the transmissibility of cholera. This transmissibility having been previously admitted by the entire Committee, and by the Conference itself, it only remained for the Committee to state in the Report what were its correctives, those which history proved to be most efficacious, and, on these correctives, the Committee had founded the doctrine of immunity (of individuals, localities, &c.). It was not by the Committee, to tell the truth, that this doctrine had been propounded, thanks to which practical and efficacious measures might be successfully established: the Committee had merely adhered to Pettenkofer's theory.

Now, continued M. Bosi, as regarded that vital resistance spoken of in books under other denominations, such as, for instance, *want of disposition to contract such and such a disease; individuals who are not predisposed, &c., &c.*, what did it consist of? It must be confessed that nothing positive was known regarding it, but the fact remained for all that.

M. Moulau persisted in believing that the word immunity was an ill-chosen and improper expression, and that it should be replaced by the word *non-receptivity*. Of real immunity, he said, there was no question at all in the report in which immunity and epidemicity were confounded and treated of without any logical order.

"If all the Delegates," said M. Fauvel, "had attended the meetings of the Committee, and had followed the discussion of the report, it would be superfluous to-day to reply to M. Moulau, who has said in Committee all he has said here, and whose objections were refuted by me and others."

M. Moulau proceeds in a scientific manner, which is not ours. In a word, he is dogmatic: he takes what he believes to be an incontestable truth, and starting from that, he deduces his theory. Every argument which does not support his doctrine, he stigmatizes as bad; every fact in opposition to it is rejected as doubtful or inexact. People reasoned in this way in the middle ages, when the scholiasts flourished: It appears that M. Moulau wishes to take us back to those times. Unfortunately for us, not agreeing in his mode of philosophizing, we cannot subscribe to his reasoning. We belong to the modern school of science, which proceeds from facts in deducing its laws,—not, let it be distinctly understood, immutable and permanent laws,—but laws in

harmony with known facts. M. Monlau's method, therefore, is not ours. According to his ideas, when we speak of immunity we establish a dogma, and it is in vain we tell him that to us it is a simple *a posteriori* deduction: he refuses to allow it. We say "such and such persons have enjoyed immunity because they have not been attacked"; and thereupon M. Monlau enters upon a verbal discussion with us, the result of which is that he does not understand us, and that we can scarcely understand what he means to uphold. Moreover, according to M. Monlau all this ought to be stated and demonstrated by statistics. Well, we reply that the statistics he calls for are in existence, and we ask why does M. Monlau pretend to be ignorant of their existence? We are afraid that if we put them forward, he would not admit them. M. Monlau mentions the instance of Paris, where, in the epidemic of 1849, the rich, according to him, suffered more severely than the poor. He deceives himself: statistics prove the very contrary. But M. Monlau, who calls for the evidence of statistics, neglects to consult them.

"To believe M. Monlau we make a theory of immunity. No, I say again, we have never thought of doing so. Moreover, it is not correct to say that the Committee did not take up the question of immunity respecting individuals who have experienced the influence of the disease, which, according to M. Monlau, constitutes true immunity. This immunity is entered into in the Report."

After these observations, M. Fauvel proceeded to refute the objections urged by other Delegates. In the Report itself, he said, would be found the reply to the objections made by M. Pelikan. He had wrongly reproached the Committee with having omitted to mention the predisposing conditions which neutralised the effects of vital resistance, for they were very clearly shown in several passages in the Report.

To M. Stenersen, who disputed the conclusion of Chapter XXVII, M. Fauvel replied that, in admitting that immunity was proportionate to the vital resistance, the report had not meant to give an explanation, but to state a fact. And as regarded the conclusion, in which M. Stenersen desired the suppression of a portion of a sentence, he (M. Stenersen) had not perceived that what he wanted to be suppressed was the necessary complement of what had gone before, and that it called attention to what followed.

Dogmas, replied M. Monlau, were the consequence of facts, and modern science in that respect was based upon the same laws as were established by Aristotle, and in a later age by Bacon. Laws could not but be immutable, and, consequently, all M. Fauvel's scientific scaffolding rested on such very treacherous and unsafe ground, that true philosophy, ancient or modern, did not find it difficult to make it crumble away. He (M. Monlau) therefore did not mean to follow M. Fauvel in his philosophic doctrines. But he could not allow his assertions regarding statistics to pass unanswered. He (M. Monlau) declared that he was quite *au courant* of statistics, that he did not purposely neglect

them, as had been attempted to be made out, and that still less was he ignorant of them. But he was not contented with all statistics; he required that such statistics as were relied upon should be precise and drawn up in a philosophical manner. Then only would they possess the necessary value.

He had not had any intention of denying the influence of poverty: he admitted that it was a powerful auxiliary of an epidemic, and M. Fauvel had wrongly made him say the contrary. But this deplorable and grievous influence, he said, ought to be properly determined by complete and irrefragable statistics. As for the Paris epidemic of 1849, he had extracted the fact he had mentioned, *viz.*, that the wealthy classes suffered more severely than the poor, from works on the epidemic.

M. Stenersen remarked to M. Fauvel that he had perfectly understood the conclusion, and it was because he had so entirely understood it that he had asked for the suppression of a useless member of a sentence. He persisted in believing that it was superfluous to say that it was necessary to reckon individual immunity as a most important circumstance. He had not failed to give the reasons which had induced him to ask for this suppression, and for the modification of the two parts of the conclusion.

M. Sawas, taking up the point maintained by M. Monlau, expressed himself in very nearly these words:

“The transmissibility of cholera is not M. Monlau’s dogma, as was tried to be made out. It is a truth admitted by the Conference, proclaimed by all its members, and for which M. Monlau is no more responsible than any other member of the Conference.

“M. Fauvel maintains that it is the doctrine of the middle ages that M. Monlau professes: by which he means to say that he reasons *à priori*. If that is so, M. Monlau does not argue differently from M. Fauvel himself, when the latter endeavours to explain a fact admitted by all to be *epidemic*, while M. Monlau explains it by *transmission*.

“Both of them admit the same fact—a fact, moreover, which is admitted by all the members of the Conference, *viz.*, that persons who have remained for some time in a choleraic focus are less apt to contract the disease than those who have not been subjected to the influence of the neighbourhood of persons suffering from cholera. But agreeing upon this point, they differ in respect of the manner of explaining the fact. I believe that if the Conference sanctions the interpretation of it given by M. Fauvel—which I should be sorry to see it do—it will contradict itself, for it has admitted the transmissibility of cholera as an incontestable fact, and on this fact the entire doctrine of M. Monlau is based. His interpretation, therefore, is in conformity with the views of the Conference, and it should be preferred even if it be not the most correct: and all the more so because this theory presents no difficulty in a practical point of view. But not so with M. Fauvel’s interpretation. Lately at the meeting of the second Committee on the 3rd

group, it was found necessary to stop and reflect seriously on the immunity acquired by the crew of a vessel on board which a serious choleraic epidemic had prevailed."

M. Sawas was of opinion that the Conference ought to confine itself to stating the fact of immunity without attempting to explain it, which it could not do by hypotheses which were more or less hazarded and hurtful in practice.

After this, said M. Sawas, came the question of vital resistance. He was of opinion that in order to understand this expression, it was not enough to go back only to the middle ages, but it was necessary also to go back to the fabulous period of medicine. When *vital resistance* was mentioned, why not also mention *vital strength*, *innate fire*, and other analogous expressions? These were so many pieces of money which were no longer current, and which had been withdrawn from circulation by the adepts of modern science. The expression *vital resistance* was moreover inadmissible in a report like that of the Committee, because it might give rise to interpretations of the nature of that of M. Stenersen, who, with a good deal of reason, had asked whether this word was meant to designate a special quality inherent to man, or that occult strength which battled against disease. It was the *quid divinum* of the ancients, said M. Sawas,—incomprehensible, especially by those who were not physicians. But let those who were physicians endeavour to understand the expression, and see whether this resistance could help them in any way. He maintained it did not, for it wanted weight. In fact, how was it possible to estimate its value, in order to appreciate this antagonism of transmissibility? It had been pretended, added M. Sawas, that cholera preferentially raged amongst the poorer classes, because the vital resistance of those classes was very low. M. Monlau, he believed, was not wrong in giving his opinion contrary to this assertion, and he (M. Sawas) concurred in his opinion, for he also thought that it would be erroneous to suppose that an effeminate fop could oppose greater vital resistance to cholera than a robust labourer.

M. Sawas concluded that science was not yet in a condition to explain such facts. Let them, therefore, refrain from the attempt; it was much better to acknowledge one's ignorance of certain questions than to lead to error by an excess of presumption. For this reason he wished for the suppression of all forced explanations in the chapter under discussion.

M. Fauvel begged the Secretary to note that M. Sawas had attributed arguments to the Committee it had never made use of.

Taking the opinion of several Delegates, His Excellency the President put the text of Chapter XXVII to the vote.

It was adopted by a majority of 22 to one, and two abstentions, viz., MM. Monlau and Stenersen.

Ayes:—MM. Polak, de Noidans, Segovia, Spulero, de Lallemand, Fauvel, Goodeve, Dickson, Kalergi, Maccas, Bosi, Vernoni, Keuu,

Millingen, Gomez, Testa, Mühlig, Lenz, Bykow, Hübsch, Salem Bey, and His Excellency Salih Effendi (22).

No :—M. Sawas.

His Excellency the President then put the conclusion of Chapter XXVII to the vote. It was adopted by a majority of 21 to 1, and 3 abstentions.

Ayes :—All those just mentioned, with the exception of M. Maccas, who refrained from voting.

No :—M. Sawas.

Declined to vote :—MM. Monlau, Maccas, Stenersen.

M. Fauvel read the text and conclusion of Chapter XXVIII.

The text and conclusion were put to the vote and adopted by a majority of 25 against one abstention, *viz.*, Dr. Goodeve.

Ayes :—MM. Vetsera, Polak, de Noidans, Segovia, Monlau, Spadaro, de Lallemand, Fauvel, Dickson, Kalergi, Maccas, Bosi, Vernoni, Keun, Millingen, Sawas, Gomez, Testa, Mühlig, Lenz, Bykow, Hübsch, Stenersen, Bartoletti, and His Excellency Salih Effendi.

M. Fauvel read the text of Chapter XXIX. He remarked that the conclusion of this chapter came in further on.

M. Bykow said he wished to mention a fact which supported the conclusion of this chapter, and which proved that the choleraic atmosphere which surrounded a sufficiently intense focus of infection, did not spread further than 85 mètres. This fact, he said, was proved in connection with the history of the cholera epidemic which prevailed at Orenburg in 1829. Whilst a violent epidemic was raging in one of the Tartar villages of the province of Orenburg, named Karamala, (where, from the 10th to the 20th of December, out of a population of 145 persons 41 were attacked and 20 died), another village inhabited by Russian peasants and 85 mètres distant from the former, on the first intimation of the appearance of cholera at Karamala, isolated itself completely, interrupting all communication with that village. This timely measure preserved the Russian village from invasion by the disease, which, he thought, would not have been the case if it were possible for the choleraic principle to transport itself through the atmosphere to the distance of 85 mètres.

The circumstance, said M. Bykow, was authentic, and was recorded in the report of the Military Governor of Orenburg on the progress of the epidemic in that town in 1829 and 1830.

M. Fauvel read the title and conclusion of Chapter XXX.

Dr. Goodeve entered a reservation with respect to that part of the conclusion which mentioned the distance to which cholera was transmitted through the atmosphere. He would rather not have it distinctly laid down, as had been done, that this distance was, in the immense majority of cases, very close to the focus of emission.

harmony with known facts. M. Monlau's method, therefore, is not ours. According to his ideas, when we speak of immunity we establish a dogma, and it is in vain we tell him that to us it is a simple *à posteriori* deduction: he refuses to allow it. We say "such and such persons have enjoyed immunity because they have not been attacked"; and thereupon M. Monlau enters upon a verbal discussion with us, the result of which is that he does not understand us, and that we can scarcely understand what he means to uphold. Moreover, according to M. Monlau all this ought to be stated and demonstrated by statistics. Well, we reply that the statistics he calls for are in existence, and we ask why does M. Monlau pretend to be ignorant of their existence? We are afraid that if we put them forward, he would not admit them. M. Monlau mentions the instance of Paris, where, in the epidemic of 1849, the rich, according to him, suffered more severely than the poor. He deceives himself: statistics prove the very contrary. But M. Monlau, who calls for the evidence of statistics, neglects to consult them.

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After these observations, M. Fauvel proceeded to refute the objections urged by other Delegates. In the Report itself, he said, would be found the reply to the objections made by M. Pelikan. He had wrongly reproached the Committee with having omitted to mention the predisposing conditions which neutralised the effects of vital resistance, for they were very clearly shown in several passages in the Report.

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them, as had been attempted to be made out, and that still less was he ignorant of them. But he was not contented with all statistics; he required that such statistics as were relied upon should be precise and drawn up in a philosophical manner. Then only would they possess the necessary value.

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M. Sawas, taking up the point maintained by M. Monlau, expressed himself in very nearly these words:

"The transmissibility of cholera is not M. Monlau's dogma, as was tried to be made out. It is a truth admitted by the Conference, proclaimed by all its members, and for which M. Monlau is no more responsible than any other member of the Conference.

"M. Fauvel maintains that it is the doctrine of the middle ages that M. Monlau professes: by which he means to say that he reasons *à priori*. If that is so, M. Monlau does not argue differently from M. Fauvel himself, when the latter endeavours to explain a fact admitted by all to be *epidemic*, while M. Monlau explains it by *transmission*.

"Both of them admit the same fact—a fact, moreover, which is admitted by all the members of the Conference, *viz.*, that persons who have remained for some time in a choleraic focus are less apt to contract the disease than those who have not been subjected to the influence of the neighbourhood of persons suffering from cholera. But agreeing upon this point, they differ in respect of the manner of explaining the fact. I believe that if the Conference sanctions the interpretation of it given by M. Fauvel—which I should be sorry to see it do—it will contradict itself, for it has admitted the transmissibility of cholera as an incontestable fact, and on this fact the entire doctrine of M. Monlau is based. His interpretation, therefore, is in conformity with the views of the Conference, and it should be preferred even if it be not the most correct: and all the more so because this theory presents no difficulty in a practical point of view. But not so with M. Fauvel's interpretation. Lately at the meeting of the second Committee on the 3rd

group, it was found necessary to stop and reflect seriously on the immunity acquired by the crew of a vessel on board which a serious choleraic epidemic had prevailed."

M. Sawas was of opinion that the Conference ought to confine itself to stating the fact of immunity without attempting to explain it, which it could not do by hypotheses which were more or less hazarded and hurtful in practice.

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M. Sawas concluded that science was not yet in a condition to explain such facts. Let them, therefore, refrain from the attempt; it was much better to acknowledge one's ignorance of certain questions than to lead to error by an excess of presumption. For this reason he wished for the suppression of all forced explanations in the chapter under discussion.

M. Fauvel begged the Secretary to note that M. Sawas had attributed arguments to the Committee it had never made use of.

Taking the opinion of several Delegates, His Excellency the President put the text of Chapter XXVII to the vote.

It was adopted by a majority of 22 to one, and two abstentions, *viz.*, MM. Monlau and Stenersen.

Ayes:—MM. Polak, de Noidans, Segovia, Spidaro, de Lallemand, Fauvel, Goodeve, Dickson, Kalergi, Maccas, Bosi, Vernoni, Keuu,

Millingen, Gomez, Testa, Mühlig, Lenz, Bykow, Hübsch, Salem Bey, and His Excellency Salih Effendi (22).

No:—M. Sawas.

His Excellency the President then put the conclusion of Chapter XXVII to the vote. It was adopted by a majority of 21 to 1, and 3 abstentions.

Ayes:—All those just mentioned, with the exception of M. Maccas, who refrained from voting.

No:—M. Sawas.

Declined to vote:—MM. Monlau, Maccas, Stenersen.

M. Fauvel read the text and conclusion of Chapter XXVIII.

The text and conclusion were put to the vote and adopted by a majority of 25 against one abstention, *viz.*, Dr. Goodeve.

Ayes:—MM. Vetsera, Polak, de Noidans, Segovia, Monlau, Spadaro, de Lallemand, Fauvel, Dickson, Kalergi, Maccas, Bosi, Vernoni, Keun, Millingen, Sawas, Gomez, Testa, Mühlig, Lenz, Bykow, Hübsch, Stenersen, Bartoletti, and His Excellency Salih Effendi.

M. Fauvel read the text of Chapter XXIX. He remarked that the conclusion of this chapter came in further on.

M. Bykow said he wished to mention a fact which supported the conclusion of this chapter, and which proved that the choleraic atmosphere which surrounded a sufficiently intense focus of infection, did not spread further than 85 metres. This fact, he said, was proved in connection with the history of the cholera epidemic which prevailed at Orenburg in 1829. Whilst a violent epidemic was raging in one of the Tartar villages of the province of Orenburg, named Karamala, (where, from the 10th to the 20th of December, out of a population of 145 persons 41 were attacked and 20 died), another village inhabited by Russian peasants and 85 metres distant from the former, on the first intimation of the appearance of cholera at Karamala, isolated itself completely, interrupting all communication with that village. This timely measure preserved the Russian village from invasion by the disease, which, he thought, would not have been the case if it were possible for the choleraic principle to transport itself through the atmosphere to the distance of 85 metres.

The circumstance, said M. Bykow, was authentic, and was recorded in the report of the Military Governor of Orenburg on the progress of the epidemic in that town in 1829 and 1830.

M. Fauvel read the title and conclusion of Chapter XXX.

Dr. Goodeve entered a reservation with respect to that part of the conclusion which mentioned the distance to which cholera was transmitted through the atmosphere. He would rather not have it distinctly laid down, as had been done, that this distance was, in the immense majority of cases, very close to the focus of emission.

His Excellency the President put Chapters XXIX. and XXX., text and conclusion, to the vote.

They were adopted by a majority of 24 against one abstention, *viz.*, M. Sawas, Dr. Goodeve voting under reserve.

Ayes:—MM. Vetsera, Polak, de Noidans, de Segovia, Monlau, Spadaro, de Lallemand, Fauvel, Dickson, Kalergi, Maccas, Bosi, Vernoni, Keun, Millingen, Gomez, Testa, Mühlig, Lenz, Bykow, Hübsch, Stonersen, Bartoletti, and His Excellency Salih Effendi.

M. Fauvel read the text and conclusion of Chapter XXXI.

M. Monlau said that he agreed to the conclusion, with one small exception. He believed that it would be well to say that if nothing demonstrated the penetration of the choleraic poison through the skin, neither did anything demonstrate the innocuity of organic particles proceeding either from the skin or from the respiratory apparatus of a cholera patient.

Chapter XXXI and its conclusion were adopted unanimously.

Ayes:—All the above-mentioned, with the addition of Dr. Goodeve and M. Sawas.

M. Fauvel read the text and conclusion of Chapter XXXII.

M. Monlau remarked that though it had been asserted that the matter of the dejections of cholera patients constituted the principal medium of the transmission of the disease, it would at any rate be prudent to make it understood that if choleraic dejections were the chief receptacle, they were not the only receptacles of the morbid agent, and it was also necessary to make it understood that a person suffering from cholera exhaled from the entire surface of his body, in the same way that he discharged upon all his surfaces of excretion, emanations capable of containing the re-producing germ of the disease.

His Excellency the President put the text and conclusion of Chapter XXXII to the vote.

They were adopted unanimously.

Ayes:—All the above-mentioned, with the addition of M. Monlau. Dr. Salem Bey voted for Dr. Bartoletti.

M. Fauvel read the title and conclusions of Chapter XXXIII.

M. Bykow mentioned two facts which proved—though they were wanting in detail and in precision—that the choleraic principle might maintain itself latent for a long time. These two facts, he said, had been observed in Russia during the epidemic of 1830-31, and were mentioned in a treatise written by the members of the Committee appointed *ad hoc*, and published at St. Petersburg by the medical department of the ministry of the interior (1831).

With regard to the first case, it was said that the choleraic principle had maintained itself in a latent condition for more than a month in some sheepskins shut up in a box (para. 76).

The second fact related to a soldier who died immediately after having entered upon possession of a cottage the owners of which had died of cholera a month before, and which, after having been emptied of every thing it contained, remained uninhabited until the soldier took possession (para. 78).

M. Mühlig said that he considered the second conclusion of the 31st Chapter not only as hazardous, but also as dangerous. He would vote against it, as he had done in Committee, for the reasons he was about to set forth, and which he deemed it specially necessary to submit to those of the delegates who, not having been present at the meetings of the Committee, stood in need of certain details in order to correctly appreciate all the bearings of the question.

During every choleraic epidemic, said M. Mühlig, a very great number of persons died from diarrhœa. Now it was known at the present day that these diarrhœas, which resulted from the same epidemic influence as cases of confirmed cholera, were in point of fact only cases of slight cholera, miniature forms of the disease itself. To these cases the name of *choleraic diarrhœa* had been applied—*cholera diarrhœa*, amongst the Germans—the name of premonitory diarrhœa, *vorboten diarrhœa*, being applied rather to cases where this diarrhœa was followed by an attack of confirmed cholera. But as a person suffering from very mild small-pox could transmit the same disease in its most aggravated form to others, so could a person suffering from simple choleraic diarrhœa communicate confirmed cholera to others. If it were added to this that, for a very simple reason, the propagation of cholera to a distance was effected precisely by means of individuals affected with choleraic diarrhœa moving about and travelling, and not by real cholera patients, it would be understood what an important part was acted by choleraic diarrhœa looked at in a practical prophylactic point of view. If they were to consider now, continued M. Mühlig, that choleraic diarrhœa presented no pathognomonic characteristics, sufficient to admit of a distinction between it and simple diarrhœa, it could easily be conceived that every individual coming from a choleraic focus and affected with diarrhœa, ought to be considered as in the highest degree suspicious, it would also be understood how important it was to fix the period of time during which a person should be regarded as dangerous, in other words, what could be the possible duration of choleraic diarrhœa. M. Mühlig now proceeded to show what experience had taught with regard to this matter. Every physician who had seen a great number of sick during a choleraic epidemic, had been able to make the observation that attacks of confirmed cholera were preceded, only by a few days most frequently, by what was called premonitory diarrhœa, sometimes even only by a few hours. On this head M. Mühlig concurred with the majority. Physicians would state at the same time that the more serious the attack, the briefer was the duration of the premonitory diarrhœa: in cases of black cholera (*choléra foudroyant*), for instance, it lasted for only a few hours; on the other hand, the longer the diarrhœa, the less was a serious attack to be dreaded. During epidemics these cases of diarrhœa

were observed, which disappeared only to transform themselves, after a few days into confirmed cholera, and others no less numerous and arising from the same cause, which, with remarkable tenacity, were prolonged beyond eight and sometimes beyond fifteen days.

The majority of the Committee had felt no embarrassment with regard to cases of this latter class. They said that every case of diarrhoea lasting for more than eight days (the term fixed by them for choleraic or premonitory diarrhoeas,) without confirmed cholera supervening, ought to be considered as a case of bilious diarrhoea. But he had objected that those diarrhoeas which had developed themselves under the same epidemic influence which had engendered legitimate premonitory diarrhoeas of short duration according to the ideas of the Committee, were of the same nature as these latter, which lasted longer and which ought all, without exception, to be regarded as suspicious, not saying, however, for all that, there could not be simple non-choleraic diarrhoeas. This admitted, the longer their duration, the greater was their tenacity, and the more were they to be dreaded. To his thinking, experience had demonstrated that diarrhoeas of brief duration and yielding easily to the treatment applied, were often simple non-specific diarrhoeas. To this, added M. Mühlig, the majority of the Committee replied that granting that choleraic diarrhoea might last longer than eight days, it could not do so unless the person attacked still remained in the focus of infection, but that it would soon cease if the person left the place. And it was particular in adding that all the diarrhoeas that prevailed in times of cholera were not choleraic diarrhoeas. Here again, remarked M. Mühlig, was a dogmatic sentence, a more or less probable hypothesis based upon no fact; on the contrary, the closely observed fact noted by himself as well as by men who were authorities, such as Griesinger and others, was that choleraic diarrhoeas were distinguished by their tenacity, and frequently lasted for more than eight days. According to M. Mühlig, the hypothesis touching those diarrhoeas which ceased to be suspicious, directly the individual suffering was removed from the influence of the choleraic focus, was quite gratuitous, and was contradicted by the fact of acquired immunity, which fact had been admitted by the Committee, an immunity which, with some exceptions, followed after a first poisoning.

In support of his view, M. Mühlig mentioned some rather numerous facts, from which it appeared that cholera had not shown itself in persons coming from a choleraic focus until two weeks, and sometimes longer, after they had quitted the contaminated locality. Thus, he said, to mention only one instance, taken from the late epidemic: cholera did not break out on board the *Renown* until the thirteenth day after her departure from Gibraltar with troops. It was true, added M. Mühlig, that several of these facts were susceptible of different interpretations, but at the same time they demonstrated the possibility of a longer duration of the premonitory diarrhoea.

On the whole, said M. Mühlig, it might be laid down that in cases of choleraic poisoning the attack of confirmed cholera supervened in general after a specific diarrhoea of a few days' duration at most; but if the

attack did not supervene at the end of that time, the diarrhoea might still continue, without, however, losing its specific character.

M. Mühlig proposed, in consequence, to frame the conclusion in the following manner :

“ Observation shows that the duration of choleraic diarrhoea, which cannot always be distinguished from the non-choleraic diarrhoeas which may make their appearance in times of cholera, does not in general exceed a few days, usually eight or ten. Cases occur, however, where choleraic diarrhoeas are more tenacious, though observation has not yet demonstrated that they would be otherwise if the persons affected were to quit the choleraic focus.”

M. Gomez was of opinion that the choleraic diarrhoea which it was possible, under the name of premonitory diarrhoea, to confound with that which formed the first stage of serious cholera, most frequently did not exceed a few days in duration. He believed, however, that there were well authenticated facts which proved that this diarrhoea might last for more than eight days, retaining all its infectious nature and its capability to transmit the disease.

With regard to the second conclusion of this chapter, M. Bykow said that, without meaning to enter into theoretical speculations upon the differential diagnosis of choleraic diarrhoea, he would confine himself to giving some statistical data which supported the second part of the conclusion.

During the epidemic in Paris in 1853-54, out of 4,740 patients who had come from outside the city, 4,539 confessed that they had had diarrhoea before admission into hospital. Of these latter, 2,491 had suffered from diarrhoea as follows:—523 for one day; 1,635 between three and seven days; 233 for ten days. (*Vide Boudin's Géographie Médicale*).

Moreover, added M. Bykow, in 1832, M. Michel Lévy made an attentive observation of 142 subjects in the hospital of the Val de Grâce. The premonitory diarrhoea had lasted from two to four days in 95; in 31 others the premonitory symptoms had assumed various forms, but always corresponding to digestive and nervous disorders.

The report of the General Board of Health of London, continued M. Bykow, published in 1850, said on this point that, on one occasion, minute researches were made into the first symptoms of 500 cases of cholera, and it was found that almost all of them had been preceded by diarrhoea, which had lasted from ten to twelve days.

It followed then that in 3,086 cases the premonitory diarrhoea lasted only from one day to ten days, and, at the outside, for twelve. No other conclusion but that of the report could be drawn from these facts.

M. Millingen, after recommending that facts should not be made use of to uphold settled prejudices, but that they should be interpreted according to the lights of experience, expressed himself to the same

effect as M. Mühlig, whose doctrine he said he accepted, and in support of which he brought forward fresh instances extracted from the work of M. Lévy, and that of Graves on Clinical Medicine. The latter quoted a letter addressed by the surgeon of the English ship *Brutus* to the Liverpool Board of Health. In this letter the surgeon informed the President of the Board of the details of the appearance of cholera among the passengers eight-days after the departure of the *Brutus* from the Mersey. From the declaration which accompanied the letter, it appeared that from the 27th May, on which date the first case occurred, till the 13th June, when the ship returned to Liverpool, 117 cases occurred, 81 of which terminated in death, and 20 recovered.

M. Millingen extracted the following fact from M. Michel Lévy's work :

Of 744 cholera patients treated in 1854 in the hospital tent near Varna, 170 had had premonitory diarrhœa for fifteen days before it transformed itself into cholera.

In the same way, said M. Millingen, on board the *Virginia* in 1866, which left Liverpool on the 4th April, and arrived at New-York on the 17th, cholera broke out eight days after her departure from Liverpool, in which place no case of cholera had been reported. The first patient succumbed in a few hours after having been attacked by diarrhœa. During the voyage about two hundred persons were attacked, thirty-seven of whom died; many had presented the premonitory symptoms.

The steamer *England*, continued M. Millingen, which went from Liverpool to New-York, touching at Halifax, also had cholera on board, according to Mr. Bissell, eight days after having left the port of Liverpool. During the passage several persons died, and 150 deaths occurred while the vessel was at Halifax.

The same thing occurred on board two other vessels, the *Helvetia* and the *Atalanta*.

Dr. Pelikan remarked that as he had not been present at the meeting of the Committee when this chapter was adopted, he had not been in a position to speak upon the question, but now, having heard and appreciated the argument of M. Mühlig, he declared his entire concurrence with the chapter in question.

M. Salem Bey said he accepted the conclusion of the Committee, because it was in conformity with the teachings of experience. Observation had demonstrated that in the majority of cases choleraic diarrhœa did not exceed a few days in duration; the contrary, he pointed out, was contradicted by experience. The cases of diarrhœa which had been mentioned as having lasted long, preserving their infectious character, were, he thought, exceptional in the first place, and then they might be variously interpreted. That was to say, that a patient suffering from bilious diarrhœa was apt, more than any one else, to contract cholera. It would be opposed to truth to attempt to explain this fact otherwise.

M. Bosi said he concurred in the conclusion of the Committee because the premonitory diarrhœa, that which preceded cholera, *i. e.*, choleraic diarrhœa, did not exceed three and at most eight days in duration. This truth, he thought, was demonstrated in the most formal manner by well authenticated cases during the epidemic. It might happen indeed, he added, that simple diarrhœas which lasted for more than a week might be followed by cholera even if the individuals attacked had been isolated from every cause of contamination; but these facts were not, in his opinion, so conclusive as was thought, they still allowed the doubt to remain that these cases were different from cholera, and that the latter must have supervened later.

M. Maccas would wish that, in the first part of the conclusion, which he accepted, the number of days beyond which premonitory diarrhœa does not last, was given. He stated at the same time that he did not agree with the second part of the conclusion.

MM. Fauvel and Bosi remarked to M. Maccas that the number of days being fixed in this chapter, it would be superfluous to mention them again in the conclusion.

M. Fauvel then proceeded to refute briefly the principal objection urged against the chapter under discussion.

He commenced by reminding the Conference that the second part of the conclusion, which was opposed, was in no wise affirmative; it only expressed a doubt. This conclusion, it had been said, would be dangerous, but he would ask how could a dubious conclusion be dangerous, unless indeed it were changed or distorted. In this chapter it was said that nothing proved that the cases which were mainly depended upon were not cases foreign to cholera, &c. It was thought that this conclusion should be more categorical, and it was proposed to substitute for a doubt something which was a mere guess, scarcely reposing upon properly authenticated facts. It was forgotten that the elements necessary for a categorical decision were wanting.

This point, he remarked, was a most important one in practice, for it might happen that an individual suffering from diarrhœa would not risk remaining for an indefinite time either in a hospital or in a lazaretto. M. Fauvel said he had very attentively followed M. Mühlig's arguments, but he confessed they did not satisfy him. During an epidemic there were some very obstinate cases of diarrhœa, and because they lasted for some time, it was desired to consider them as premonitory symptoms of cholera. In support of this opinion, Pettenkofer and Griesinger were quoted. M. Fauvel was aware of but one case favorable to this doctrine, and that was the case reported by Pettenkofer, a very doubtful case. But were there any means of specifying the difference between simple and choleraic diarrhœa? Was length of time to be depended upon? Surely not, for the person of whom Pettenkofer had spoken had possibly contracted the germ of cholera in prison. Taking statistics—those, for instance, furnished by M. Bykow, only one fact was found in favor of the doctrine which was upheld; thus, out

of 3,086 cases of cholera, the term of twelve days had never been exceeded, and in the immense majority of cases, the diarrhœa had not lasted for more than two, four, and five days. It was experience, statistics, that spoke, and they triumphantly refuted the doctrine which it had been attempted to set up against the conclusion. Observation demonstrated that premonitory diarrhœa did not last longer, but there were exceptions, rare it was true, which showed that diarrhœa sometimes lasted longer. An attempt was made to cause the diarrhœas to pass for choleraic diarrhœas, but on what authority did such a doctrine rest? On one single fact, that reported by Pettenkofer. But would it be prudent to act upon this fact, which was doubtful? And would it not be better, much better, to express oneself in doubt, to point out that there was a want of conclusive instances, of decisive facts?

M. Mühlrig replied to M. Fauvel. Much mention was always made of cases as being exceptional in everybody's opinion, but by many people these cases were considered as very ordinary. There were numerous cases of tenacious diarrhœas which were real choleraic diarrhœas, though they never changed into confirmed cholera. No doubt the diarrhœa by which cholera was preceded did not exceed a few days in duration; in the most serious cases it lasted for but a short time, even a few hours; and if the diarrhœa was prolonged, the attack would not be serious—on the contrary those diarrhœas which did not change into confirmed cholera were frequently of prolonged duration. In fixing the term of eight days, the conclusion, he remarked, gave a greater assurance than it ought to do, regarding diarrhœas, which lasted for some days, and that, in his opinion, could not but be dangerous.

That would be so, no doubt, replied M. Fauvel; if everybody considered that those diarrhœas were choleraic as M. Mühlrig would make them out to be, but to many physicians they were not so, to others they were doubtful; and the members of the Committee were of this number.

Some Delegates asked for a division on the last chapter of the report, and others for a division upon M. Mühlrig's motion.

M. Pelikan moved that the vote upon this question should be postponed, as it deserved, in his opinion, to be discussed at greater length, being the basis of quarantine measures.

M. Sawas seconded the motion; the adjournment, he added, was also rendered necessary by the absence of the greater part of the Delegates, who should be present in the interests of the discussion.

A great many members requiring the termination of the discussion, His Excellency the President first put M. Mühlrig's proposition to the vote.

It was rejected: having obtained seven ayes against 13 noes; MM. Vernoni and Sawas declining to vote.

His Excellency the President then put to the vote the conclusion of the 33rd Chapter of the report. It was adopted by a majority of 15 to 4, and 3 abstentions.

Ayes: MM. Polak, de Nodians, Segovia, Spadaro, de Lallemand, Fauvel, Goodeve, Maccas, Bosi, Testa, Lenz, Bykow, Hübsch, Salem Bey, and Bartoletti.

MM. de Lallemand and Maccas stated that they voted in favor of the conclusion under reserve with reference to the second part thereof.

Noes: MM. Monlau, Millingen, Gomez, and Mühlig.

Abstained from voting:—MM. Vernoni, Keun, and Sawas.

The discussion of the general report having come to a close, His Excellency the President making himself the interpreter of the sentiments of the assembly, thanked the various Committees, which had contributed by their labors and their reports to the drawing up of this important document. He specially thanked M. Fauvel, who had been so successful in reducing to shape and order and bringing forward before the Conference the immense quantity of the materials of the Committees.

M. de Lallemand called the attention of the honorable Conference to the reprinting of the general report as an annexure, and also to the printing of the reports of the Committees appointed to consider the questions of the 3rd group. If it were desired to print all the reports in the same printing office in which the minutes of the Conference were printed, there would be a considerable loss of time, for, besides the general report, which would have to be printed as an annexure and the special reports of the Committees, about ten minutes of proceedings would remain to be printed. All this, he thought, could not be done by one press, and he proposed, therefore, with a view to save time, that the reporter of each Committee should be authorized to have his report printed elsewhere than in the central press, and also that the same might be done with the general report, if the Conference thought it necessary.

M. Fauvel seconded M. de Lallemand's motion; but with regard to the general report, he was of opinion that the Conference ought to have it reprinted, the amendments and additions adopted by the Conference being shown in notes, and references being made to the minutes in which these additions were spoken of in detail.

M. Keun also showed the necessity of adopting the plan proposed by M. Fauvel, and maintained that in the reprint of the general report the additions or amendments adopted by the Conference ought to be shown in the margin or in notes: in his opinion this was the only logical course that could be adopted.

M. Bykow expressed the same views, and several other Delegates followed suit.

A discussion ensued between MM. Fauvel de Lallemand, Bosi, Maccas, Keun, and Bykow, on the one hand; in support of M. Fauvel's motion, and MM. Segovia, Monlau, and Sawas on the other, against it.

The President consulted the Conference, which decided by a majority of 15 against 9, and two abstentions, in favor of M. Fauvel's proposition.

Ayes :—MM. Spadaro, Goodeve, Dickson, Kalergi, Maccas, Vernoni, Keun, Millingen, Testa, Mühlig, Lenz, Bykow, Hübsch, Salem Bey, and Bartoletti.

Noes :—MM. Polak, de Noidans, Segovia, Monlau, Bosi, Mirza Malkom Khan, Sawas, Gomez, and Stenersen.

MM. de Lallemand and Fauvel declined to vote.

It was also decided that the general report should be printed as an annexure to the minutes of the 9th meeting, with a short note explaining the delay in reprinting it.

The Conference also unanimously adopted M. de Lallemand's proposition, *viz.*, to have the various reports of the Committees printed elsewhere than at the central press.

The meeting terminated at 6 P. M.

It was decided that the next meeting should take place as soon as one or more reports of the Committees were ready so as to permit the Conference to resume its labors.

Order of the day for the next meeting :—

Submission and reading of the reports of the Committees.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE, }
DR. NARANZI, } *Secretaries.*

INTERNATIONAL SANITARY CONFERENCE. MEETING
NO. 23, OF THE 5TH OF JULY 1866.

HIS EXCELLENCY SALIH EFFENDI, *Presiding.*

The International Sanitary Conference held its twenty-third Meeting on the 5th of July 1866, at Galata-Serai.

PRESENT :

For Austria :

M. Vetsera, Councillor to the Internonciature of His Imperial Majesty.

Dr. Polak, formerly Chief Physician to His Majesty the Shah of Persia.

For Belgium :

Count de Noidans, Secretary to the Legation of His Majesty the King of the Belgians.

For Spain :

Don Antonio Maria Segovia, Consul-General, Chargé d' Affaires.

Dr. Monlau, Member of the Superior Council of Health in Spain.

For the Papal States :

Dr. Ignace Spadaro.

For France :

Count de Lallemand, Minister Plenipotentiary.

Dr. Fauvel, Sanitary Physician.

For Great Britain :

Dr. Goodeve, Surgeon-Major, Indian Army, Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to Her Britannic Majesty's Embassy, British Delegate to the Superior Council of Health of Constantinople.

For Greece :

M. Kalergi, Secretary to the Legation of His Majesty the King of the Hellenes.

Dr. G. A. Maccas, Chief Physician to the King, Clinical Professor in the University of Athens.

For Italy :

M. A. Vernoni, Chief Interpreter to the Legation of His Majesty the King of Italy.

Professor Frederic Bosi.

Dr. G. Salvatori, Italian Delegate to the Superior Council of Health of Constantinople.

For the Netherlands :

M. Keun, Councillor to the Legation of His Majesty the King of the Netherlands.

Dr. Millingen, Dutch Delegate to the Superior Council of Health of Constantinople.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargé d' Affaires.

Councillor Dr. Bernardino Antonio Gomez, Chief Physician to His Most Faithful Majesty.

For Russia :

Dr. Pelikan, Councillor of State, Director of the Russian Civil Medical Department.

Dr. Lenz, College Councillor, Attaché in the Russian Ministry of the Interior.

Dr. Bykow, Councillor of State, Assistant Military-Medical Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, Secretary to His Legation.

Dr. Baron Hübsch.

For Turkey:

His Excellency Salih Effendi, Director of the Imperial School of Medicine at Constantinople, Chief of the Civil Medical Department.

Dr. Bartoletti, Inspector General of the Ottoman Sanitary Department, Member of the Superior Council of Health at Constantinople.

(For Egypt:)

Dr. Salem Bey, Clinical and Pathological Professor in the School of Medicine at Cairo, Special Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

The Meeting commenced at 1 P. M.

Baron de Collongue, one of the Secretaries, read the minutes of the 21st Meeting.

With reference to these minutes, and after their adoption, Dr. Goodeve stated that he did not altogether agree with the passage in Chapter XXIV, paragraph 2, commencing *but it must be admitted*, as far as *only it takes a longer time to be accomplished in*, inclusive. He added that it was from forgetfulness that he had not made this declaration before the Chapter had been put to the vote, and he requested that it should be entered in the minutes of the present Meeting.

Dr. Bartoletti laid upon the table, after having read it, the report of the Sub-Committee appointed from among the members of the General Committee and consisting of Dr. Goodeve as president, MM. Bykow and Salvatori as members, and himself (Dr. Bartoletti) as reporter, which Sub-Committee had been appointed to write an historical précis of the epidemic of 1865 (annexure to the present minutes).

The Conference warmly seconded the motion of His Excellency Salih Effendi, who proposed that Dr. Bartoletti should be congratulated upon this remarkable work.

Dr. Gomez, the writer of a note communicated to all the members of the Conference, from which Dr. Bartoletti had taken his information regarding the march of the epidemic in Portugal, observed that the report did not reproduce certain facts which were mentioned in that note, and which deserved mention. Mention was made of the importation of cholera into Porto by a woman who had come from Elvas, where the disease was raging, and who communicated the disease to almost all the occupants of the house in which she lodged. Why did the report not add that this house was most completely isolated, and then subjected to careful measures of sanitation, and that it was no doubt owing to the rigorous application of these measures that it was found possible to prevent the propagation of cholera in the town, where its ravages were confined to the house first attacked. Cholera had, moreover, made itself felt in Portugal elsewhere than at Elvas, Treixo de Spada, and Porto, the only towns mentioned by Dr. Bartoletti: at Lisbon, notably, there was a real epidemic of choleraic diarrhœa or cholérine. Dr. Gomez requested that the report should be completed in this respect.

Dr. Bartoletti replied that what was required in the programme was simply a history of the march of cholera, and that the Committee could not enter into the details of the means to which recourse was had for opposing the disease in the various countries and places it had successively visited. Nor did the Committee think itself called upon to speak of the epidemics of cholera which occurred at a somewhat large number of places in 1865.

Dr. Goodeve regretted that he had been unable to concur in the report which the Conference had just heard read, except under reserve. It did not appear to him *to be quite certain*, as was said in the report, that cholera had been imported direct from India into the Hedjaz and the East of Arabia by the Indian and Javanese pilgrims. What had occurred on board the ships conveying the pilgrims was not known with sufficient precision; the only ships with regard to which they were well informed had been attacked after having touched at Mokalla, where cholera was raging. Dr. Goodeve added that it had been found impossible to prove how cholera had come to Mokalla, but that it was probable at the same time, according to the information they possessed, that the disease existed in Yemen, and especially at Sana, at the end of 1864.

M. Keun concurred in the report, but under reserve with respect to the passage regarding the two ships which, last year, arrived at Jeddah direct from Java with pilgrims. According to all the information he had collected, and also according to the report of the Dutch Consul at Singapore, quoted by Dr. Bartoletti, there was no direct navigation between the Dutch colonies and the Red Sea. He believed that the Ottoman Commission of the Hedjaz, in the report whence Dr. Bartoletti had taken his information, must have been misinformed.

M. Keun then quoted a fact whence it would result that the choleraic germ had existed at Alexandria, where, nevertheless, the epidemic did not make its appearance till the beginning of June, since the commencement of May. The Sister-Directress of the Institute of Déaconesses of Smyrna, from whom M. Keun had received these details, came to Alexandria in the beginning of the month of May; there she was seized, on the 13th, with vomiting and diarrhoea accompanied by cramps, which promptly disappeared before energetic treatment applied, but she was reduced to such a state of weakness that she was compelled to re-embark immediately and return to Smyrna. The Lloyds' ship, on which she made the voyage and which was overcrowded with pilgrims returning from Mecca, lost six passengers from dysentery on the second day of the passage.

In the opinion of Dr. Bykow, who referred to the observations previously made by Dr. Goodeve, the facts mentioned in the report clearly proved that cholera had been imported into Mokalla by arrivals from Bengal. The disease having existed in that country some time previous to its appearance at Jeddah, and many cases of cholera having

occurred on board the ships which brought pilgrims from Bengal, during their passage, the Committee could not have concluded otherwise than it had done.

The report was then put to the vote by His Excellency Salih Effendi and adopted unanimously. Present at the division: Dr. Polak, Count de Noidans, M. Segovia, Dr. Monlau, Count de Lallemand, Dr. Fauvel, Dr. Goodeve (under reserve), Dr. Dickson, Dr. Maccas, M. Vernoni, Professor Bosi, M. Keun (under reserve), Dr. Millingen, Dr. Lenz, Dr. Bykow, M. Stenersen, His Excellency Salih Effendi, and Salem Bey.

The Meeting terminated at 5 P. M., no date being fixed for the next meeting. His Excellency Salih Effendi mentioned that he would convene the Conference as soon as the Reports of the Committees appointed to consider the questions of the 3rd group of the programme were ready for submission.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE, }
DR. NARANZI, } *Secretaries.*

INTERNATIONAL SANITARY CONFERENCE

ANNEXURE TO MINUTE No. 23.

Report to the International Sanitary Conference on the march and mode of propagation of Cholera in 1865.

Submitted by the Sub-Committee (6th Section) consisting of Dr. Goodeve, *President*, Dr. Bykow, Dr. Salvatori and Dr. Bartoletti, *Secretary-Reporter*.

GENTLEMEN,—We have the honor to submit our report on the article of the programme assigned to us by you for development, *viz.*—*A general review of the march and mode of propagation of Cholera during the epidemic of 1865.*

At first sight, it would seem that this important subject ought to include a complete historical narrative of the march of the last epidemic, in every place to which it penetrated, from the day it made its appearance at Mecca to the last point to which it extended its ravages. If this were so, the Committee would have required, to do justice to the subject, a mass of statistical documents, and a great quantity of precise information, which exist perhaps scattered about in archives, but which have not yet, as far as we are aware, been collected or published anywhere. We therefore understood the object of the programme, in proposing the subject in question, in a more restricted sense, which, however, is none the less interesting because it is so restricted, *viz.*, to

demonstrate by the march of cholera the mode of its propagation in the various countries successively or simultaneously invaded by it; in other words, the question to our minds is, not to write the history of cholera in an abstract statistical point of view, but to collect the most striking and prominent facts connected with its march, with the object of thence deducing the proof of its importation by man from an unhealthy to a healthy place; or, on the other hand, to establish the principle of the diffusion of the epidemic by the atmosphere without the aid of sick men or contaminated articles.

The question being fixed within these limits, we traced out, for the exposition of the facts we are about to record, a method which seems to us to be as simple as it is rational. We take cholera at its nearest point of departure with which we are acquainted, *viz.*, the Hedjaz, and we follow it in its violent peregrination across Egypt, the Mediterranean, and even beyond the Atlantic Ocean, being careful to indicate the dates of its appearance in the localities in which it raged with greater or less intensity, as also the chief sources whence we have taken our information. We then notice, in chronological order, the outbreak of secondary foci and their radiation as far as the localities last attacked, and we follow up our review with some remarks which form its corollary and conclusion.

We have no document in our possession from which we can say with certainty that cholera did not exist in the Hedjaz, even sporadically, before the arrival of the pilgrims of 1865. But what we can affirm is, that no mention of it was made in the letters from Jeddah before the arrival in that port, about the end of February or the beginning of March, of the *Persia* and the *North Wind*. The manifestation of cholera in the Hedjaz followed then upon these two arrivals. In fact, M. Bimsenstein, a sanitary medical officer of the Ottoman Government in Egypt, announced, under date the 20th February 1866, that he had heard from Mr. Calvert, the British consul who happened to be stationed at Jeddah at the period of the pilgrimage, that cholera had broken out on board these two ships, which had come from Singapore, and had put in at Cochin and Mokalla. Dr. Goodeve has furnished us with a report by Mr. Calvert, dated at Jeddah, March 10th, 1865, announcing that these two sailing vessels, carrying the British flag, had arrived at Jeddah with 1,066 passengers, the greater part being Javanese, and 96 men forming their crews, being a total of 1,162 persons; that cholera having declared itself on board, the *Persia* lost during the voyage 85 passengers and eight seamen, the *North Wind* 43 passengers and seven seamen, making a total of 143 persons; and that the two captains of the *Persia* and the *North Wind* agreed in stating that the disease by which their ships had been stricken was cholera, which had declared itself on board after they had touched at Mokalla, where the passengers and crew had made an immoderate use of fish of bad quality and brackish water, better water not being procurable in those parts.

A report by the Austrian Delegate to the Council of Health at Alexandria (*communication by Dr. Sotto*) supports all this information,

which it supplements and completes, except in one point, on which it is found not to agree with the declarations of the captains of the *Persia* and the *North Wind*. It refers to Mokalla. Mokalla is a port situate in the Hadramaut on the south-eastern coast of the Arabian peninsula. A number of ships proceeding to the Hedjaz carrying Javanese and Indian pilgrims, put in there for the purpose of re-victualling. This practice is followed by the greater part of the English and native vessels, these latter sometimes sailing under the British flag. According to the report of the Austrian Delegate, two of these ships, the *Persia* and the *North Wind*, must have carried cholera to Mokalla, where the disease did not exist before their arrival. Other ships having afterwards put in at Mokalla, must have become infected and disseminated the germs of the disease on the coasts of Yemen and the Hedjaz even before their arrival at Jeddah. Whichever of these two contradictory versions with regard to Mokalla may be correct, it is certain that cholera was imported into the Hedjaz by pilgrim ships from India.

This fact is shown still more clearly by the particulars furnished by the Ottoman Commission of the Hedjaz in its report of the 5th April, from which we extract the following passages:—" Captain Hadji Emira Eddin, of the English ship *Meris Merchant*, has declared in writing, signed by himself, that in 1865, he brought 350 pilgrims, of whom 29 died of diarrhoea, from Bengal to Jeddah Captain Abdool Mahomed, of the British vessel *Boy-Meyr* has made a declaration, to which he has affixed his signature, that cholera existed in Bengal when he left that country on his voyage, to Jeddah, and that out of 100 pilgrims whom he had taken on board, 20 died during the voyage, four of the deaths being cholera cases characterised by diarrhoea, vomiting, the body becoming cold, the eyes sunken, &c..... .. Captain Chonalsky states that in 1865 he left Singapore in command of the *Ruby*, with 500 pilgrims on board, 90 of whom died of cholera, during the voyage, the mortality commencing at Mokalla and ceasing two days before the arrival of the vessel at Jeddah. Moreover, the harbour-master at Jeddah reported 51 ships from India, Java, Bassora, and Muscat, of which two from Java, and one from Bengal had had sickness on board."

On the other hand, we find in a despatch from the Consul-General of the Netherlands at Singapore, for which we are indebted to the courtesy of Dr. Millingen, the following extract:—" There is no doubt that the appearance of cholera in Arabia is to be partly attributed to the pilgrims going there from Singapore They are not all subjects of Netherlands India, but there are amongst them aborigines, inhabitants of Malacca, of Sarawak, of Johore, of Pahans, of Muar, and of all the small free States of the Malayan Peninsula, In 1864 it is said again in the despatch cholera raged at Java and Singapore, and proofs exist that persons suffering from cholera and others recovering from an attack of the disease embarked on board sailing vessels for the Hedjaz."

In face of all this official testimony which deserves the fullest confidence, it seems certain that cholera was imported in 1865 into the Hedjaz by infected arrivals from India and Java.

Towards the end of April it became known at Alexandria that cholera was raging at Mecca and Medina amongst the pilgrims. A Commission, consisting of two Mussulman physicians was despatched to the Hedjaz by the Sanitary Intendancy of Egypt, with instructions to consider and study the nature and extent of the epidemic thoroughly. In its report dated the 10th May 1865, the Commission mentioned particularly that the mortality amongst the pilgrims had been very great, principally at Arafat, during the three days of the festivals, and that the cause of this mortality was *cholérine*.

The Commission recorded several cases of this disease amongst the pilgrims, the military, and the inhabitants of the town. It met with corpses lying in the streets, and a great number of dead in the mosques.

On the third day of the fêtes, the mortality on the mountain, to judge only by the cries and lamentations usual in funeral ceremonies amongst the Arabs, must have been more considerable than on the preceding days.

At Mecca, the number of persons who died of cholera on the same day was estimated at 200.

At Jeddah, the Commission saw, in a hospital containing fifty beds, twelve patients suffering from *cholérine*, of whom five died and seven were discharged cured. (*Dr. Bimsenstein's Report*). It does not seem, after all, that the Commission furnished a complete report of its mission, either in the diagnostic point of view of cholera, naively called by it *cholérine*, or in the point of view of its march and ravages among the pilgrims. Nor does it mention the commencement of the epidemic, a question which for many reasons it is of the highest importance to be acquainted with. To fix the number of the victims of the epidemic, without having a sure base to rest upon, would be a rash thing to do, but we know that the Dutch colonies, out of ten thousand Javanese pilgrims sent thence to Mecca, furnished a contingent of three thousand dead. (*Dr. Millingen*). Now the pilgrimage, according to the estimate of the British Consul at Jeddah, having this year attained the number of ninety thousand souls, it may be deduced from this that cholera carried off a total of thirty thousand pilgrims, or one-third of the whole number. This estimate will not seem exaggerated if we consider particularly that the Javanese are not the worst off among the pilgrims, and that the Indians and the negroes, who are the poorest, must have been stricken by the disease with proportionately greater violence. However, according to the approximative calculations of the Ottoman Commission of the Hedjaz, this figure should be reduced by half, for it estimates the number of pilgrims who fell victims to the epidemic at fifteen thousand only.

Let us pass on to Egypt, and see, in the first place, under what conditions the transport of the pilgrims from Jeddah to Suez was effected. From the 19th May to the 10th June, that is to say within the space of twenty-three days, ten steamers, seven of which were Egyptian and three under the British flag, landed at Suez from twelve to fifteen thousand hadjis coming from such an intense choleraic focus as the one we have just left. The number of pilgrims embarked on each vessel varied between nine and twelve hundred. The *Sydney*, however, was an exception, for, in its first voyage, it carried two thousand. (*Report by Mr. Arthur Raby, British Consul at Jeddah, communicated by the British Delegates*).

The official declarations state that the health of the passengers was perfect, and that some deaths which occurred during the passage (from six to eight on each vessel) resulted from ordinary *non-contagious* diseases. In consequence, after a medical visit, they were admitted to pratique at Suez. Unfortunately, the declarations made to the Egyptian sanitary authorities were opposed to the facts, seeing that a great number of pilgrims had died en route of cholera. The *Sydney*, British steamer, must have alone lost more than a hundred out of her two thousand passengers (*Bimsenstein*)*

On the 19th May, the first English steamer with pilgrims on board, and which had cast her dead overboard arrived at Suez from Jeddah. On the 21st, some cases of cholera declared themselves at Suez, and amongst the number were the captain of the steamer and his wife. On the 23rd May, a case was observed, by a doctor of the Canal Company, at Damanhour, in a convoy of pilgrims proceeding from Suez to Alexandria. (*Dr. Aubert Roche's Report to M. de Lesseps*).

In this way towards the end of the month of May, from twelve to fifteen thousand pilgrims traversed Egypt by railway and encamped close to the Mahmoudieh canal at Alexandria. The first who were attacked by cholera were the Arabs from the neighbourhood, who had hastened to fraternise, according to the Mussulman custom, with the newly arrived hadjis. On the 2nd June, the first case occurred among the citizens of Alexandria, who lived in communication with the pilgrims. On the 5th, June two other cases declared themselves under the same circumstances. From the 5th to the 11th the cases increased. But the physicians of the Sanitary Intendancy saw in these first accidents only cases of algid pernicious fever, cholera, or sporadic cholera. (*Bimsenstein*).

Not till the 11th June were the sanitary authorities convinced, and not till then did they mention, on the bills of health of ships about to leave, the appearance of the epidemic which was about to decimate the population of Alexandria and carry off four thousand victims in the space of two months. From the 11th June to the 23rd July,

* *N. B.*—We deem it necessary to remark that we think there must be some error in figures here; the *Sydney* could not have had more than eight or ten deaths from cholera during the passage.

cholera invaded all Egypt by degrees, giving up to death, in less than three months, more than sixty thousand of the inhabitants of the country. (*Colucci Bey. Reply to twelve questions.*)

The panic with which the foreigners especially were seized, gave rise to an emigration of from thirty or thirty-five thousand persons, who, aided by stean navigation, threw themselves suddenly into the chief commercial towns of the Mediterranean, Beyrout, Cyprus, Malta, Smyrna, Constantinople, Trieste, Ancona, Marseilles, &c. We are about to see cholera showing itself at most of these places, following the track of the fugitives and the route taken by steam navigation.

We too, in this review, shall follow the same road, and as far as possible, in geographical order; we shall then make our remarks upon the facts reported and the accidents connected with them, in order to indicate the mode of propagation. We believe that the result will be to afford profitable data in a prophylactic point of view.

On the 28th June, at a time when neither cholera, nor any thing like what are called the precursory signs of this disease, existed at Constantinople, the Ottoman frigate *Moukbiri Sourour* arrived in port, having left Alexandria on the 21st. The officer in command and the ship's doctor not having reported either deaths or cases of sickness, the frigate was admitted to pratique, in accordance with the article of the regulations by which it was granted to every vessel having a doctor on board and passing five days at sea without any choleraic accident. That evening twelve sailors were landed from the frigate at the hospital of the Imperial Marine, all suffering more or less seriously from cholera, one of them dying during the course of the night. It was made known subsequently that some cases of diarrhœa had been observed among the crew after the departure of the vessel from Alexandria, and that—a much more serious matter—two sailors had sunk under cholera between the Dardanelles and Constantinople. The next day, the 30th June, nine more patients were landed from the same vessel, two of whom were suffering from confirmed cholera. (*Gazette Médicale de l'Orient et Archives de l'Intendance Sanitaire.*) And here we have the starting point of a frightful epidemic which spread itself sometimes gradually, advancing from one point to the next: sometimes leaping from one place to another, crossing between different quarters, but always preserving a connection in the first accidents, and a most remarkable linking of facts, such as is seldom to be found in the funeral triumphs of the Indian scourge. We should exceed the limits of the directions given to us were we to transcribe here all the precious information given to us by Dr. Mühlrig regarding the commencement of the epidemic in the arsenal of the Imperial Marine and its progress towards the environs of that establishment; but we shall briefly mention that from the 5th to the 15th July, the ships anchored in proximity to the arsenal, the barracks and the workshops of the employés, comprised within its boundaries, furnished seventy-one attacks and twenty-six deaths. At the same time, from the 9th to the 15th July, cholera spread, first in the quarter of Kassim Pasha, bordering on the arsenal, and thence to the neighbouring

quarters of Emin-Jami, Yeni-Shair, and so on throughout the town, its suburbs, and the villages of the Bosphorus. The epidemic attained its greatest intensity and violence during the first few days of the month of August, and then progressively declined. The last cases were observed during the month of September. The number of deaths, according to the most moderate estimates, is reckoned at from twelve to fifteen thousand out of a population of nine hundred thousand souls. (*See Dr. Mongeri's interesting work on the epidemic of cholera which prevailed at Constantinople in 1865*).

DARDANELLES.—The number of passengers arriving from Alexandria and who performed quarantine at the Dardanelles, from the 29th June to the beginning of August, was two thousand two hundred and sixty-eight. The maximum number of persons shut up together in the lazaretto and its out-buildings amounted, at one time, to nine hundred. The place was crowded then, and it became a difficult matter properly to separate the different categories of persons in quarantine.

The period of quarantine lasted at first for five days, but was afterwards extended to ten, on the express order of the Government. During the continuance of the epidemic, there were not more than twenty-two cases of cholera in the lazaretto (sixteen of whom were landed suffering from the disease), fifteen deaths and seven recoveries. The two first cases, one of which was followed by rapid death, occurred on the 1st July, amongst the passengers landed from the *Tantah*, an Egyptian vessel, which had arrived from Alexandria on the 29th of June. Fresh cases occurred, and cholera patients were landed in succession from on board other ships coming from the same place. On the 12th of July, the second death took place in the lazaretto. On the 9th of August, the last was reported. Amongst the persons connected with the service of the lazaretto, several contracted the disease: 1st, Ahmed, a boatman, who took the doctor to the lazaretto on his daily visits, and who died in town; 2nd, Hajji Mehemed, deputy-keeper, who was attacked after having for a long time continued to perform his duty in letting out those who had completed the term of their quarantine—he was cured; 3rd, two health officers employed inside the lazaretto, one of whom died; 4th, a guard, who had performed a quarantine of ten days, fell ill two days after being admitted to pratique—he died in the town.

From the 29th June to the 15th September, thirty-three steamers and a hundred and twelve sailing vessels, their crews amounting altogether to 3,058 persons, performed quarantine at the Dardanelles. The Austrian steamer *Archduke Maximilian*, which arrived on the 30th of June, had two cases of cholera on board, and one death. The Italian brig *Mirra* arrived on the 2nd July, having lost a sailor. The *Charkié*, Egyptian steamer, arrived on the 7th July, and landed a sick man. The *Minia*, Egyptian vessel, arrived on the 8th July, having had two fatal cases of cholera on board within a few hours of her arrival at the Dardanelles. The *Jafferiah*, Egyptian vessel, arrived on the 9th July with five sick men, who were landed at the lazaretto. The *Eiling*, a Norwegian ship, arrived on the 22nd July, having lost one of her sailors

on the passage. All these ships came from Alexandria. The *Tamise*, French steamer, from Constantinople, landed at the lazaretto of the Dardanelles, on the 22nd July, two cholera patients, who soon died there.

We have just noticed, on the 30th of June, the first case at the lazaretto. On the 12th July a soldier, on guard at the door of the lazaretto, was attacked. He was removed to the military hospital and placed in the same ward with the other patients, no precautions being taken. From the 12th to the 14th, three cases of cholera in the town were reported, all at different places and all fatal: one was the boatman Ahmed, of whom mention has been made above; the other a provision merchant, who frequented the neighbourhood of the lazaretto in the pursuit of his calling; the third was the keeper, also mentioned above, who fell ill two days after his departure from the lazaretto where he had undergone quarantine. After these first accidents, cholera spread in the town and among the soldiery, especially at the fort of Nagara, attached to the lazaretto, whose little garrison of twenty-five men was in constant communication with the guards of the lazaretto. In this fort, in the course of three days, five men died out of seven who were attacked. In the town the disease varied between two and three cases a day until the 24th July. From that date, it increased progressively to the extent of twenty-two cases, remaining stationary from the 1st to the 12th of August, when it decreased continually till the 30th and finally disappeared. Out of a population of eight thousand souls, from which two thousand fugitives must be deducted, three hundred and sixty-nine deaths, including twenty-seven soldiers, were reckoned. The attacks amounted approximatively to five hundred and fifty. From what has been said, it clearly appears that the cholera imported from Alexandria into the lazaretto, spread from thence into the town.

ENOS.—The number of ships which performed quarantine in the port of Enos during the existence of the epidemic, that is to say, from the 4th July to the 8th December, amounted to seventy-nine, the crews numbering 579, passengers 63, health guards 34, among whom there was not a single case of cholera, nor even any choleraic indisposition or diarrhoea. However, on the 26th October, the first case of cholera reported was that of an inhabitant of Enos, named Stamati Aivaliotis, aged fifty years, a mariner by profession, and who had arrived thirteen days previously from Chio, Mytelene, and Cheshmeh in a ship under a clean bill of health,—he died during the evening. On the 30th his daughter, sixteen years old, fell ill, and sank within a few hours from the commencement of the attack. On the 27th a young girl, fourteen years old, was attacked in the morning and died at seven in the evening. The same day a carpenter named Maccaradji was attacked; he also died in the evening. His wife died on the 29th. Finally, on the 31st, a man named Schinas died of cholera, after a brief illness. There were in all, in the space of twenty-three days and in a population of four thousand souls, fifteen cases of cholera followed by death, all of the men affected being inhabitants of the town, except a man named Jovani who had come from Gumurdjina a month before. The sanitary physician of Enos, who

records this fact, asks, "What can have been the origin of this small epidemic?" Without being able to solve the question, he makes the remark that the subject of the first case had had, two days after his arrival at Enos, an attack of intermittent fever, of which he cured himself by taking a purgative and some sulphate of quinine. He observes also that on two occasions a breach of the regulations occurred with regard to the ships in quarantine, anchored at an hour's distance from the town, but that no cases of cholera had taken place on board these ships, or on board the rafts which came down the Maritza from Adrianople.

LA CAVALLA.—An Austrian steamer under the command of Captain Inchiostri, which arrived from Constantinople on the 31st July, and which had thrown five corpses overboard during the passage, landed 103 passengers at the lazaretto of La Cavalla, two of whom were suffering under an attack of cholera. A third fell ill the same evening. The next day the first two died, and the third recovered. The quarantine of the healthy passengers was performed in a large locality situated at an hour's march from the town. Persons tainted with cholera were isolated in an islet strictly guarded, and many cases of cholera were observed among them.

The number of ships which passed through quarantine, from the 3rd of July to the 6th of November, amounted to twenty-eight, eleven of which were steamers, carrying crews amounting to six hundred and thirty-five men and three hundred and ninety-six passengers. An Ottoman steamer had two deaths from cholera on board. Not a soul among the persons employed in and about the lazaretto suffered, and the town was saved from an epidemic. It was not so, however, with a place situated at a distance of about six hours' journey from La Cavalla, and here we have to bring to notice a case of importation overland, reported by the sanitary physician of the town. A woman left *Zihna*, in the district of Seres, where cholera prevailed, and arrived in two days at Chataldja, her native place. Two days afterwards, she was attacked by black cholera which carried her off in two hours. After this occurrence, on the 17th of August, the epidemic declared itself at Chataldja, and lasted till the 25th of September. During this period, there were fifty-six attacks without including slight cases, and fifty-two deaths in a population of 2,500 inhabitants.

SALONICA.—During the period of the choleraic epidemic, seventy-eight ships arrived at Salonica, forty-five of them being steamers from Egypt, Constantinople, the Dardanelles, and Smyrna, carrying 4,257 passengers. The quarantine measures adopted consisted in the confinement of the passengers at first for five and subsequently for ten days, when there had been neither sickness nor death on board during the voyage, and for twenty days if there had been any cases on board or in the lazaretto. In the lazaretto there were counted, amongst the passengers, two hundred and sixty-five cases of cholera, a hundred and twelve of which were followed by death; and amongst the deaths were nine health guards. Those who fell ill were immediately separated from the healthy. The lazaretto at first was

situated at a distance of an hour's journey from the town. Sometimes it was crowded, thirteen hundred persons were counted in it at one time. Afterwards huts were built at a distance of three hours' journey from the town, but by that time cholera had ceased to prevail among the persons in quarantine. The town was not attacked, with the exception of three fatal cases of cholera, the victims being individuals who had come from the lazaretto. Several villages, and notably Galatzitta, through which persons who had undergone quarantine passed, and where they halted, were very badly treated by the epidemic. Cholera spread as far as the environs of Seres, where it lasted for a long time.

At VOLO the number of ships which arrived under foul bills of health, marked cholera, was twenty-five, having on board 526 sailors and 2,265 passengers. Amongst these ships, the *Perter-Piale*, coming from Salonica, where cholera existed in the lazaretto, had two deaths on board during the passage, and landed two sick men, both of them died the next day. The French mail steamer, the *Clyde*, which arrived on the same day as the vessel just mentioned, sent three cholera patients to the lazaretto, two of whom died two days afterwards. The two steamers together carried 1,649 passengers, who underwent their quarantine under tents in a desert islet in the gulf of Volo. From the 26th of July to the 10th of August, sixty-two cases of cholera, twenty-three of which resulted fatally, were observed among the persons in quarantine. Of these cases, five had declared themselves before the disembarkation, and fifty-seven after entrance into the lazaretto. Moreover, the persons employed in the lazaretto, health officers, and gendarmes, furnished nine attacks and four deaths. In this number were included the office clerk and the physician of the lazaretto. The latter recovered. There were neither attacks nor deaths in the other twenty-three ships. A breach of regulations took place: the doctor employed in the lazaretto, M. Diomedes, when attacked by cholera, fled to the town on the 30th August, but no results followed upon this occurrence. Besides, although the town had been preserved from cholera, the disease had already shown itself, at distances of from five to ten miles from Volo, in villages which had been in communication with infected localities. Out of one thousand and fifty-one inhabitants, there were thirty-two deaths. In the town only one case was observed in the person of an individual who had come on the 19th of September, that is to say, forty-two days after the last case in the lazaretto, from one of the abovementioned villages.

LARISSA, as well as all Thessaly, had enjoyed perfect health until the end of November. At that time there came from the province of Monastir, and especially from a place called *Florina* (32 hours' journey distant) where cholera existed, between three or four hundred Bulgarians, with the object of engaging, as usual with them every year, in some occupation during the winter. Cholera appeared at Larissa simultaneously with their arrival. From the 5th to the 15th December there were eighteen cases, seven of which ended in death. The Bulgarians came from an infected country, and they furnished the greater number

of the cases ; the others were persons inhabiting the same quarter as, and living in houses close by the dwellings of, the Bulgarians. The disease ceased with the departure of these foreigners, who took to flight. The localities that had become contaminated were disinfected.

SMYRNA.—From the 23rd of June to the 24th October, 1,701 persons were received into the Smyrna lazaretto, coming from various places infected with cholera and under very bad hygienic conditions, among whom there were fourteen attacks of cholera, nine of which ended in death. On the 23rd June, the Austrian steamer *Archduchess Charlotte*, from Alexandria, landed two hundred and ninety-three passengers at the lazaretto, amongst whom was a young Turk, suffering from cholera, who sank on the 29th June. This was the first case. Amongst these passengers, one fell ill on the 24th and died in the evening ; two children and their mother, who fell ill between the 24th and 26th, recovered. On the 24th the Egyptian steamer *Gallioub* arrived ; it landed one hundred and nineteen passengers at the lazaretto ; among them were three cholera patients, one of whom died on the 4th of August. On the 29th the Austrian steamer *Archduke Maximilian* brought 130 passengers, with five sick, three of whom died. Between the 7th and 8th July, the ninth day of arrival, one of the passengers was suddenly attacked by cholera and died in the space of five hours. On the 6th of July, the Egyptian steamer *Minia* landed at the lazaretto 213 passengers, of whom three were suffering from cholera ; two of these died. On the 8th July, the Austrian steamer *Stamboul* arrived with 187 passengers, two of whom, cholera patients, died in the lazaretto between the 11th and 12th of July. All these vessels came from Alexandria, where cholera was causing great ravages, while Smyrna had up to this time enjoyed perfect health, with no appearance of cholera symptoms.

The first case of cholera in the town occurred on the 24th of June, the person attacked being an Armenian woman. Her husband was next attacked and died on the 4th July. On the 29th June the second case, which rapidly proved fatal, was that of a Greek woman, who had rubbed down the former and who lived in a different quarter. From the 24th June there were several sudden fatal cases in town, but the progress of the epidemic was slow until the 11th July. It then broke out in the Jewish quarter, and gradually invaded the entire town ; the mortality then increased to 80 a day. From the 30th July to the 7th August, it attained its greatest violence, then it declined, and finally ceased at the commencement of September. In a population of one hundred thousand souls, without taking into account an emigration of thirty or forty thousand, there were from 2,100 to 2,500 deaths, and the number of attacks is estimated at 5,500, or about one attack in every twenty inhabitants. In the month of September, the disease spread to Sokia, Thira, Kassaba, and other surrounding localities, and then in succession among the tribes of Adala, where it caused more or less desolation.

THE ISLAND OF MYTELENE escaped the attacks of cholera, although during the period of the epidemic, it received into its chief port two

hundred and thirty-five ships, which underwent quarantine, manned by fourteen hundred and twenty sailors. Seventy steamers besides put in at this port, landing 775 passengers at the lazaretto. The total number of persons who performed quarantine amounted to 2,655. They underwent quarantine in spacious encampments, under tents and huts. Two cases of cholera only were reported, one on board the Ottoman war steamer, the *Zouave*, from Constantinople, the other being the patron of a Greek bomb vessel coming from Smyrna. But these two cases occurred on board and remained isolated.

RHODES.—Among the islands of the Grecian archipelago, Rhodes, the most exposed by its intermediate position between Alexandria, Smyrna, and Constantinople, received in the space of two months a large number of choleraic arrivals, sailing vessels 222; steamers 66; crews 2,501; passengers 2,618; total 5,119 persons. On the 19th June, the Egyptian steamer *Niguilah*, from Alexandria, landed eighty-seven passengers in very good health at the lazaretto. No accident had occurred during the voyage of this ship, according to the result of the survey, yet on the 20th June, a man named Antonio fell ill of cholera and expired on the same day. The other passengers on board this ship were immediately transferred elsewhere under tents, and, after a quarantine of ten days without cholera appearing, were admitted to pratique. Not a case of cholera was observed on board the ships performing quarantine; but as much cannot be said for the steamers which staid at Rhodes for a few hours only to finish their business transactions, cases may have occurred on board these vessels after they left the island. Be this as it may, the population of the island, which amounts to thirty-three thousand souls, was not attacked.

CRETE.—Crete received one hundred and three ships with foul (cholera) bills of health, coming from Egypt, Smyrna, and Constantinople. They were manned by crews amounting to 843 men, and carried 972 passengers, of whom 184 performed quarantine on board, and 788 on three islets where huts had been erected and encampments prepared. The supervision was strict and rigorous; no communication was allowed between the different islets, which were situated at a certain distance from each other. The quarantine lasted for ten days; in the event of cholera appearing, it was further prolonged for ten days after the accident.

Two ships, from Alexandria, brought cholera patients with them: the steamer *Missiri*, with two hundred and fifty passengers, had two deaths in port; a Turkish brig, with fifty-eight passengers, had four cases of cholera. It was amongst the passengers of these two ships that cholera developed itself during the quarantine. Three other ships had cholera cases on board during the voyage, but without any ulterior results. The *Missiri* had disembarked its passengers on the 28th June: on the night of the 29th a man named Cavourachi, who had attended Molla Hassan, who died previous to the disembarkation, fell ill; on the 1st July, a baker and his son were attacked. All three recovered after a painful convalescence. On the 5th, a man named Nicolas fell ill, dying in twelve hours. He had attended upon his own son, who had

died on board the *Missiri*, and he had himself suffered from diarrhoea for some days. On the 5th July, two passengers and a health guard fell ill. One of the passengers died, the other underwent a painful recovery. On the 6th July, a man named Sava was attacked, and died of the disease in thirteen hours; he lived in the same tent with the Nicolas mentioned above, whom he had attended. On the 16th July a person named Antonio was attacked; he was the brother of the apothecary who attended upon the cholera patients, and with whom he was in communication. Amongst the persons employed, the health guard Mustapha was attacked on the 5th July, seven days after having first entered among the persons in quarantine; he sank on the 8th. He had attended upon the man Nicolas, who died in the lazaretto. Thus the passengers of the *Misiri*, furnished eight attacks and four deaths, besides one fatal case, that of a health guard, in the space of nineteen days from the 28th June to the 16th July.

An Ottoman brig under the command of Captain Ali Mustapha, arrived from Alexandria on the 27th July, about a month after the *Missiri*. Among her fifty-eight passengers, the greater part being workmen from Suez, there were five sick with cholera, one of whom entered the lazaretto; the other four remained on board. On the 7th August, one of the passengers named Gavala died in the lazaretto; on the 14th Gaspard Gavala; on the same day Michael Grecia fell ill, and died on the 21st; on the 28th August, another named Athanas Russo, who had been suffering from diarrhoea since his entrance into the lazaretto, died. The same day a man named George who lived with him fell ill, and died on the 3rd September. Altogether there were five deaths, the epidemic having lasted in this group for twenty-seven days.

What deserves special mention here is the fact that, not only did cholera not penetrate into the island of Crete, but that no case occurred among any batches of passengers other than those of the two ships which had brought cholera patients with them. The reason of this is that the passengers of the two vessels underwent quarantine separately in two islets in the gulf of the Suda, the islets being very distant from each other, and having no communication with each other or with the main island. The Cretans knew how to profit by the experience which had saved their country in previous epidemics.

BENGAZI being possessed only of a lazaretto in ruins and situated in the vicinity of dwellings, the persons who had to perform quarantine were isolated under tents in well-ventilated spots distant from the town. Among eight hundred and twelve persons, there was only one fatal case of cholera, that of an individual who had landed on the 18th July from the steamer *Trablous-Gharb* from Alexandria. Two deaths from cholera had occurred on board this vessel before her arrival at Benghazi. The case in the lazaretto was not followed by any consequences either to the town or to the persons in quarantine, whose number, while the epidemic lasted, amounted to eight hundred and twelve, brought by fifty or sixty ships under foul (cholera) bills of health.

CYPRUS.—Between the 24th June and the 18th July, forty-two ships arrived at Larnaca from localities infected by cholera, carrying crews amounting to 573 men and 1,199 passengers, who passed through a quarantine in the lazaretto lasting from five to ten days. The lazaretto is built of masonry and is rather large, but is situated quite close to the town. On board the ships three sailors died of cholera, as well as the wife of an Austrian captain, whose son was also attacked but recovered.

Between the 26th June and the 13th July there were twenty-two cases of cholera, and seven deaths in the lazaretto. On the 6th July a child fell ill, three days after its entrance into the lazaretto, and died the same evening. The mother, who was attacked on the 7th, recovered after an illness of sixteen days. A young man, who had entered on the 28th June, was seized with cholera on the ninth day of his quarantine, and sank after five hours' sickness. The first case in the town took place on the 7th July, eleven days after the breaking out of cholera in the lazaretto, the victim being Mohummud Abdullah, a cavedji, who had furnished several persons with lodgings after they had passed through quarantine. The disease immediately afterwards spread to Larnaca, thence to the surrounding villages, and thence in succession to Nicosia and the other parts of the island. The number of cases at Larnaca is estimated at 438, of whom 363 died and 79 recovered, in a population of twelve thousand inhabitants, reduced to four thousand only by emigration.

MERSINA received into an improvised lazaretto, which although isolated was unhealthy on account of its position, 450 passengers, brought by ninety-seven ships of different dimensions, sailing vessels as well as steamers, coming from Smyrna, Constantinople, and Alexandria, or Beyrout, under foul bills of health, and carrying 1,953 sailors. No case of cholera occurred on board before arrival, at least according to the declarations of the captains, nor afterwards in the lazarettos. No communication took place between the persons in quarantine and the population of the town. Yet, on the 4th October, a peasant named Mohummud fell ill of cholera, and died; his wife quickly followed him. This man had come from Adana, to which place the epidemic had already penetrated by another route. Cholera then spread in town and carried off numerous victims, the greater part being poor cultivators (cellahs) inhabiting an unhealthy quarter under very unfavorable hygienic conditions.

At ALEXANDRETTA, 469 persons performed quarantine in tents and huts perfectly isolated. Amongst these persons two deaths from cholera occurred on the 10th July, the victims being men who were sick on landing. These passengers had mostly been landed from mail steamers, coming from Constantinople or Alexandria, to the number of thirty-three. No other case was observed either among the persons in quarantine or in town. The Turkish frigate *Medjidié*, which had been made to anchor at a distance, had fourteen deaths from cholera in the space of seven days. From the 10th July, when the two deaths

occurred in the lazaretto, to the 5th December, there were no cases of cholera in Alexandretta; but subsequently, the epidemic which had carried off 750 victims out of a population of a thousand at Karaghadch also declared itself at Alexandretta and carried off twenty victims out of the thousand persons comprising the population of the town. Karaghadch is only an hour's march from Alexandretta on the coast, and it is supposed that the germ of the disease was carried to it by the frigate *Medjidé*, or some other infected ship.

BEYROUT.—The number of persons who arrived from Alexandria, between the 17th June and the 25th July, amounted to 3,600. They performed a quarantine of from five to ten days, according to the nature of the case. More than four hundred were poor pilgrims on their way to their homes at the expense of the Egyptian Government. In the lazaretto there were 30 attacks of cholera, and fifteen deaths. The first fatal case in the lazaretto took place on the 29th June, the victim being a Jewess who had arrived from Alexandria on the 24th in the Austrian steamer *Archduke Maximilian*, which had had three cases of cholera, one resulting fatally, on board during the voyage. The keeper Hamoud, who had carried the corpse of this woman on his back for the purpose of interring it, was attacked some hours afterwards, and died during the night. The Abbé Vialé, Secretary to Monseigneur Valerga, patriarch of Jerusalem, arrived on board the same mail steamer and left the lazaretto on the 3rd July: he fell ill the same day and sank during the night. The keeper Pedros, who had helped to bury the dead, also died. Another keeper, Joseph Tarsouf, who had attended as a domestic servant upon a family consisting of a mother and daughter, the father having died of cholera in the lazaretto on the 1st July, was attacked on the 3rd, and died two days afterwards.

The lazaretto was isolated and well ventilated, but it was crowded, and consequently communication took place between the different classes of persons in quarantine. The proper lazaretto, situated to the east of Beyrout, could not hold more than three hundred persons, it was therefore supplemented, on the beach opposite the west of the town, by some isolated houses and an hotel.

The number of ships which arrived under foul bills of health, from the commencement of the epidemic to the 13th July, amounted to fifty, carrying altogether crews amounting to 950 men and 3,600 passengers. Between the 22nd June and the 8th July, six ships, two of which were steamers, had had choleraic accidents on board during the passage from Alexandria to Beyrout, the number being twelve attacks and four deaths; the English steamer *Tamanlipas*, 22nd June, 277 passengers, one death; the British war-corvette *Cosak*, 25th June, three attacks; the Turkish brig *Fathalla*, 29th June, 41 passengers, three deaths; the Turkish ship *Saida*, 8th July, 51 passengers, one death; the Egyptian steamer *Dossouck*, 8th July, 93 passengers, one death.

The first case of cholera in the town was observed on the 1st of July, the victim being a young man, Matta Farrah, who had nothing to do with the lazaretto. But already, since the 22nd June, ships from

Alexandria had been bringing a mass of travellers as well as cholera patients into the Beyrout lazaretto. Before these arrivals the sanitary condition of Beyrout had been satisfactory. There were only a few cases of diarrhoea, dysentery, and bilious and gastric fevers, displaying no extraordinary features, for these diseases are common to the country at this time of the year. The total number of deaths, during the three months the epidemic lasted, amounted to 493 in 1,500 attacks. The population, which amounts to seventy-five thousand souls, was reduced by two-thirds through emigration.

ALEPPO.—The first case of cholera was reported on the 15th August. Until then the public health had been good, and there were no warnings of intestinal disorders, of a nature to cause one to foresee the near approach of an epidemic. But cholera was already at the gates of Aleppo, for the Persian pilgrims were returning from Mecca in a very bad state of health, carrying with them the corpses of those of their companions who had died during the pilgrimage. The steps taken to prevent their entrance into the town not having proved successful, the caravan entered the town very early in the morning of the 16th August. That same evening two cases of black cholera were reported. From that day the epidemic made incessant progress; from the 15th to the 22nd August there were 28 deaths; from the 22nd to the 28th the number of victims rose to 1,200; from the 28th August to the 2nd September there were on an average 350 deaths every day, and the epidemic attained its greatest intensity. From the 2nd September, the average was 200 a day; on the 12th, the mortality fell to 50, and maintained itself at that figure till the 28th of September. On the 2nd of October the mortality increased, and the deaths again rose to 100 daily, and then descended progressively to 60, 15 and 12, the epidemic finally dying out by the 15th of November. The total amount of the mortality was 7,000, in the space of three months, or, in a population of ninety thousand souls, nearly 7½ per cent. The ordinary population of Aleppo is 120,000, but about thirty thousand had emigrated on the appearance of the epidemic. The number of attacks is unknown.

JERUSALEM.—The epidemic appeared in the holy city on the 21st September, and carried off 601 victims in the space of twenty-two days, out of 1,258 verified attacks; the number of inhabitants in the town amounting to thirty thousand. The Israelites, living in unhealthy conditions, suffered more than the Mussulmans, who were much more numerous; the former lost 301 persons, the latter only 225. Jaffa, Hama, Homs, and almost every town in Syria, except Latakia, which remained exempt, were laid under heavy contribution by the epidemic.

DAMASCUS.—Cholera commenced at Damascus after the arrival of the fugitives from Beyrout who came to Damascus in search of shelter a good deal before the return of the Mecca caravan. "Cholera," says the sanitary physician of Damascus, "has been brought to us this year by the pilgrims who took the Suez and Alexandria route, and not by those who returned by the desert route." A great number of pilgrims from Beyrout, lodged in the Eguebeli quarter, as they are in the

habit of doing for the few days they stay at Damascus before returning to their homes. It was in this quarter that the first case showed itself, the victim being a Turkish woman, six months advanced in pregnancy, and who sank under the disease in eighteen hours. "It would be an error," adds the sanitary physician, "to believe that some cases of "diarrhoea and dysentery observed amongst the pilgrims of the caravan "were of a choleraic nature, for these diseases always exist among the "pilgrims and never transmit themselves to the population. The desert "purifies the caravan, and it always arrives at Damascus without propa- "gating cholera."

MESOPOTAMIA.—Cholera arrived at Bagdad from Mecca, or rather, to speak more precisely, it reached Imam-Ali and Kerbelah, by two distinct currents: 1st, by the Red Sea, Muscat, Bassora, the Tigris or the Euphrates; 2nd, by Alexandria, Beyrout, Aleppo and Diarbeker. Thus, the epidemic, leaving Mecca with the pilgrimage, followed two different routes to reach Kerbelah, another place of pilgrimage. At Bagdad it was known since the 17th June that the Persian pilgrims, divided into several columns, were following the two routes we have just indicated. On the 18th August the telegraph announced, by way of Bassora, that cholera had broken out at Muscat and Bender-Abbas. On the 4th September the first case of cholera which occurred at Bassora was reported. That was the commencement of the epidemic, which raged with violence till the latter part of October, carrying off 471 victims in less than 5,000 inhabitants, or nearly ten per cent.

To ascend from Bassora to Bagdad, cholera had two roads to follow: that of the Tigris and that of the Euphrates. The Tigris route is desert. The Bedouins who encamp on its banks retreat to a great distance from them directly cholera makes its appearance, and the epidemic dies out from want of aliment. This is what almost always happens in these parts. In this way some years ago, cholera, which had penetrated, by way of Mohammerah, among the Abou-Mabomeds of the South, died out among them. Cholera must then have ascended the Euphrates with the columns of the Persian pilgrims. It appeared, in succession, winding about with the course of the river, at Kourna, Suk-el-Chuck, Samawat, Divanieh, Imam Ali, and Kerbelah, whence it passed to Hilla, and then to Bagdad. This was precisely the route of the pilgrims. At Samawat, it carried off numerous victims, but the number is unknown; at Divanieh it carried off twenty-two soldiers of the garrison and 125 inhabitants; at Imam Ali, three soldiers and 336 inhabitants; at Kerbelah, two soldiers and 1,478 inhabitants and pilgrims; at Hilla, four soldiers and 45 inhabitants; at Bagdad, from the 17th September to the 3rd December, 262 inhabitants. Cholera also declared itself at Imam-Moussa, a place of pilgrimage among the Persians, situated an hour's march to the south of Bagdad. The pilgrims, flying from Kerbelah, re-entered Persia by Haneguin without being obliged to undergo quarantine.

By the second, or Syrian route, the caravan of Persian pilgrims, which had infected Alleppo, divided itself into several columns, some

proceeding along the Euphrates, other along the Tigris. By these two ways, the pilgrims reached the same points, that is to say, Imam Ali and Kerbelah, carrying cholera with them, and spreading it everywhere in their passage. The epidemic caused ravages at Biredjik and Anah-Hit on the Euphrates, and the more so, in consequence of the country being much more inhabited, at Orfa, Diarbekir, and Mosul, as far as Bagdad and Kerbelah.

One of the routes followed by the pilgrims in returning to their homes in the north of Persia, after having performed their devotions at Kerbelah and Samara, is that of Kurdistan, by Suleimanieh. Cholera was thus imported into that town, although, however, it is impossible to demonstrate the connection with precision. Cholera, says the report of the sanitary physician at Suleimanieh, raged at Aleppo, then at Diarbekir and Mosul; in October it was at Kerkouk, not far from Samara, and twenty leagues from Suleimanieh. Two weeks afterwards it showed itself in this latter town. The first death, which was closely followed by a second, took place on the 31st October. We must go on, after this, to the 13th November to find new cases, and the epidemic smouldered till the 13th February, the date of the report. Its progress was effected by fits and starts; the first fresh outbreak was from the 13th to 20th November; the second from the 23rd to the 28th; the third from the 1st to the 29th December; the fourth from the 31st December to the 22nd January; then nine days passed without accidents; then the fifth from the 1st to the 13th February. The rapidity of death was extraordinary, especially among the foreigners who had come from Persia. The cold exercised no favorable influence; on the contrary it would seem that it lent greater force to each outbreak. The number of deaths, at an approximate estimate, amounted to 300 out of 600 attacks in a population of 10,000 souls. The barracks furnished 34 attacks, and seventeen deaths in an effective force of 900 soldiers. The disease spread in the villages in the neighbourhood of Suleimanieh.

SAMSOUN.—Fifty-six steamers arrived at Samsoun under foul (cholera) bills of health, all coming from Constantinople, and carrying 3,170 passengers and 1,960 sailors. From eight of these vessels, sick or dead men were landed. On the 31st July, the *Pilade*, Russian vessel, 82 passengers, four sick men. On the 3rd August the *Tamise*, French, 120 passengers, three sick, two corpses. On the 5th August the *Vassitay*, Turkish, 271 passengers, two sick. On the 6th August, the *Sultan*, Austrian, 117 passengers, three corpses. On the 7th August, the *Oleg*, Russian, 140 passengers, two sick. On the 9th August, the *Mersina*, French, 159 passengers, four sick, six corpses. On the 12th August, the *Touna*, Turkish, 148 passengers, one sick. On the 14th August, the *Ismith*, Turkish, 36 passengers, one sick. On the 17th August, the *Caire*, French, 29 passengers, four sick, one corpse. Total, from the 31st July to the 17th August, eighteen sick, twelve corpses. The quarantine, when no choleraic accidents had occurred, lasted for five days, and for ten in cases where cholera had shown itself either on board or in the lazaretto. The lazaretto of Samsoun consisted of

a barrack shed a quarter of a mile from the town and capable of containing a thousand men; a large hut, two miles out of town, and lastly, some houses a few yards from the Government house. The cholera hospital was quite isolated, a mile away from any dwelling. The greatest number of persons undergoing quarantine in the barrack at any one time was 307, so that there was no crowding, in the large hut 257, in the houses 271.

Amongst the persons undergoing quarantine, who arrived on board the *Vassitay*, on the 5th August, there were five cases of cholera; and one case among those who arrived with the *Pilade* on the 31st July. No attacks occurred among the persons employed in the lazaretto. All told there were twenty-four sick in the lazaretto, including the 18 who were landed, and twelve deaths, besides the corpses brought in by the steamers. With the exception of two unproven suppositious cases, the town of Samsoun was unaffected by any sort of choleraic accident whatever.

TREBIZOND.—Sixty-eight vessels, eighteen of which were sailing ships, entered the port of Trebizond under foul bills of health, sailors, 2,558, passengers, 5,073, total 7,611, in the space of two months. On the 25th July, a sick man was landed from the steamer *Junon*; three corpses from the *Tamise* on the 4th August; two from the *Vassitay* on the 6th; and one from the *Sultan* on the 7th. From the 25th July to the 28th August there were twenty-two patients in the lazaretto, two of whom only survived. The lazaretto of Trebizond not being large enough to contain all who were to undergo quarantine, a portion of them was sent to Ahtche-Kalé under tents. Seventeen of this batch died. Total number of deaths, inclusive of the six corpses landed, forty-five. The maximum number of persons undergoing quarantine in the lazaretto of the town at any one time amounted to six hundred, the result being overcrowding. This lazaretto, moreover, was close to the town. Amongst the persons employed in the lazaretto and in the encampment, there were no cases. After the arrival of the *Junon*, from which the first sick man had been landed at the lazaretto, one case of sporadic cholera was reported at Trebizond, and it was followed, from the beginning of August to the middle of September, by forty-five cases, twenty-eight of which were fatal, distributed through the town.

ERZEROUH.—The first case of cholera at Erzeroum was reported on the 22nd August, following on the arrival of crowds of laborers, Kurds and Armenians, sent away from the capital, where cholera was prevalent. They reached Erzeroum *via* Trebizond, infecting several villages on the road taken by them. They scattered themselves in the khans and bazars of Erzeroum, sowing the seeds of the disease all round them. The first reported case was that of one of the soldiers working at the fortifications of the town. Before that time no case of choleraic disease existed in the country. From the 22nd to the 31st August, fourteen cases, six of which ended fatally, were reported in the town, as well as among the laborers at the fortifications. In the month

of September, cholera spread and attained its greatest intensity: 343 attacks and 143 deaths; in the month of October there was a decrease, 160 attacks and 76 deaths; from the 1st to the 7th November, 4 attacks, one death; from the 7th to the 23rd, no cases; on the 23rd, 12 attacks and four deaths; then a few isolated cases; and finally, the end of the epidemic on the 12th December. Total number of attacks 518, deaths 224.

During this interval, 600 families of Tchetchens who had come from Russia and were bound for Diarbekir, contracted cholera and carried it to Mouche, a village 100 kilomètres from Erzeroum. Returning in the path by which they had proceeded, and begging for re-admission into Russia, they proceeded towards Kars, 106 kilomètres from Erzeroum, and carried cholera with them to that place also. The epidemic, however, did not acquire any great violence either at Mouche or at Kars, where it confined itself to a few sporadic cases.

SINOPE, BATOUM, and VARNA also received a great number of sailing vessels and steamers, containing hundreds of passengers. Some cases of cholera had occurred on board these ships in coming from Constantinople, where cholera was prevalent about the months of July and August; but the disease did not overstep the confines of the lazaretto, and the inhabitants of these towns were spared.

BOURGAS received, 186 sailing vessels, under foul bills of health, manned by 1,718 sailors, among whom were three cholera patients. As the quarantine lasted for only three clear days, one of the sailors died in town after being admitted to pratique. The lazaretto, which at first was situated near some dwellings in an unhealthy locality, was replaced by huts built upon a raised site and completely isolated. The number of persons undergoing quarantine amounted to 1,096. On the 6th August, six cholera patients, all of whom died, were landed from the Turkish steamer *Malakoff*. Two health guards, who had attended upon the sick, were attacked by cholera; one of them died. In the town, with the exception of some cases of cholera, there were no serious or fatal cases.

KUSTENDJE.—Ninety-five ships, twenty-eight of them steamers, arrived at Kustendje under foul bills of health, with 928 sailors and 580 passengers; none sick. During the quarantine, which lasted for three days, eleven cases were observed on board these ships. The passengers were landed, and, having been sent two miles away from town to perform their quarantine under tents, no cases were observed during this short space of time, but a keeper was attacked on the 4th August, and his son on the 5th. Both of them died.

During the month of July the public health in the town was not affected, but towards the end of the month a bilious diarrhœa was observed. On the 2nd August an employé in the lazaretto fell ill of cholera and sank; on the 4th a blacksmith, a young and a robust Englishman, was attacked, and recovered; on the 5th two fatal cases occurred, an Englishman and the clerk of the lazaretto. Cholera then spread throughout the town

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and amongst the Bulgarian laborers, who went to the mountains, where they interred several of their dead, and afterwards quitted the country. It is calculated that in the town there were a hundred and twenty deaths in four thousand inhabitants in the space of a month.

SULINA.—Eight hundred and eighty-seven vessels arrived, carrying 365 passengers and 7,983 sailors, among whom there were reported thirty cases of cholera, which occurred either in the roadstead or before the arrival of the ships. The lazaretto, consisting of two buildings, comprising altogether eight rooms and some huts, received altogether five hundred and eighteen persons into quarantine. The maximum number of individuals shut up together at one time in the lazaretto amounted to 73, and there was no crowding. The quarantine lasted for five days for persons who had arrived on board of vessels in which no cases of cholera had occurred during the voyage, and for ten days for those who had arrived in ships in which cases of cholera had taken place. No cases of cholera occurred in the lazaretto, except indeed among the sailors of the Ottoman man-of-war *Esseri Jedid*. On the 30th and 31st of July five cases out of twelve terminated fatally. Many of the sailors who were landed, were already suffering from cholera on their entrance into the lazaretto. The others were attacked within twenty-four hours after their arrival. Nobody employed in the lazaretto was taken ill with cholera. In the town three keepers at the sanitary office, who were attacked, died. The first attack in the town took place on the 2nd August, and the disease caused great ravages till the 20th of the same month, augmenting and diminishing gradually. In a population of three thousand souls, reduced by flight to less than fifteen hundred and eighty, there were about three hundred and fifty attacks and three hundred deaths. The disease spread after the disembarkation of the sailors of the *Esseri Jedid*, which had come from Constantinople. At Saint George, a village situated at seven hours' march from Sulina, it appeared after the arrival of persons flying from Sulina, who had sought refuge there. At Eté, a village two hours' march distant only, no case occurred, the inhabitants declining to receive amongst themselves, or to have any communication with the persons who had fled from Sulina in this direction.

TOULTCHA, ROUSTCHOUK, VIDIN.—Ascending the Danube, cholera showed itself at Toultscha amongst the sailors who arrived on the 2nd August from Constantinople for the purpose of manning the men-of-war lying in the river. They performed quarantine on board the ships. Between the 4th and the 15th of August, fourteen cases occurred amongst them, and ten deaths.

After this, the disease attacked and carried off a merchant named Economopoulo, purveyor to the Turkish men-of-war, whose business placed him in constant communication with the military of the station. Another case occurred on board the Turkish gun-boat *Varna*, whose crew in the course of duty had had communication with their newly arrived comrades. The next victim was the muezzin, Hajji Mustafa, who was in communication with the marines. In this way the epidemic

having taken rise amongst the sailors, spread to Toultscha. On the 21st August, the deaths from cholera amounted to twelve. From the 10th of the same month to the 16th September, the number of deaths in a population of twenty thousand souls was estimated at two hundred. The importation of cholera into the country is attributed to the newly arrived military, amongst whom sickness and deaths had taken place in their passage from Constantinople to the Danube.

At ROUSTCHOUK the first cases were observed among the Bulgarian laborers whom we have just seen leave Kustendje after having lost a number of their comrades by cholera. The disease spread at first among their compatriots, the Bulgarians, and spread in succession to the Greek, Turkish, and Armenian quarters. It lasted for sixteen days, and carried off a hundred and thirty-one persons, having attacked three hundred and sixty in a population of twenty-two thousand, the amount of that of Roustchouk.

Advancing up the river, cholera showed itself at Vidin commencing with the town goal, in which the two first cases were observed: no communication existed with the outside world or with the lazaretto, which consisted of a hotel and tents pitched on the banks of the Danube, all quite close to the town. Two hundred and eighty-seven persons underwent quarantine, and the maximum number of individuals in the lazaretto at any one time was a hundred and four. The period of quarantine lasted for five days, when no cases had occurred on board during the voyage, and the days spent on the voyage were included in this period if a health officer had been on board: so that the quarantine was often reduced, or very nearly so, to zero. In this way, the occurrence of cases in the town, though none occurred in the lazaretto, is easily explained. In fact, the prison and the Jewish quarter fell a prey to the disease, and then the Mussulman quarter, each of them furnishing the largest contingent to the epidemic, which, however, was not so violent as it had been at Sulina. The number of deaths amounted to 110, including 38 of the soldiers of the garrison, out of three hundred cases and a population of twenty-five thousand.

From the banks of the Danube, cholera advanced into the interior, and slight epidemics were reported in several places in Bulgaria. Similarly, on the Salonica side, with regard to Macedonia, Philippopolis and Pasardjik furnished their contingent, as well as Seres and Florina, which latter place transmitted the disease, as we have observed above, to the town of Larissa. We cannot afford details concerning the extent and ravages of the epidemics circumscribed within these places, but it is certain that they followed every where subsequently to the invasion of those maritime towns we have already alluded to in the present report.

VALONA.—Among twenty-two ships coming from localities infected by cholera, the *Nil*, Austrian steamer, which left Constantinople on the 7th August, arrived at Valona on the 12th, having lost twelve passengers from cholera during the voyage. Four hundred and sixteen passengers were landed, five of them being sick, one of whom died the

next day. The passengers were placed on an island in separate groups, the sick being grouped apart under tents. They were made to undergo a quarantine of ten days; the sick recovered as well as many others who had diarrhœa. No new cases occurred either among the persons in quarantine or the employés; only on the day when they were admitted to pratique, a man named Kiriaco was taken with choleraic symptoms and succumbed in the course of a few hours. No communication had been permitted between the island on which the quarantine was being performed, and the town and the population remained uninfected.

Among the localities which were exempted from the epidemic, although ships from infected ports came to them, we must mention *Gallipoli*, situated between two such foci of the disease as Constantinople and the Dardanelles, and which at the same time received eighty-nine ships, mostly coasting vessels manned by four hundred and seventy-two sailors, and carrying a hundred and nine passengers. *Echelle-Neuve*, 16 ships, 112 sailors, 200 passengers. *Chio*, many ships, numbers of passengers, and some cholera patients, who performed their quarantine on an islet in the Spalmadore islands. *Adalia*, 184 ships, 1,688 sailors, 350 passengers. *Allaya*, 175 ships, 1,733 sailors, 2,217 passengers, maximum number in the lazaretto at any one time 214. *Durazzo*, 58 ships, 434 sailors, 50 passengers. The greater number came from Constantinople, Smyrna, and Alexandria, places essentially compromised, but no cases of choleraic disease occurred on board either on arrival or during the voyage (*information extracted from the records of the Turkish Sanitary Administration.*)

ODESSA.—This town felt the first attacks of the epidemic which was prevailing at Constantinople towards the middle of July. From the 14th to the 17th of this month, four cases of sporadic cholera were observed here, one of them terminating in death. It was not till between the 11th and the 16th that fresh germs of the disease were imported by two ships from Constantinople. The *Emilia-Luisa*, under the Austrian flag, which had had a death from cholera *en route*, landed a sailor suffering from the disease at the lazaretto. The Italian ship *Concentino* brought to the lazaretto four sick men, two of whom died on the 14th of August. The disease spread from the lazaretto to the town, and its development was observed with great exactness. On the 17th August, Gouline, a custom-house agent, in the service of the lazaretto, fell ill. Taken in the first instance to his home near Moldovanka, and to the town hospital the next day, he expired an hour after admission. His wife, his son, and a servant were also attacked, the latter died. On the third of September a workman named Dorfman, in the lazaretto was taken ill; he also was carried to his lodging in the Jewish quarter. His comrade, who attended upon him, fell ill, likewise the wife of the porter of the neighbouring house, then the husband himself, and then their daughter. Of all these, Dorfman was the sole survivor. On the fourth of September, a workman named Bochinski, whilst going from the lazaretto to his home, was seized with cholera, and succumbed to the disease the next day. His two children were attacked the same day, and,

two days afterwards, his wife, who died the day after the attack. Thus the disease, imported into the lazaretto of Odessa by the two ships above mentioned, spread to the quarantine port, thence to the quarter of the Moldovanka, to the town hospital, and in succession to Peresip, where a cholera hospital had been established. It must be pointed out distinctly that the Moldovanka, the town hospital, and the faubourg of Peresip are distant from each other, and are situated in opposite directions. Moldovanka had sixty-nine cases; the town hospital eighteen, three of these being hospital attendants; the faubourg of Peresip twenty-nine, six of them being infirmarians, or hospital servants. Besides these, cases were observed scattered about in the town and the district, in the lazaretto and on board the ships. Altogether, from the 16th of August, the date on which the epidemic commenced, to the 7th of October, the date on which the last cholera case occurred, there were 236 cases and 109 deaths in a population of 118,000 souls.

Almost at the same time cholera showed itself in Podolia, imported into the village of Borchi by German workmen who had stopped at Galatz on the 4th of August, at which place the epidemic was raging there. A child who was suffering from diarrhoea, died on the 10th August, and was followed by its mother, and two other children. The disease spread in the village and carried off thirty-three victims out of five hundred and fifty-eight inhabitants. The Germans lost eight of their number. Thence the disease passed to Gavinosa, another village, in which there were twenty-two deaths among four hundred and forty-four inhabitants. On the 20th of September it declared itself at Bogopol, and lasted till the 15th October. Among 2,275 inhabitants, 202 were attacked by the epidemic, and 65 died. On the 1st of October the disease was at Balta; out of 2,200 Jewish inhabitants 416 were attacked, and 147 died. It next appeared in the districts of Jampol, Mohilev, Olgapol, Vinitzi, and Litinsk, where it carried off some victims. From the 10th of August to the 27th of November, there were in the Government of Podolia, 1,361 persons suffering from cholera and 426 deaths. At Kertch, from the 27th of August to the 8th of November, 82 attacks and 41 deaths. At Berdichev, from the 6th of October to the 26th of November, 2,898 cases, 573 of which ended in death. From the 6th of October to the 26th of November, the Government of Kiev furnished 3,243 cases of cholera and 588 deaths. From the 13th of October to the 5th of December, in the Government of Kherson, there were 56 cases and 24 deaths. From the 24th October to the 27th November at Taganrog there were 625 cases and 175 victims. At Zitomir, from the 27th October to the 13th November, 644 attacks and 225 deaths. Some cases of cholera occurred during the month of November in several districts of the Governments of Volhynia, Kovno, Tver, and Voronega, without spreading to any extent. There was also one sporadic case at Vilna and another at Saint Petersburg (*Communication by Dr. Bykow*).

There is one case deserving of mention in connection with the epidemic at Odessa. The wife of a German workman left Odessa on

the 16th August for Altenburg, with her child, twenty-one months old, suffering from diarrhoea. On the 24th, after a journey of nine days, she arrived at her father's house. On the 27th, the child's diarrhoea having become considerably aggravated, the mother called in Dr. Geinitz. The mother was in perfect health on that day. At 9 o'clock, on the evening of that same day she fell ill of cholera and sank under the attack on the morning of the 29th. At 8 o'clock on the evening of the same day, the 29th, her sister-in-law, who lived in the same house, was attacked in her turn, and died on the 30th. The house in which these two women died became the primary focus of infection, whence the disease spread throughout the town. The family of a workman, who had died at Altenburg on the 13th of September, imported the disease into Werdau. The dwelling occupied by this family became the starting point of an epidemic which carried off two per cent. of the population of the town. This fact, which is reported by Dr. Pettenkofer, is most conclusive with respect to the importation of cholera.

GREECE adopted and maintained a very severe quarantine system. She refused admission into her ports to all vessels having cholera patients on board, with the exception of the isles of Delos and Skiathos, where they were admitted to quarantine. Those vessels which came from contaminated localities but which were in less unfavorable conditions by reason of their having no sick on board, were authorized to perform quarantine in the lazaretto ports of Salamin and Corfu. The number of those who underwent quarantine in the different ports amounted to 1,500 : that of the passengers and crews to 26,000, including amongst these 2,721 travellers who arrived overland and whose quarantine was accomplished in four lazarettos situated on the frontier. Among the 1,500 vessels, 334, carrying 3,644 sailors and 2,854 passengers, total 6,498 persons underwent their quarantine at Delos, and twenty-six vessels, with 218, sailors and 913 passengers, 1,131 persons altogether, at Skiathos. Twelve ships arrived with cholera patients on board, one from Smyrna, nine from Constantinople, one from Alexandria, and one from Port Said.

The *Saint Nicolas* arrived in thirty-six hours from Smyrna on the 18th of July with seven sailors and a hundred and thirty-six passengers, and landed at the lazaretto fourteen corpses and twenty-two sick. In four days the number of sick increased considerably and forty persons died. Thus, fifty-four deaths were counted among 143 persons, *vis.*, fourteen on board the ship and forty in the lazaretto. The *Alemana*, which arrived from Constantinople on the 5th of August with forty passengers and fourteen sailors, lost three passengers *en route*, and landed three sick men who recovered. These two ships performed their quarantine at Delos. The following underwent quarantine at Zoungria (island of Skiathos). A brig commanded by Captain G. Sarri, which arrived on the 27th July from Port Said, with twelve sailors and ninety-two passengers, having had two deaths during the voyage and several sick. In the lazaretto the number of sick amounted to fifty-seven, out of whom there were forty-four deaths, two being health

guards who had embarked at Syra. A gun-boat commanded by Captain D. Choredites, which arrived from Constantinople on the 28th July with fifteen sailors and forty-four passengers, having had two deaths and four cases of sickness during the voyage; the number of sick amounted in a few days to twenty-two, of whom six died in the lazaretto. The total number of cases furnished by the twelve ships abovementioned amounted to 161, 99 of which were followed by death. The quarantine in Greece lasted, as a rule, for eleven full days for choleraic arrivals, and five days for suspicious arrivals the time being reckoned, in either case, from the day of survey on arrival, the time spent on the voyage never being taken into consideration. Greece was saved from invasion by the scourge, and this result is attributed to the stringency of her quarantine system. (*Extracted from an official communication by Dr. Maccas*).

Amongst the places which escaped falling a prey to cholera by refusing all access to choleraic arrivals, we must notice Sicily, which remained uninfected notwithstanding the vicinity of the island to the foci in the Italian mainland on the other side of the Straits. We must also mention Samos, in the Turkish Archipelago, which was saved by the adoption of the same system, although the island was surrounded by choleraic foci.

At TRIESTE cholera did not effect great ravages. The three first cases, observed on the 28th of September, were followed by two others on the 14th and 15th of November, in the village of Prosecco, situated at a distance of 8,000 metres from the town. On the 29th a case occurred in the faubourg Guardiella. Thence, the disease advanced into the town, from east to west, proceeding by isolated cases, except in three houses, where several cases were reported under the same roof. From the 28th of September to the 19th of November, eighty-three sick and sixty deaths were reported. The disease also spread to the village of Optchina (five cases), and successively to Muggia, a small town two hours' journey from Trieste, where it prevailed from the 24th of October to the 15th of November, with average strength. This place was inhabited by a great many washerwomen who washed the linen of the citizens of Trieste.

Although the first cases of cholera were observed only on the 28th of September, there had been, nevertheless, some cases of diarrhoea and even of rather distinctly marked choleric, though none were fatal, during the month of July; but of these cases there was no trace left during the months of August and September till the 20th of the latter month, excepting the cases of diarrhoea, which hung on. Now, the question is asked, what can have been the origin of these cases of diarrhoea and choleric, and, lastly, of the Trieste cholera? Some people have accused three journeymen lapidaries of having brought it from Ancona in the beginning of September. Others, with more reason, attribute its importation to the refugees from Alexandria, who, as soon as the epidemic broke out in that town, fled in great numbers to Trieste, where they stopped. Cases of choleric and diarrhoea,

therefore, had existed in Trieste since the month of July. Are we not authorised, after that, to connect the choleraic phenomena at Trieste with the emigration from Egypt in the month of June? We think so, but we are not in possession of proof sufficient to enable us to assert it positively.

We give here some official information, which, as well as the information already given, was communicated to us by Dr. Polak, concerning the quarantine of Trieste. In principle, Austria admits of no quarantine against cholera; but yet, on account of the violence of the epidemic in Egypt at Constantinople, she had established a regulation of seven days of observation for arrivals from suspected countries, which observation was reduced to 48 hours if the voyage of the vessel had lasted for fourteen days without the occurrence of any cases. If, on the contrary, the bill of health was foul and there had been accidents at sea, the ships were subjected to a rigorous quarantine, like that for arrivals from places infected with yellow fever. The number of persons placed under quarantine of observation at Trieste from the 18th June 1865 to the 7th February 1866 amounted to 11,108. During the quarantine of observation, a woman named Pucinotti, who had arrived from Alexandria on the 4th of August, fell ill of cholera on the 8th. A man named Anderson, who had arrived from Ancona on the 24th of August, after a day's voyage, fell ill some hours after his arrival. And again between the 7th of August and the 20th of October, three fatal cases occurred on board three of the ships which had come from places infected with cholera and which were placed in quarantine.

ITALY had been exempt from cholera for 10 years, when, on the 7th of July, the first case was reported at Ancona after the arrival of the steamer *Principe Carignano* from Alexandria (*Communication from Professor Bossi*). According to the information transmitted by the French Government to the Delegates representing it at the Conference, no sporadic cases whatever had been remarked previously; none of the persons in the lazaretto had been attacked by cholera, and it would seem that the disease was imported into the town by means of effects belonging to sick persons who had come from Alexandria. In fact, the first case is attributed to a washerwoman who had taken away from the lazaretto linen belonging to passengers from Egypt. Cholera immediately spread in every quarter. Having commenced on the 7th July, it lasted 74 days and attained its greatest intensity on the 6th of August, after which it remained stationary till the 10th, and then diminished progressively, ceasing altogether on the 20th of September. In a population of 46,000 inhabitants, reduced to 20,000 by emigration, there were counted 3,763 attacks and 2,108 deaths. The epidemic spread in succession throughout the 21 communes of the province of Ancona, following in almost every one of them the steps of those who were flying from it. The quarantine imposed upon arrivals from Egypt lasted for seven days without purification either of the ships, luggage, or merchandise.

The epidemic, however, did not spread in Upper Italy (*Annali Universali di Medicina, febbrajo 1866*), which is attributed to measures having been taken to stifle the primary germs of the disease. Thus the first case imported into Milan was followed by no consequences. A woman named Conforti, from Ancona, after a short quarantine, fell ill travelling on the railway and died at Pistoja; similar measures here, and similar results. The same thing happened again at Ravenna. At Bologna, the germ was imported on several occasions, but receded before measures applied with tenacity and perseverance by the sanitary authorities. But it was not so elsewhere. At San Severo, one of the railway stations between Ancona and Foggia, a town containing eighteen thousand inhabitants and in direct communication with the principal focus of cholera, the disease showed itself with fury during the course of the month of August. It then invaded, following the line of rail, all the eastern side of Lower Italy from Pescara to Otranto. Next comes the epidemic in Naples, but in the absence of authentic documents, we are not acquainted with the details.

As for Marseilles, the first ship by which cholera patients were brought to the port was the *Stella*, which left Alexandria on the 1st of June with sixty-seven pilgrims from Mecca. Eight days after her departure on the 9th of June, two men who had died of cholera were thrown overboard. On the 11th of June, the remaining sixty-five were landed, including one Benkaddour, who succumbed as soon as landed. (*Archives g n rales de la M dicine*). Here we have official information, laid before us by Dr. Fauvel. The number of ships that arrived at Marseilles from the 15th of June to the 10th of December, under foul (cholera) bills of health, amounted to 390, 143 of which were steamers and 247 sailing vessels. They were manned by 10,503 sailors, and carried 5,538 passengers, total 16,041 persons. Twelve of the steamers arrived at Marseilles with cholera on board. On the *Stella* there were two deaths, on the *Said* two, the *Terifa* one, the *Vincent* one, the *Copernic* one, the *Cella* one, the *Asie* two, the *Said* two, the *Marie Louise* three, the *Br sil* one, the *Oronte* one, the *Bysantin* one. Moreover, six cholera patients, two suffering from cholera, eight from diarrh ea, and two from dysentery were admitted into the lazaretto and treated there. Two of the cholera patients came from a war despatch-boat, the *Dain*.

From Marseilles, the epidemic spread to Toulon, Arles, and Aix, where it caused great desolation. It then reached Paris, which was every day receiving by train crowds of travellers from the South.

SPAIN, as we are about to see, was cruelly ravaged by the epidemic of 1865, which made its first appearance in the country at Valencia. The first case of cholera reported in that town took place on the 8th of July, the public health having been till then generally good. The disease was imported there by one Honor  Teissier, a French merchant, who had come from Alexandria *via* Marseilles. He was the first who was attacked, and he died the same day; and we are all the more justified in supposing that cholera was imported by him or his baggage,

that the victims who were carried off in succession all inhabited the same house. The march of the epidemic was irregular. From the 8th to the 30th of July it carried off from 20 to 25 victims; from the 1st to the 20th August, 50, 70, and 96 daily; from the 21st to the 30th, it went down to 45 to go up again as high as 100. On the 8th, 9th, and 10th of September, it carried off 600 victims; from the 11th to the 15th, from 45 to 70 daily. After this date the violence of the disease diminished, and it disappeared altogether on the 22nd October. Altogether, in the population of Valencia, amounting to 107,000, but 40,000 of whom had emigrated at this time, the number of attacks amounted to 11,000, and the number of deaths to 5,100. From Valencia the disease spread to almost all the surrounding towns and villages in all directions. People arriving from infected places were subjected, after the invasion of cholera, to a quarantine of five days; all goods and travellers' luggage as well were properly aired. Valencia having no lazaretto, one was improvised where the quarantine regulations were strictly observed.

PALMA.—The invasion of Palma by cholera was effected, it is believed, by means of a case of wool smuggled in from a cholera district by a Spanish ship. The persons by whom this case was opened were the first who were attacked, and then the inhabitants and neighbours of the house in which the case was kept. The first case of cholera occurred on the 19th of August. The disease spread very rapidly. The maximum number of cases occurred from the 12th to the 23rd of September; then came the period of decrease, and then the cessation of the disease on the 15th of November. The number of attacks amounted to 4,268, that of the deaths to 2,892, in a population of 50,000 souls, reduced by emigration to 10,000. The disease spread to all the localities in the environs of the town, in spite of the establishment of sanitary cordons.

CARTHAGENA and MURCIA.—It is supposed that cholera was imported from Valencia into Carthagena and thence into Murcia, then into Alcañitarilla and Cieza by railway. The epidemic displayed itself at first under the form of cholera. On the 10th of September the disease became serious; from the 15th to the 25th it attained its greatest strength. It diminished on the 1st of October, but meanwhile it broke out at Murcia on the 20th of September, alternately decreasing and increasing, and it did not definitively disappear till the 15th of November. The fugitives who returned were especially singled out as victims. The number of deaths at Carthagena amounted to 900, the population being 25,000, 17,000 of whom had emigrated. At Murcia there were 879 deaths in a population of 37,000, reduced by emigration to 12 or 15,000. It was observed that the disease spread from house to house and almost from family to family. The principal hospital of Carthagena, situated in the centre of the town, was closed against cholera patients, who were sent to a special establishment, so that no cases took place in the hospital.

SEVILLE.—The invasion of this town by cholera dates from the 6th of September, the sanitary state of affairs having previously been very satisfactory. It is asserted that the crew of a steamer plying regularly

between Valencia and Marseilles, on their arrival at Seville, brought some linen to a washerwoman who was attacked on the same day and succumbed immediately. The disease spread rapidly, carrying off numerous victims, but it did not attain its greatest intensity till from the 12th to the 30th of October. It ceased on the 30th of November. In a population of 120 or 130,000 inhabitants, 4,330 cases and 2,674 deaths were reported. The number of those who emigrated is estimated at 25,000. The disease, which had at first invaded the suburbs, was afterwards brought into the town by families seeking refuge there; and in the same way it spread to 19 villages grouped around Seville.

BARCELONA.—The general health of the people at Barcelona had been good, and was so on the arrival of the English squadron from Malta, where cholera then prevailed. The importation of the disease consequently is attributed to it. Others assume that it may have been communicated to the town in consequence of the frequent communication between Valencia and Marseilles. The cases reported between the 22nd of July and the 10th August were only sporadic, and the first persons attacked belonged to the well-to-do class. The disease, which remained stationary during the whole of August, attained its greatest intensity towards the middle of September, and it then commenced to decrease. After the 15th of October, the cases became rarer, and it finally ceased towards the 15th of November. The number of deaths, according to official records, amounted to 1,799. The population of Barcelona, which amounts to 190,298, had been reduced by more than a half by emigration. Most of the villages in the neighbourhood of Barcelona were attacked by the scourge.

The quarantine for choleraic arrivals lasted from three to five days in those towns of Spain, where temporary lazarettos had been improvised, but a strict quarantine was observed according to the Spanish law, in the ports of Vigo, Cadiz, and Mahon, which were provided with suitable establishments. The proper measures, however, were not strictly observed everywhere.

We are indebted for these particulars regarding Spain to the French Delegates, who received them from their Government. The Spanish Delegates confirmed them generally, and added others from which we make the following extracts:—

MADRID also suffered from cholera, which made its appearance there on the 15th of August and ceased on the 29th of November, carrying off 2,869 victims (1,323 men and 1,546 women). In the general hospital there were 520 deaths (297 men and 223 women). It is believed that cholera was imported into the town from Valencia.

The disease also spread to the province of Navarre, making itself remarkable by the absence of cramps, and by this peculiarity that it raged at first especially among children and old people. It appeared also at Avila, into which place it is believed it was imported by means of the uniform of a soldier, which had come from Madrid, where cholera prevailed. There were however not more than twelve cases and four deaths as the disease did not spread to any other part of the province. In

the town of Santa-Ollala, a province of Huelva, the disease was imported from Seville and showed some remarkable circumstances in its transmission; the first person attacked was one of the notabilities of the town, who was visited by several persons the day he fell ill. On the following day eighteen of these visitors fell ill, the persons attacked being, all of them, the most intimate friends of the patient, whose hand they had shaken.

ALICANTE.—It has been proved that cholera was imported into Alicante by means of some bales of merchandise smuggled in from Marseilles. The disease broke out first in the house to which the contraband goods had been carried for retail; thence it spread with great swiftness to the neighbouring houses, and then to the remainder of the quarter which was called the fishermen's quarter, and finally to the centre of the town. Not more than 517 victims were carried off.

Spain is divided into forty-nine provinces or departments, thirty-one of which were invaded. The lowlands intersected with rivers, and the unhealthiest towns, were the most ill-treated as compared with places situated on hills or highlands or declivities. At Ciudad-Real, the upper part of the town which cut off all communication with the lower part when the latter was attacked by cholera, remained uninfected.

PORTUGAL.—About the month of July, cholera was prevalent in Spain, and it advanced gradually towards the frontiers of Portugal, which country had hitherto been exempt from the disease. On the 1st of October it appeared at Elvas, a fortified town in Alemtejo, and there carried off fifty victims. The disease also showed itself on the northern frontier, at Freixo da Espada, and at Cintra without however causing great ravages. But here we have a case of importation which deserves mention. A woman and her servant left Elvas, while cholera existed there, and went to Porto where cholera did not exist. Both of them fell ill and died. A government employé, living on the first floor of the same house was attacked and died. Two children, whose parents lodged on the ground floor of the house, were also attacked, but recovered. M. de Soveral, the Portuguese Delegate to the Conference, witnessed these facts, which occurred during the international exhibition, which was held that year at Porto. Every thing was done to stifle the evil in the commencement: the sick were strictly isolated, their effects destroyed by fire, and all the usual means were employed for the sanitation of dwellings. The evil was thus stopped. Nevertheless a choleraic influence showed itself in the country and notably at Lisbon, which influence was characterised by vomiting and diarrhœa, sometimes simple, and sometimes attended with cramps, coldness, &c., but this constituted the whole of the epidemic manifestation and no mortality followed (*Historical review of cholera and yellow fever in Portugal, 1833-65, by Dr. Gomez*).

MALTA.—On the 31st of May the English steamer *Ephesus* arrived from Alexandria with two hundred and thirty-five pilgrims, sixty-one of whom bound for Tunis and remained at Malta till the next day. The captain declared that three hajjis had died during the passage, one

of gangrene, another of constipation, and the third of old age and exhaustion, and that their corpses had been thrown overboard. The ship was admitted to pratique. Between the 1st and the 9th of June, seven steamers all from Alexandria brought two hundred and thirty-seven passengers to Malta, the greater number being hajjis. On the 10th, the *Olympus* arrived from Alexandria after a passage of four days, one of her crew suffering from an intestinal disorder. Between the 12th and the 14th five more steamers arrived with passengers on board. On the 14th, the Government having received a telegram announcing that cholera existed in Egypt, arrivals from Alexandria were subjected to a quarantine of seven days, reckoning from the day of arrival at Malta. On the 14th, the *Memnon* arrived, after a passage of four days, with twenty-two passengers, eleven hajjis, one death having occurred from bowel-complaint. Between the 14th and the 19th, the *Caire*, the *Nyanza*, the *Marie-Antoinette*, the *Assyrien*, and the *Rhône*, arrived with a total of two hundred and forty-eight passengers, thirty-seven of whom were Mussulman pilgrims. The captain of the *Rhône* declared that a passenger and a fireman had died at sea of cholera. On the 20th of June, the number of passengers in quarantine amounted to two hundred and fifty-four, with the addition of thirty-four persons who were in communication with them.

The same day (the 20th of June) the first case of cholera occurred in the building called the plague hospital, which is situated, as the crow flies, six hundred and sixty feet from the lazaretto where the persons in quarantine were, the building being occupied by a detachment of royal artillery; the person attacked was Amelia Tom,* about nine or ten years of age, daughter of an artilleryman. She was taken ill on the morning of the 20th, and died on the 21st. The second case also occurred in the plague hospital: Grace Monger,* wife of an artilleryman, twenty-eight years of age, fell ill on the 22nd, and sank on the 23rd. The third case (in the same hospital) was that of Charlotte, thirty-three years of age, the mother of Amelia Tom,* who died on the 21st; the mother was attacked on the 23rd, and died on the 27th. The fourth case in the same hospital was an artilleryman named Tovester,* twenty-nine years of age; he was taken ill on the 28th, and recovered. Fifth case, Giuseppe Borg, attacked during the night of the 27th-28th at Casal-Attard; he died on the afternoon of the 29th. The doctor with view not to alarm the population, declared this to be a case of gastro-enteritis. The man in question had been employed in white-washing some rooms in the plague hospital, where the previous cases of cholera had occurred. The sixth case also occurred in the plague hospital, the victim being Henry George Marshall, say six years and a half old, the son of an artilleryman; he was attacked on the morning of the 29th of June, and died in the afternoon of the 30th.

On the 30th June, the authorities removed the detachment of artillery and that of the 4th regiment from the plague hospital; the former was sent into barracks at *Salvatori Counter Guard, Floriana*;

* These names are so printed in the French report: they appear to be curious transformations.

the second at *Notre Dame* and *St. Francis' Ravelins, Floriana*. The seventh, eighth, ninth, tenth, and eleventh cases occurred on the 1st of July at *Salvatori Counter Guard Floriana*, to which the detachment previously lodged in the plague hospital had been sent: five women, wives of artillerymen were attacked, one of them only dying. The twelfth case took place on the 3rd of July, in the same locality again; the victim, the wife of an artilleryman, dying on the 8th. The same day a man named Emanuel Schembri was attacked at Valetta, in the *Strada Vescova*; he died in less than 24 hours. On the 5th of July four cases occurred, three in the artillery, and one in the 9th regiment stationed in Fort *Ricasoli*. On the 7th of July, another case occurred among the artillerymen. On the 8th, one at Valetta, and another at the Floriana hospital. On the 9th, two cases in the artillery; on the 10th, two cases in the population of Valetta, and one at Cospicua. The attacks thus gradually proceeded among the civil and military population until the 11th of November. *Casal Musta* remained uninfected till the 21st of July; on which day a man named Vincenzo Gatt, who had been suffering from diarrhoea and had come from Misida, where the epidemic was raging, fell ill; he died the next day. The same day another case was observed in the *Casal Musta*.

Gozzo.—This little island, situated five leagues to the north-west of Malta, has no direct communication with other places. In every epidemic, cholera has not shown itself there until long after taking root in Malta. On the present occasion it remained uninfected until the 21st of July, on which day a sailor named Michele Cilia, 22 years of age, arrived from Malta and went to lodge in his sister's house at Casal Keuchia. He was suffering from acute diarrhoea, and during the night was taken with vomiting and cramps. He recovered; but on the 24th of July four cases of cholera occurred at Keuchia: the two sisters of Michele Cilia, in the same house, Catherine Attard, a kinswoman of the Cilia family, whom she frequently visited, and Maria Buttigig, of the same Casal. Two, out of these four cases, ended fatally. On the 25th July, there were two other attacks: Maria Cassar, a neighbour of the Cilia, whom she visited every day, died the day after being taken ill; and Ursula Farrugia, who also was a frequent visitor of the Cilia. On the 25th July, Catherine Soliba, who lived close by the Cilia, was attacked and recovered. From the 27th July to the 1st of August, eight other cases showed themselves in the Casal Keuchia. On the 2nd August, cholera appeared at Robato and remained there till the 24th of October.

Civil population of Malta ...	117,966 ...	Attacks 2,360 ...	Deaths 1,479
Military " "	6,062 ...	" 203 ...	" 145
Civil " "Gozzo ...	15,459 ...	" 545 ...	" 253
Total ...	139,487	3,108	1,877

(*M. Zimelli and Dr. Ghio's Report to the Governor-General of Malta, communicated by the British Delegates*).

GIBRALTAR.—The following facts are extracted from a report addressed to Sir Richard Airey, the governor of the fortress, containing

the result of an enquiry held by Inspector-General Rutherford, than which nothing could be more complete. These facts, therefore, are of the very greatest importance in the question with which we are occupied. We have extracted from the report the circumstances relating to the importation of cholera. Gibraltar enjoyed better health than usual, both as regards the inhabitants as well as the garrison. On the 10th of July, the 2nd battalion of the 22nd regiment arrived from Malta in perfect health on the steam transport *Orontes*. They were encamped in a very healthy spot, named North Front, between the north of the rock and Spanish territory. Previous to its departure from Malta, the regiment had been exempt from everything approaching to cholera. On the 5th and 6th of July, the day of embarkation, cholera was raging at Malta in an outer fort, close to the place of embarkation.

From the 10th of July, the date of its arrival at Gibraltar, until the evening of the 18th, with the exception of a single slight case of diarrhœa, the corps enjoyed good health. At nine o'clock that evening a soldier named Bird fell ill of cholera, and died between 10 and 11 the following morning. The camp was immediately struck. The wing to which the deceased had belonged was embarked on board the *Star of India*, which put to sea in 48 hours, everybody being in good health. The remainder of the regiment was sent to a great distance from the first camp, the transport which had brought them to Gibraltar not being at hand to receive the men. Their health continued good until the 31st, when a man named Davis was affected by vomiting, diarrhœa, and other choleraic symptoms. He died the same evening. That evening, a woman in the detachment was attacked, and died the next day, the 31st of August. The transport *Davenport* having arrived the day before from England, this portion of the regiment was also embarked, everybody being apparently in good health, and the vessel left for her destination. It is believed that both transports arrived at the Mauritius without accidents.

On the 3rd of August, a day after the departure of the 22nd regiment, two cases of cholera occurred, one, being that of a corporal of the 15th regiment, who was employed in the cemetery, and the other that of a child of four years of age. The latter died in 15 hours; the former in 48. Another child of the same family, six years old, was also attacked, but recovered. This family lived in an isolated house, outside the fortress, and a quarter of a mile south-east of the spot that had been occupied by the 22nd regiment. On the 9th August, the wife of a sapper, lodging in the same locality, was attacked and died in 58 hours. During the morning of the 10th, a private of the 15th regiment, living in the casemated barrack, was attacked and died within the short space of eight hours. During the afternoon and night of the same day, there were seven cases observed, two of them very serious, in the same regiment stationed in the large casemated barrack, which is within the fortress and about 500 yards distant from the place where the previous cases had occurred. One of the soldiers died in 37 hours.

Until the morning of the 11th of August, the disease remained amongst the soldiery. On the 11th of August, the child of a poor man living in a boat moored in the port at a spot 250 yards west of the casemated barrack died after seven hours' illness. On the 14th, a child four years old, living in a district one mile and a half south of the place beforementioned, was also attacked; he recovered. On the 15th of August, a sapper belonging to a small detachment, and living in a little isolated house to the north-west, died after nine hours' sickness. All these houses were emptied of their inhabitants, though apparently the places in their neighbourhoods were not unhealthy. On the 18th, another private of the 15th regiment, living in another room in the casemated barrack, was attacked and died the following day. On the 19th the disease showed itself in the *town range barracks*, an unhealthy locality situated in the centre of the town. A sapper was attacked there and was carried off in some hours. On the 23rd, the disease attacked a soldier of the 23rd regiment, stationed in the south barracks, built on high ground, a mile away from the town. He sank after a short illness. Up to this date six cases, two of which had ended fatally, had occurred in town, including the two children mentioned above, all living in different places, distant from each other, within the town as well as without it. On the 21st, a sudden increase of sickness was observed in town: seven attacks, two deaths.

Here the report notices a circumstance deserving of attention. The 1st battalion of the 9th regiment, which was a part of the garrison during the first period of the epidemic, had been lodged in unhealthy barracks; nevertheless, it kept in remarkably good health. It had not more than six men sick in hospital when it received orders to embark in two divisions for the Cape of Good Hope, on board the transports *Windsor Castle* and *Renown*, which, on the 16th and 17th of August, had landed the 78th highlanders. The left wing embarked on the first mentioned transport on the 19th, and reached its destination in perfect health. The right wing embarked on board the *Renown*, a large, well-ventilated vessel, moored at the new quay where the other transports were stationed. On the following day, the 22nd, a very grave case of cholera, ending in death in a few hours, occurred, the person attacked being a person named Doyle, who had come from the town range barracks. The vessel was towed out into the stream, and, no other case having occurred on board, put to sea in thirty hours. Then a fact of the greatest importance with regard to the propagation of the disease by communication between men occurred. On the 5th of September, after having been thirteen days at sea, and on the further day after the occurrence of the first case on board, cholera showed itself in a very malignant form, carrying off nine men, a woman, several children, as well as the ship's surgeon. The disease lasted for fourteen days, ceasing on the 19th of September. On the 20th of August the epidemic began to extend in town. On the 13th of September it reached its greatest height, 53 attacks, 22 deaths. From this date to the 26th the average daily number of attacks was 35, and of deaths 15.

On the 28th of September, a considerable diminution took place, which continued, with some fluctuations, till the 12th of October, when the decline of the epidemic became more distinctly marked. The last case was observed on the 27th of October. Some attacks occurred among the attendants in the hospitals. In the prisons, there were from 50 to 60 deaths in a prison population of 700. Among the civil population of 15,000 souls there were 902 attacks, and 477 deaths. Among 5,978 soldiers there were 163 attacks and 106 deaths. Total number of deaths 643, from the 18th July to the 27th October 1865. (*Communicated by the British Delegates*).

Cholera in the port of NEW YORK.—The British ship *Atlanta* left London on the 10th of October with a cargo of merchandise and forty passengers. The sanitary condition of London at the time was perfect. Arriving at Havre on the 11th, where she only remained a day, she took on board 564 new passengers, mostly Swiss, who had all passed through Paris, where, with some exceptions, they had remained, some for a few hours, others for several days, at the time cholera was raging intensely. Two German families, who were included among these passengers, had stayed for one day in the capital at the hotel *Ville de New York*, and five days at Havre, at two hotels, called *Veissen-Lamm* and *Hultgarder-Hof*. Some emigrants, who had arrived at these hotels some days previously, had fallen suddenly ill and had been sent to hospital by their consuls.

This ship left on the 12th, and there was a death from cholera on board the next day, the victim being a little child belonging to the family that had put up at the *Veissen-Lamm*. Five more deaths followed on the 14th, 16th, 18th, 19th, and 22nd, in the family which had lived in the *Hultgarder-Hof* hotel. On the 22nd, one of their friends who had lodged on the second floor of the same hotel was attacked, and succumbed on the 24th. On the 28th, three emigrants from London who had lived on the third floor were attacked, but recovered.

On the arrival of the *Atlanta*, the surgeon made a declaration that 60 cases of cholera and 15 deaths had taken place during the voyage; two deaths occurred in the port, and of the forty-two persons sent to the marine hospital from the 6th to the 19th of November, six died, making a total of 102 cases and 23 deaths.

As no arrangements had been made at New York previous to the arrival of the *Atlanta* to subject her to a rigorous quarantine, she was immediately sent to the lower bay and isolated there; when the hospital was got ready, and ten days of quarantine had elapsed after the occurrence of the last case, all the sick without distinction were conveyed to it; all the passengers' baggage was opened and aired, the linen washed, and the beds and all the other articles fumigated; a state-ship was assigned to guard the vessel and enforce the strict execution of the quarantine measures ordered by the sanitary authorities. The town of New York was saved from the epidemic.

Two other importations of cholera into the port of New York were announced by the *Evening Post* of the 25th of April. Though they

occurred in the year 1866, we think it right to mention them here, because they form a sequel to the epidemic of the previous year.

The steamer *Virginia*, which left Liverpool on the 4th and Queens-town on the 5th of April, arrived at New York with merchandise and 1,043 passengers, occupying two-thirds of the deck; fourteen only occupied the cabins. Some of the passengers had joined the vessel at Queenstown. During the passage eighty-seven persons died, and when the health officers visited the ship, a man was dying of distinctly marked cholera. The greater part of the passengers consisted of Germans, who had reached Liverpool a day or two before the departure of the vessel; the mortality amongst them was greater than amongst the Irish or English; and it is believed that, considering that the disease did not exist at Liverpool, it was brought on board by these Germans. Until the 12th there had been no cases, but on the eighth day after leaving Liverpool a man who had the diarrhoea became suddenly worse and died. It is said that this man had been suffering from diarrhoea though unattended by any alarming symptoms, since the departure of the vessel. On the same day on which this first case declared itself, other persons were attacked, and, the epidemic developing itself more and more, the number of attacks, though not precisely fixed, is estimated at from one to two hundred.

The *England*, another steamer from Liverpool, arrived at New York on the 21st of April, having touched at Halifax. The captain's books showed 122 sailors, and sixteen deck passengers. Cholera broke out on board during the voyage. Between Liverpool and Halifax there were fifty deaths and a hundred and fifty in the town of Halifax itself where the vessel had put in on the 9th of April.

The *England* furnishes us with the following cases of transmission, devoid of interpretation, and likewise duly certified. The pilot who took the vessel into Halifax was attacked by cholera and returned to Portuguese Cove, nineteen or twenty kilometres distant, where his family lived. Five of his children had cholera, one after the other, and two died. Another pilot of the same ship, who also returned to Portuguese Cove, fell slightly ill, and his sister, very seriously, after him. The sanitary officer of the port of Halifax, who had attended upon the passengers by the *England*, sank under an attack of cholera. (*Extracts from letter from Army-Surgeon Rutherford, communicated by Dr. Goodeve*).

The *Virginia* and the *England* were isolated in the lower bay and subjected to measures of disinfection. The passengers were disembarked and isolated, and the sick were sent into hospital on board the *Falcon*. When these particulars were given, seventy-two cholera patients, from these two vessels, were in hospital. From the 12th to the 22nd April, sixty deaths from cholera were counted.

GUADELOUPE.—On the 22nd of October cholera showed itself at Pointe-à-Pitre and caused serious ravages among the blacks. In a population of 18,000 souls, as many as twenty-three persons were carried off in twenty-four hours. On the 18th November the disease still con-

tinued its ravages and had invaded Basse-Terre and Marie-Galante. It declared itself at Trois-Rivières, the person attacked having come from Pointe-à-Pître, and this case was followed by two others. The first case at Basse-Terre occurred on the 7th of November, the person attacked being a sailor from Pointe-à-Pître, and the disease then spread seriously. The proportion of deaths to sick was as 5 to 6.

On the 1st of November, the schooner *Marie-Athalie* arrived at Marie-Galante from Pointe-à-Pître, and during the 5th three of her crew were attacked. Shortly afterwards, the captain himself sank. On the 11th, the *Adda* entered the port, having lost one of her men during the passage. The next day the disease made its appearance at Marie-Galante, carrying off thirty-three agriculturists in three days. The only place remaining unaffected was the dependency of the Saintes which declined all communication with Pointe-à-Pître, Basse-Terre, and Guadeloupe altogether. A steamer named the *Sirène*, which arrived at Bridge Town from Pointe-à-Pître, was there subjected to a quarantine of fifteen days, although she had made a long passage and the crew were in very good health. Scarcely had the quarantine commenced when two sailors died of cholera.

The importation of cholera into Guadeloupe is attributed to the sailing ship *Virginie*, which left Marseilles on the 3rd of September and arrived at Pointe-à-Pître on the 9th of October. Cholera broke out close to the landing stage on the 3rd day after she began to discharge her cargo, which consisted of provisions; and none of her crew, of 12 or 15 men at the very most, had been sick.

Until the 22nd of November, those islands of the Antilies which were saved were those in which energetic measures had been taken to avoid all communication with infected places. (*Union Médicale*, December 12).

It is said that the mortality caused by cholera at Guadeloupe amounted to ten thousand persons.

Invasion of the CAUCASUS by cholera.—The first case of this disease made its appearance at Novo-Rossiisk, the person attacked being a Greek belonging to a band of emigrants who had come from Trebizond. He fell ill between the 10th and 11th of July. On the same day, the 11th of July, a sous-officer on board the Russian schooner, the *Anapa*, which was anchored in the roadstead, was stricken down. During the first four days following upon the appearance of cholera, there were nine fatal cases. Novo-Rossiisk, however, did not become a choleraic focus, and its exemption is attributed to the solid nature of the soil on which the fort of this name is built.

On the 18th of August the disease made its appearance at Soukhoun, the man attacked being a sailor belonging to the corvette *Yasterb*, from Novo-Rossiisk. Soon afterwards another sailor was landed at the hospital from the same ship. Both of them died, and cholera showed itself among the patients in the hospital and in the town.

On the 24th of August the disease made its appearance in the hospital at Poti, and at Kutais on the 31st. It disappeared completely in this latter town by the 20th of October, to re-appear with greater force after an interval of one month. According to authentic information, cholera made this second irruption into Kutais in the wake of a great crowd of peasants who had come from Koulamey and other surrounding villages to attend at the promulgation of the imperial manifesto relating to the enfranchisement of the communes. Cholera lasted longer than elsewhere at Koulamey and likewise Gori, where cases were still observed in the month of December. It displayed its tenacity especially among the soldiery encamped on the banks of the Rion and who labored at the construction of the fort.

On the 6th of September, a Frenchman named Déri arrived from Marseilles at Tiflis, having passed through Poti and Kutais, both places being infected with cholera; he and his wife both contracted the disease. Although they were both cured, it is believed that they imported cholera into Tiflis, for the diarrhoea that habitually prevails there assumed the choleraic form immediately after their arrival. Cases of distinctly marked cholera were observed in the first days of September. Nevertheless the epidemic did not become virulent considering that from the 12th of September to the 13th of November there were not more than 353 attacks and 116 deaths, and the disease only raged among the lower classes of the population.

Continuing its march to Kutais, the cholera spared Kartalinia, and only touched Souram and Gori, to make its appearance in the month of October in the district of Elizabetopol.

Cholera was imported into the Tiflis hospital on the 28th of September by some sick men of the reserve battalions who had arrived by the military road. There were 118 deaths among 221 cholera patients.

The epidemic made itself remarkable at Erivan by its violence. It was probably imported into the town, as it was into Nakhtchivan, from Persia; but also, and specially, by two detachments of troops sent from Tiflis to complete the garrison of Erivan. The disease made its appearance in the town on the 13th of October, and on the 12th of November the first case in the military hospital was reported. Altogether the number of cases among the inhabitants amounted to 392, 160 terminating fatally; amongst the soldiers there were, from the 12th of November to the 17th of December, 118 cases and 35 deaths.

The epidemic was very violent in the districts of Novo-Bayazid and Echmiadzin also. It had completely ceased at Tiflis by the month of November, and a month later it had disappeared altogether throughout the Caucasus, without, to all appearances, leaving secondary foci anywhere behind.

Of all places in the Caucasus those that are most to be dreaded with regard to cholera are the district of Gori and the banks of the Rion, on account of the concentration there of conditions favorable to the propagation of the epidemic.

The cholera which prevailed this year in the Caucasus made itself remarkable by its slow propagation and its feeble development. Cramps were rare; the epidemic raged almost exclusively among the indigent classes, and it commenced, as a rule, almost without an exception, with diarrhœa. (*Extracted from the minutes of the Medical Society of the Caucasus*). (1).

Although the cholera of 1865 did not stop at the limits at which we have just quitted the epidemic, since, on the one hand, it continued to show itself in some European countries, Germany, Holland, and Russia; and on the other hand, in Arabia among the pilgrims, we cannot follow it, for want of sufficient and authentic data further than the countries we have mentioned in our review.

Confining ourselves therefore to the facts we have hitherto been able to collect, we proceed to take them up and make a resumé of them in chronological order. We shall see by this statement that starting from Egypt, cholera radiated, almost simultaneously, upon different places in the Mediterranean, forming in them secondary foci whence the epidemic spread over a great number of localities previously uninfected. It was in this way that the cholera existing in Egypt since the second-half of May was imported into Malta and Marseilles in the early part of June, into Smyrna on the 23rd, into Constantinople and Crete on the 28th, Beyrout on the 29th, the Dardanelles on the 1st July, Cyprus on the 6th, and Ancona on the 7th.

From Constantinople, which became a secondary focus, the choleraic germ was transported, on the one hand, on the 26th of July, to Volo, to Cavalla on the 31st, to Salonica on the 1st of August, and to Valona on the 7th of August; and, in another direction, in the Black Sea, to Trebizond on the 25th of July (and thence to Erzeroum, where it broke out on the 22nd of August), to Samsoun on the 31st, to Sulina and Toultscha on the 2nd of August, to Kustendje on the 4th, and to Bourgas on the 6th. From Kustendje and Sulina the disease ascended the Danube, infecting both its banks, and reached Roustchouk and Widin in succession. It penetrated by that route into Bulgaria and Macedonia, and, towards the end of the month of November, it reached Larissa, the chief town of Thessaly.

Odessa received cholera from Constantinople on the 23rd of July (2), and became a tertiary focus. From Odessa and from Galatz, which was also invaded, the epidemic spread to Borchî, where it broke out on the 4th of August, and then at Gavinosâ. A number of towns in Podolia became in succession objects of attack. Bogopol on the 20th of September, Balta on the 1st of October, Berditchev on the 6th of October. On the 13th of October the disease made its appearance in the Govern-

(1).—These interesting particulars regarding the invasion of the Caucasus by cholera in 1865 were communicated to us by Dr. Bykow while the report was in the press. They form a sequel to the march of cholera by Trebizond and complete our review.

(2).—Cholera commenced at Odessa on the 11th July (new style 23rd). The dates of cholera in Russia, given in the originals according to the Greek calendar, have been harmonized in this report with the Gregorian calendar.

ment of Kherson, on the 6th in that of Kiev, on the 24th at Taganrog, on the 27th at Zitomir. The Governments of Volhynia, of Kovno, of Tver, and Voronega, were attacked in the month of November. The infection of Altenburg (24th August), which formed a fourth focus in the heart of Germany, is due to Odessa.

Smyrna, the second secondary focus, transmitted cholera to the interior of Asia Minor and to the Greek lazarettos on the 18th of July. Constantinople transmitted it to the Greek lazarettos on the 5th of August.

Beyrout, the third secondary focus, communicated the disease to almost all the towns of Syria, to Damascus, Aleppo (15th August), and successively to Biredjik, Diarbekir, Mosul, and other places in Kurdistan.

Malta, the fourth secondary focus, transmitted cholera to Gozzo on the 21st of July.

Ancona, the fifth secondary focus, communicated the disease to twenty-one communes dependent upon it, and thence the epidemic spread to San Severo and invaded all the eastern portion of Lower Italy from Pescara to Otranto. It also invaded the town of Naples.

Marseilles, the sixth secondary focus gave cholera, on the one hand, to Toulon, Arles, Aix, and Paris; on the other to Spain, *via* Valencia (8th July). After Valencia came Madrid, where the epidemic broke out on the 15th of August, Palma on the 19th of August, Seville on the 6th of September, Carthagena on the 10th, Murcia on the 20th. Finally, Elvas in Portugal received cholera from Spain on the 1st of October. From what we have said regarding Guadeloupe, we are bound to suppose, until we have more ample information, that the distant region of America owes the germ which gave rise to the epidemic to an importation from Marseilles.

The diffusion of cholera as far as the United States of America, is due according to all appearances, to the German emigrants who died on the passage, and who had left, some on the 11th of October from Havre, and others in the month of April from Liverpool,—both which towns had been exempt from the epidemic.

Finally, a last focus was formed on the 4th of September at Basorah, after the return from Mecca of the Persian pilgrims, by whom Bagdad and all the other towns in Syria mentioned in our review were infected. (*See the map at the end of the review*).

It is an important point to notice, with respect to the importation of cholera, that wherever it has appeared, either in towns or in lazarettos, and whether it has raged in a place or been confined to a few isolated cases, the first attacks have always been observed, and that without a single exception, after the arrival of a ship, a caravan, and sometimes a single sick person, coming from infected places; moreover, that the most complete security prevailed everywhere before the disease broke out in Egypt; and that all the Mediterranean towns which were first attacked enjoyed perfect health.

Cholera in fact existed in Alexandria, as we have seen, from the commencement of June; and it was immediately afterwards, and within the space of a month, that it spread to the principal ports of the Mediterranean transported from Egypt by steam navigation to the most opposite quarters, regardless of winds and of all other atmospheric conditions. The same fact was repeated on the shores of the Black Sea, the starting point being Constantinople. Malta played the same rôle with regard to other places; and it is, we repeat, a proven fact that cholera in no place showed itself in the ports which it invaded until after the arrival of infected ships from a primitive or secondary epidemic focus.

By land, we remark the same phenomenon of importation. The caravan of Persian pilgrims traversing Syria from Beyrout carried cholera to Aleppo, and sowed it at Biredjik, Orfa, and Diarbekir, the whole length of its journey, by way of the Tigris and the Euphrates, as far as Kerbelah, Bagdad, and beyond. We have also seen the importation of cholera into Larissa and Roustchouk effected by the Bulgarian laborers who, in both cases, had left different foci and brought the disease with them. Let us call to mind, lastly, the cases of importation by a single sick person, as in the villages of Borchy in Podolia, Novo-Rossiisk in the Caucasus, Tchataldja in Macedonia, and in the towns of Mersina in Asia Minor and Altenburg in Germany. The Enos case alone appears to be obscure as to its origin; but can it not be explained as a case of importation without sickness? It could be so explained, if the subject of the first accident, who had arrived 13 days previously from the Archipelago, had not himself brought the germ of the cholera by which he was carried off; but the real facts of the case are, that he came from Mitylene, from Chio, and Tchechmé, where cholera did not exist, and that the bill of health of the ship in which he came was clean. Let us also notice here the case at Gozzo, one of choleraic diarrhœa, not followed by death, which gave rise to a considerable epidemic, *viz.*, 545 attacks and 253 deaths in a population of 15,459 inhabitants.

Let us pass on to some other remarks on the subject of importation. Cholera made its appearance at Constantinople, Gibraltar, Guadeloupe, and we believe we may add Marseilles, in the wake of maritime arrivals which had not been subjected to measures of quarantine.

The quarantine imposed at the Dardanelles, Smyrna, Beyrout, and Cyprus, was insufficient and defective, as well by reason of its short duration as the crowding of the lazarettos and the consequent liability to transmit infection beyond their walls; and it was not long before cholera overleaped these barriers, which had become more dangerous than useful to the countries the protection of which was their object. This is a proof that lazarettos constructed according to the ancient system and in proximity to towns, are incapable of preventing the invasion of cholera. We note a circumstance, however, in the case of Salonica, where the lazaretto, before the construction of the huts, placed at a great distance from the town, labored under even still more unfavorable conditions than those mentioned above. The

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Let us pass on to some other remarks on the subject of importation. Cholera made its appearance at Constantinople, Gibraltar, Guadeloupe, and we believe we may add Marseilles, in the wake of maritime arrivals which had not been subjected to measures of quarantine.

The quarantine imposed at the Dardanelles, Smyrna, Beyrout, and Cyprus, was insufficient and defective, as well by reason of its short duration as the crowding of the lazarettos and the consequent liability to transmit infection beyond their walls; and it was not long before cholera overleaped these barriers, which had become more dangerous than useful to the countries the protection of which was their object. This is a proof that lazarettos constructed according to the ancient system and in proximity to towns, are incapable of preventing the invasion of cholera. We note a circumstance, however, in the case of Salonica, where the lazaretto, before the construction of the huts, placed at a great distance from the town, labored under even still more unfavorable conditions than those mentioned above. The

over-crowding was greater and the number of cholera patients more considerable here than elsewhere, yet the town was spared; might not this be one of those cases of local immunity observed in all epidemics, though their true cause is inexplicable? What tends to make one think so is, that cholera penetrated into some villages of the interior such as Galatzita, where it prevailed abundantly without touching the town, which was greatly more exposed to the focus along-side it. The three cases observed in the town, the persons attacked having come out of the lazaretto, support this hypothesis. Amongst the places which, by means of an entire separation and isolation of choleraic arrivals, escaped the epidemic we shall mention La Cavalla, Volo, Chio, and Crete, where encampments were set up in islets having no communication with the country. Other places, such as Bourgas, Sinope, Mitylene, Rhodes, and Benghasi, escaped likewise, thanks to encampments established at a great distant from dwellings and well watched. It follows from these experiences that lazarettos, in order to be sure and certain prophylactic agents ought, as far as possible, to be established in small islands, and built on extensive airy sites.

Greece presents a still more striking example of preservation owing to her system of quarantine being much more severe than any where else. She refused to admit choleraic arrivals into her ports, except those of the isles of Delos and Skiathos, where she received, as we have remarked, twenty-five thousand persons into quarantine. The islands of Sicily and Samos, surrounded, so to speak, by choleraic foci, were indebted for their safety to the system of repulsion which they strictly maintained from the outbreak to the complete disappearance of the epidemic. New York, finally, confirms in the most conclusive manner the efficacy of quarantine measures judiciously applied against the propagation of the choleraic scourge.

And now, gentlemen, is it necessary to ask us how cholera spread from India in 1865 to Mecca, where it raged, and to Egypt, and to the most distant places in the basin of the Mediterranean and the Persian Gulf? To us, as to all who desire to decide according to experience and without a pre-determination to resist the evidence of facts, the thing is clear, the answer easy. Cholera diffused itself by adhering to the men among whom it raged, and by developing and reproducing itself among them. The man who had cholera transmitted it to the man who had not it; masses of men infected by cholera carried it far and wide, by means of caravans, steam navigation, and railways, and communicated it to healthy masses of men. It was in this way that the pilgrims who had contracted it in the Hedjaz carried it to Egypt and disseminated it in Syria, in Mesopotamia, and the Persian Gulf, bringing it back, so to speak, towards its primitive focus. It was in this way, again, that the pilgrims and fugitives transmitted it by means of steam navigation to Malta, Constantinople, Smyrna, Ancona and Marseilles. And it was still again in this way that ships, leaving secondary foci, transmitted the disease across the Atlantic to the United States and the Antilles.

To sum up: in conclusion, we believe we are enabled to assert, relying upon the experience acquired in 1865,—(1) *That the propagation of cholera is effected by the movements of men, whatever may be the means of locomotion made use of; (2) that the more rapid and the more multiplied are the means of locomotion, the more is propagation to be dreaded; (3) that ceteris paribus a great infected mass or a single sick person may propagate cholera to great distances.*

The facts we have just recorded regarding the march of the choleraic epidemic of 1865 incontestably prove this, while at the same time they contain a number of useful lessons in a practical prophylactic point of view.

EDWARD GOODEVE, *President.*
 BYKOW, SALVATORI
 BARTOLETTI, *Secretary-Reporter.*

Dr. Goodeve signed with the reserve, as noted in the minutes of the meeting of the 5th of July, that there were no proofs of the importation of cholera into the Hedjaz in 1865 by the pilgrims from India.

BARTOLETTI, *Reporter.*

INTERNATIONAL SANITARY CONFERENCE. MEETING
 No. 24, OF THE 13TH AUGUST 1866.

HIS EXCELLENCY SALIH EFFENDI, *Presiding.*

The International Sanitary Conference held its twenty-fourth Meeting on the 13th August 1866, at Galata-Serai.

PRESENT:

For Austria:

M. Vetsera, Councillor to the Internonciature of His Imperial and Royal Majesty.

Dr. Sotto, Physician to the Imperial and Royal Internonciature, Director of the Austrian Hospital.

For Belgium:

Count de Noidans, Secretary to the Legation of His Majesty the King of the Belgians.

For Spain:

Don Antonio Maria Segovia, Consul General, Chargé d'Affaires.

Dr. Monlau, Member of the Superior Council of Health of Spain.

For the Papal States:

Monseigneur Brunoni, Archbishop of Taron, Vicar-Apostolic of Constantinople.

Dr. Ignace Spadaro.

For France :

Count de Lallemand, Minister Plenipotentiary.

Dr. Fauvel, Sanitary Physician.

For Great Britain :

Dr. Goodeve, Surgeon-Major, Indian Army, Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to Her Britannic Majesty's Embassy, British Delegate to the Superior Council of Health at Constantinople.

For Greece :

M. Kalergi, Secretary to the Legation of His Majesty the King of the Hellenes.

Dr. G. A. Maccas, Chief Physician to the King, Clinical Professor in the University of Athens.

For Italy :

M. A. Vernoni, Chief Interpreter to the Legation of His Majesty the King of Italy.

Professor Frederic Bosi.

Dr. G. Salvatori, Italian Delegate to the Superior Council of Health at Constantinople.

For the Netherlands :

M. Keun, Councillor to the Legation of His Majesty the King of the Netherlands.

Dr. Millingen, Dutch Delegate to the Superior Council of Health at Constantinople.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargé d'Affaires.

Councillor Dr. Bernardino Antonio Gomez, Chief Physician to His Most Faithful Majesty.

For Prussia :

Baron Testa, Prussian Delegate to the Superior Council of Health.

Dr. Mühlig, Physician to the Legation, Chief Physician to the Ottoman Marine Hospital.

For Persia :

Mirza Malkom Khan, Aide-de-Camp-General of His Majesty the Shah, Councillor to His Legation.

Dr. Sawas Effendi, Inspector of Hygiene and Health at Constantinople, Persian Delegate to the Superior Council of Health.

For Russia :

Dr. Pelikan, Councillor of State, Director of the Russian Civil Medical Department.

Dr. Lenz, Councillor of College, Attaché in the Russian Ministry of the Interior.

Dr. Bykow, Councillor of State, Assistant Military-Medical Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, Secretary to His Legation.

Dr. Baron Hübsch.

For Turkey :

His Excellency Salih Effendi, Director of the Imperial School of Medicine at Constantinople, Chief of the Civil Medical Department.

Dr. Bartoletti, Inspector General of the Ottoman Sanitary Department, Member of the Superior Council of Health at Constantinople.

(For Egypt :)

Dr. Salem Bey, Clinical and Pathological Professor at the School of Medicine at Cairo, Special Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

Dr. Naranzi read the minutes of the last meeting but one, that of the 2nd July; they were approved.

Baron de Collongue read the minutes of the last meeting, that of the 5th July; they were adopted.

Dr. Dickson asked for the insertion in the minutes of a reserve he had entered at the last meeting regarding a passage in M. Bartoletti's historical report. He (Dr. Dickson) had said that he did not concur in the opinion of Dr. Bartoletti, as expressed in the report, that the cholera of 1865 had, in his belief, been imported into the Hedjaz direct from India. The disease in his (Dr. Dickson's) opinion, was already existent in Yemen at the end of 1864, and notably so at Sana.

M. Segovia, President of the Committee appointed to consider the 1st group of questions contained in the programme, regarding prophylactic measures applicable to cholera, submitted and laid on the table the report drawn up by the reporter of that Committee, M. Monlau, and also an appendix to the same report written by M. Mühlig on disinfection and disinfecting measures as applied to cholera. M. Segovia begged the President to be good enough to place the discussion of the report in the order of the day; he had officially submitted it at the present meeting, but copies had been distributed some days ago to all the members of the Conference.

On the motion of Count de Lallemand, seconded by MM. Stenersen, Monlau, and several other Delegates, it was Decided to commence the discussion immediately.

M. Salem Bey drew the attention of the Conference to the slow progress of its labors. He thought it useless to dilate on the causes which had produced the delay, but he thought it necessary to insist that the Conference should give a more energetic impulse to its labors. It could attain its object only by multiplying the number of its sittings. He proposed, therefore, that in future the Conference should sit on four days a week.

M. Fauvel pointed out that the printing of the report of the 3rd Committee had been delayed unexpectedly. The reasons for delay had no longer existed for some days past: but yet, contrary to his expectation, the printing had not been resumed with sufficient activity. If the printing office to which the work had been given continued in this way, he (M. Fauvel) would find himself obliged to withdraw his manuscripts, and have them put into type elsewhere. This again, however, would be a fresh cause of delay. The report of this Committee, which would consist of eight or nine printed sheets, was more than half printed, and it would be advantageous not to take it away from the *Levant Herald* press.

However, as he (M. Fauvel) anticipated that the printing could not be completed before a fortnight, he submitted the matter to the Conference.

The Conference gave entire liberty to M. Fauvel to act as he thought best.

M. Bosi would wish to know whether the Committee on the 2nd group of questions was in a position to submit its report, printed, before that of the 3rd Committee.

The President asked the Conference whether it was indispensable that the discussion of the 2nd report should precede that of the 3rd. The reporter of the 2nd Committee would, he was sure, do his best to submit his report in time, but his numerous occupations, unconnected with the Conference, might retard its preparation.

Several Delegates declared that they did not consider it necessary to discuss the 2nd report before the third. By entering upon the discussion of the latter immediately after that of the first, which might be done without inconvenience, time would be allowed to the reporter to finish his work.

M. Maccas proposed that the Conference should sit every day.

M. Sotto would prefer four meetings in the week (Monday, Thursday, Friday, and Saturday).

M. Sawas would prefer to have no more than two weekly meetings, because all the Committees had not gone through their appointed duties.

M. de Lallemand was of opinion that it would be advisable to resume what had hitherto been the practice, three weekly meetings.

A conversation upon the subject ensued between several Delegates.

The President put to the vote the proposal for four weekly meetings. It was rejected by 14 to 9.

Ayes:—MM. Sotto, de Noidans, Segovia, Monlau, Maccas, Gomez, Lenz, Stenersen, and Salem Bey.

Noes:—MM. Brunoni, Spadaro, de Lallemand, Fauvel, Goodeve, Dickson, Kalergi, Bosi, Vernoni, Sawas, Pinto de Soveral, Testa, Hübsch, and Bartoletti.

A division then took place on M. de Lallemand's proposal, *viz.*, three weekly meetings (Monday, Thursday, and Saturday). It was accepted by a majority of 20 to 1.

The Conference then passed to the order of the day.

His Excellency the President invited the reporter of the 1st Committee to speak.

M. Monlau said he believed it was not necessary to read the text of the report, but only its conclusions, inasmuch as the Delegates had had time to read and digest it.

On the motion of M. Fauvel, who pointed out the advantage of a continuous perusal, it was decided to read the report section by section.

M. Segovia read the introduction.

M. Fauvel desired to make some observations:

This first part, or preface, he said, was a pompous panegyric of hygiene, in which some contradictions might be pointed out, and in which also there were some expressions, the exact meaning of which he did not quite understand.

Thus, for instance, at page 2, it was said:—"hygiene loses none of her conquests," a very rash and hazardous proposition, he thought, for it was averred, on the contrary, that hygiene easily lost her conquests. In fact, it was a lesson of history that countries formerly salubrious and flourishing, had become very unhealthy on account of a decay in material prosperity, the result of which was the abandonment and ruin of works which had maintained salubrity and fertility. Numerous instances of the fact could be cited.

In the same page, continued M. Fauvel, was to be found the following sentence:—"half-measures, lukewarmness, or negligence in their execution resulted in nothing satisfactory." Here the Committee did not agree with itself, nor with facts. In reality, to be efficacious, it was not necessary that hygienic measures should possess all possible perfection: they might be useful without being complete. It was superfluous, he thought, to give a proof of this. In a scientific report, it was important to use language so simple and precise as to admit of no uncertainty of the meanings of the terms employed. He (M. Fauvel) confessed he could not clearly understand the following sentence "but at the present day, when the progress of human industry has placed almost magical means at our command,

hygienic measures are in a position to receive a very powerful impetus: hygiene in the 19th century may, and ought to, become greatly more active than the hygiene of the Mosaic age, or the hygiene of the middle ages."

Hygiene, said M. Fauvel, like civilisation, became complicated. The hygiene of the Mosaic period was, for its age and for the Hebrews, as complete and perfect as that of our days. Only it was greatly more simple, and perfectly in harmony with the manners, the habits, and the civilisation of the Jews at that remote epoch. But it was not, perhaps, quite correct to say that the hygiene of the present day ought to be other, or more active, than that of Moses.

Lastly, said M. Fauvel, at the bottom of the same page was a proposition the meaning of which he could not catch: he would be glad if the reporter would be so good as to explain to him the meaning of the words "the hour of sanitary regeneration has arrived."

Many persons, replied Dr. Monlau, would have had some trouble in finding in the introduction to the report the contradictions pointed out by M. Fauvel, and still less expressions the meaning of which could not be caught. M. Monlau thought that the report was very simple and very clear, unless, indeed, it was desired to banish metaphorical language altogether from the domains of science: M. Fauvel had evidently stopped short at some expressions of this kind. To mention only the observations made by M. Fauvel regarding the essential part of the subject, all the arguments he had brought forward might easily be refuted, and, in the first place, when in the report mention was made of the conquests of hygiene, the Committee had meant by that to point out the difference existing between therapeutic means and the means made use of by hygiene. M. Fauvel ought to understand this difference thoroughly, for it was incontestable and nobody was ignorant that when hygiene undertook any thing it was for ever. The prescriptions of hygiene had a permanent character, and they could not be interrupted or suspended without great detriment to the countries which neglected or misunderstood this law. Why had Egypt been stricken by the plague? because, without a shadow of doubt, she had neglected the application of the hygienic measures which in former days had made her such a flourishing country. But, to change the instance, it was unnecessary to do more than mention the custom of wearing linen: since its becoming methodical and general, many diseases of the skin had disappeared. Could the same thing, he would ask, be said of therapeutic agents? No, certainly, they might be very efficacious to-day, and to-morrow exercise no sort of influence whatever on the health: an infinite number of instances of this might be cited.

With respect to half-measures, M. Monlau believed that M. Fauvel had given a strained interpretation of them. To be efficacious and to exercise a permanent action, hygienic measures ought to be progressive and of an onward character, as well as the sciences upon which they depended, for it must not be forgotten that hygiene was

rather an art than a science: it was the result of the combination of a great number of sciences. The problem, continued M. Monlau, had been put in general terms in order to make it understood that there were hygienic agents which were confined, limited, incomplete, or rather that there were agents which were applied without result and without method: it was all this which constituted half-measures resulting in nothing satisfactory. The hygiene of the 19th century ought to differ from that of Moses, said the report, and M. Fauvel disputed the assertion. But was it necessary to remind M. Fauvel of the works undertaken at the present day, immense works which were unknown to the ancients and to the middle ages? He did not think it was necessary. It sufficed to say that immense progress had been made in hygiene since the time of Moses, and that a great deal further progress would be made hereafter. Hygiene constantly progressed. Regarding the sanitary regeneration which M. Fauvel professed his inability to understand, the intention of the Committee had been to bring out clearly the importance of a fact belonging to our epoch, *viz.*, that only a short time had elapsed since people had begun to understand all the importance of hygiene, its laws and its agents, forming an index to the necessity admitted by all civilised nations to change the system, to abandon the beaten track of the ancients, for sewers, canals, drainage, the sanitation of towns and ports, the reclamation of marshes, and a thousand other things.

M. Fauvel congratulated himself on having elicited these explanations. On the motion of M. Sawas, who said he quite understood the introduction and considered it good and useful, His Excellency the President put it to the vote.

It was adopted unanimously.

M. Segovia proceeded with the reading of the report.

After the first section had been read, M. Fauvel said that the Committee had found a very simple way of facilitating its task, but it must be said this way consisted in not doing it at all. For instance, at paragraphs 6 and 7 the Committee spoke as follows with regard to original foci of cholera:—"Without enquiring whether the permanence is due to the natural conditions of soil and climate or to artificial conditions created by man himself, to new and continual causes of generation, or simply to continuous transmissions of the disease, it simply considers every locality in which cholera has established itself permanently as an *original focus*." It would be seen that by this declaration the Committee excluded all enquiry after the causes of this permanence, which was the capital point for solution. This being done, the Committee added:—"By regarding the question thus, we leave aside all research after *special agents*, and we have only to occupy ourselves with hygienic measures everywhere admitted to be efficacious against all pestilential diseases, and consequently also against cholera." In other words, said M. Fauvel, the Committee had confined itself to recommending the customary hygienic agents against the generation of cholera. It was as if, wishing to destroy an endemic

malarious disease, the study of the special causes which kept it alive had been neglected, and all that was thought necessary was the employment of the hygienic agents admitted to be efficacious against all endemic diseases. Who could fail to perceive the insufficiency of such a system? In this opinion, therefore, a lacuna existed there in the report of the Committee.

M. Monlau confessed that the remarks and arguments urged by M. Fauvel were, *primâ facie*, strong and imposing. But when considered closely, it was found that they could not be applied to the report. M. Fauvel forgot that this report was the sequel of the general report, in which all these questions had been carefully considered. The Conference had adopted the conclusions of the general report, and the Committee could not and ought not to modify a conclusion to which it had subscribed. What was said in the general report?—“We are not acquainted with the special conditions under the influence of which cholera is generated in India, and prevails there endemically in certain places.” This conclusion to Chapter VI had been adopted unanimously. Consequently, the Committee could not stop to enquire into the special conditions which engendered and, so to speak, fixed cholera in India. At the same time it had taken care to indicate that every endemic disease possessed something specific, although what this specific property was exactly was unknown, and, in consequence, the essential conditions of endemicity had, at least to the present day, escaped the best directed researches. Nor could the Committee advise special agents, and it had confined itself simply to saying that by the judicious and methodical employment of the usual hygienic measures, some definite and conclusive advantage might be arrived at. In British India, for instance, great good had resulted from the extensive and methodical application of the hygienic measures comprised in the category of measures of sanitation. The Committee, in proceeding as it had done, believed it had followed the most natural and the most logical path. Was it wrong in not giving itself up to an enquiry into the generating causes of cholera? No, surely, for, besides that it was not called upon to do so, having been preceded in the task by the Committee, which had drawn up the general report, it could have attained no practical result in devoting itself at Constantinople to enquiries of this kind. If the origin of cholera was to be known some day, that day, it might confidently be said, was yet far distant, and if M. Fauvel, instead of establishing a parallel between cholera and malarious fevers, had thought proper to consider cholera in connection with other diseases, he would have seen that if we know nothing of the origin of cholera, we are equally ignorant with regard to numerous other diseases, pestilential and non-pestilential.

At the request of several Delegates, His Excellency the President put the text of the first section of the report to the vote.

It was adopted unanimously.

With regard to the conclusion of this section, M. Bartoletti remarked that the Committee gave its opinion too categorically and too absolutely when it said:—"There are no direct means for the extinction of endemic foci of cholera." M. Bartoletti was of opinion that it would be an advantage to moderate this assertion, by saying, for instance, as had been done in the general report, "we know no direct means, &c." This would put a stop to all cavil.

M. de Lallemand quite concurred in M. Bartoletti's views.

M. Fauvel expressed himself to the same effect. It would be preferable, he thought, to say that in the present state of science we are not acquainted with any direct means for the extinction of choleraic foci. The Committee ought to have done this and given its opinion with reserve, for who could assert that some day direct means would not be discovered as they had been for marsh fevers?

M. Mühlig admitted the justice of these remarks, and he confessed that it was a defect in the composition of the report. In other parts of its report, the Committee had given its opinion with greater reserve.

Dr. Goodeve was of opinion that it was necessary to adopt the verbal modification proposed by M. Bartoletti. Nothing authorised us to believe that cholera would remain for ever on the surface of the globe, that the conditions which co-operated towards its generation would always remain in existence, and that the means of preventing or stopping its development would always be wanting. It was absolutely necessary then to give a reserved opinion.

After having adopted this amendment, the Conference unanimously adopted the conclusion, which, it was decided, should commence with the words *we are not acquainted with, &c.*

The meeting terminated at 4-30 P. M.

Order of the day for the next meeting.

Continuation of the discussion of the report of the first Committee.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUË, }
DR. NARANZI, } *Secretaries.*

Dated 17th November, 1866.

From—E. HAMMOND, Esq.,

To—The Under Secretary of State for India.

I am directed by Lord Stanley to transmit to you, to be laid before Lord Cranborne, Protocols Nos. 25, 26, 27 of the late Cholera Commission at Constantinople, which have been just received from Dr. Dickson,

INTERNATIONAL SANITARY CONFERENCE. MEETING
No. 25, OF THE 16TH OF AUGUST 1866.

HIS EXCELLENCY SALIH EFFENDI, *Presiding.*

The International Sanitary Conference held its 25th meeting at Galata-Serai on the 16th August 1866.

PRESENT :

For Austria :

M. Vetsera, Councillor of the Internonciature of His Imperial and Royal Majesty.

Dr. Sotto, Physician attached to the Imperial and Royal Internonciature, Director of the Austrian Hospital.

For Belgium :

Count de Noidans, Secretary to the Legation of His Majesty the King of the Belgians.

For Spain :

Don Antonio Maria Segovia, Consul-General, Chargè d'Affaires.

Dr. Monlau, Member of the Superior Spanish Council of Health.

For the Papal States :

Dr. Ignace Spadaro.

For France :

Count de Lallemand, Minister Plenipotentiary.

Dr. Fauvel, Sanitary Physician.

For Great Britain :

Dr. Goodeve, Surgeon-Major, Indian Army, Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to Her Britannic Majesty's Embassy, British Delegate to the Superior Council of Health at Constantinople.

For Greece :

M. Kalergi, Secretary to the Legation of His Majesty the King of the Hellenes.

Dr. G. A. Maccas, Chief Physician to the King, Clinical Professor in the University of Athens.

For Italy :

M. A. Vernoni, Chief Interpreter to the Legation of His Majesty the King of Italy.

Professor Frederic Bosi.

Dr. G. Salvatori, Italian Delegate to the Superior Council of Health at Constantinople.

For the Netherlands :

M. Keun, Councillor to the Legation of His Majesty the King of the Netherlands.

Dr. Millingen, Dutch Delegate to the Superior Council of Health at Constantinople.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargè d' Affaires.

Councillor Dr. Bernardino Antonio Gomez, Chief Physician to His Most Faithful Majesty.

For Prussia :

Dr. Mühlig, Physician to the Legation, Chief Physician to the Ottoman Marine Hospital.

For Russia :

Dr. Pelikan, Councillor of State, Director of the Russian Civil Medical Department.

Dr. Lenz, Councillor of College, Attaché in the Russian Ministry of the Interior.

Dr. Bykow, Councillor of State, Assistant Military-Medical Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluſ Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, Secretary to His Legation.

Dr. Baron Hübsch.

For Turkey :

His Excellency Salih Effendi, Director of the Imperial School of Medicine at Constantinople, Chief of the Civil Medical Department.

Dr. Bartoletti, Inspector-General of the Ottoman Sanitary Department, Member of the Superior Council of Health at Constantinople.

(For Egypt :)

Dr. Salem Bey, Clinical and Pathological Professor of the School of Medicine at Cairo, Special Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

The meeting commenced at noon.

Dr. Naranzi, one of the Secretaries, read the minutes of the 24th meeting.

Dr. Mühlig said, after these minutes were adopted, that he had an error to point out in minute No. 16, which had just been distributed,

and in which it was said :—" Dr. Mühlig asked whether the Persians " did not insist so strongly upon their country being removed from " the list of suspected countries, solely because they wished to evade " the institution of sanitary measures on their frontiers." As the discussion that was going on at the time referred to the question of the endemic nature of the Hedjaz, this sentence, Dr. Mühlig pointed out, was meaningless. He had really expressed himself to that effect, but he had done so at the 15th meeting, as might be seen by reference to the minutes thereof, when the question of endemicity in Persia was under discussion ; these words were, therefore, erroneously recorded again in the minutes of the 16th meeting.

The order of the day being the continuation of the discussion of the report of the 1st Committee on the 3rd group, the 2nd chapter of this report was read.

Dr. Fauvel was of opinion that the Committee, though it said excellent things regarding naval hygiene in general, had not paid sufficient attention to what, to his thinking, ought to have been the principal object of its researches, *viz.*, the study of hygienic measures specially applicable to cholera, according to the different characters by which the disease was distinguished. Was it enough, for instance, at the departure of a vessel, to confine one's self to those general precepts of hygiene with which every body was acquainted and which were applicable to all diseases without distinction ? Was it not necessary, since cholera announced its presence by precursory phenomena, to subject passengers and crews to a rigorous medical visit, and to prevent the embarkation of persons suffering from diarrhoea ? Ought not transport and emigrant ships to be made the objects of special precautions ? Should not the number of persons allowed to be carried by the ship, which was fixed by law at a certain number per ton, be reduced in times of cholera ? It was known that articles of wearing apparel were redoubtable agents of transmission ; articles carried by emigrants had been seen to communicate cholera after a voyage of 15 days : were there not more precautions to be taken here ? Should it not be required that wearing apparel should be subjected to washing before being shipped ? Ought not particular care to be taken in the establishment of latrines ? And lastly, was there not the important question of provisions, that of merchandise, such as rags, drills, animal matter, &c., the trade in which should be prohibited in times of cholera ?

Dr. Fauvel did not care to carry this enumeration further, but he expressed his regret in conclusion that the Committee, which had recommended the publication of a manual of naval hygiene for the use of the mercantile marine, had not seen fit to draw up the manual itself, summarising in it, in a popular form, adapted to the commonest understanding, the principal hygienic measures to be taken on board ships, with a special view to cholera.

Dr. Monlau replied that Dr. Fauvel had wrongly reproached the Committee with having confined itself to generalities : properly speak-

ing, there was no naval hygiene peculiar to cholera; if all the general indications contained in the report were well executed every thing that could possibly be done, would have been done for the prevention of the transmission of cholera by ships. It was not quite correct besides to say that the Committee had been guilty of the omissions pointed out by Dr. Fauvel. Did not the report say that it was necessary to state the condition of the passengers and crew before departure? Did it not also notice the dangers of over-crowding? Did it not mention the surveillance to be exercised with respect to the neatness of wearing apparel, as well as the good quality of provisions? Did it not recommend the prohibition of the transport of certain kinds of merchandise? And finally, in Dr. Mühlig's work annexed to the report, was not mention made of every thing relating to the institution of latrines, in short, the disinfection of excrementitious matter? As for the manual, Dr. Monlau thought its preparation was the business of academies, of faculties of medicine, or of boards of health, and in no way the business of the Conference; a large number of manuals already existed, and all that the Committee desired was that they should be rendered obligatory.

Dr. Mühlig, who concurred in the remarks made by Dr. Fauvel, observed that if the report did not go sufficiently beyond generalities it was because they had confined themselves too strictly in Committee, to the observance of the official programme adopted by the Conference, the questions in which were not put with very desirable precision. Dr. Mühlig had been a member of the Committee, and he had, therefore, signed the report, but under reservation; he would acquaint the Conference with the reasons of the reservation as the point to which he objected came up for discussion.

Dr. Gomez, in reply to Dr. Fauvel, pointed out that the Conference ought, above all, to endeavor to extract from the data possessed by science whatever needed sanction in connection with the questions whose study and elucidation was its object; it was difficult to express new ideas in the matter of hygiene, and the Committee could with difficulty, so far as naval hygiene was concerned, say any thing but what everybody knew. It had, perhaps, dilated too much upon the great rules of general hygiene, but, having regard to the considerable rôle performed by ships in the point of view of the transmission of cholera, did not this hygiene possess capital importance? And, moreover, if its rules were known, were they not also greatly neglected? And should not a part of the questions which, according to M. Fauvel, ought to have been taken in hand by the first Committee, for instance, those relating to goods, have been taken in hand rather by the Committee, which would occupy itself with sanitary police and quarantine measures? As for the other questions mentioned as having been omitted, because they were not contained in chapter II., were they not discussed in other parts of the report, particularly every thing relating to disinfection? Dr. Gomez made it a point to add, however, that if the Conference thought it would be convenient to

complete the chapter on naval hygiene in the manner indicated by Dr. Fauvel, and by laying greater stress upon the hygiene proper to cholera, the Committee would certainly offer no opposition.

Dr. Fauvel said that he did not mean that the Committee ought to invent, but it ought, taking for its ground-work the facts observed by science, and profiting by the lessons they contained, to lay down with greater precision the rules of naval hygiene more peculiarly applicable to cholera, which was the object of the Conference. Every thing touching hygiene, moreover, was within the province of the first Committee, the study of quarantine measures being distinct from that of hygienic measures.

Dr. Bartoletti concurred in these remarks.

Some members suggesting the close of the discussion, Dr. Fauvel submitted to the Conference the proposal that the first Committee be invited to draw up the manual of hygiene recommended by it.

Dr. Gomez repeated that this was not the business of the Conference. Hygienic prescriptions which were laid down for observance were not the same in all countries; they varied according to climates as well as legislation: the preparation of the manual would be recommended to the various Governments, the bases for it being found in the labors of the Committee.

Dr. Mühlig, at the request of Dr. Maccas, explained that the difference of opinion between himself and the other members of the Committee related to the manner of understanding the work. Dr. Mühlig believed that the question should have been treated in a special point of view, and he would have wished that the Committee had paid greater attention to a counter-project submitted by a certain number of members of the Conference for the classification of the questions in the 3rd group. Dr. Mühlig thought that, without calling upon it, as Dr. Fauvel proposed to do, to draw up a manual of hygiene, the Committee might be asked to complete its report in conformity with indications given in this respect in Article 5 of the 1st section of the counter-project.

The President put to the vote the text of chapter II., which was adopted unanimously, the question as to whether it ought or ought not to be completed being reserved.

Dr. Fauvel remarked, with reference to the conclusion, that the proposal to invite public competition and to award prizes to the inventors of discoveries tending to ameliorate the hygienic conditions on board ships, and that of the publication of a manual of naval hygiene, &c., did not form a reply to the question requiring solution, and which was thus conceived:—"Hygienic measures to prevent as much as possible the importation of cholera by sea" (page 5 of the report). The advice given by the Committee was excellent, but there was no connection between the question and the answer; and, besides, it was not a conclusion. Dr. Fauvel asked that it should be struck out.

Dr. Monlau replied that if there were no direct known means to stifle cholera in its birth-place, neither were any known that could be opposed to its importation: in both cases there was no resource but in hygienic measures. Such of these measures as were applicable to ships had been developed by the Committee in the chapter which had just been adopted, and as it did not think it was necessary to repeat these measures in the conclusion, it confined itself to recommending the various means which seemed to it to be capable of contributing most effectually to perfect and render more complete the practice of this naval hygiene. How scurvy originated was not known, and yet the improvement of the general hygienic conditions of ships had resulted in the almost complete disappearance of this disease. Why should not similar efforts have similar results with respect to cholera?

A conversation ensued between Dr. Maccas, Dr. Goodeve, Count de Lallemand, M. Segovia, Dr. Gomez, Dr. Sotto, and M. Stenersen as to whether a division upon the conclusion of chapter II should not be postponed, as proposed by Dr. Salem Bey, until the Conference should decide whether it would be well or not to add an additional article to this chapter. The Conference decided, by a majority of 19 against 4, in favor of postponement, and then, with the single exception of Dr. Monlau, decided upon the necessity of an additional article for the completion of the chapter. The Committee was left at liberty to draw up this article in such a manner as it should deem proper.

Count de Noidans then read chapter III, which was adopted unanimously (text and conclusion), and then chapter IV was read as far as that part of it which related to the soil.

Dr. Fauvel, with reference to what was said regarding the morbid influence of the gases evolved from decomposed excrementitious matter, and especially the carbonate and sulphhydrate of ammonia, remarked that the Committee advanced a fact which was not sufficiently proved. In the opinion of Dr. Fauvel, it was not so much from these gases as chemical agents, but rather the probably organic principles which were evolved at the same time, that the vomiting and diarrhoea produced by excrementitious exhalations arose. This was a point of great importance; the destruction of these gases in fact would not be enough to remove from the exhalations in question the deleterious action exercised by them upon man. There was poison contained in these exhalations, as there was poison contained in the effluvia arising from marshes, which produced malarious fevers; there was a poisonous principle, certainly volatile and probably organic, but the nature of which was not yet known by science.

Dr. Lenz urged in opposition to Dr. Fauvel the experiments undertaken by Pettenkofer: dogs had been placed by M. Pettenkofer under receivers filled with carbonate and sulphhydrate of ammonia,

and the results obtained were attributed to the action of these gases.

Dr. Bykow supported M. Fauvel. It was simply because the development and evolution of the gases in question during the fermentation of the *excreta* coincided with the evolution of the poisoning principles which formed at the same time that they performed a part in the production of cholera, typhoid fever, and diarrhœa in general.

Dr. Gomez admitted, with Dr. Fauvel and Dr. Bykow, that in the decomposition of matter contained in latrines and cesspools, the ammoniacal portions, or those other ingredients indicated by chemistry, were not the only injurious agents; there were certainly organic agents which chemistry had not yet been able to investigate thoroughly, and which must be the real agents of certain infectious diseases. Dr. Gomez believed, however, that the text of the report might be maintained because, if among the products of the putrid fermentation of the matter of cesspools, the carbonate and the sulphurate of ammonia were indicated, as well as the sulphuric gas, as the peculiarly injurious agents, it was not said that they were the only ones capable of becoming so. Moreover, ammoniacal products were not only poisons in themselves, but they were known also to possess an action capable of favoring the development of the morbid germs which were the result of the putrid fermentation of the matter of cesspools, or which happened to be mixed up with such matter. It was thus, it was supposed, that choleraic *dejecta*, in a fresh condition, contained the germ of the disease, but in such a state that the germ was incapable of transmitting itself, while it was no longer so when the putrid fermentation commenced and the ammoniacal products formed themselves. Experience seemed to prove in fact that these products exercised an influence peculiarly favorable to the evolution through which the choleraic germ must necessarily pass to acquire the power of transmitting the disease.

After these remarks, the first part of chapter IV, as far as the paragraph relating to *the soil*, was put to the vote and unanimously adopted.

Count de Noidans read the remainder of the chapter, including its conclusions.

Dr. Bykow, with reference to the disinfection of excrementitious matter, remarked that in Mossellmann's system disinfection was applied to the solid as well as to the liquid *excreta*, with this difference that in the first case quicklime was employed and in the second lime already slaked by urine. But one of the disadvantages of the system being that *excreta* disinfected by lime could not be used as manure for calcareous soils, it had been rejected in some places where the soil abounded with lime.

Dr. Lenz, in reply, said that Dr. Bykow's remark was just, but that the disinfection of solid *excreta* by Mossellmann's system was not

effected in their receptacles, but only after their removal to the poudrette manufactories.

Dr. Bykow maintained what he had said: it was in the fosses themselves that the disinfection of solid excrementitious matter was carried out.

Dr. Fauvel would not admit the assimilation which the Committee established, with respect to choleraic infection, between the *dejecta* of men and the *dejecta* of animals. The *excreta* of the latter was clearly unhealthy, but it could not be said that it was dangerous, and especially in the point of view of cholera.

Dr. Fauvel requested, moreover, that the prohibition of the transport of corpses to an uninfected place, as recommended by the Committee, should be rendered less absolute. It was a thing that frequently happened in practice. Now, Dr. Fauvel did not believe that this conveyance could present any disadvantages, after the adoption, it must be understood, of all the necessary precautions, embalming the corpses, metallic coffins, &c.

With respect to the transport of corpses, Dr. Goodeve shared Dr. Fauvel's views.

Dr. Lenz, in reply to Dr. Fauvel, explained that the Committee did not mean to assimilate human and animal *excreta*; what the report simply suggested was that care should be taken that the soil did not become impregnated with the latter. In regard to the conveyance of corpses, if the Committee recommended its prohibition, it was not because it deemed it absolutely dangerous when every precaution had been taken; there could not fail to be exceptions in practice, which it was unnecessary to anticipate.

Dr. Monlau, for his own part, believed that the transport should be completely prohibited in times of epidemics.

Dr. Fauvel's proposal to permit the transport of the corpses of cholera patients under certain conditions was put to the vote and adopted by a majority of 13 to 3.

The Conference then unanimously adopted the text with this modification of chapter IV, relating to *the soil*.

Dr. Bartoletti thought it would be necessary to modify the first paragraph of the conclusion, *viz.*, that "the sanitation of towns is an efficacious preventive means to oppose to the ravages of cholera and for their limitation." Measures of sanitation, complete as they might be, could not prevent the importation of cholera, and the employment of the word *efficacious* rendered the conclusion too positive.

On the termination of a conversation which ensued upon this subject between Count de Lallemand and Dr. Fauvel who supported Dr. Bartoletti's remarks, on the one hand, and Drs. Monlau, Goodeve and Sotto, who defended what had been written by the Committee, on the other, the Conference decided that the conclusion should be modified

as follows: "the sanitation of towns is a preventive measure of the first class for," &c.

The conclusion thus modified was adopted unanimously.

The meeting terminated at 4-30 P. M.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE, }
DR. NARANZI, } *Secretaries.*

INTERNATIONAL SANITARY CONFERENCE MEETING
No. 26, OF THE 18TH OF AUGUST 1866.

HIS EXCELLENCY SALIH EFFENDI, *Presiding.*

The International Sanitary Conference held its twenty-sixth meeting at Galata-Serai on the 18th August 1866.

PRESENT:

For Austria:

M. Vetsera, Councillor of the Internonciature of His Imperial and Royal Majesty.

Dr. Sotto, Medical Attaché to the Imperial and Royal Internonciature, Director of the Austrian Hospital.

For Belgium:

Count de Noidans, Secretary to the Legation of His Majesty the King of the Belgians.

For Spain:

Don Antonio Maria Segovia, Consul General Chargé d' Affaires.
Dr. Monlau, Member of the Superior Spanish Council of Health.

For the Papal States:

Monseigneur Brunoni, Archbishop of Taron, Vicar-Apostolic at Constantinople.

Dr. Ignace Spadaro.

For France:

Count de Lallemand, Minister Plenipotentiary.

Dr. Fauvel, Sanitary Physician.

For Great Britain:

Dr. Goodeve, Surgeon-Major, Indian Army, Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to Her Britannic Majesty's Embassy, British Delegate to the Superior Council of Health at Constantinople.

For Greece :

M. Kalergi, Secretary to the Legation of His Majesty the King of the Hellenes.

Dr. G. A. Maccas, Chief Physician to the King, Clinical Professor in the University of Athens.

For Italy :

M. A. Vernoni, Chief Interpreter to the Legation of His Majesty the King of Italy.

Professor Frederic Bosi.

Dr. G. Salvatori, Italian Delegate to the Superior Council of Health at Constantinople.

For Persia :

Mirza Malkom Khan, Aide-de-Camp General to His Majesty the Shah, Councillor to His Legation.

Dr. Sawas Effendi, Inspector of Hygiene and Health at Constantinople, Persian Delegate to the Superior Council of Health.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargé de'Affaires.

Councillor Dr. Bernardino Antonio Gomez, Chief Physician to His Most Faithful Majesty.

For Prussia :

Baron Testa, Prussian Delegate to the Superior Council of Health.

Dr. Mühlig, Physician to the Legation, Chief Physician to the Ottoman Marine Hospital.

For Russia :

Dr. Pelikan, Councillor of State, Director of the Russian Civil Medical Department.

Dr. Lenz, Councillor of College, Attaché in the Russian Ministry of the Interior.

Dr. Bykow, Councillor of State, Assistant-Medical Military Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, Secretary to His Legation.

Dr. Baron Hübsch.

For Turkey :

H. E. Salih Effendi, Director of the Imperial School of Medicine at Constantinople, Chief of the Civil Medical Department.

Dr. Bartoletti, Inspector-General of the Ottoman Sanitary Department, Member of the Superior Council of Health at Constantinople.

(For Egypt:)

Dr. Salem Bey, Clinical and Pathological Professor in the Cairo School of Medicine, Special Physician to the Princess-mother of His Highness the Viceroy of Egypt.

His Excellency the President called upon Count de Noidans to continue the perusal of the report upon the hygienic measures to be adopted against cholera.

The discussion at the last meeting had stopped at page 34. Count de Noidans read the appendix to the 4th chapter.

M. Mühlig made the following remarks with reference to the text and this appendix—remarks which he had proposed to submit to the Conference; and for this reason he had signed the report of the Committee, of which he had been a member, under reserve.

He was not, he said, altogether of the opinion of the Committee relative to the question whether there were private or public measures of hygiene, measures of sanitation, applicable on a sufficiently great scale to permit of the distinction or diminution, in a sensible degree, of the predisposition to choleraic infection. M. Mühlig thought that the Committee, in replying to this question in the affirmative, had been too absolute in its appreciations, and had not paid sufficient attention to the insurmountable practical difficulties in the way.

M. Mühlig explained as follows the views entertained by him relative to this question. Everybody knew, he said, that cholera was the disease, *par excellence*, of the indigent classes, who were obliged to live in unfavorable hygienic conditions, which generally diminished the vital resistance. Now, whatever efforts might be made by Governments to soothe the misery and to alleviate the condition of the laboring classes, it would never be possible to offer them the hygienic advantages exclusively enjoyed by the well-to-do classes. In fact, it was not enough to widen streets, to see to the construction of cesspools, &c.; more than all that they stood in need of well-ventilated and cleanly dwellings, restorative animal food, scrupulous cleanliness,—in short, all the conditions of comfortable life. All this was absolutely necessary to endow them with that vital resistance, the absence of which constituted the predisposition to choleraic attacks. Hygienic measures no doubt were of capital importance, but almost exclusively in favor of the comfortable classes, and they were not applicable on a scale sufficiently great to preserve the masses from the Asiatic scourge.

M. Mühlig was of opinion that too much care could not be taken against exaggeration. In conclusion, he said that, in pursuing an unattainable ideal, the attention would be diverted from measures of

isolation, and the efforts which ought to be made to apply them as closely as possible to choleraic foci.

M. de Lallemand said that he supported M. Mühlig and entirely concurred in his view of the question, for he thought also, and his opinion had long been formed, that hygienic measures, however efficacious they might be, could not in any society be applied so widely and so completely as was required by science for their action to be spread over all classes of society. Their application would always remain limited, and the indigent classes would profit less than the well-to-do class by their beneficial action.

M. Monlau was of opinion that M. Mühlig and Count de Lallemand had both viewed the question, starting with an exaggerated principle. The question put by the Committee did not consist in seeking whether, over and above hygienic measures extensively applied, other efficacious measures existed. The Committee itself had taken into account many other prophylactic measures applicable to cholera, and capable of lessening the predisposition to that disease. It had confined itself to saying that measures of hygiene, public or private, capable of destroying or lessening the predisposition to choleraic infection existed: that was all.

M. Mühlig, continued M. Monlau, had reproached the Committee with being too absolute and affirmative in its appreciations, but he had forgotten that he had signed, and so had M. de Lallemand too, the general report in which mention was made of hygienic measures capable of diminishing the predisposition to choleraic infection. He had forgotten also that measures of isolation and disinfection, for which he had a great predilection, entered into the category of hygienic measures. He pretended that works of sanitation only benefited the well-to-do classes, but could he deny that the modern drainage works, for instance, had not greatly benefited all classes without distinction. Not only had the Committee, in M. Monlau's opinion, nothing exaggerated, but it had stopped within the limits of the possible in appreciating the rôle of hygiene: this rôle was much greater than had been said; it was immense, and England, Belgium, and other countries, in undertaking gigantic works of sanitation, had made known the value of the means within the province of hygiene. The works undertaken were of a nature to change the bases of society.

In support of his assertions, M. Monlau quoted some facts extracted from reports regarding London. In one quarter of London, he said, Lambeth Square, the population used to be special victims to epidemics; but since great works of sanitation had been carried out there, the district had remained free from cholera, typhus and other fevers, and other epidemic diseases (*vide* the account for May 1846, in Viscount Errington's statistics).

Another fact:

The city of London having been sanitated house by house, water of good quality having been supplied to it, and communications with

cesspools beyond the city having been intercepted, the mortality of its population fell below that of Ilampstead Road,—a very salubrious locality, but which had not undergone the same improvements.

M. Monlau said, in conclusion, that, with regard to the plague, the only prophylactic had been civilisation, *i. e.*, the general well-being, the great progress accomplished in agriculture and trade. Those were the sciences that had produced these happy results, as had been said by Auber Roche, under the auspices of public hygiene. There could be no doubt that some day as much might be said of cholera.

In the struggle, said Dr. Goodeve, maintained between hygiene and measures of isolation and purification, he felt himself disposed to take the part of hygiene. It could not be doubted, he thought, that if hygiene was applied methodically and on a great scale, all classes of society would profit by it equally. It might even be said that measures of hygiene were not only more efficacious, but that their extensive application to great masses was frequently more easy. In his opinion the frightful mortality in Broad Street in 1854 might have been greatly diminished by the very simple expedient of closing the pump from which the population took its supply of water before the outbreak of the epidemic.

Many instances, said Dr. Goodeve, which might be extracted from the history of recent epidemics, demonstrated that hygienic measures were very efficacious in diminishing, and even preventing, choleraic epidemics. This beneficial influence of hygienic measures in connection with the intensity of a choleraic epidemic was demonstrated by the difference in the mortality in two parts of London in the last epidemic before that of 1854, and that of this year, during which they were provided with water. This fact was mentioned in the general report.

Dr. Goodeve gave another instance also. A town in England, Gateshead, was singularly severely stricken when epidemics prevailed. During the last epidemic of cholera the town was very carefully cleansed, and it remained so free from infection that many strangers fled to it for safety.

Dr. Goodeve reminded the Conference that on many occasions the efficacy and importance of hygienic measures had been urged upon it. The point indeed was one upon which everybody was agreed. He had therefore some difficulty in understanding the difference of opinion that at present existed upon this subject. In fact, he was not desirous that such a discussion should be prolonged, for it might expose the Conference to severe criticism on the part of qualified men who had never felt a doubt of the importance and efficacy of hygiene.

M. Mühlig expressed his astonishment at finding that several of his colleagues believed him to be opposed to hygienic measures. He was of the same opinion as the Committee with regard to the efficacy and value of hygiene, and he differed in one point only, *viz.*, that these

were measures applicable upon a great scale, and that these measures were capable of destroying the predisposition of the poorer classes to choleraic infection. Were the ravages of cholera, he would ask, less now than in 1830 and 1848? Taking everything into consideration, the mortality was the same. And yet works of sanitation had been undertaken everywhere. In 1830 the epidemic at Constantinople carried off no more than 3,000 victims, while the number last year amounted to 10 or 12,000, and perhaps even more, and yet the capital had for some time been in better hygienic conditions than had ever been the case previously. M. Mühlig did not deny that good hygienic measures could lessen the predisposition, but he believed them to be very difficult of application. He believed, moreover, that there were certain mysterious, indefinable conditions which concurred to render an epidemic more or less violent, whatever might be the hygienic condition of the country in which the scourge raged.

M. de Lallemand desired that it should be noted, and he desired it very strongly, that he had never entertained the idea of setting up an antithesis between hygiene, in the prophylactic measures it counselled, and measures of isolation. He was aware of the importance of the former, and appreciated them quite as much as others did, but he believed—and here was the point he insisted upon—that if there was a public hygiene very efficacious and applicable to all classes of society, there was also a private hygiene, that of dwellings, for instance which, not being capable of extended application, could benefit only the well-to-do classes.

M. Maccas confessed that, notwithstanding the attention with which he had listened to M. Mühlig's observations, he had not been able properly to catch the meaning of his proposition. He preferred saying that to believing that M. Mühlig had seriously entertained the notion of disputing or lessening the efficacy of hygienic measures. But if he had had some difficulty in catching, as fully as he could have wished, the ideas held by M. Mühlig, it had been easy for him to see that in his first speech, as also when he spoke a second time, M. Mühlig had said very clearly that hygienic measures could not be applied upon an extensive scale, and that, if too much importance was attached to them, the result would be the *weakening of the importance* due to isolation and disinfection.

M. Maccas thought that nobody disputed the importance of isolation; and if isolation could always and everywhere be applied, as absolutely as was necessary for the attainment of the object of prophylaxy, it would, beyond doubt, be the surest means of guaranteeing Europe against the scourge. But everybody was aware of the difficulties encountered in its application, and it was incontestable that in some countries especially these difficulties were so great that men of great authority, well known to M. Mühlig, had gone so far as to declare that *absolute isolation* was altogether impossible. For the rest, said M. Maccas, he did not see that in the article under discussion the least allusion was made to a comparison between disinfection, isolation,

and hygienic measures of another kind; on the contrary, they were all, in several places, warmly recommended by the Committee itself. But after all, could it be disputed that isolation as well as disinfection were hygienic measures as well as those of sanitation, properly so called? Now, even granting this distinction for a moment, one could not but contest M. Mühlig's assertion that hygienic measures could not be applied so extensively as to allow all the inhabitants of a country to profit by them in the same degree. He (M. Maccas) held quite a contrary opinion, and he believed that in this respect all medical men went with him. These were, to his thinking, the benefits of public hygiene, benefits which were derived from measures of sanitation executed in a country or town, which were diffused through the entire population of that town or country. But measures of private hygiene, in M. Mühlig's opinion, could not be executed by all the inhabitants. Here M. Maccas agreed with him; but if the solicitude of the authorities could not succeed in extending the benefits of hygiene to all classes of society without distinction as efficaciously as could be done by the rich from their own resources, were there less difficulties in carrying out disinfection as understood by science at the present day in the sense of a preventive measure.

When they should come to speak of disinfection, said M. Maccas, it would be seen that this measure, to attain its object, ought to commence as much as possible before the declaration of the epidemic, and that it should be general, daily, and it might even be said incessant; and after every evacuation by day as well as by night, for a single infected evacuation might give rise to the multiplication of the much-dreaded germ. It followed from all this, continued M. Maccas, that there were immense difficulties in the way of hygienic as well as other measures, and that it could not be precisely ascertained whether the negligence of the one or the other resulted in the greatest, and also in the most certain, damage to the mass of the inhabitants.

M. Maccas declared, in conclusion, that though he was as much in favor of isolation and disinfection as M. Mühlig, he was none the less one of the defenders of the opinion expressed by the Committee.

M. Sawas confessed he failed to perceive in the report of the Committee the smallest allusion that could authorise the belief that it recommended hygienic measures to the detriment of measures of disinfection and isolation.

Those who disputed the opinion of the Committee had often, said M. Sawas, pronounced the words *public* hygiene and *private* hygiene, but the notion of private hygiene had so predominated, that M. Mühlig had affirmed that hygiene could do nothing for the poorer classes. He evidently forgot that the question was not of that hygiene which treated of the bad effects our habits had upon the play of our organs, but of hygiene in general, touching great centres of agglomeration, the hygiene of great manufactories, of ports and dockyards, of that hygiene which related to the drainage of water, the reclamation of marshes, &c., &c. This part of hygiene,

said M. Sawas, was particularly connected with the indigent class, and it was notorious that the masses had latterly been everywhere the object of the most praiseworthy efforts for carrying out the precepts of public hygiene, the object of which was the improvement of the life of all classes, but especially the poor, by whom most advantage would be derived from them.

M. Sawas also touched upon the question raised by M. de Lallemand, *viz.*, that private hygiene was not called upon to introduce itself into the dwellings of the poor and improve their condition, and that consequently it was not so important as was deemed by the Committee. M. Sawas protested against such an assertion: he believed, on the contrary, that the dwellings of the poor formed at the present day, in the system of hygiene, the object of great philanthropic cares on the part of Governments. In England, for instance, what had not been done in this respect? But at the same time it should not be forgotten that the working man passed very little, scarcely any part, of his life at home. Almost his entire time was spent in manufactories, in dock-yards, in ports, &c. Now, it was clear that the science which specially occupied itself with the places where the poor passed their existence ought to be of greater benefit to him than any other.

In summing up, M. Sawas said that not only did he believe that the Committee had not recited a pompous panegyric of hygiene, but that on the contrary it had not sufficiently showed all the importance of the part it performed. M. Sawas requested that the article should be put to the vote as it stood.

M. de Lallemand anticipated that he would be obliged to vote against the article if the word *destroy* were maintained in it. He thought it would be enough to say that there were hygienic means, measures of sanitation, capable of lessening the predisposition to choleraic infection.

M. Segovia pointed out to him that the word "destroy" was used only in the question framed by the Committee.

M. Lenz believed that the Committee had nothing exaggerated. Everybody, he said, was agreed as to the efficacy of hygienic measures, but some objected that they were not capable of sufficiently extensive application. Did the Committee, he would ask, assert that they were so applicable now? No: it specified when and under what conditions they could become so, in proportion, it said, to the comprehension by Governments and people that the greater number of endemic and epidemic diseases derived their violence and extension from the crowding and fatal habits connected with them. However, M. Lenz believed that the question, in itself, scarcely admitted of discussion. It was a kind of profession of faith on the part of the Committee; and everybody was at liberty to vote upon the question according to his faith in the efficacy of hygienic means on the one hand, and in the good sense, on the other, of the masses who would understand this efficacy better and better in future.

M. Bykow was of the same opinion as M. Monlau. Perhaps, he said, the object the Committee proposed to attain by means of the measures it recommended was difficult of attainment; perhaps also complete success could never be obtained in destroying the predisposition to choleraic infection. But was this a reason for neglecting the use of such measures, and had not experience proved that the works of sanitation recently undertaken had greatly benefited the poor?

M. Segovia was of opinion that the Committee had been undeservedly reproached with having exaggerated the efficacy of hygienic measures. If there was exaggeration anywhere, said M. Segovia, it was rather on the part of those who opposed the report. In fact, according to M. de Lallemand himself, who was ordinarily very moderate in his language, the Committee had framed a proposition impossible of realisation,—an Utopian idea. But, added M. Segovia, if the enunciation of the report were properly considered, it would be seen that the Committee did not assert, it only expressed a hope, that in course of time hygienic measures, largely applied, might lessen and even destroy the predisposition to choleraic infection. It was rather a wish it expressed, and this wish, he thought, was not only capable of realisation, but it might even be maintained that with some nations it had already been realised. In the opinion of the Committee, continued M. Segovia, the question was not to render the poor rich, but simply to make them benefit, as much as the well-to-do classes, by hygienic measures. Could it be denied, asked M. Segovia, that in England at the present day the people were better fed and ate more animal food, and that they were better protected against the severity of the climate, than they had ever been before. All classes then profited almost to the same extent, and this was why the Committee hoped that some day it would be given to hygiene to destroy even the predisposition to choleraic infection. M. Segovia was of opinion that the paragraph was well drawn up, and he proposed that the article should be put to the vote as it stood.

M. Maccas showed that nothing would be gained by the elimination of the word *destroy*, which was to be found only in the enunciation of the question, while in the answer given by the Committee it resulted that it *hoped* to succeed some day in destroying, and then he proposed that the article should be voted for as it stood.

M. Gomez offered some remarks upon the same subject. Too much apprehension, he said, was felt to see the report exaggerate the importance of hygienic measures as a prophylactic agent against cholera,—an exaggeration, he thought, which might do wrong to measures of isolation and disinfection, in which it was especially desired to find the means of safety. People had gone so far as to express doubts even in regard to the efficacy of hygienic measures, and the influence they could exercise upon the poorest classes of town populations during the prevalence of epidemics.

In truth, said M. Gomez, nothing but surprise could be felt that such opinions could come from a medical man; and if the Conference,

he remarked, had to pronounce upon such a debate, it could not most certainly fail to compromise itself in the estimation of Europe, as had been very judiciously said by Dr. Goodeve. M. Gomez hoped the Conference would not do so, since its opinion upon the subject had been quite differently expressed in the general report. And how, continued M. Gomez, could any action be taken in opposition to the movement which everywhere led Governments to employ measures of hygiene on the most extensive scale, and when medical men of all countries believed it to be their duty to be the first to second by their advice the impulsion so given? Hygiene, M. Gomez thought, was only civilisation, and it was only by its means that the plague and other scourges had disappeared from the midst of Europe. It would not do, he said in conclusion, to attempt to shake the faith which made persons reasonably hope that hygiene would succeed in very much diminishing, if not in altogether stopping, the ravages of cholera wherever it might manifest itself. M. Gomez insisted that the article should be put to the vote such as it was.

M. Fauvel believed that the discussion had arisen out of a misunderstanding, but that substantially all were agreed, the only difference being in the manner of viewing the question. It was, he thought, incontestably true, and history gave credence to it, that there were measures of hygiene capable of destroying the predisposition to cholera. But that, he believed, was not the point in dispute. MM. Mühlig and de Lallemand had wanted to know whether there were measures of hygiene which could be made so general as to destroy, not in a given locality, but to a great extent, all predisposition to cholera. M. Fauvel did not see that the Committee had pronounced upon that point too decisively. It had only expressed a wish, and the article might therefore be adopted as it stood.

M. de Lallemand said that, after the explanations that had been given, all was set right. The discussion had been allowed to go on only with the object of ascertaining whether there was any hope of succeeding in destroying cholera in the same way that many malarious foci had been destroyed. This was what M. de Lallemand did not believe.

At the general request, His Excellency the President put the supplement to the 4th chapter to the vote. It was adopted unanimously.

M. de Noidans read the 5th chapter, stopping at page 40, many Delegates having expressed their intention of speaking.

M. Mühlig believed that the theory of the Committee as to public assistance was not sufficiently justified by the facts. The Committee expressed the opinion that by certain measures, those, for instance, of public assistance, it would be possible to arrest a choleraic epidemic, or at any rate to diminish its intensity. M. Mühlig did not share this opinion: if cholera, he thought, once developed "itself into an epidemic, no human power could stop its progress.

The importance of public assistance was based upon the theory that, in treating diarrhœa in time, the development of cholera might be prevented. It was a somewhat widely-spread opinion, but let the tendency exist, and cholera would break out, no matter what might be done and in spite of the treatment applied to the first symptoms. When the conditions of attack existed, *i. e.*, an intensity of poisoning, and an absence of vital resistance, the choleraic attack would infallibly occur. Mention was made in the report, continued M. Mühlig, of cholera statistics regarding many towns; and Munich among others. M. Mühlig had consulted the statistics of this town, but he had not found that it was said that public assistance had prevented the development of cholera. This, however, did not mean, that public assistance did not possess great advantages: only the Committee had gone too far: it was no less absolute than it had been when it had declared that the development of cholera might be prevented by applying treatment to choleraic diarrhœa on its first appearance. This diarrhœa, M. Mühlig thought, could not be treated so successfully as the Committee believed. For this reason he had signed the report under reserve.

M. Lenz opposed the following remarks to this reasoning. The efficacy of domiciliary visits was denied, when it was said that the diarrhœa cured by these visits would not have been followed by cholera, even if it had not been treated; while, on the contrary, diarrhœa, having a tendency to develop itself to a higher degree of cholera, would do so in spite of all preventive means. It would be difficult, in his opinion, to prove the contrary; while, in support of the thesis maintained by the Committee, he could himself quote many instances. He would confine himself to the following:—At London in the course of three weeks in 1849, 43,737 cases of diarrhœa were treated by means of domiciliary visits, 1,000 of these cases having a choleraic character (that is to say, the *dejecta* had the appearance of rice water); of all this number, 58 only degenerated into cholera. In fifteen large towns in England there were treated during the same year and in the same preventive manner, a total number of 130,000 cases of diarrhœa, not more than 250 of which were followed by cholera. (Tardieu *Dict. d'Hygiène*, vol. 3.)

But the objection could always be made, continued M. Lenz, that these figures proved nothing, that these 130,000 cases of diarrhœa were, in point of fact, excluding the 250, only cases of diarrhœa which had no tendency to degenerate into cholera. The following instance might, however, M. Lenz thought, militate sufficiently decidedly in favor of domiciliary visits. In Glasgow the mortality from cholera had been calculated with reference to the period when medical assistance had been offered to the sick. It appeared from this statement (in which there was no longer any question of premonitory diarrhœa, but of confirmed cholera,) that of all those who had received help within the first six hours after the commencement of the attack, a proportion of only 21 per cent. succumbed to the disease;

that those who were visited by the physicians between the sixth and twelfth hour after the commencement of the attack died at the rate of 33 per cent; and lastly, between the twelfth and twenty-fourth hour after attack, at the rate of 45 per cent. If assistance arrived later, the mortality was 66 per cent.*

M. Lenz concluded that the influence of prompt succour was fully proved by the figures given; and that therefore domiciliary visits, which tended to afford succour immediately on the appearance of the first symptoms of the disease, were fully justified.

M. Sawas, in reply to M. Mühlig's remarks, briefly refuted his views regarding premonitory diarrhœa, for after the speech made by M. Lenz, much was not left to him to say. M. Mühlig had placed himself in opposition to a doctrine now admitted by all practitioners. He (M. Sawas) himself had had occasion to treat hundreds of persons suffering from diarrhœa, who, thanks to the treatment applied against diarrhœa, had escaped cholera, even at the very height of a most murderous epidemic, like that of Constantinople last year. There was more than this, and within his own experience again. He had also seen hundreds of persons who were not seized by cholera until three, five, six, and even eight days after the appearance of the diarrhœa, and then simply from neglect. M. Sawas believed that what M. Mühlig proposed would be pernicious in practice, and could not but result badly.

M. Bykow pointed out that, according to M. Mühlig, it would follow that it would be easier to govern, so to speak, cholera after it attained the greatest intensity, than on its first stages.

M. Gomez thought himself bound, as a medical man, to support M. Mühlig. He believed with him that the importance of the treatment of choleraic diarrhœa, as a means of preventing the development of cholera, had been exaggerated. Frequently, said M. Gomez, simple cases of cholera had been stopped, and it had been believed that serious cases of cholera had been arrested. This again was one of the consequences of not having properly marked one of the forms of the disease, that which did not go beyond the symptoms of diarrhœa, as had been done especially of late. But, added M. Gomez, though domiciliary visits were not so valuable as was tried to be made out, it sufficed that they could sometimes, if not always, prevent the development of cholera, to regard them as useful and advantageous. This, in fact, had really occurred; moreover, they would always be of advantage as a means of promptly caring for the sick, and of watching closely over every thing connected with the salubrity of the dwellings and the hygienic conditions of the population of a town. Domiciliary visits, concluded M. Gomez, had rendered, and were destined to render, very important services. Consequently the doctrine contained in the report was good, and should be maintained.

* Report of the General Board of Health on the epidemic cholera of 1848-49: London, 1850.

Dr. Goodeve was also of opinion that it was necessary to maintain the conclusion of the Committee, for it was based upon facts and corresponded with the teachings of experience. In many English regiments it was obligatory to combat diarrhoea immediately it made its appearance. Dr. Goodeve thought that M. Mühlig's opinion was too general, experience having demonstrated that even if success were not attained in preventing an attack of cholera, success might be had in stopping in time the diarrhoea which preceded it, in rendering it less violent and shortening its duration.

Be that as it might, whether the attack could be successfully arrested or not, in arresting the diarrhoea there would always be so much gained; for the diarrhoea, by being prolonged for three, five, or eight days, would weaken the patient, diminish his vital resistance, and the attack would find him exhausted and incapable, perhaps, of reaction, or of resisting the violence of the disease.

Not only, in Dr. Goodeve's opinion, had the Committee in no way exaggerated the rôle of preventive treatment, but it had stopped within the limits of the truth. If it had been so moderate upon this point, it was out of regard for the opinion of M. Mühlig, who, in Committee, had put forward the same objections.

M. Monlau, after having demonstrated the great importance of the facts quoted by M. Lenz, facts of a nature to show the great advantages that the poorer classes would derive from domiciliary visits, and from immediate treatment against diarrhoea, repeated what had been said by Dr. Goodeve, *viz.*, that the Committee, out of deference to M. Mühlig, had refrained from expressing itself so formally and so strongly as it ought to have done. In every way, these domiciliary visits, as had been very well remarked by M. Gomez, were very useful.

It was a fact, said M. Monlau, that nobody had unfortunately been able as yet to doubt that cholera was one of those diseases against which, as soon as they become confirmed, therapeutics were so weak, that it might be confessed, without exaggeration, that in the majority of instances, they remained entirely inefficacious. It was a reason the more, in his opinion, and action had always been taken in this direction, with regard to cholera more than any other disease, to act without loss of time and, so to say, in haste to surprise the disease in its beginning, and its precursory symptoms, if possible. It was therefore with this object in view that domiciliary visits had been proposed and employed with universally admitted utility. But to the great surprise of the Committee M. Mühlig had come forward to cast doubts upon their efficacy and almost upon their utility. Perhaps M. Mühlig had imperfectly interpreted the words of the Committee. M. Maccas could not explain the fact, except by supposing that M. Mühlig had not quite caught the meaning of the passage in the report where it was said that *these visits had even for their object* the prevention of the development of cholera. So long, said M. Maccas, as M. Mühlig could not bring forward scientific reasons in opposition to the asser-

tion of the Committee which insisted upon employing *domiciliary visits* in a *complete* and conscientious manner, M. Mühlig could not shake his belief in the efficacy of these domiciliary visits, which the Committee, however, did not consider as capable of preventing an epidemic, but, according to what was said in its report, able to save many persons and of diminishing the intensity of an epidemic, if its extinction could not be successfully attained. It followed, then, in his (M. Maccas') opinion, that the Committee hoped by these means to prevent the development and the extension of an epidemic, not to prevent an invasion of the disease.

Neither did M. Maccas hold the views entertained by M. Mühlig when he maintained that domiciliary visits had not been able, either at Constantinople or elsewhere, to arrest the invasion and extension of the disease, notwithstanding their simultaneous applications with other hygienic measures. M. Maccas pointed out to M. Mühlig that the hygienic condition of many quarters of this immense capital, and also of several cities of Europe, was not as satisfactory as could be wished, and that here, as well as elsewhere, the measures necessary to be undertaken in the matter were at their commencement rather than their termination. M. Maccas said that he could advance various arguments to prove the immense utility of domiciliary visits, but after all that had been said he did not think it necessary to do so. Everybody, he thought, was agreed upon the subject, including M. Mühlig himself, who had frequently expressed very just ideas on the nature of what were called *premonitory* diarrhœas. Consequently, M. Maccas would confine himself to reminding the Conference that if formerly domiciliary visits had been recommended in Europe, at a period when it was believed that they were a means of preventing the diarrhœas which were considered simply as affections predisposing to cholera, they should be recommended and employed with all the more reason at the present day. Who at the present day could doubt the efficacy of the speedy succour given by domiciliary visits to persons suffering from diarrhœa? And had it not been admitted that most of these diarrhœas, or at any rate a great portion of them, were cholera itself in a more or less mild form or in a not very advanced state?

In conclusion, M. Maccas said that a desire was evinced to rehabilitate the axiom that a disease must not be combated before its complete development.

M. Maccas was in favor of maintaining the article in the report as it stood.

M. Mühlig said he labored under the misfortune of being misunderstood. M. Maccas, however, had caught the meaning of his remarks. It was not that he was opposed to domiciliary visits—far from it,—only he (M. Mühlig) believed that no means existed of diminishing the intensity of an epidemic,—it could not be done by domiciliary visits any more than by other means. Up to the present, said M. Mühlig, facts had shown the powerlessness of such means, for

in all epidemics an ascending period had been seen which nothing could stop, and a descending period which proceeded by itself without the aid of any means. At Constantinople, M. Mühlrig pointed out, there had been an extraordinary Commission last year which acted with as much energy as noise. It placed physicians every where, caused fumigations, domiciliary visits, and many other things, to be carried out; and yet, in spite of all that, the epidemic was more intense than it had ever been. M. Mühlrig insisted upon this point, viz., that he did not demand the suppression of domiciliary visits, but that there should be no exaggeration of the part they performed as prophylactic agents.

Dr. Goodeve said he would like to know whether the system pursued at Constantinople by the Commission mentioned by M. Mühlrig was as complete as that proposed in the report, i. e., whether under it daily search was made, as in England, in houses to ascertain the existence of diarrhœa, and to apply immediate treatment then and there to persons suffering under the disease. This was the only system by which happy results could be obtained, for it had been proved that the people did not have recourse in time to medical advice for what they considered to be simple diarrhœa. It should not be forgotten, said Dr. Goodeve, that the efficacy of domiciliary visits depended, as the Committee had taken pains to point out, on their methodical and constant employment.

M. Sawas, in reply to what had been said by M. Mühlrig relative to the extraordinary Hygienic Commission of last year, said that he felt himself bound—leaving aside the epigrammatic spirit which had dictated the remarks, and which M. Sawas did not mean to regard as serious—to declare that that Commission had done a great deal of good. A hundred and fifty physicians employed by that Commission had unanimously declared—and it was only necessary to refer to their reports—that the recovery of those who had been saved was entirely owing to the immediate treatment against the premonitory diarrhœa. All these physicians had received strict instructions to be very attentive in their domiciliary visits, to spy out, so to say, the first premonitory manifestation of cholera, and to oppose the diarrhœa with energy as soon as it made its appearance. Experience, added M. Sawas, had sanctioned the efficacy of this practice which had rescued many victims from certain death. However, this discussion had been increased by the observations of M. Maccas and the explanations given by M. Mühlrig himself. He agreed with M. Mühlrig that domiciliary visits had not the power of definitively arresting a choleraic epidemic, but he believed nevertheless, with the Committee, that they could limit an epidemic and mitigate its violence, and that consequently they ought to be recommended.

M. Maccas added a few words more regarding disinfection. It was said in the Committee's report that disinfection ought to commence *with the commencement* of an invasion. He would prefer to say *with the approach* of an invasion. At the present day, he remarked, almost

all physicians agreed in saying that action should not be deferred until the outbreak of an epidemic, but that it was necessary to be fore-armed against it, and that disinfection and other preventive measures should be carried out directly, it was learnt that there was an epidemic in the neighbourhood.

M. Gomez, and all the members of the Committee, accepted the change proposed by M. Maccas.

But M. Bosi remarked that though it might be unquestionable that disinfection as understood by M. Maccas, was an excellent general hygienic agent, this disinfection, according to the meaning of the Committee, was proposed with a different object. It was desired by its action to destroy the morbid germ, and this germ was not produced until after the first cases after the manifestation of cholera. As M. Maccas would have it, disinfection was very difficult of application, while it was very easily applied after the appearance of the first cases. In support of his assertion, M. Bosi quoted a fact which had come under his observation at Bologna during the epidemic of last year: in the hospital of that town there had been a rather heavy number of cholera patients, and there had been some also in private houses. Care was taken immediately to isolate the houses and the hospital, and the result was that at Bologna there were only 36 deaths from cholera, while the ravages of the scourge in other towns of Italy were great.

M. Pelikan called the attention of the honorable Conference to the recommendation made by the Committee to distribute copies of a book of popular *instructions*, and to draw up precise statistics, and write the history of the epidemic. He said he could not but approve such a project, but he thought it would be useful if the Committee were, like Pettenkofer and Griesinger, to lay down the bases of the instructions, and the statistics it recommended. M. Pelikan proposed, therefore, that the Committee should prepare a sort of model for the *instructions* as well as for the statistics.

M. Monlau replied that as these instructions only referred to the dietetic regimen to be observed during the existence of an epidemic, they would be found in all treatises on hygiene, whence they might be extracted, with the modifications required by the peculiar circumstances of particular places. For instance, he said, there were localities which allowed with impunity the use of certain fruits and vegetables which in other localities could not be tolerated without very bad results. The Committee, he added, had thought it useless to give a model of the statistics it had proposed, because some excellent models existed: and because it believed that that duty did not belong to it.

At the general request, His Excellency the President put to the vote the text of the first part of the 5th chapter.

It was adopted unanimously.

With reference to the corollary of this part, M. Bosi remarked that a corollary ought to be the summing up of the most salient ideas

developed in the text. He would, therefore, like some words to be added to this corollary, touching isolation and disinfection, which were not mentioned. He thought they could come after the words, "the immediate assistance," &c.

M. Bartoletti said he wished that, instead of saying that all that constituted "very efficacious" hygienic and administrative measures, the words "very useful" were used.

M. Maccas, on the contrary, thought that, instead of lessening the force of the expression, it ought to have more strength imparted to it, as, for instance, by saying they were *the most efficacious* measures.

The Conference decided in favor of the expression used in the report.

The President put the corollary to the vote.

It was adopted unanimously.

The meeting terminated at 4-30 P. M.

Order of the day for the next meeting.

Continuation of the discussion of the report and appendix.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE, }
DR. NABANZI, } *Secretaries.*

INTERNATIONAL SANITARY CONFERENCE. MEETING

No. 27, OF THE 20TH AUGUST 1866.

HIS EXCELLENCY SALIH EFFENDI, *Presiding.*

The International Sanitary Conference held its 27th meeting at Galata-Serai on the 20th August 1866.

PRESENT :

For Austria :

M. Vetsera, Councillor of the Internonciature of His Imperial and Royal Majesty.

Dr. Sotto, Medical Attaché to the Imperial and Royal Internonciature, Director of the Austrian Hospital.

For Belgium :

Count de Noidans, Secretary to the Legation of His Majesty the King of the Belgians.

For Spain :

Dr. Moulaou, Member of the Superior Spanish Council of Health

For France :

Dr. Fauvel, Sanitary Physician.

For Great Britain :

Dr. Goodeve, Surgeon-Major, Indian Army, Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to Her Britannic Majesty's Embassy, British Delegate to the Superior Council of Health at Constantinople.

For Greece :

Dr. G. A. Maccas, Chief Physician to the King, Clinical Professor in the University of Athens.

For Italy :

M. A. Vernoni, Chief Interpreter to the Legation of His Majesty the King of Italy.

Professor Frederic Bosi.

D. G. Salvatori, Italian Delegate to the Superior Council of Health at Constantinople.

For the Netherlands :

M. Keun, Councillor to the Legation of His Majesty the King of the Netherlands.

Dr. Millingen, Dutch Delegate to the Superior Council of Health at Constantinople.

For Persia :

Dr. Sawas Effendi, Inspector of Hygiene and Health at Constantinople, Persian Delegate to the Superior Council of Health.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargé d'Affaires.

Councillor Dr. Bernardino Antonio Gomez, Chief Physician to His Most Faithful Majesty.

For Prussia :

Dr. Mühlig, Physician to the Legation, Chief Physician to the Ottoman Marine Hospital.

For Russia :

Dr. Pelikan, Councillor of State, Director of the Russian Civil Medical Department.

Dr. Lenz, Councillor of College, Attaché in the Russian Ministry of the Interior.

Dr. Bykow, Councillor of State, Assistant Medical-Military Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, Secretary to His Legation.

Dr. Baron Hübsch.

For Turkey :

H. E. Salih Effendi, Director of the Imperial School of Medicine at Constantinople, Chief of the Civil Medical Department.

Dr. Bartoletti, Inspector-General of the Ottoman Sanitary Department, Member of the Superior Council of Health at Constantinople.

(For Egypt :)

Dr. Salem Bey, Clinical and Pathological Professor in the School of Medicine at Cairo, Special Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

The meeting was opened at noon.

The minutes of the 25th meeting were read by Baron de Collongue, one of the Secretaries, and adopted.

Dr. Mühlrig pointed out the omission of his name in the list of members present at the 21st and 23rd meetings, the minutes of which had just been distributed. He wished the error to be recorded in the minutes.

The Conference then resumed the discussion of the report of the 1st Committee on the 3rd group. Count de Noidans read the second section of chapter V of this report.

Professor Bosi, referring to what was said in the report regarding the advantages or disadvantages of emigration, accordingly as it was carried out before or after the outbreak of cholera, asked whether it would not be establishing a dangerous principle to prohibit it in the latter case, because it might compromise the health of some places yet free from the disease, and increase the terror existing within the limits of the affected town, a town having forced relations beyond its limits, which rendered its complete isolation practically impossible. Professor Bosi believed that, so far from prohibiting even tardy emigration, it might, on the contrary, be encouraged under certain conditions. Could not the fugitives, for instance, be assigned a locality sufficiently removed, both from the town attacked by cholera and the surrounding localities, where they might undergo a sort of quarantine, before continuing their voyage? He thought there was no necessity to feel much anxiety about the moral effect that might be exercised upon a population already a prey to panic-terror, since the emigration would be the result of this very panic.

Dr. Monlau remarked that this quarantine that Professor Bosi proposed would be impracticable and impossible in the greater number of cases. The Committee did not require that tardy emigration should

be prohibited, it merely said that it was dangerous to those yet uninfected localities where the fugitives sought an asylum. At most it believed it to be of very little advantage to these fugitives who left in bad moral condition, and also that flight but too often did not secure them from the attacks of the disease. As for the moral effect produced, it must always be taken into consideration, for those who emigrated always belonged to the well-to-do classes, and their departure cast discouragement over the less fortunate part of the population, which could not follow their example.

In support of the observations contained in the report regarding tardy emigration, Dr. Salem Bey quoted the facts observed in Egypt and notably at Cairo, during the last epidemic.

Dr. Gomez said he did not himself believe that land quarantines were possible; it was a question, however, for the consideration of the Committee appointed to consider quarantine measures. As for emigration, it must be recommended previous to the manifestation of cholera; after an outbreak of the disease, it evidently became dangerous to the places where the emigrants sought refuge. If there could be no question of preventing it, an idea which could not have been entertained by the Committee, it was not the less its duty to point out this danger.

Professor Bosi having stated that, after these explanations, he would not insist upon his remarks, he put to the vote the conclusion of chapter V. The text and conclusion were successively adopted unanimously.

The adoption of the text of chapter VI gave rise to no remarks.

Not so, however, with the conclusion, which Dr. Bartoletti did not think sufficiently affirmative. The epithet *efficacious*, which he criticised in the conclusion of chapter IV, when the question was under discussion of the sanitation of towns as a preventive means to be opposed to the reception of cholera, it seemed to him ought to have been used there. It was asserted that measures of disinfection, by means of ventilation, washing, and chemical processes, combined with isolation, destroyed the choleraic germ. To say that they were *powerful auxiliaries* was not sufficient.

Dr. Mühlig and Dr. Maccas replied that no affirmative dictum could be pronounced in the present state of science: if the works that treated of measures of disinfection were consulted, it would be seen how difficult of application they were. Science had not said its last word—nothing should be affirmed of which there was as yet no certainty.

Dr. Sawas concurred in this view.

Dr. Bykow asked whether it could be affirmed, when the choleraic germ had been destroyed by disinfection combined with isolation, that the destruction was positively the effect of the application of these measures? Could anybody be sure that the germ which, according to the general notion, had only a brief existence, did not become extinct of itself during the period of quarantine?

The continuation of the discussion was adjourned on the motion of Dr. Fauvel, who pointed out that it would be more usefully continued when the report drawn up by Dr. Mühlig upon *disinfection* came under consideration.

Count de Noidans commenced reading that report.

The 1st paragraph was adopted without remark.

Dr. Pelikan criticised the classification of disinfectants and the distinction made in the report (paragraph 2) between them in regard to their mode of action. Dr. Pelikan stated particularly that he could not agree in opinion with Dr. Mühlig as to the *corrosive action* of disinfecting agents for choleraic stools. He thought that Dr. Mühlig's hypothesis was not founded upon such solid bases as to be recommended by the Conference as the most conclusive.

Dr. Mühlig believed that it was necessary to avoid scientific discussions with which the Conference had no business. He confined himself, therefore, to replying that he had not meant to make a classification of disinfectants. The report only mentioned the various means of disinfection mentioned by authors who had taken up these questions.

Dr. Bykow disputed the important rôle attributed by the report to ammoniacal exhalations in the production of typhus, typhoid fever, and cholera, and he affirmed that the only danger that existed was in the fermentation of *excreta*.

Dr. Fauvel thought that, in a sanitary point of view, everything having the effect of destroying the morbid germ ought to be regarded as a disinfectant. The whole question was to find disinfectants by means of which this result could be arrived at without injury to the substance to be disinfected. Classifications were always incomplete, and time should not be wasted upon them; what was important and what was specially difficult, was the application of the various means of disinfection: one could always destroy, but one could not always apply.

Dr. Mühlig believed that it was going too far to affirm that everything could be disinfected: that was a point that had not yet been demonstrated.

Dr. Sawas would not admit that the distinction made by the report between the various chemical means of disinfection was scientifically exact: *causticity* was there presented as a separate mode of disinfection by itself. Now, in his opinion, it was nothing but a quality of certain chemical agents, a result of the play of affinities.

Paragraph 2 was put to the vote and adopted by all but M. Pelikan, who declined to vote.

After remarking that the facts quoted in paragraph 3 appeared to be conclusive proofs of the efficacy of disinfectants, Dr. Fauvel wanted to know how it was that the report could have hesitated to affirm this efficacy: did any contrary facts exist?

Dr. Müblig replied that he believed in the power of measures of disinfection: only the facts that proved it were not numerous enough to permit of an absolute opinion being pronounced.

Paragraph 3 was adopted unanimously.

Similarly with the first section of paragraph 4 regarding *aeration*.

With reference to the 2nd section of the same paragraph, Dr. Fauvel expressed his regret that the report had not said more about such an important question as that of *calorification*. If the use of calorification could be made general, and it could be successfully used without destroying the substance to be disinfected, an immense result would have been obtained, and the disinfectant, *par excellence*, would have been found. Without going so far, could not the choleraic germ be destroyed by a temperature less elevated than that employed by Dr. Henry, of Manchester? This was a question deserving of very special consideration. If the reply was in the affirmative, would it not be in fact a valuable means of disinfection for a crowd of substances, and an agent of easy application, especially on board ships, particularly steamers, for linen, clothes, baggage, and even certain kinds of merchandise.

Dr. Müblig replied that he understood, like Dr. Fauvel, all the importance of calorification as a disinfectant; but he was not aware of any cases in which this means of disinfection had been applied against cholera. In spite of all his researches, he had found no other facts to quote but those reported in the note to page 6, and there only the plague and scarlatina were referred to.

Dr. Millingen considered immersion in boiling water or in steam to be an eminently efficacious means of disinfection; but no mention of it was made in the paragraph relating to *calorification*, where it should naturally have been placed, nor did he find it alluded to in the subsequent paragraph, which treated merely of immersion in cold water.

Dr. Goodeve preferred immersion in cold water, but mixed with disinfecting substances. Immersion, which was efficacious if the water was boiling, ceased to be so if it were only hot, and then it even became rather dangerous; the temperature in this case was not sufficiently elevated to destroy the morbid germ, and it was to be feared that the germ would spread with the steam evolved. Many persons attributed to this cause the numerous cases of cholera that had been observed among the washerwomen by whom the linen and other clothes of cholera patients were washed.

The 3rd section was adopted unanimously.

Dr. Pelikan passed in review the various chemical processes of disinfection enumerated in the 4th section. He approved what was said regarding the good results of the use of chlorine, but as to chlorides, he did not agree in opinion with Dr. Müblig. Neither did he admit the preference given by the report to chloride of zinc over sulphate of iron.

This last disinfectant, which was recommended by its cheapness, had afforded the best results in Russia and in France, especially when mixed with pyroligneous acid.

Dr. Pelikan also opposed Dr. Mühlig's views regarding the difference existing between chloride of zinc and sulphate of iron in the point of view of the disinfection of excreta. In his opinion, sulphate of iron, and similarly other metallic salts, were not able to disinfect excrement completely after putrid decomposition had commenced. Dr. Pelikan recommended chloride of magnesia, to which no allusion was made in the report, as a cheap disinfecting agent, which could easily be procured near manufactories of chlorine; he pointed out, in conclusion, a typographical error of frequent occurrence in the report, *viz.*, the printing of the word *hypochlorite* for *hypochloride*.

Dr. Sotto thought the great defect in the report was the absence of facts. For his own part, he had successfully employed sulphate of iron in the Austrian hospital, as well as on board Lloyds' ships, during the last epidemic. At the Austrian hospital, there had been 102 cholera patients, and where want of space prevented him from assigning them sufficiently separate compartments, none of the other patients, who amounted to thirty in number, or of the twelve hospital attendants, were attacked.

Dr. Mühlig replied that if he had not quoted more facts, it was unhappily because he knew of no others. At the Prussian hospital sulphate of iron had been employed for the disinfection of the cess-pits and excrementitious matter, and chloride of lime for that of linen.

The 4th section was adopted unanimously, except by Dr. Pelikan, who declined to vote.

The meeting terminated at 4-30 P. M.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE,
DR. NARANZI,

} *Secretaries.*

Dated 3rd December, 1866.

From—E. HAMMOND, ESQ.,

To—The Under-Secretary of State for India.

I am directed by Lord Stanley to transmit to you, to be laid before Lord Cranborne, a copy of a Despatch from Dr. Dickson, enclosing copies of Protocols Nos. 28 and 29 of the Proceedings of the Cholera Conference at Constantinople.

No. 41, dated 21st November, 1866.

From—DOCTOR E. DICKSON,

To—LORD STANLEY, M. P.

I have the honor to enclose herewith triple copies of Protocols Nos. 28 and 29.

INTERNATIONAL SANITARY CONFERENCE. MEETING
No. 28, OF THE 23RD AUGUST 1866.

H. E. SALIH EFFENDI, *Presiding*.

The International Sanitary Conference held its twenty-eighth meeting on the 23rd August 1866, at Galata-Serai.

PRESENT :

For Austria :

M. Vetsera, Councillor of the Internonciature of His Imperial and Royal Majesty.

Dr. Sotto, Physician attached to the Imperial and Royal Internonciature, Director of the Austrian Hospital.

For Belgium :

Count de Noidans, Secretary to the Legation of H. M. the King of the Belgians.

For Spain :

Dr. Monlau, Member of the Superior Council of Health of Spain.

For the Papal States :

Dr. Ignace Spadaro.

For France :

Count de Lallemand, Minister Plenipotentiary.

Dr. Fauvel, Sanitary Physician of France.

For Great Britain :

Dr. Goodeve, Surgeon-Major, Indian Army, Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to H. B. M.'s Embassy, British Delegate to the Superior Council of Health at Constantinople.

For Greece :

Dr. G. A. Maccas, Chief Physician to the King, Clinical Professor in the University of Athens.

For Italy :

M. A. Vernoni, Chief Interpreter to the Legation of H. M. the King of Italy.

Professor Frederic Bosi.

Dr. G. Salvatori, Italian Delegate to the Superior Council of Health at Constantinople.

For the Netherlands :

M. Keun, Councillor to the Legation of H. M. the King of the Netherlands.

Dr. Millingen, Dutch Delegate to the Superior Council of Health at Constantinople.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargé d'Affaires.

Councillor Dr. Bernardino Antonio Gomez, Chief Physician to His Most Faithful Majesty.

For Prussia :

Dr. Müblig, Physician to the Legation, Principal Physician to the Ottoman Marine Hospital.

For Russia :

Dr. Pelikan, Councillor of State, Director of the Civil Medical Department in Russia.

Dr. Lenz, Councillor of College, Attaché in the Russian Ministry of the Interior.

Dr. Bykow, Councillor of State, Co-Military Medical Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, Secretary to His Legation.

Dr. Baron Hübsch.

For Turkey :

H. E. Salih Effendi, Director of the Imperial School of Medicine at Constantinople, Chief of the Civil Medical Service.

Dr. Bartoletti, Inspector General of the Ottoman Sanitary Department, Member of the Superior Council of Health at Constantinople.

For Egypt :

Dr. Salem Bey, Clinical and Pathological Professor in the School of Medicine at Cairo, Special Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

The Secretaries read the minutes of the last two meetings: Dr. Naranzi those of the meeting of the 18th, and Baron de Collongue those of the meeting of the 20th August. They were unanimously approved.

M. Lenz informed the members that M. Segovia, President of the first Committee, being prevented by indisposition from attending the meeting, had deputed him to present and lay on the table the additional note to the text of chapter VIII (Naval Hygiene) of the Report on measures of hygiene.

M. Lenz expressed the wish of the Committee that this additional note should be placed in the order of the day with a view to its immediate discussion if time should permit. The proposal was agreed to.

M. de Lallemand made a motion regarding the communication which, in concert with his colleague Dr. Fauvel, he had made to the Conference on the 31st May. The object of that communication being the reform of the sanitary tariff, it had been adjourned in order to give the Delegates time to provide themselves with instructions from their respective Governments. Eighty days had elapsed since then—more than sufficient time, he thought, to ask for and receive any instructions thought necessary. As the Conference had recorded his communication, he gave notice that he proposed to make a motion, at the next meeting, with a view of ascertaining whether the Conference would consent to nominate a Committee to consider the question of the reform of the tariff.

The President proceeded to the order of the day, calling on M. Mühlig to continue the reading of the Appendix concerning disinfection as applied to cholera.

M. Mühlig, after having reminded the meeting that the reading had been interrupted at the last meeting at the 5th Section, resumed the reading at page 11.

He stopped at page 12, at the disinfection of drinking water, to listen to the remarks of the speakers.

M. Pelikan noticed a contradiction which, in his opinion, existed between what was said at the end of the 10th page and what was maintained at the commencement of the eleventh. He would wish to know whether M. Mühlig's assertions were based on a chemical theory, whether it was chemistry or practical experience that had revealed to him the action of the coal tar and the substances he praised. M. Pelikan thought that chemistry as well as practice had demonstrated the contrary. Thus for instance, in France, far from dreading mixture of certain acids with disinfecting salts, a successful use was made of pyroligneous acid mixed with sulphate of iron.

M. Pelikan remarked that he only made these observations with a view to being precise, and so as not to lead those who had no chemical knowledge into error.

M. Mühlig replied to M. Pelikan's remarks. The Committee, he said, did not deny that many agents might be successfully applied, and that their action might be rendered more intense by judicious mixtures.

But it recommended that mixtures which neutralised each other should not be used : that was all that M. Mühlig had meant to say. He did not think there was any contradiction in the passages quoted by M. Pelikan ; he would, however, point out to him that the employment of chemical agents would not suffice to disinfect linen, stuffs, &c., for instance. If linen were immersed in a solution of chloride of zinc, is it thought that it would be purified by that immersion alone ? No, aeration, &c., were also required. That was what, in the opinion of the reporter, constituted a method of disinfection.

M. Pelikan confessed that M. Mühlig had explained himself more clearly now than he had done in his Appendix.

M. Gomez said that the idea of the author of the Appendix was correct, but that it had not been quite properly rendered, as set forth in the text.

In France, said M. Gomez, chloride of zinc was no longer considered to be the best of disinfectants, for it had been discovered that it could not neutralise gases, and phenic acid mixed with sulphate of iron was employed with greater confidence.

Mr. Gomez was of opinion that, on reading the entire paragraph, M. Pelikan's remarks lost their force ; but that they were strictly correct if all that were looked to was the recommendation of the author to employ but the one agent only in the fear of making mixtures capable of neutralising each other. That might lead to error, if it were not seen further on that it was stated that it was necessary to avoid mixtures of substances having opposite actions. The Committee recommended mixtures which did not neutralise each other, and the action of the substances composing which was one and the same.

M. Millingen asked for explanations regarding the difference established in page 11 of the Appendix between choleraic *dejecta* and choleraic vomited matter. He thought, and to his thinking it had been clearly shown in the general report, that both of them furnished the choleraic *germ*. He therefore desired the elimination of the word "*perhaps*" in connexion with vomited matter.

M. Mühlig replied that it was exactly because he wished to conform to the spirit of the general report, and also to the prevailing opinion, that he had used the word "*perhaps*" in connexion with vomited matter. It was positively known that choleraic *dejecta* contained the *germ*, but a decision could not be pronounced so categorically with regard to vomited matter, for the thing had not been proved, though the fact seemed very probable. However that might be, the Appendix was written for physicians, who knew what they were about.

Dr. Goodeve thought that the last paragraph of the 5th section should be expressed with greater precision. He referred to the following passage :—"The disinfection of the latrines and sewers of a locality will be commenced, therefore, directly it is threatened with an invasion of cholera." Dr. Goodeve would wish that the following

addition should be made to it :—" Especially if it were not done when " the number of cases of diarrhœa commenced to increase."

The 5th chapter was put to the vote and unanimously adopted with the addition proposed by Dr. Goodeve.

M. Mühlig continued to read as far as the end of the 14th page.

M. Gomez remarked that at page 13 the author recommended fumigations, and indicated the manner of employing them. But this doctrine was contradicted in several passages of the Appendix ; in the 4th section for instance, said M. Gomez, the author asserted that fumigations were of very doubtful efficacy, and the report almost condemned fumigations, or reduced them to very little, by disputing their value. It was but too true that it would be an exaggeration altogether to dispute the value of fumigations, for, well employed, they were somewhat efficacious auxiliary agents. M. Gomez would remove these minor contradictions existing, with some others, in the Appendix, and he thought it would be necessary, by changing the wording, to make all the passages referring to the same doctrine harmonise. With the object of making the most rigorous scientific precision prevail in the Appendix, he desired the change of the following expression :—" Phenic acid contains a mordant," (page 9). Phenic acid, said M. Gomez, does not contain any mordant, though it is one itself, i. e., it is capable of exercising a biting action on vegetable fibre. To contain a mordant meant, in his opinion, to enclose, to keep latent, a mordant principle, but the chemical composition of phenic acid was well known, and an analysis in no way demonstrated the existence of a distinct principle.

The word 'contain,' M. Fauvel thought, meant nothing else than that phenic acid, the elementary composition of which only was known, was a substance which had a mordant action on vegetable or organic fibre. But it might happen that phenic acid also contained an element or principle of a mordant nature, in the same way as tan, which, by a special principle, tannic acid acted on organic substances in tanning them.

M. Gomez replied that if the French language gave to the word *receler* (to contain) the same meaning as M. Fauvel, who was very competent, gave it, it was not so in chemistry ; the word there, he thought, had quite another signification.

M. Mühlig, in reply to M. Gomez, confessed that he could not find the contradictions pointed out by him in the Appendix. Down to a certain period, he said, it had been deemed sufficient to fumigate in order to purify, and then great confidence was felt in sulphur. Greater scepticism existed at the present day—absolute confidence was no longer placed in fumigations, whatever might be their nature, for it had been seen that along with fumigations it was necessary to employ other agents, aeration for instance, washing with lime, &c. Consequently, it was desired to limit them to the part they could perform. With regard to the expression condemned by M. Gomez, an expression, after all, borrowed from a treatise written by a Frenchman, M. Mühlig altogether agreed with M. Fauvel.

M. Pelikan was of opinion that the means recommended by M. Mühlig for the purification of dwellings (page 13) where it was said that the entire interior of the house, walls, ceilings, and floors, should be first sprinkled and then washed with a solution of chloride of lime or phenic acid, showed confusion and could not constitute a real method of disinfection. M. Pelikan would ask M. Mühlig whether he had ever practised the operation himself. If it had been taken from some author, he had not taken sufficient pains to subject it to a severe chemical test. Why, he would again ask, have recourse to gaseous lime (Guytonian fumigations) and to sulphurous acid after the employment of chlorides or phenic acid! If the agents proposed by M. Mühlig were not sufficient, surely sulphurous acid, which, to his thinking, was a much less efficient agent than the former, could not be recommended. M. Pelikan asserted that, with regard to disinfection, as to every other chemical operation, the question was not to propose many substances to be employed without distinction. Science prescribed the methodical use of those the value of which was certain, and the selection and acquisition of which was easy, and which were least compromising to health.

M. Pelikan also found that M. Mühlig (at page 14) in proposing different methods for the disinfection of merchandise, commenced by recommending aeration, and then passed on to chemical disinfectants without mentioning *immersion*, an operation which, as every body knew, might, under certain circumstances, be very useful. Neither did M. Mühlig speak of merchandise which, according to the quarantine regulations in force, ought to be destroyed by combustion, for instance, or thrown into water, such as animal and vegetable organic substances in decomposition, provisions, &c.

As for M. Mühlig's proposal to subject certain merchandise (except drills and rags, to which M. Mühlig had devoted a separate paragraph (see Appendix, page 13), M. Pelikan did not understand what the goods were which might be plunged into a solution of chloride of zinc without running a risk of deterioration. M. Pelikan believed that such a practice did not even deserve to be made the subject of serious remark; and no Government, he thought, would care to adopt the suggestions of the Conference if such methods were proposed and recommended by it. However, said M. Pelikan in conclusion, the question of disinfection of merchandise was included, by the decision of the Conference, in the programme of the Committee on quarantine measures, and that Committee, of which M. Pelikan was a member, would, he said, soon have the honor of submitting for the appreciation of the Conference the same question treated in all desirable detail.

M. Salem Bey, while he expressed his concurrence with M. Mühlig, would wish, however, at the same time, that a distinction should be made in the Appendix between merchandise of various kinds relatively to the means of purifying them.

M. Bartoletti was of opinion that it would be altogether superfluous to insert such a distinction in the Appendix, the question would be disposed of by another Committee.

M. Salem Bey then withdrew his motion.

M. Maccas thought it necessary to specify in the Appendix the cases and the nature of the merchandise which might be disinfected by chloride of zinc. This substance, he remarked, was very costly. As these cases were not specified in the Appendix, M. Maccas proposed the omission of chloride of zinc from among the disinfectants of merchandise.

M. Fauvel made a simple observation on this subject: Many Delegates, he said, had declared war against chloride of zinc, but without clearly explaining why. Did they consider it as a good or bad agent? It was necessary to prove it to be bad before proscribing it. Now, experiments that had been made had proved that it was a very efficacious agent. Why then should they wish to do away with it? There was, added M. Fauvel, an understood condition, which was that it was provided it did not destroy or deteriorate merchandise, a condition which was also understood in regard to other agents.

This part of the Appendix, as far as the *disinfection of ships*, was put to the vote and adopted unanimously, with the exception of MM. Maccas and Sotto, who abstained from voting.

M. Maccas explained why he had abstained from voting. After all the explanations that had been required, he said, all that had been done was to put rags forward, without naming other merchandise adapted to be disinfected by chloride of zinc. This was far from satisfactory.

M. Sotto also said that he had refrained from voting for the same reasons.

M. Mühlig proceeded with the reading of the Appendix to its conclusion. It was adopted unanimously.

M. Fauvel asked for some explanations regarding the first part of the conclusion. How could disinfection diminish the receptivity of a locality menaced by cholera? He understood that that might be done by hygiene, but he could not conceive that disinfectants, the only action of which was the destruction of morbid matter, could afford the same result.

M. Mühlig replied that disinfectants, as had been said in the commencement of the Appendix, might be considered in two distinct points of view: They might be employed to destroy the morbid germ, and also to prevent the evolution of gases, to destroy putrid emanations. Now, it was in this latter sense that it was said that, if they were employed before the manifestation of the epidemic, they might diminish the receptivity of a locality menaced by cholera. In support of his assertion, M. Mühlig mentioned a fact relative to the town of Ulm, where, every disinfecting agent having been employed before the manifestation of the epidemic, the ravages of cholera were very slight.

M. Sotto wanted to know whether, under the denomination of *locality*, the author of the Appendix meant to speak of a hospital, of a quarter, as well as of an entire town. He desired very much to know whether the Committee knew of any town which had been purified by

disinfectants? He was of opinion that the passage ought to be eliminated, or so modified as to clearly show the signification of the word *locality*. Experience, he thought, had not yet demonstrated the possibility of purifying an entire town by means of disinfectants.

M. Mühlig reminded M. Sotto that he had just quoted the town of Ulm which had felt the influence of the disinfecting agents employed. The word *locality* might, therefore, he thought, be retained without occasioning any erroneous impression. At the same time, however, he said the word had been used to designate great establishments without distinction, such, for instance, as hospitals, prisons, &c. In connexion with this subject, M. Mühlig mentioned the fact relative to a prison in Munich, which had been guaranteed against cholera by disinfecting agents.

His Excellency the President put the conclusion to the vote.

It was adopted unanimously.

M. Gomez asked permission to make a few technical remarks relative to the Appendix as a whole.

At page 8 there was an omission regarding Smith's method of nitric fumigations. The author of the Appendix had indicated the proportion of the substances to be mixed in order to obtain the evolution of the vapors of nitrous acid, but he had omitted to state the dose necessary for the disinfection of a given space.

At page 9, continued M. Gomez, it was said that American surgeons disinfected the air of apartments by the evaporation of pieces of cloth steeped in a strong solution of permanganate of potassium. The permanganate of potassium was, no doubt, a very energetic agent in the neutralisation or destruction of putrid organic emanations. It had been made use of as an excellent test to appreciate the degree of impurity in air vitiated by organic matter suspended or dissolved in the atmosphere, and it was for this reason that it had been recommended as a purifying agent. Permanganate of potassium, however, not being a volatile substance capable of spreading through the air by evaporation and thus reaching the infecting matter, it was necessary to establish a suitable current in order that the air might successively present this matter to the action of the permanganate of potassium. The recommendation, therefore, to employ the evaporation of a concentrated solution of this salt to purify the air of houses badly expressed the value of the process to be followed, and it was desirable that the expression should be more distinctly given.

M. Mühlig confined himself, in replying, to saying that the process, as described by him, had been applied in America. He mentioned the fact as he had found it recorded in an American Medical Gazette, without offering any opinion upon its value. As for the passage relating to Smith's fumigations, the word "grammes" should be added after the figure 15.

M. Bykow brought to notice a typographical error: in two places in the Appendix "hypochloride of soda" had been printed for "hypochlorate of soda."

M. Bosi asked the Conference whether the Report which had just been read and approved would, like the general report, be reprinted with the modifications adopted by the Conference shown in notes. He thought that was necessary, because, in the first place, the Conference had decided in that view when it authorised the reprinting of the general report, thus establishing a precedent and a formality which should be respected; and because, in the second place, the report in question consisted of three separate parts, *viz.*, the Report, the Appendix, and the additional note. All these, he thought, should make one single report, and, as each could not exist separately, the reprinting of the whole was absolutely necessary.

M. Fauvel pointed out that the general report had been reprinted because only 250 copies of it had been struck off; and it had not been printed as an annexure in the same shape and size as the minutes of proceedings. In regard to the report spoken of by M. Bosi, the Committee had taken care to print it as an annexure in the same style as the proceedings, and 650 copies of it had been printed. Independently of that, with the exception of some slight changes easily to be found in the proceedings, it had been adopted almost as it stood.

He (M. Fauvel) was of opinion that it would be useless to reprint it.

M. Bartoletti was of the same opinion.

M. Keun said that M. Bosi's remarks were founded on a precedent established by the Conference; but with a view to meet the remarks of those who had urged the material difficulties in the way, he proposed that all the modifications of the report should be collected together, and added, in one page or several, if necessary, to the report in question.

M. de Lallemand remarked to M. Keun that if that were done, the minutes of the proceedings would lose much of their interest, and would no longer be of any use or purpose. They were only interesting for the discussions which were reported in detail.

M. Lenz expressed his concurrence with M. de Lallemand, and all the more willingly, he said, that it was necessary not to forget that the reports were drawn up by the Committees of the Conference, and not by the Conference itself.

M. Bartoletti thought the discussion altogether useless. On the termination of its labors, the Conference might, if it thought it necessary, make a *résumé* of them, and similarly after the reports of the three Committees, an abridgment might be drawn up of the principal points adopted by the Conference. This, said M. Bartoletti, was the mode of procedure adopted in other Conferences.

M. Maccas expressed his concurrence in M. Bartoletti's views.

M. Bosi accepted M. Keun's proposal.

His Excellency the President consulted the Conference.

It was decided that the report of the first Committee should not be reprinted.

M. de Lallemand proposed that they should proceed to the discussion of the additional note.

M. Maccas seconded the motion.

His Excellency observed that the hour was rather late, and postponed the reading and discussion to the next meeting.

The meeting terminated at 4-15 P. M.

Order of the day for the next meeting.

1st.—Reading and discussion of the additional note.

M. de Lallemand's motion regarding the reform of the sanitary tariff.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE,
DR. NARANZI,

} *Secretaries.*

INTERNATIONAL SANITARY CONFERENCE. MEETING
No. 29, OF THE 25TH AUGUST 1866.

H. E. SALIH EFFENDI, *Presiding.*

The International Sanitary Conference held its twenty-ninth meeting on the 25th August 1866, at Galata-Serai.

PRESENT :

For Austria :

M. Vetsera, Councillor of the Internonciature of His Imperial and Royal Majesty the Emperor of Austria.

Dr. Sotto, Physician attached to the Imperial and Royal Internonciature, Director of the Austrian Hospital.

For Belgium :

Count de Noidans, Secretary to the Legation of H. M. the King of the Belgians.

For Spain :

Don Antonio Maria Segovia, Consul-General, Chargé d' Affaires.
Dr. Monlau, Member of the Superior Council of Health of Spain.

For the Papal States :

Dr. Ignace Spadaro.

For France :

Count de Lallemand, Minister Plenipotentiary.

Dr. Fauvel, Sanitary Physician of France.

For Great Britain :

Dr. Goodeve, Surgeon-Major, Indian Army, Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to Her Britannic Majesty's Embassy, British Delegate to the Superior Council of Health at Constantinople.

For Greece :

Dr. G. A. Maccas, Chief Physician to the King, Clinical Professor in the University of Athens.

For Italy :

M. A. Vernoni, Chief Interpreter to the Legation of H. M. the King of Italy.

Professor Frederic Bosi.

Dr. G. Salvatori, Italian Delegate to the Superior Council of Health at Constantinople.

For the Netherlands :

M. Keun, Councillor to the Legation of H. M. the King of Holland.

Dr. Millingen, Dutch Delegate to the Superior Council of Health at Constantinople.

For Persia :

Mirza Malkom Khan, Aide-de-Camp General to His Majesty the Shah, Councillor to His Legation.

Dr. Sawas Effendi, Inspector of Hygiene and Health at Constantinople, Persian Delegate to the Superior Council of Health.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargé d'Affaires.

Councillor Dr. Bernardino Antonio Gomez, Chief Physician to His Most Faithful Majesty.

For Prussia :

Baron Testa, Prussian Delegate to the Superior Council of Health.

Dr. Mühlrig, Physician to the Legation, Chief Physician to the Ottoman Marine Hospital.

For Russia :

Dr. Pelikan, Councillor of State, Director of the Civil Medical Department in Russia.

Dr. Lenz, Councillor of College, Attaché in the Russian Ministry of the Interior.

Dr. Bykow, Councillor of State, Assistant Military-Medical Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to H. M. the King of Sweden and Norway, Secretary to His Legation.

Dr. Baron Hübsch.

For Turkey :

H. E. Salih Effendi, Director of the Imperial School of Medicine at Constantinople, Chief of the Civil Medical Service.

Dr. Bartoletti, Inspector General of the Ottoman Sanitary Department, Member of the Superior Council of Health at Constantinople.

(For Egypt :)

Dr. Salem Bey, Clinical and Pathological Professor in the School of Medicine at Cairo, Special Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

The meeting commenced at noon.

The minutes of the 28th meeting were read by Dr. Naranzi and adopted with some modifications.

Count de Lallemand, as President of the Committee appointed to consider the measures to be taken in the East with a view to prevent the recurrence of the invasion of Europe by cholera, laid the Report of the Committee on the table (*annexure to the present minutes*).

Its discussion was placed on the order of the day for the meeting of Monday the 27th August.

Dr. Lenz read the note which, in its meeting of the 16th August, the Conference had deemed necessary to add to chapter II (*Naval Hygiene*) of the report on the hygienic measures to be adopted with a view to preservation against cholera.

With reference to paragraph 3 (*quality of ship's provisions*) of the section of this note relative to the *sanitary police at departure*, Dr. Sotto invited the attention of the Conference to the question of the provisions for a ship's crew. Salted meat was still used on board a certain number of ships. It ought not to be used in seasons of epidemics, and the use of fresh meat should be recommended, at least in short voyages.

Dr. Bykow believed that in paragraph 4 of the section on the *sanitary police of the voyage* it would have been well, after the recommendation to maintain the cleanliness of the latrines, to insist upon their number being proportionate to that of the passengers. Last year, during

the epidemic, one of the ships of the Russian Navigation Company had on board 600 deck passengers. The only two latrines devoted to these passengers being literally besieged, it was impossible to keep them clean and disinfect them. Cases of cholera occurred, and it was found necessary to run up temporary latrines. The cases of cholera immediately ceased. Dr. Bykow had received his information from the captain of the ship in which the thing happened.

Dr. Fauvel thought that in the same section of the *sanitary police of the voyage*, after the advice to employ aeration as a means of disinfection of articles of personal use, it would have been interesting to speak also of calorification. Could not a sort of stove be set up on board steamers in communication with the engine in which soiled articles might be subjected to the action of steam? It was a question which had already occupied the Conference, by which it had been thought worthy of consideration.

As Drs. Sotto, Bykow and Fauvel confined themselves to requesting that the preceding remarks might be recorded in the minutes, His Excellency the President put to the vote the additional note intended to complete chapter II of the Report of the first Committee. It was adopted unanimously.

The conclusion of this chapter, the vote on which had been adjourned (*see* minute No. 25) was also adopted unanimously, with the exception of four members, who abstained from voting (Dr. Millingen, Baron Testa, Dr. Mühlrig, and Dr. Salem Bey.)

On the motion of Dr. Dickson, a vote of thanks was accorded to Dr. Monlau, Reporter of the first Committee, and the members of the Committee.

Count de Lallemand, in accordance with the notice given by him at the last meeting, again brought forward the question of the reform of the tariff of sanitary dues in the Ottoman ports. Count de Lallemand, referring to his communication of the 31st May, asked for the appointment of a Committee to consider the question on the bases indicated in the said communication.

M. Vetsera announced that, in consequence of the communication made by Count de Lallemand at the meeting of the 31st May, he had requested instructions from Vienna as to whether the Imperial Government did or did not consider the Delegates in the Conference competent to discuss the tariff of quarantine dues in the Ottoman ports. The Imperial Government having replied in the negative, M. Vetsera declared that neither he nor his colleague, Dr. Sotto, were at liberty to take any part in any discussion which might ensue upon the question.

M. Vernoni announced that the Italian Delegates had received similar instructions. The Royal Legation had, moreover, been directed to go into the matter in direct communication with the Sublime Porte, and there was reason to hope that a satisfactory solution would soon be arrived at.

Dr. Goodeve stated that the British Delegates also were not authorised to discuss the question.

Dr. Maccas made the same declaration with regard to the Greek Delegates.

Dr. Pelikan had not yet received the instructions which he had at once asked for from St. Petersburg.

Dr. Millingen stated that the Dutch Delegates were similarly situated.

Baron Testa (for Prussia), Dr. Sawas (for Persia), M. Stenersen (for Sweden and Norway), Dr. Gomez (for Portugal), M. Segovia (for Spain), Count de Noidans (for Belgium), Dr. Spadaro (for the Holy See), stated, on the other hand, that they were authorised by their Governments to take part in the discussion.

H. E. Salih Effendi reminded the Conference that the revenues of the Turkish Sanitary Administration only amounted to a fourth of the expenditure, and that it was impossible that the treasury of the Empire could support such a heavy burden any longer. Two sorts of measures had to be employed with a view to preservation against the invasions of the Asiatic scourge: quarantine measures and measures of hygiene, both of them necessitating heavy expenditure. Now Turkey had not only to preserve herself, but also by reason of her geographical position, to preserve Europe. These considerations, and others, to which H. E. Salih Effendi considered it unnecessary to revert, rendered it indispensable that the sanitary dues now levied in the ports of the Empire should be augmented. It was necessary that these dues should be made to harmonise with the expenditure by which all Europe profited, if it was desired to place Turkey in a position to execute the sanitary measures, the elaboration of which was the object of the Conference.

M. Segovia remarked that the Conference was in an unfavorable position for the discussion of such a serious question. The recommendations it might urge would lose much of their value, if, for one reason or another, the Delegates of many Powers, and especially those of such Powers as England, Greece, Russia, Austria, and Italy, which, on account of their importance and their shipping, were the most interested, were not to take part in the discussion. He would also ask on what bases they could calculate the quota of the dues to be levied without interfering with the details of the Turkish administration, which it was not within the province of the Conference to do. Spain admitted, in principle, the justice and the necessity of increasing the dues now levied, but, like some others of the Powers represented in the Conference, she had not, so to say, any maritime relations with Turkey. What authority would the Delegates go upon in discussing the question of figures? Did they possess data sufficient to enable them to enter upon the discussion with a perfect knowledge of the matter? He did not believe so.

Dr. Fauvel did not admit the distinction which M. Segovia tried to establish in such a matter between the different Powers, on account

of the importance of their shipping. The decisions of the Conference had always been guided by the majority of votes of the Delegates present, leaving altogether out of the question the Powers they represented, still more the importance of those Powers. The vote of every Delegate had and ought to have the same value. Now, if the number of those who admitted the competence of the Conference were counted, it would be seen that it exceeded the number of those who abstained, without taking into consideration that, amongst the latter, there were some whose abstention was occasioned merely by the want of instructions. The value of the votes in the present case could less than ever be calculated according to the importance of the commerce. The charges should be proportioned to the profits, and if the maritime commerce of Turkey was in the hands of a few Powers only, these Powers would find advantages in the change which could not be placed in comparison with the very slight prejudice which the increase of clearly insufficient dues might cause to them. Dr. Fauvel finally reminded the Conference that the matter in question was not simply the protection of Turkey, but that of all Europe, and that, in this point of view, all the Powers of Europe were equally interested in the possession by Turkey of a good sanitary organisation.

Dr. Sawas seconded these remarks. The receipts of the sanitary administration, it was well known, covered only a fourth of the expenditure. To enable it to continue in working order, it was indispensable that such a state of things should be remedied. When an object was to be attained, the means of attaining it must be provided. The Persian Delegates, moreover, had a right to make themselves heard in such a discussion. Their country, it was true, possessed no ships frequenting the Ottoman ports, but all the merchandise going into Persia passed through Turkey. If the sanitary dues were raised, the freight of the ships carrying these goods would increase in proportion, and, consequently, so would the price of the merchandise itself. Persia, therefore, in this point of view, was interested in the question.

Dr. Salem Bey believed that the considerations just brought forward had sufficiently shown the necessity of a reform in the Turkish sanitary tariff, to justify the propriety of insisting upon the point. It was known with what eagerness, and at how many sacrifices, the Egyptian Government had this year, on the return of the pilgrims from Mecca, applied the measures of precaution recommended by the Conference, and it was only just to look to the means of making the receipts of the sanitary administration balance the fresh charges which it would now have to bear in the interest of all.

Professor Bosi did not think it could be denied that the maritime Powers whose ships would have to pay the dues, the increase of which was under discussion, were really the only ones interested in the question. When a sanitary department was organised in Turkey in 1838, the maritime Powers were, in every case, the only ones which interfered in the negotiations for fixing the tariff. The Italian Government had also thought, like the other Governments which had

given instructions to their Delegates not to take part in the discussion, and these Powers were those which contributed most to the maritime movement of the Ottoman ports—that a Conference in which there were Delegates from Powers having no shipping in the Levant was competent when the question was raised of imposing a new duty on foreign shipping. The decisions of the fraction of the Conference, which voted for its competence, evidently could not be binding on the Governments whose Delegates abstained from taking part in the discussion.

Count de Lallemand replied to Professor Bosi that the interested parties should certainly be heard, but it was going too far to pretend that they alone ought to be the judges in the matter. Reverting then to the remark previously made by M. Segovia, that the Conference was not possessed of the information requisite for taking the question up with a perfect knowledge of all its bearings, Count de Lallemand pointed out that this information was partly in its possession, and that in any case it would be easy to procure the rest. The Conference might, besides, assure itself of the insufficiency of the sanitary dues laid down in the Ottoman tariff merely by comparing them with the dues levied in the ports of the other States of Europe. This was the most simple, and at the same time the most convincing, manner of arriving at the truth.

Dr. Sawas requested the immediate appointment of a Committee. The majority of the Conference having decided the question of competence, no further discussion could take place.

M. Vernoni did not admit that the instructions given by certain Governments to their Delegates sufficed to establish the competence of the Conference.

Dr. Monlau thought the appointment of a Committee useless. The insufficiency of the tariff of the Ottoman sanitary dues was a fact sufficiently demonstrated to permit the Conference to state its opinion at once. Every thing touching upon internal administration was, besides, beyond its province; and it could not, therefore, enter upon the details of the question. The Spanish Delegates would vote only upon the principle of the augmentation of the tariff, expressing a desire that the settlement of the affair might be accelerated as much as possible.

Dr. Fauvel said that this was exactly tantamount to not having any thing to say in the matter. Every body admitted that it was right to increase the present tariff;—what was asked of the Conference was exactly to consider the proposed new tariff in all its details.

M. Keun stated that, not having yet received the instructions for which he had asked, he had not been able to take part in the discussion, and he even thought himself bound to protest in advance against every decision that might be adopted, in the event of his Government not admitting the competence of the Conference. For his own part, Mr. Keun believed that the question of the tariffs of Ottoman sani-

tary dues—a question which had been pending for ten years—was a matter to be settled diplomatically between the Sublime Porte and the powers interested.

Mr. Stenersen believed that, say what they might, it was impossible to admit that parties not interested could be good judges in this matter. The Conference, while it entered upon the discussion of the tariff, could not but see with lively regret that the Delegates of the Powers chiefly interested were not authorised to take part in it.

Some members having demanded the termination of the discussion, the Conference was consulted, and decided by a majority of thirteen votes that cause had been shown for the appointment of a Committee to consider the proposed sanitary tariff annexed to the communication made by the French Delegates at the meeting of the 31st May.

For :—Dr. Spadaro, Count de Lallemand, Dr. Fauvel, Malkom Khan, Dr. Sawas, Chevalier Pinto de Soveral, Dr. Gomez, Baron Testa, Dr. Mühlig, M. Stenersen, Dr. Baron Hübsch, Dr. Bartoletti, and Dr. Salem Bey.

Abstained from voting :—M. Vetsera, Dr. Sotto, M. Segovia, Dr. Monlau, Dr. Goodeve, Dr. Dickson, Dr. Maccas, M. Vernoni, Professor Bosi, Dr. Millingen, Dr. Pelikan, and Dr. Bykow.

Dr. Monlau observed that the result of the division did not show the *absolute* majority necessary to give effect to a decision of the Conference. He required that the vote should be annulled, or, at any rate, that it should be stated in the minutes that the thirteen votes for the appointment of the Committee did not, in his opinion, constitute the majority of the Delegates present (26), nor even the majority of the Powers represented.

* The following Delegates were appointed to constitute the Committee :—Dr. Spadaro, Count de Lallemand, Dr. Sawas, Chevalier Pinto de Soveral, Baron Testa, M. Stenersen, and Dr. Bartoletti.

The meeting terminated at 4-30 P. M.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE, } *Secretaries.*
DR. NABANZI, }

No. 113, dated 17th December, 1866.

From—The Secretary of State for India,

To—His Excellency the Governor-General of India in Council.

With reference to my Despatch, dated this day, No. 112, on the

* Dated 7th December 1866. subject of the proceedings of the International Cholera Conference, I forward a copy of a letter* from the Foreign Office, with its enclosures, relative to the

failure of the Commanders of ships carrying pilgrims from India to the Arabian coast to take with them Bills of Health from the Indian ports, and to the frequent arrival in the Red Sea of ships from India carrying pilgrims greatly in excess of the prescribed number.

2. I am of opinion that the representations of the Egyptian Government on these two points are entitled to every consideration. There will, I apprehend, be little difficulty in providing the Commanders of pilgrim ships leaving the ports of India with Bills of Health; and the obligation proposed to be laid on the Commanders of such ships to submit themselves to the inspection of the Authorities at Aden seems well calculated to provide against the practice of taking in additional passengers after quitting the Indian ports, which has frequently been brought to notice, and to which no remedy has hitherto been applied.

3. I have accordingly to request that you will take steps for the immediate carrying out of the measures above indicated, in anticipation of the commencement of the ensuing pilgrim season; and it would be well, at the same time, to give public notice of the consequences to which the Commanders of pilgrim ships will subject themselves by their failure either to obtain a Bill of Health, or a Certificate as to the number of their passengers from the prescribed Officers at Aden.

Dated 7th December, 1866.

From—J. MURRAY, Esq.,

To—*The Under-Secretary of State, India Office.*

I am directed by Lord Stanley to transmit to you, to be laid before Lord Cranborne, copy of a Despatch from a Her Majesty's Agent and Consul General in Egypt, regarding a suggestion made to him by the President of the Egyptian Sanitary Commission as to the supervision of passenger ships in the Red Sea, and I am to request that you will be so good as to inform me what answer Lord Cranborne would wish Lord Stanley to return to Colonel Stanton.

No. 91, dated 22nd November, 1866.

From—COLONEL E. STANTON,

To—LORD STANLEY.

I have the honor to forward herewith to your Lordship a copy of a letter that has been addressed to me by the President of the Egyptian Sanitary Commission, calling my attention to the facts that British vessels arrive from India at Djeddah, or other ports of the Red Sea, without being provided with Bills of Health; and frequently carrying a great number of passengers than is allowed by Law, particularly at the time of the pilgrimage to Mecca.

His Excellency remarks that these two facts are equally dangerous for the public health, as it is to be feared that the vessels not pro-

vided with Bills of Health may have sailed from ports infected with epidemic diseases, and that those unduly crowded may bring the germs of some disease, engendered by the defective hygienic condition caused by such crowdings; and expresses the hope that Her Majesty's Government will take immediate steps to prevent the recurrence of these abuses.

His Excellency suggests that these vessels should be subjected to a visit at Aden, and that the number of passengers on board should be there ascertained and recorded on the Bill of Health; so that any attempt to land these passengers surreptitiously would be prevented or discovered, on the arrival of the vessel at her destination, by a comparison of the actual number on board with the Certificate signed by the visiting Authority at Aden. And I would venture to recommend to your Lordship that some such supervision as is suggested by Col-lucci Bey should be introduced, as the over-crowding of these vessels probably occurs at ports visited by them after leaving India, and prior to their entrance into the Red Sea; and such an inspection at Aden, as that suggested, would prevent the Commanders infringing with impunity the provisions of the Native Passenger Act.

[*Translation.*]

No. 1905, dated Alexandria, the 1st November, 1866.

To—COLONEL STANTON.

MONSIEUR LE CONSUL-GENERAL,—The Sanitary Intendancy is informed that ships, mostly English vessels, coming from India, finish their voyage, or put in at Jeddah and other ports in the Red Sea, without being able to produce any sort of Bill of Health. And, moreover, it frequently happens that vessels engaged in the Red Sea trade carry, especially about the time of the pilgrimage to Mecca, a larger number of passengers than is permitted.

Both these practices are equally dangerous to the public health. It is to be feared that ships unfurnished with Bills of Health come from countries infected with epidemic diseases; and that ships overladen with passengers carry with them the germ of some disease engendered by the over-crowding of a number of persons who are often in the very worst hygienic condition.

It is, therefore, of the very greatest necessity, having regard to the public interests, to prevent or suppress both these abuses; and I am convinced that to inform you of their existence, as I have done, is sufficient to cause the Government of Her Britannic Majesty to adopt the necessary measures immediately,—the period of the annual pilgrimage being now close at hand.

I deem it my duty to add that if, in spite of these measures, and in contravention of established rules, any ships happen to be found

guilty of any infraction in this respect, the Sanitary Intendancy will not hesitate to put in action all the powers given to it by the Laws and Regulations in force.

In regard to ships unprovided with Bills of Health, they will have to be classed with ships under foul Bills of Health, (unless the captains can offer satisfactory explanations removing all doubt as to the sanitary condition of the places from which their vessels started.) They will, in consequence, be subjected to the quarantine imposed by law on vessels coming under this category.

In regard to ships bringing to any port in the Red Sea passengers in excess of the number allowed by the Marine Rules, they shall be declared to be acting in contravention of those Rules, and shall be held liable to the pains and penalties provided against such infraction.

In order to prevent these ships, before reaching their destination, from landing any portion of their passengers at an intermediate port, it would be desirable if, before their entrance into the Red Sea, the British Authorities would state the number of passengers on the ship's Bill of Health. The comparison of this Bill of Health with the number of passengers brought to the port of destination would show the number of those who might have been taken on board during the course of the voyage, as well as the number wanting, who might be considered as landed or deceased en route.

The preservation of Egypt from all epidemic infection renders it imperatively necessary that the promptest and most stringent measures should be adopted with a view to prevent the approaching pilgrimage to Mecca from becoming a cause of public danger.

The Sanitary Intendancy trusts to receive from you, M. le Consul-Général, under these circumstances, that efficacious concurrence which has never yet been withheld from it.

Receive, &c.,

COLLUCCI BEY,

President of the General Intendancy.

No. 1, 9th January, 1867.

From—The Secretary of State for India,

To—His Excellency the Governor-General of India in Council.

In continuation of my Despatch, dated the 17th of December 1866, No. 113, I forward herewith further documents relating to the proceedings of the late Cholera Conference at Constantinople, *namely*, Protocols Nos. 30 and 31, and a Report on the march and mode of propagation of the cholera in the year 1865.

*See Annexure to Protocol
No. 23.*

INTERNATIONAL SANITARY CONFERENCE. MEETING
No. 30, OF THE 27TH OF AUGUST 1866.

H. E. SALIH EFFENDI, *Presiding.*

The International Sanitary Conference held its thirtieth meeting on the 27th August 1866, at Galata-Serai.

PRESENT :

For Austria :

M. Vetsera, Councillor of the Internonciature of His Imperial and Royal Majesty.

Dr. Sotto, Physician attached to the Imperial and Royal Internonciature, Director of the Austrian Hospital.

For Spain :

Dr. Monlau, Member of the Superior Council of Health of Spain.

For the Papal States :

Dr. Ignace Spadaro.

For France :

Count de Lallemand, Minister Plenipotentiary.

Dr. Fauvel, Sanitary Physician of France.

For Great Britain :

Dr. Goodeve, Surgeon-Major, Indian Army, Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to H. B. M.'s Embassy, British Delegate to the Superior Council of Health at Constantinople.

For Greece :

M. Kalergi, Secretary to the Legation of H. M. the King of the Hellenes.

Dr. G. A. Maccas, Chief Physician to the King, Clinical Professor in the University of Athens.

For Italy :

Professor Frederic Bosi.

Dr. G. Salvatori, Italian Delegate to the Superior Council of Health at Constantinople.

For the Netherlands :

M. Keun, Councillor to the Legation of H. M. the King of the Netherlands.

Dr. Millingen, Dutch Delegate to the Superior Council of Health at Constantinople.

For Persia :

Mirza Malkom Khan, Aide-de-Camp-General to H. M. the Shah, Councillor to His Legation.

Dr. Sawas Effendi, Inspector of Hygiene and Health at Constantinople, Persian Delegate to the Superior Council of Health.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargé d'Affaires.

Councillor Dr. Bernardino Antonio Gomez, Chief Physician to His Most Faithful Majesty.

For Prussia :

Baron Testa, Prussian Delegate to the Superior Council of Health.

Dr. Mühlig, Physician to the Legation, Principal Physician to the Ottoman Marine Hospital.

For Russia :

Dr. Lenz, Councillor of College, Attaché in the Russian Ministry of the Interior.

Dr. Bykow, Councillor of State, Assistant Military-Medical Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, Secretary to His Legation.

Dr. Baron Hübsch.

For Turkey :

H. E. Salih Effendi, Director of the Imperial School of Medicine at Constantinople, Chief of the Civil Medical Service.

Dr. Bartoletti, Inspector General of the Ottoman Sanitary Department, and Member of the Superior Council of Health at Constantinople.

(For Egypt :)

Dr. Salem Bey, Clinical and Pathological Professor in the School of Medicine at Cairo, Special Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

M. Fauvel commenced the reading of the report bearing the title : *Report on the measures to be adopted for the prevention of the renewed invasion of Europe by cholera* (annexure to minute No. 29), stopping at the conclusion of the first part of chapter I. of the preliminary questions.

M. Maccas asked permission to speak.

He concurred, he said, in the solution given to the question by the Committee; but, to his thinking, the question ought not to have been framed. It could not be interpreted otherwise than in the form of a dilemma or alternative: it was as if one were to say to another,—Which would you prefer to have, restrictive measures and no cholera, or no restrictive measures and expose yourself to the danger of an epidemic of cholera?

It was clear that, to put forward this alternative, two things ought to have been proved beforehand, *viz.*:—*1st*, that restrictive measures (quarantines) may efficaciously guarantee a country against cholera; *2nd*, that cholera may ravage a country in spite of all the hygienic measures, including disinfection, applied within its boundaries, if at the same time severe restrictive measures are not employed.

These two things being proved, M. Maccas said it would almost be insulting to a person to put this question, even though the losses occasioned by the quarantine system might be very heavy and greater even than the damage resulting from an invasion of cholera.

He believed that such a question was allowable in one case only, *viz.*, when a Government or a country could not be thoroughly convinced of the efficacy of quarantines, with respect to which they might be incredulous, or when they might be convinced of their excessive credulity in regard to the efficacy of hygienic measures, applied by themselves alone, and without having recourse to a quarantine system. Then only could the arguments employed be of any utility, and the question justified. And again, continued M. Maccas, they should have to assume a country subsisting only by commerce, a country in which a temporary interruption or diminution of its commerce would be considered as a disaster as great as the presence of the scourge itself. Such a country would not consent to such great sacrifices except in favor of measures of a nature adapted to guarantee it completely, but never in favor of measures promising only an imperfect guarantee.

But once the efficacy of restrictive measures was recognised and admitted, there was no longer, continued M. Maccas, any ground for hesitating at the damage which might be inflicted upon commerce.

However, the question being put, M. Maccas would wish to make it more complete by adding some words to make it understood that the damage caused to commerce by quarantines had been exaggerated. At the same time he would not establish any comparison between this damage and that resulting from an invasion by cholera.

Dr. Dickson took the opportunity of reminding the Conference that the question of damage, either by restrictive measures or by an invasion of cholera, was a purely relative question. There were countries which did not suffer at all commercially from the invasion. In those countries, in India for instance, and in England, restrictive measures would inflict much more injury upon commerce than cholera itself. But many other countries, under other circumstances, would suffer in their commercial transactions much more from cholera than from

restrictive measures. Dr. Dickson thought, therefore, that it was well that the question had been put and solved as had been done in the report, since it was incontestable that, in Europe especially, the solution of this question was of great interest.

M. Monlau thought the question was not one which ought to occupy the Sanitary Conference: it was rather within the province of a congress of economists. Besides, precise data were wanting.

M. Monlau would wish to know what were the *international relations* mentioned in the enunciation of the question. In connexion with this, he asked if the disadvantages of restrictive measures during a war or revolt, &c., had been properly weighed.

Finally, M. Monlau confessed he did not understand the reason which had induced the Committee to take for its starting point the absolute efficacy of restrictive measures,—an efficacy which, as the Committee itself had confessed, was only relative and very doubtful after the penetration of cholera into the basin of the Mediterranean.

M. de Lallemand explained briefly, in the interest of the discussion, what had passed in Committee in regard to this question.

Some members, he said, and M. Van Geus among others, thought they saw another question involved in this, *viz.*, that of quarantines. But it had been pointed out to them that the question under discussion pre-supposed the prior solution of that of the efficacy of quarantines. The Committee, therefore, starting with the hypothesis that if quarantines were properly applied they might form a preservative against a choleraic invasion, concluded that quarantine measures had some advantages and caused less damage than a choleraic epidemic.

M. de Lallemand pointed out also that, in the conclusion it was said that restrictive measures, made generally known beforehand and properly applied, were much less prejudicial to commerce and international relations than the disturbance occasioned to trade and commercial transactions by an invasion of cholera. It was clear, said M. de Lallemand, that all this rested upon the hypothesis of the efficacy of measures of quarantine being accepted beforehand, and solved in the affirmative.

Dr. Goodeve was of opinion that if Governments were convinced of the efficacy of restrictive measures, they would not hesitate to preserve their subjects from the scourge by adopting them, no matter at what pecuniary sacrifice. The chapter under discussion, Dr. Goodeve pointed out, did not enter upon the humanitarian question, but only upon that of the losses or benefits arising from restrictive measures considered in a commercial point of view. The Committee, he believed, had laid too much stress upon the losses caused during the prevalence of epidemics by commercial disturbances, and too little upon those caused by restrictive measures. The difference, he thought, depended upon many circumstances, and it might vary in different localities according to the importance of the commercial relations transferred on the one hand, and the duration of the restrictive measures on the

other. In some places commerce was altogether suspended during the existence of an epidemic, while in others it was not very much interrupted. No one would fancy that the commerce of Paris or of London could be affected to any extent, because cholera prevailed in either city. They would perhaps suffer a much heavier loss if they were subjected for some months to restrictive measures, as would happen if such measures were taken when cholera commenced to threaten them. Now, said Dr. Goodeve in conclusion, the question could not be really solved except by figures, which the Committee had not had at its disposal. In the absence of these, the conclusions arrived at, instead of being based upon facts, were simply the result of individual opinions. Dr. Goodeve finally said he was obliged, for want of information upon the subject, to abstain from voting upon the conclusion.

M. Fauvel pointed out the divergence of opinions among the speakers. From the various remarks and objections which had been made, it could be seen that no two of them looked at the question in the same point of view. Dr. Goodeve held an opinion differing from that of M. Maccas, and M. Monlau's differed from both.

To M. Maccas he (M. Fauvel) might reply by explaining to him, in the very words used by Dr. Goodeve, in what sense the question had been framed. In fact, Dr. Goodeve had caused it to be understood that, independently of the humanitarian question, the question, as put by the Committee, contained another point of higher importance, *viz.*, the damage and the prejudice caused to commerce by restrictive measures wherever they were employed. There were countries, Dr. Goodeve had said, which believed that a choleraic epidemic caused less damage than restrictive measures, and it was for that reason that they did not desire their application. This reasoning, continued M. Fauvel, had been held in England and elsewhere. Now it was upon this point that the question chiefly bore, seeing that it placed in the balance the prejudice caused to commerce by cholera and the prejudice arising from restrictive measures. But the question, M. Fauvel pointed out, also involved the consideration whether quarantines could cause other injuries, whether, for instance, they could increase misery and want, produce a scarcity of food, &c. All that proved that it was no mistake to treat of it.

With regard to M. Monlau's remarks, said M. Fauvel, they had been sufficiently refuted by M. de Lallemand, who had demonstrated that the Committee, having taken a hypothesis for its starting point had merely replied to this hypothesis.

The Committee, continued M. Fauvel, was far from believing in the absolute efficacy of restrictive measures. It merely regarded them as of relative efficacy, and it had been careful to recommend that useless measures should be proscribed. The whole question, he thought, consisted in knowing whether quarantines and restrictive measures in general caused more or less damage than the scourge itself. Dr. Goodeve and M. Van Geuns reasoned well, he thought, when they maintained that the application of restrictive measures would in certain countries be of no advantage. Holland and England were in this

class. At the same time he thought he found the explanation of the fact in the circumstance that these countries had suffered less than others from cholera,—less, for instance, than Marseilles and even Constantinople in the last epidemic. It might even be added that in these countries the efficacy of restrictive measures was not believed in, and nothing was considered but the injuries they caused. Elsewhere, in India for instance, people were accustomed to cholera, as Constantinople formerly was accustomed to the plague.

Finally, said M. Fauvel, it might be said, in reply to Dr. Goodeve, who believed that the Committee had not supported itself upon facts, and that it had only expressed an opinion that, in the absence of statistics, the balance it had set up rested on information furnished by competent persons, by merchants. Now, the opinion of the Committee could not be set aside, unless the contrary were to be demonstrated, and this had not been done.

M. Fauvel thought that the addition proposed by M. Maccas was altogether unnecessary, for the idea expressed by it might be found in the body of the report.

With regard to England, said Dr. Goodeve, if any certainty could be attached to the efficacy of restrictive measures, there would be no hesitation in applying them: every body would prefer to be subjected to them, rather than have cholera in the country.

There was no necessity, said M. Bykow, to declare that, as a member of the Committee, he completely shared the views of M. Fauvel. But he wished to say a few words in reply to M. Maccas, who, being opposed to the idea of comparison given out in the report, proposed a modification, where the same comparison existed. His modification, M. Rykow thought in no way changed the sense of the conclusion, and he therefore considered it superfluous.

At the request of several Delegates, His Excellency the President put to the vote the text and conclusion of the first part of chapter I. of the preliminary questions.

The Conference adopted them by a majority of 20 votes, none against.

For:—MM. Monlau, Spadaro, de Lallemand, Fauvel, Dickson, Kalergi, Maccas, Salvatori, Bosi, Mirza Malkom Khan, Sawas, Gomez, Testa, Mühlig, Lenz, Bykow, Hübsch, Stenensen, Bartoletti, and H. E. Salih Effendi.

Declined to vote:—M.M. Goodeve, Keun, and Millingen.

M. Fauvel continued the reading of the report as far as the half of page 9.

M. Bykow asked leave to speak:

He pointed out that it was said in the report that cholera threatens Russia by way of Nakhtshivan, although it ordinarily follows other routes. In order that this opinion expressed by the Committee should

not appear arbitrary, and in order to give it more consistency, he hastened to add that, in accordance with official information in his possession, cholera, which raged in Persia in 1845, manifested itself in the province of Kardaba in the month of September of the same year. Kardaba was contiguous to the district of Nakhshivan, so that it really menaced that province in 1846.

The report, said Mirza Malkom Khan, maintained that cholera came from Meshed to Bukharia. This route did not appear to him to be the most natural, considering that Bokhara was separated from Meshed by an almost insurmountable desert. Would it not be more natural, he asked, to make cholera go from Affghanistan into Bukharia in the same way that it enters Persia by the same route?

M. Sawas was of opinion that there was no want of precision in the report. He only thought it would be well to add something more precise, and he reserved to himself the right of doing so in another meeting.

M. Fauvel, in reply to Mirza Malkom Khan, reminded him that it was M. Polak, who was believed to be very well informed with regard to Persia, who had furnished the particulars regarding Meshed and Bukharia. According to M. Polak, relations between these two countries were not only possible, but they really existed, and there were even caravans going from one country to the other. However, said M. Fauvel, the Committee did not say that it was the only way by which cholera entered Bukharia. The report said in another place that in two epidemics cholera had penetrated into Bukharia from Affghanistan.

M. Testa, in support of M. Fauvel's opinion, quoted the recent work on Central Asia by an Englishman, where there was some mention of the caravans spoken of by M. Polak.

In spite of these arguments, Mirza Malkom Khan thought the matter somewhat difficult. He had heard of many travellers, who, after years of travel, had not been able to penetrate into Bukharia from that side. But it was very different from the side of Affghanistan, the identity of religion and other circumstances rendering relations and communication between Bokhara and Affghanistan matters of sufficient ease.

M. Keun begged to be permitted in his turn to make a remark or so on a phrase he had noticed in page 8 of the report, where it was said that Singapore at the extremity of the Malayan Peninsula deserved special attention.

M. Keun expressed his entire concurrence with the conclusion contained in this phrase, but he could not say as much for that of the passage which said—"Not only is Singapore a great commercial entrepôt, but by its constant relation with continental India, it appears to be also an entrepôt of cholera, &c."

M. Keun believed that to stigmatise Singapore as an entrepôt of cholera was too strong and even unjust. In the first place, he said, it was not by the commercial relations constantly existing between it and the Indian Peninsula that Singapore could be regarded as a dangerous

point. Notwithstanding these relations, Singapore was one of those localities of the Indian Peninsula more rarely attacked by cholera than others.

He (M. Keun) was of opinion that the most particular attention which the Conference should bring to bear upon Singapore arose solely from the fact that its port was the point of convergence for all the pilgrims of the Indian countries who came there to embark for the Hedjaz. In this point of view, said M. Keun, the danger that might be presented by Singapore certainly deserved serious consideration. But he believed that in this study it was necessary to take into consideration an important fact, *viz.*, that the minimum of the navigation between Singapore and the first port-of-call on the southern coast of Arabia was from 50 to 60 days, a period during which an epidemic of cholera contracted at Singapore would have run through its ordinary course, and would have had time to become extinct before the arrival of the ship at Jeddah. Was it not necessary then, asked M. Keun, to be assured that if the Arab ships which conveyed the pilgrims ships which, as was well known generally existed in the most deplorable hygienic conditions, and in which the pilgrims were huddled together in the most inhuman and thoughtless manner,—was it not necessary to be assured that these ships in their turn would not themselves become, owing to a long voyage under a burning sky, foci in which was originated the cholera carried to the Hedjaz? Was it not necessary, besides, to be assured that the southern ports of the Arabian Peninsula, which, it was known, were frequently visited by cholera, were not themselves, rather than Singapore, the sources whence ships arriving from India with pilgrims contracted the disease, which would be imported from them into the Hedjaz?

M. Keun expressed the fear that in giving to Singapore the terrible qualification of an entrepôt of cholera, too much of the attention of the Conference would be concentrated upon it, while it would be diverted from the other intermediate ports on the Arabian Coast, the normal sanitary condition of which was as yet but little known. He proposed for these reasons the elimination of the words "entrepôt of cholera."

M. Bartoletti thought that the report was properly expressed with regard to Singapore, and he could not share the opinion of M. Keun, who had almost as much as said that the pilgrims contracted cholera from Mokalla. M. Bartoletti pointed out that the vessels never made a direct passage from Singapore to Mokalla. Dutch official documents, as well as the reports of the Ottoman authorities, and especially these latter, clearly showed that the ships which left Singapore had brought cholera with them even while passing in another direction than Mokalla.

Dr. Dickson observed that the report laid too much stress on the importation of cholera into the Hedjaz by the direct route from Singapore. It appeared to him hardly probable that a voyage which lasted for at least 50 days in the open sea could disseminate cholera. In fact, said Dr. Dickson, the arrivals from Singapore which were mentioned as

having last year given the disease to the Hedjaz, had not manifested it until *after having put in* at some ports on the Arabian coast. On the other hand, Dr. Dickson believed that the real road followed by cholera in its transmissions from India *by the sea route*, was along the coast of Mekran, and that it never proceeded *direct*.

The direction of the first epidemic of cholera in 1821, said Dr. Dickson, was from India towards Muscat, where it arrived in the month of July. The starting point of the epidemic of 1865 was in two foci of emission, very distant from each other,—one was in Jeddah, and the other in India. The two currents, after a more or less considerable course, met on the coasts near Bushire,—this town notwithstanding remaining uninfected.

From India the disease advanced along Mekran, and found itself at the end of May at Minah, on the coast of the Persian Gulf, 60° East of Bender-Abbas. At that season the heat was so intense that the inhabitants were forced to abandon the town, which circumstance probably saved it, and arrested the march of the disease towards Bushire.

The other current, continued Dr. Dickson, left Macca, following the pilgrim track by Aneyzeh towards the capital of the Wahabees, named Der Rayah. Thence it proceeded in the direction of Jhara near Koneit, and afterwards to Shatt-el-Arab and Bassora.

M. Keun admitted the right possessed by every person to interpret facts as he understood them. Only he protested against the supposition that M. Bartoletti had imputed to him of making cholera come from Mokalla to Jeddah.

M. Bartoletti reminded him that ships which started from Singapore touched on the India coast. The choleraic germ might, therefore, in his opinion, remain latent in the ships until their arrival on the Arabian coast, for instance, where it might develop and communicate itself. He (M. Bartoletti) was of the opinion of Dr. Dickson who had said that cholera might come *via* the Arabian coast.

Dr. Goodeve could not conceal his surprise that the report should state that Singapore was considered as an entrepôt of cholera. He believed, on the contrary, that it was a place where cholera appeared only in an epidemic form, and that not frequently. He thought that very great stress had been laid upon the assumption that Singapore was a source of cholera for the Hedjaz. Now, it could in no way whatever be considered as a great focus for the maritime exportation of cholera; and considering its distance, which could not be traversed in less than 50 or 60 days, it could not be very compromising to the Hedjaz. Dr. Goodeve did not mean to revert to what had been said relative to the choleraic importation from Singapore in 1865, he confined himself to saying that it was not at all proved, and that it was not even probable that cholera had come from Singapore to the Hedjaz. In connection with this, he was glad to see that the Committee also, in a passage in its report, admitted that the direct importation had not been strictly demonstrated.

Regarding what was said in the same place in the report, that the embarkation of the pilgrims was effected under the most deplorable conditions, Dr. Goodeve was bound to remark that it was only a part of the pilgrims who embarked under such conditions, *viz.*, those who performed the voyage in ships carrying the Turkish flag; but those who embarked on board English ships, and who were controlled by the provisions of the Native Passengers' Act, travelled in very good condition. Out of 16 ships which in 1865 arrived in the Hedjaz from Singapore, 10 carried the English flag, and six only the Turkish flag.

M. Fauvel, in reply to the observations of M. Keun, reminded him that all that was contained in the report relative to Singapore has been furnished chiefly by M. Van Geuns. It was from this information especially that Singapore had come to be regarded as a choleraic radiating point. In fact, continued M. Fauvel, Singapore had been represented by M. Van Geuns as the point of reunion for Indian pilgrims coming from various places, even from Bengal. He thought, moreover, that it was from this point last year that those ships started which suffered most severely during their voyage from the disease.

Regarding the remarks made by Dr. Goodeve about the deplorable conditions of the embarkation of the pilgrims, M. Fauvel pointed out that the report did not say that the embarkation was effected on board ships carrying the English flag. And indeed care had been taken to say, in other parts of the report, that the Turkish flag was made use of in order to evade the provisions of the Native Passengers' Act, of which Dr. Goodeve had spoken. Now these ships, continued M. Fauvel, amounted to a very considerable number, almost as great as those carrying the English flag. In many places in the report also all that Dr. Dickson had said would be found almost exactly the same in substance, though in different terms, even with regard to Muscat. Dr. Dickson, therefore, was quite of the same opinion as the Committee, unless he wished to deny the possibility of the importation of cholera from India into the Red Sea.

M. Bartoletti confirmed the fact quoted by Dr. Goodeve in regard to the 16 ships, of which 10 carried the English, and 6 the Turkish flag. But he pointed out that, according to information furnished by M. Millingen, ten thousand Javanese pilgrims embarked last year at Singapore, without including in this number those pilgrims who were not Dutch subjects. All this, M. Bartoletti thought, might give an idea of the number of ships starting from Singapore, and of the conditions in which the embarkation of the pilgrims was effected. The conditions were altogether exceptional which made Singapore a commercial entrepôt, and at the same time an entrepôt of disease. M. Bartoletti concluded by saying that if it had not been demonstrated, it was at any rate very probable that cholera was imported last year from Singapore into the Hedjaz.

M. Fauvel wanted to know how it was possible to reconcile the fact of only 16 ships and of 10,000 Javanese pilgrims, exclusive of other than Dutch subjects, having left and embarked at Singapore last

year. These ships, observed M. Fauvel, could have conveyed only a portion of the pilgrims, and consequently the remainder must have been embarked in ships of which no mention was made.

One of these documents, said M. Keun, handed by the Dutch Delegates to the second Committee, was the report of M. Bougaret, received from Jeddah, regarding the condition of the Javanese pilgrims who last year proceeded to the Hedjaz. In this report mention was made of about 3,000 of these unhappy pilgrims who perished in the desert on their way from Medina to Mecca. M. Bougaret also spoke of 800 passports which were shown at Jeddah on the return of the Javanese pilgrims. He mentioned, too, that the denomination of Javanese was given indiscriminately to all the pilgrims from the peninsula of Malacca and the districts independent of Dutch authority. According to the same report, said M. Keun, the figures given did not amount altogether to more than 3,800.

M. Millingen pointed out that some confusion existed in the dates between 1864 and 1865. The report of the Consul mentioned by M. Keun related to the year 1864.

M. Bartoletti considered that this frightful mortality was almost impossible. He could scarcely understand that 3,000 deaths occurred out of a total of 3,800.

At the request of several Delegates, His Excellency the President put to the vote the second part of chapter I, as far as the half of page 9.

It was adopted unanimously.

M. Fauvel read the conclusion of the second part of the 1st chapter of preliminary questions.

M. Keun asked to be allowed to speak.

His intention, he said, being to vote in favor of the text and conclusion of this chapter, he thought it his duty to justify the apparent contradiction which might be urged against him, since he had already voted against the first part of the same chapter.

M. Keun had thought that, in concluding in favor of a general application of quarantine measures, sufficient account had not been made of the respective position of each country so as to establish the balance of the advantages each might draw from them, and of the more or less disastrous consequences which restrictive measures might exercise on the commerce and industry of each. He thought the conclusion on this point was too general.

It was incontestable, in M. Keun's opinion, that in regard to the ports of the Mediterranean, where it was possible to apply these measures with precision, they ought to override every consideration regarding damage and loss to commerce, but the ports of the northern countries were far from being similarly circumstanced.

In the Netherlands, for instance, what result could be hoped for from the efficacy of measures of quarantine? The country, in this

matter, was entirely dependent on what took place in France and Germany. In the event of the invasion of these two countries by a choleraic epidemic, what measures of quarantine could be adopted to prevent the extension of the disease to their frontiers. Every species of quarantine which might be established even to the detriment of the commerce and trade of the Netherlands, would, it is quite self-evident, be insufficient and ineffectual to preserve that country. It must not be forgotten that the Conference had always set a very slight value on sanitary cordons.

The Government of the Netherlands, continued M. Keun, had this year instituted, at the time when cholera, passing from France into Belgium, was menacing the Netherlands, a medical commission whose duty it was to find the means of establishing a barrier against the invasion of the scourge. After great research and consideration, they were compelled to admit that success was impossible, and that the country must of necessity resign itself to the probable eventuality of an invasion.

This was why, said M. Keun, he had thought it his duty to concur in the first conclusion, but the aspect of the question underwent a complete change when the matter in hand was to oppose an invasion by means of quarantine measures adopted in the localities in closest proximity to the primitive focus.

The efficacy of these measures, such as they were recommended in the report, could not, he thought, be commented upon.

Before concluding, M. Keun wished to point out that the Committee would have done better not to have expressed the discouraging doubt, to be found at page 10 of the report, regarding the measures of quarantine which the Persian Government ought to take at Herat and in the Persian Gulf with the object of arresting the invasion of cholera by land. Judging from all that he knew about Persia, M. Keun was induced to believe that the Government of that country displayed the most laudable disposition, and did all in its power to enter upon the path of reform, so as to participate, as much as possible, in the European union. Thanks, not only to the elevated mind of the Sovereign, but also to the elevated sentiments of his ministers and functionaries, many improvements had already been realised in Persia: and so steadily does she now march forward in the road of progress, that she would receive favorably and with eagerness the wishes of a Conference in which she was worthily represented. Consequently, M. Keun believed that it would be preferable to substitute for the doubt the wish that the Persian Government, in the interests of its people and in those of all Europe, would organise a sanitary administration in its territories as complete and perfect as possible, and that it should be the duty of this administration to look actively and intelligently after the accomplishment of the sanitary measures developed in the report.

Mirza Malkom Khan, after having done justice to the importance of the report under discussion in the double point of view of a good

style, and the efforts made in it to study the situation of Persia in regard to cholera, confessed that Persia did, in fact, play a great part in the dissemination of the scourge, for she propagated it in two ways—by the Persian Gulf, and by land.

At the same time, he remarked, the Persian Government, even with the greatest goodwill, could arrest the march of cholera on one side only, towards the eastern frontier. There it could act energetically, and it would be in a position to set up a formidable barrier against it. And Mirza Malkom Khan would therefore wish the report to express itself more energetically in this respect, and insist more strongly than it had done on the measures which it was incumbent on the Persian Government to take on that side of the empire. It would be well if the report would clearly and distinctly indicate these measures.

M. Sawas thanked M. Keun for having anticipated him, and for having very well said, what he had himself said on many occasions, *viz.*, that His Majesty the Shah receded before no sacrifice in order to place his country in the path of European progress and civilization.

M. de Lallemand approved of Mirza Malkom Khan's observations. He would also wish, as proposed by M. Keun, that the report, to be more precise and to soothe the just susceptibility of the friends of Persia instead of expressing a discouraging doubt regarding the Persian Government, should address an exhortation to its goodwill.

In conformity with this view, M. de Lallemand moved the following modification in the last part of the paragraph regarding Persia:—

"It is therefore of the greatest importance that Europe should impress upon the Government of His Majesty the Shah of Persia the importance of establishing on its eastern frontiers efficacious barriers against the invasion of cholera, it being assisted by all possible means in doing so."

M. Fauvel thought the modification good, and seconded the motion.

The Conference concurred. The modification was adopted.

Mirza Malkom Khan also proposed the suppression of the entire passage relating to the Imam of Muscat. Mirza Malkom Khan asserted that the Imam had no claim upon the important port of Bundar-Abbas.

M. Millingen replied that the Imam, on the contrary, was everything in the Persian Gulf, for he possessed the key to it.

A discussion upon the subject ensued between several Delegates, some maintaining that the authority of the Imam was only limited, and others that he ruled as its master all the shipping of the Persian Gulf.

M. Steursen said the debate did not lead to any definite result, but the opinion of the Persian Delegates who admitted that the Imam possessed the authority attributed to him ought to prevail, and should

decide the Conference, which possessed the power of eliminating from the report the three lines referring to the Imam.

The Conference thought it sufficient to record their declaration in the minutes.

Dr. Goodeve wished to express his opinion upon the passage relating to the Punjab. It was said in the report that very much might be expected from a precautionary system organised in the Punjab itself by the British Government. Dr. Goodeve thought it was impossible to imagine a position more difficult to be guarded than the Punjab by a sanitary cordon. An extensive frontier, bounded by hills and mountains, and occupied by wild and barbarous or scarcely settled tribes, who were frequently up in arms, presented, he thought, a number of almost unconquerable difficulties. These difficulties were calculated to prevent good results, even though the work should be done with the greatest goodwill.

Regarding the question of Bab-el-mandeb and the question of Egypt, Dr. Goodeve proposed to revert to them when they again came under discussion. He would say nothing about them at that moment.

M. Bartoletti stopped for an instant at the question of the sanitary department on the Ottoman frontier, spoken of in page 11 of the report. He confessed that this department had never worked so continuously and regularly as it should, if the rules framed by the sanitary administration had been observed. But he added that the department, even such as it was, might be very useful on the land side. He pointed out also that besides the localities mentioned in the report, there were many others which were watched, even in the defiles.

At the request of the Conference, the President called for the votes of the Delegates upon the second part of the 1st chapter.

It was accepted by a majority of 23 votes, none against.

For :—MM. Sotto, Monlau, de Lallemand, Fauvel, Goodeve (under reserve), Dickson, Kalergi, Maccas, Bosi, Salvatori, Keun, Millingen (under reserve), Mirza Malkom Khan, Sawas, Pinto de Sevel, Gomez, Mühlig, Lenz, Bykow, Stenersen, Hübsch, Bartoletti, and Salem Bey (under reserve).

H. E. the President put the conclusion of the second part of the 1st chapter to the vote.

It was adopted unanimously.

M. Fauvel read the 2nd chapter: Measures to be taken in India,
III.

With regard to the expression *invading cholera*, Dr. Goodeve said, he did not perceive any difference between the *invading cholera* of the present day, and that which has from all time existed in India. Its diffusion, to his thinking, was not due to a new quality acquired by cholera, but simply to circumstances favorable to its progress.

Regarding what was said in the report at page 19, it was his bounden duty, Dr. Goodeve said, to declare that the Government of

India looked as anxiously after the welfare of the Native population as of Her Britannic Majesty's troops; and that it took as deep an interest as could be felt in the sanitary condition of the Natives, simply for their own benefit. That, said Dr. Goodeve, was clearly shown in the instructions given to the permanent sanitary commissions.

M. Sotto was convinced that the Committee had never thought of imputing to the British Government the reproach of only looking after the health of its troops and not caring for that of the Natives. M. Sotto reminded Dr. Goodeve that he himself had, in one of the sittings of the Committee, confessed that it was very difficult in India to put in practice those sanitary improvements which were admitted to be indispensable on account of the resistance of the Hindoos, whose prejudices stood in the way of the execution of any novel measure. M. Sotto believed that that was the idea of the Committee.

M. de Lallemand spoke to the same purport as M. Sotto. But the important question, in the opinion of the Committee, was, he thought, to make every body participate in the benefits of sanitary improvements; and to this it had invited the attention of the British Government.

As for the expression *invading cholera*, said M. de Lallemand, the discussion of the general report had given its definition by laying down exactly the meaning attached to it by the Committee, *viz.*, that cholera has, since 1817, assumed an expansive, progressive and invading character which it did not possess before that period.

M. Bykow added that an instance even had been given in the general report to demonstrate that since 1817 cholera had assumed a new character,—an invading march which it did not possess before.

M. Fauvel thought it was unnecessary that he should say anything in refutation of Dr. Goodeve's remarks. MM. Sotto and de Lallemand had anticipated him, and their remarks, he thought, were quite sufficient.

In compliance with the general request, His Excellency the President called for a division upon the text and conclusion of the third part of the 2nd chapter, both of which were adopted unanimously.

Votes:—MM. Sotto, Monlau, de Lallemand, Fauvel, Goodeve, Dickson, Maccas, Kalergi, Salvatori, Bosi, Sawas, Gomez, Lenz, Bykow, Stenersen, de Hübsch, Bartoletti, Salih Effendi.

The meeting terminated at 4-30 P. M.

Order of the day for the next meeting.

Continuation of the discussion of the report on the measures to be taken in the East.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE, }
DR. NARANZI, } *Secretaries.*

INTERNATIONAL SANITARY CONFERENCE. MEETING
No. 31, OF THE 30TH AUGUST 1866.

HIS EXCELLENCY SALIH EFFENDI, *Presiding.*

The International Sanitary Conference held its thirty-first meeting at Galata-Serai on the 30th August 1866.

PRESENT:

For Austria:

M. Vetsera, Councillor to the Internonciature of His Imperial and Royal Majesty.

Dr. Sotto, Physician attached to the Imperial and Royal Internonciature, Director of the Austrian Hospital.

For Belgium:

Count de Noidans, Secretary to the Legation of His Majesty the King of the Belgians.

For Spain:

Don Antonio Maria Sagovia, Consul-General, Chargé d'Affaires.

For France:

Count de Lallemand, Minister Plenipotentiary.

Dr. Fauvel, Sanitary Physician.

For Great Britain:

Dr. Goodeve, Surgeon-Major, Indian Army, Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to Her Britannic Majesty's Embassy, British Delegate to the Superior Council of Health at Constantinople.

For Greece:

M. Kalergi, Secretary to the Legation of His Majesty the King of the Hellenes.

Dr. G. A. Maccas, Chief Physician to the King, Clinical Professor in the University of Athens.

For Italy:

M. A. Vernoni, Chief Interpreter to the Legation of His Majesty the King of Italy.

Professor Frederic Bosi.

Dr. G. Salvatori, Italian Delegate to the Superior Council of Health at Constantinople.

For the Netherlands:

M. Keun, Councillor to the Legation of His Majesty the King of the Netherlands.

Dr. Millingen, Dutch Delegate to the Superior Council of Health at Constantinople.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargé d'Affaires.

Councillor Dr. Benardino Antonio Gomez, Chief Physician to His Most Faithful Majesty.

For Prussia :

Baron Testa, Prussian Delegate to the Superior Council of Health.

Dr. Müblig, Physician to the Legation, Chief Physician to the Ottoman Marine Hospital.

For Russia :

Dr. Pelikan, Councillor of State, Director of the Russian Civil Medical Department.

Dr. Bykow, Councillor of State, Assistant Medical Military Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, Secretary to His Legation.

Dr. Baron Hübsch.

For Turkey :

H. E. Salih Effendi, Director of the Imperial School of Medicine at Constantinople, Chief of the Civil Medical Department.

Dr. Bartoletti, Inspector General of the Ottoman Sanitary Department, Member of the Superior Council of Health at Constantinople.

(For Egypt :)

Dr. Salem Bey, Clinical and Pathological Professor in the School of Medicine at Cairo, Special Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

The meeting commenced at noon.

The minutes of the 29th meeting were read by the Baron de Collongue, and adopted, with a few amendments.

His Excellency Salih Effendi read a letter in which Dr. Lenz announced that he was compelled to return to St. Petersburg, and expressed his regret at his inability to continue to share in the labors of the Conference.

M. Segovia regretted that the state of his health did not permit him to attend at the last meeting, and therefore to assist in the discussion of the 2nd section of the report of the 3rd Committee. This chapter contained certain particulars regarding the town of Singapore, which he (M. Segovia) who had lived in that town for many years, did

not think were quite correct; and notably, for instance, it was wrongly represented as an entrepôt of cholera and as one of the great foci of its maritime exportation. During the whole period of his stay in the town, M. Segovia had never seen cholera assume the epidemic form. Ships with cholera patients on board sometimes arrived in port, but not so frequently as to make it necessary to establish a special cholera hospital, as had been done, for instance, for lepers. Persons suffering from cholera were conveyed to the ordinary hospitals, and, whether from the effects of the climate, or for some other reason, it was even said that the number of those who were discharged cured was relatively considerable. M. Segovia said that the estimated number (eight to ten thousand) of Mussulman pilgrims who came to Singapore every year on their way to Mecca was exaggerated. He also begged the Conference to remember that Singapore had no port, but a magnificent roadstead, surrounded with islands, some of which were as large as the island on which the town itself was built; that the three straits, those leading to the China Sea, the Sonda Straits, and the Straits of Malacca, by which the bay was entered, formed currents, the action of which, combined with that of the tides kept the water in good condition; in the third place, that there was bottom enough to afford an anchorage of such extent that M. Segovia had seen as many as five hundred ships anchored at a time in the roadstead, and yet there was no crowding. As for the climate, it was comparatively healthy, and it could be dangerous to European constitutions merely on account of the heat. At the same time, however, Europeans could live much longer at Singapore than they could do in most Indian towns.

Dr. Fauvel, in reply to M. Segovia, said that perhaps there had been no choleraic epidemic at Singapore during his stay there, but that it was quite certain that cholera had raged there since then, and notably in 1864. In regard to the number of pilgrims who came to Singapore for the purpose of embarking, which seemed to M. Segovia to have been exaggerated, the Committee had taken it from Dutch statistical documents. These pilgrims, who came, not only from the Dutch possessions, but from the entire Malayan Peninsula and from Bengal, frequently carried cholera with them, and they afterwards took it with them when they again embarked in the vessels which were to carry them to the Red Sea. Dr. Fauvel believed that the use of the word "*entrepôt*" in the report was, therefore, fully justified. He had besides never disputed the salubrity of the climate of Singapore: the report merely mentioned the miserable and deplorable condition in which the pilgrims embarked; now, it was proved by official documents communicated to the Committee, that there was overcrowding on board the ships, where, if the expression might be used, the shipping crimps piled the pilgrims one upon the other. These remarks having been listened to, the Conference resumed the discussion of the report, where it had been interrupted at the termination of the last meeting, *viz.*, the 4th section of the 2nd chapter.

Dr. Gomez thought great good would result from the permit, the kind of passport, or *teskereh*, which the Committee proposed to require

from pilgrims, and which would be delivered only to those who would have proved themselves to be in possession of the means of supplying their necessities. Without mentioning the advantage of keeping off the poor, who were the most to be dreaded in the point of view of the transmission of cholera on account of the bad hygienic conditions in which they travelled, the number of the pilgrims might be known in this way, their state of health might be verified, and these particulars might be transmitted to the places situated on the route of the pilgrims, with a view to the necessary precautions being taken beforehand. These *teskerehs* might also become a source of revenue from which the expenditure, occasioned by the pilgrimage, maintenance of the pilgrims, relief, &c., might be met.

Dr. Salem Bey admitted the utility of the *teskerehs* as a precautionary measure, but he did not believe in the possibility of deriving any revenue from them.

Dr. Goodeve would have wished that mention had been made in the report of the very useful assistance given to the Government by the Sanitary Commissions of the Presidencies of Madras and Bombay, since the first attempts were made in those provinces at measures of the hygiene applied to pilgrimages. Mr. Montgomery, who was a member and secretary of the Madras Sanitary Commission, attributed to Mr. Kingsley, at the time apothecary at Conjeveram, the honor of having suggested the idea of taking hygienic measures in that station during the pilgrimage.

Dr. Goodeve, who had furnished the Committee with the particulars it had given regarding the number of pilgrims who visited the places of pilgrimage in Bombay in 1865, pointed out, on the other hand, an error in figures in these particulars. The number of pilgrims did not vary between 2,000 and 50,000, but rather between 2,000 and 100,000; as many as 100,000 pilgrims were counted in three places. Dr. Goodeve declared finally that he did not admit the possibility of requiring a *teskereh* from the pilgrims, and that he would, therefore, refrain from voting in favor of this portion of the conclusions of the Committee.

Dr. Bartoletti reminded the Conference that the Ottoman Medical Mission sent this year to the Hedjaz had adopted measures analogous to those which had been applied in the Presidencies of Madras and Bombay. Considering the good results obtained at Mecca, he did not hesitate to support the conclusions of the report.

In the opinion of Dr. Mühlig, the Committee would not be sufficiently affirmative in saying that it did not think that the quarantine of observation of 48 hours, which was imposed by the Government of Bombay on pilgrims having cholera among them, before permitting them to enter a town, was a sufficient precaution: the measure was clearly altogether illusory.

The 4th section was put to the vote, and adopted unanimously, text and conclusion, Dr. Goodeve voting under reserve with regard to the first part of the conclusion.

The 5th section (chapter II) was then read.

Singapore being one of the places at which the establishment of a sanitary department was recommended by the Committee, M. Segovia admitted the utility of such an establishment, but at the same time he would not admit that it was more indispensable there than elsewhere. The number of passengers who embarked at Singapore was less considerable than the Committee believed. Many of them came from the Dutch possessions as well as from the Celebes, but very few from the Malayan Peninsula. As for the Indian pilgrims, a glance at the map was sufficient to show that they could not go to Singapore for the purpose of embarking without making a most unnecessary détour.

Dr. Goodeve would ask how it could be explained that English captains could (as was said in the report) have evaded the provisions of the Act of 1858, when they went to Jeddah. There was an English consul at that port, whose duty it was to see that the rules were carried out, and that the captains should not escape any of the consequences entailed by their infringement. Dr. Goodeve did not think it was satisfactorily proved that it was so with the two ships mentioned in the report—the *North-Wind* and the *Persia*. It was said that there were 632 passengers on board of one, and 530 on board the other, of these two ships; but it should not be lost sight of that these figures included the crews. Now, it appeared from a report of the English consul at Jeddah that the *North-Wind* had a crew of 79 men, and the *Persia* 37, reducing the number of passengers on board the former to 553, and to 493 on board the latter. As a vessel might, moreover, under the terms of the Act of 1858, embark a man to each registered ton and a half, crew and passengers included, the *North-Wind* and the *Persia* would, judging from that, be vessels of 948 and 795 tons respectively, an amount of tonnage in no way extraordinary. In regard to the *Sydney*, which was also mentioned in the report, it should be taken into consideration that this ship had, it might be said, been taken possession of forcibly by the fugitives: it was a case of *vis major*.

With respect to the *teskerehs*, Dr. Goodeve found it difficult to believe that the idea could seriously be entertained of rendering them obligatory in India as they were in the Dutch colonies, and especially, that the measures had all the advantages supposed to attach to it. All that the Dutch pilgrims gained by it was to be fleeced on their arrival at Mecca: in a short time nothing remained to them, and frequently indeed, as was seen from a report of the Dutch consul at Singapore, they were forced to sell their liberty temporarily in order to gain the money necessary to carry them home.

Dr. Salem Bey remarked that it was possible that the provisions of the Native Passengers' Act were properly carried out in English ports, but they were certainly not so elsewhere. In 1865, the English ships which conveyed the pilgrims from Jeddah to Suez were overcrowded, not because the pilgrims had forcibly seized upon them, but simply because these ships used all the means in their power to out-do the vessels of the *Azizish* Company. This year, when stricter watch

was kept, it frequently happened that, at the moment of departure, it was necessary to insist upon the landing of hundreds of passengers.

Dr. Bartoletti added that a precise calculation could not be made of the number of passengers a ship could carry by taking a proportion to its nominal tonnage. It should not be forgotten that the vessels did not carry pilgrims alone, but merchandise also, such as rice, cereals, &c. It was to be desired that the Native Passengers' Act should be observed everywhere, and notably in the Red Sea; but, as a matter of fact, it was not so observed, and its provisions were not always applied even on board English vessels. Competition almost always caused the regulated number to be exceeded. One of the physicians of the Ottoman mission had this year seen an English ship coming from Yambo on board which there was such a number of pilgrims that it was necessary to raise a second stage on the deck to receive them.

Dr. Millingen remarked, with reference to *teskerehs*, and the difficulty there would be, according to Dr. Goodeve, in rendering them obligatory, that there was nothing in that in opposition to the prescriptions of the religious law of the Mahomedans. Mahomed himself imposed the pilgrimage only on those who were in a condition to undertake the journey to Mecca. Now, the three most celebrated Imams of the Mahomedan law explained as follows what Mahomed meant by "being in a condition to undertake the journey." Shafi believed that the prophet alluded to the provisions and even the conveyance necessary for the pilgrims; Malek, that he meant the health of body and the pecuniary resources of which the pilgrim stood in need to defray the expenses of the journey; and Abu Khanifeh, that the prophet meant provisions and also health. In the Dutch possessions it was required that those who desired to undertake the pilgrimage should show that they possessed the means of doing so, but many evaded the requisition and proceeded to Singapore, where all they had to do was to pay the price of the voyage.

Dr. Millingen then read the following extracts from a despatch from the Dutch consul to His Excellency the Minister for Foreign Affairs at the Hague, under date the 14th March 1866. The particulars contained in this despatch had been often before quoted during the course of the labors of the Conference; and as they were interesting in connection with the question under discussion just then, it was decided, on the motion of Dr. Salem Bey, that the extracts read by Dr. Millingen should be reproduced *in extenso* in the minutes:—

"..... There is no doubt that the appearance of cholera in Arabia
" must be partly attributed to the voyages of the pilgrims who proceed
" to that country, and who are not all subjects of Netherlands India,
" but also natives of this place, of Malacca, Sarawak, Johore, Padang,
" Mwar, and all the small free states of the Malayan peninsula. All
" these pilgrims arrive here on board ships or small vessels, and
" stay here waiting for the first favorable opportunity to undertake the
" holy voyage

"The voyage is at length about to be undertaken. The sheikhs have sought and found the means of embarking. If the voyage is undertaken on board English ships, every thing usually goes on pretty well, the law not permitting ships under the British flag to take on board more than two passengers per ton, and the Government here not allowing a ship to leave port until it has been visited by Lloyds' experts, who have to see that the ventilation is good and that the vessel is supplied with a sufficient quantity of drinking water. Each pilgrim takes with him his provision of rice. For women, who all remain aft in the cabin, the passage-money is \$18, and for men \$12, 13, or 16 accordingly as they possess one, two, or three boxes of baggage. Usually, however, Turkish and Arab ships are to be found here not subjected to the law, and which are preferred to English ships by the pilgrims, because the crescent, the symbol of their faith, floats over them. These ships are generally and almost always European-built vessels, but condemned as unseaworthy and in such bad condition that no Company in the world would consent to insure them. The only thing to excite surprise is that even one of these ships arrives safely at the end of her voyage, and there is all the more reason for surprise in as much as they are commanded by Arabs, who, generally speaking, are better qualified to chant verses from the Koran than to command a ship. On board these ships, the passengers are crowded together in a manner that seems inhuman; their number is double what is allowed by the English law, and the pilgrims are left to their own resources for shelter, while no sort of precaution is taken to ensure good ventilation or the provision of things necessary during the voyage. The sole care of the owners is that there should be a stock of rice on board, in order to be able to sell it at usurious prices to the pilgrims whose own stock has run out ... It is known that in 1864 cholera raged more or less intensely at Java and at this place, and the information I have collected has proved to me clearly that natives suffering from the disease, or convalescent, have been embarked in that condition. It was not difficult to foresee the consequences. What a fertile field for a contagious disease! filthy passengers, huddled together like sheep, without the necessary ventilation, in an unseaworthy and sometimes even a leaky ship, and all this under the burning rays of a tropical sun! It is not a matter of surprise that cholera should spread under such conditions, and that some of these pilgrim-ships should be considered as pestilential sinks, communicating the disease to every place where their human cargo lands. Nothing can give an idea of the filth on board; the stench is so intense that I could mention instances where the commanders of other vessels, on account of the tainted odour exhaling from these pilgrim-ships, have been obliged to weigh anchor and remove to another spot, where they would not be to windward of them and where they could inhale pure air. ...

"..... Measures, however, could be adopted against overcrowding on board these pilgrim-ships. Those nations which possess ships in these seas might frame a law similar to the English, and direct their consuls

“to apply its provisions with strictness. For my own part, I should be sincerely glad to protect the pilgrims. In the same way measures might also be adopted to secure good ventilation, and to assign this duty to the agents of Lloyd or Veritas. But these laws should especially be made by the Ottoman Government, for the majority of the pilgrim-ships sail under the Turkish flag, and so long as they are permitted to crowd their decks with passengers as if they were bales of goods or sheep, all the Dutch and English laws will only end in the substitution of Turkish ships for vessels of these nations. The Ottoman Government ought then also to appoint a consul here who would have both the will and the power of maintaining the rules. It would be necessary to select an energetic European who would not regard the post as a sinecure, and one who would be independent of the situation and above venality; one, in short, who would have the health and fate of the pilgrims really at heart.....

READ.”

Dr. Salem Bey and His Excellency Salih Effendi reverted to the various ways of interpreting the prescriptions of the religious law in regard to the conditions in which a man must be to be or not to be in a fit state to undertake the pilgrimage. Dr. Salem Bey completed the information given by Dr Millingen thus:—The Imams Abu-Hanifa and Shafi required that the intending hajji should possess the means, not only of meeting the expenses of the journey, but also for the maintenance of his family during his absence: to these conditions Abu-Hanifa added bodily health. According to the Imam Malek, it was sufficient, on the contrary, to be in possession of bodily health in order to undertake the pilgrimage. Dr. Salem Bey believed that the delivery of teskerehs would be possible in certain countries, but very difficult in others, in precise proportion to the different modes of interpreting the Koran. There can be no doubt, for instance, that the Mahomedans of the sect of the Imam Malek would only submit to this formality with great difficulty.

Dr. Mühlig was in possession of particulars confirmatory of what had been said by Dr. Bartoletti regarding overcrowding on board the English ships by which the pilgrims were carried this year. It was to be wished that the Native Passengers' Act was better observed, and that it could be so everywhere.

Dr. Mühlig, whom his colleague M. de Krause had begged to explain his ideas relative to the precautionary measures to be taken in India with regard to the pilgrims leaving for Mecca, believed that the moment had come to do so. M. de Krause thought it would be indispensable that these pilgrims should be subjected, before their embarkation, to a quarantine of observation; but these were questions of an excessively delicate nature, the solution of which belonged exclusively to the Governments interested.

Dr. Fauvel said that, except with regard to one point, he had nothing to add to the considerations that had been put forward, and

which formed a sufficient reply to Dr. Goodeve's remarks. It might be that the pilgrims from the Dutch possessions were fleeced at Mecca, for this reason, if for no other, that their Government required that they should possess the necessary funds for the journey.

But this was a question of police, with which they could not deal, and it could not be shaped into an argument against the utility of teskerehs. In a sanitary point of view, it was evident that those pilgrims, who had money enough to provide for their necessities, existed in better hygienic conditions.

Section 5 was put to the vote, text and conclusion, and adopted unanimously; Dr. Goodeve voting under reserve with regard to some points mentioned by him.

The Secretary read clause A. of section 6, chapter III.

Count de Lallemand announced that, since the termination of the labors of the Committee, he had received from his Government precise particulars regarding the localities mentioned in the report as being adapted for a sanitary establishment at the entrance of the Red Sea. It appeared from these particulars, which were furnished by an officer of the Imperial marine possessing a profound knowledge of those parts, and which had been communicated besides to the Conference at its last meeting, that Bab-el-Mandeb ought to be struck out of the list on account of its bad anchorage in certain winds. Good anchorage could be obtained only at Kamaran or Obok.

Dr. Salem Bey mentioned that the Egyptian Sanitary Intendancy, which had made a lengthened study of the question, gave the preference to Moka.

Count de Lallemand objected that to choose a locality within the Red Sea would augment the difficulty. If this were done, it would be necessary to have two establishments, one at the entrance of the Red Sea where the ships would be visited, and a second, to which those ships whose sanitary condition was found to be dangerous would be sent. It would be preferable to have but one establishment at the entrance of the Red Sea: surveillance would then be rendered more easy, and would not be so easily avoided by ships.

While he recognised the merit of the manner in which the Committee had acquitted itself of its extremely difficult task, Dr. Goodeve said he could not altogether agree with it. Count de Lallemand had just pointed out the insufficiency of the anchorage at Bab-el-Mandeb, but there was another consideration which rendered the creation of a sanitary establishment very difficult. Were not the attacks of the independent Arab tribes to be dreaded, and would it not be necessary to erect fortifications and maintain a garrison at Aden for the defence of the lazaretto? Dr. Goodeve was of opinion that it would be preferable to have a place more to the north, Kamaran, for instance. He added that he did not know whether his Government would consent to the establishment of the survey station at Perim. However, leaving aside the question of possibility, Dr. Goodeve expressed his doubts as to the efficacy of

the proposed measure. Large ships might, indeed, be stopped, but in regard to the smaller barques which were more dangerous in the point of view of the transmission of cholera, would it be possible to prevent them from passing, if only at night, in spite of strict watch and ward? The large ships that passed through the Straits proceeded to Suez or the ports of the Hedjaz. It would be as efficacious and less troublesome to them, if they were directed to some island on the Arabian coast, where they could undergo survey, and where, if necessary, they could be kept in quarantine, and where a *visa* could be delivered to them, without which they should not be admitted into any port in the Red Sea. For ships bound to Suez, why should they not be surveyed in the neighbourhood of that port? As the maintenance of the survey station at Perim did not at the same time dispense with the maintenance of lazarettos in the ports of the Red Sea, Dr. Goodeve doubted the utility of that station, and he would, therefore, vote against the conclusions of this part of the report.

Dr. Dickson believed that it would be well to establish two points of surveillance, one at Perim, and the other at Moka, for small coasting vessels. It was impossible to think of guarding barques and small ships at Perim, and they were those which most frequently conveyed the pilgrims. The lazaretto might, perhaps, be established at Tadjoura, opposite Perim, on the African coast.

Dr. Dickson had heard that this locality possessed an extensive anchorage, and that it would be easy to victual persons in quarantine there; and finally, as he had said, it was situated on the African coast, which, to his mind, was an advantage in the event of the persons in quarantine making their escape and gaining the interior of the country.

Dr. Dickson did not think that Moka possessed sufficient resources for the reception into quarantine of a large number of persons.

Dr. Fauvel stated, in the first place, that the Committee had only made suggestions. The question could not be solved until it had been carefully considered locally, and it was treated by the Committee therefore, in a, so to say, theoretical point of view.

They could not conceal from themselves, moreover, that, whatever might be the system adopted, cases of infringement and communication would occur. The question, therefore, substantially was to render such cases as rare and as difficult as possible. Dr. Fauvel believed, contrary to the opinion held by Dr. Goodeve, that such danger of communication was more to be dreaded on the part of large vessels than of small barques. The barques hugged the coast; they never risked going out into the open sea; they made only short voyages, and being able to stop if cholera declared itself, which large vessels were unable to do, they offered, at the most, less danger in the point of view of transmission. Was it not also necessary to take into account that it was in seasons of epidemic especially that surveillance should be exercised; that the existence of cholera in India, or at the various places at which ships touched, was always known beforehand; and that, finally, the period of the arrival of the pilgrims was known, and that, therefore, it was always possible to judge, according to the advices received, in

regard to the means of rendering the surveillance more active? However, if this surveillance was impossible at Bab-el-Mandeb, at the entrance of the Straits, would it not be still more impossible in the interior of the Red Sea, where ships might so easily evade it? Dr. Fauvel declared, in conclusion, that he would not reply to the various objections which had been urged against the selection of localities where the Committee thought a lazaretto might be established. Perhaps they were well founded. The Committee, which had thankfully accepted Dr. Dickson's information regarding Tadjoura, could only repeat that the site of the lazaretto to be established could not be decided until after a renewed local consideration of the subject, and that this was a matter which entirely belonged to the various Governments which would have to come to some understanding upon the point. The Committee gave its opinion in favor of the convenience of a sanitary establishment at the entrance of the Red Sea: nothing more.

Dr. Bartoletti and Dr. Millingen believed, like Dr. Fauvel, that the establishment ought to be situated at the Straits if it was desired to have an effective surveillance. Dr. Bartoletti added that it seemed to him that it would be preferable if a spot on the African coast were selected; but whatever might be the locality chosen, he had no doubt that it would always be necessary to have a garrison there, to repulse, if necessary, the attacks of the natives as well as to maintain order among the persons in quarantine themselves.

His Excellency Salih Effendi remarked that the same thing might be said in regard to supplies of provisions; the same difficulties in this respect would be encountered almost anywhere.

Paragraph A. of section V was then put to the vote, and adopted by all but Dr. Goodeve, who voted against it.

The meeting terminated at 4-30 P. M.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE,
DR. NABANZI, } *Secretaries.*

No. 8, dated 31st January 1867.

From—LORD CRANBORNE, Secretary of State for India,

To—The Governor-General of India in Council.

In continuation of my Despatch of the 9th instant, No. 1, I forward

Letter from Foreign Office, dated 14th
January 1867, with enclosures.

Letter to Foreign Office, dated 31st
January 1867.

(Also enclosed Protocols Nos. 32 and
33, of Constantinople Conference, as to
Cholera.)

for your information and guidance,
and for communication to the several
Local Governments, copy of further
correspondence with the Foreign
Office, on the subject of quarantine
and of hygienic measures to be ap-

plied in the case of the approaching pilgrimage to Mecca.

Dated 14th January 1867.

From—E. C. EGERTON, Esq.,

To—*The Secretary to the India Office.*

I am directed by Her Majesty's Secretary of State for Foreign Affairs to transmit to you, to be laid before the Secretary of State for India, a Despatch from Lord Lyons, regarding quarantine measures to be applied to the approaching pilgrimage to Mecca, and I am to request that you will move Lord Cranborne to favor Lord Stanley with his opinion on this subject. I have to request that Lord Lyons' Despatch may be returned with your reply.

No. 1, dated 1st January 1867.

From—*His Excellency LORD LYONS, G. C. B., Her Majesty's
Ambassador at Constantinople,*

To—*The Secretary of State for Foreign Affairs.*

I have the honor to transmit to your Lordship copies of two Despatches which have been addressed to me by Dr. Dickson, and a copy of a Report of a Committee of the Constantinople Board of Health, on the subject of quarantine and of hygienic measures to be applied in the case of the approaching pilgrimage to Mecca. I have also the honor to enclose a copy of a Despatch which I have written to Colonel Stanton, Her Majesty's Agent in Egypt, on the subject.

Neither Dr. Dickson nor I have discovered, in the proposals of the Committee, anything to which we deem it necessary to object, or anything likely to be needlessly vexatious to British Indian pilgrims. This last point is, however, a matter which is of so much delicacy and importance, and which depends so much upon local circumstances, of which my knowledge is imperfect, that I venture to ask your Lordship to cause the Report to be carefully examined, and to send me instructions by Telegraph if it shall appear to contain anything seriously objectionable.

I have asked Colonel Stanton to give me his opinion of it without delay.

Dated 12th December 1866.

From—DOCTOR E. D. DICKSON,

To—*His Excellency LORD LYONS, G. C. B., Her Majesty's
Ambassador at Constantinople.*

I have the honor to inform your Lordship that the Porte transmitted yesterday to the Board of Health a communication from

Salih Effendi, the late President of the Cholera Conference, inviting it to concert upon the hygienic and restrictive measures necessary to meet the approaching pilgrimage to Mecca, and urging at the same time a settlement of the question of the Sanitary Tariff.

The Board declined to take up the question of the Tariff, as its settlement now rested with the Porte and the Foreign Legations; but with respect to the Mecca pilgrimages, it decided that a Committee should be named to draw up the required rules, composed of Members of the "Intendance Sanitaire," and Delegates that had formed part of the Conference, *viz* :—Feezi Effendi, Ahmed Effendi, Eshreff Effendi, Dr. Merchand, Dr. Bartoletti, Dr. Fauvel, Dr. Millingen, and myself.

This Committee will meet to-morrow at the Health Office in Galata; I have, therefore, to request that your Lordship would be pleased to furnish me with any instructions that might be necessary for my guidance, more especially referring to Her Majesty's Indian subjects.

Dated 19th December 1866.

From—DOCTOR E. D. DICKSON,

To—His Excellency LORD LYONS, G. C. B., Her Majesty's
Ambassador at Constantinople.

I have the honor to inform your Lordship that the Committee, appointed by the Board of Health to draw up rules for the preservation of the public health on the occasion of the next pilgrimage to Mecca, met on the 13th and 17th instant. Salih Effendi's communication to

the Porte (*see* my Report dated the 12th instant); the measures proposed by Colucci Bey (*see* my Report dated 21st November); and those indicated by Ahmed Effendi, late President of the Hedjaz Commission, were read and fully discussed.

Adopting the decision of the late Cholera Conference, Salih Effendi stated that cholera came from India; that this fact was confirmed by the history of last year's epidemic; and that the Conference had, in consequence, proposed to meet the event by establishing quarantine at the entrance of the Red Sea. But, as it would require time for the development of the plans proposed by the Conference, Salih Effendi suggested that, in the meanwhile, Sanitary Establishments might be organized on the coast of the Hedjaz for the purpose of inspecting arrivals from India, and subjecting them, when necessary, to restrictive measures: and that, should cholera notwithstanding break out afterwards, he recommended that the plan adopted during the last pilgrimage should again be resorted to, and arrivals from the Hedjaz put into quarantine at El-wedge and at Tor.

Colucci Bey's proposal is embodied in the following plan:—

Interrogatory at Mokha for all pilgrim-ships entering the Red Sea.
Performance of 15 days' quarantine at Massawa for vessels unprovided

with a Bill of Health, for those that have not submitted to the interrogatory at Mokba, and for those in which cases of cholera have occurred. Communications by sea, between the Hedjaz and Egypt, to be strictly interrupted whenever cholera breaks out in the former Province. Caravans returning from the pilgrimage to be put into quarantine at El-wedge; and arrivals by sea from the Hedjaz with *clean* Bill, to perform five days' quarantine at Tor or at Coseir.

The Egyptian Board of Health having submitted Colucci Bey's proposal to the Viceroy for approval, His Highness objected to that part of it which affected places beyond his rule, and limited the measure to arrivals coming from the Hedjaz into his own dominions.

Ahmed Effendi's plan, for the prevention of future outbreaks of cholera in the Hedjaz, resolves itself into two proposals, *viz.* :—The establishment of restrictive measures at Bab-el-Mandeb, to stop the introduction of cholera into the Red Sea; and the adoption of a well organized system of hygiene in the Hedjaz,—the last more especially with a view to diminish the liability of the pilgrims to epidemic manifestations. To these he added (for meeting principally the case of the present year) a recommendation that, instead of performing, as usual, the pilgrimage to Mecca first, and then that to Medina, pilgrims who arrive in the early part of this season should be invited to go at once to the shrine of Medina (the time of performing this ceremony being optional, and Medina being about 10 days' march from Mecca), and afterwards proceed thence to Mecca, where the ceremony must take place during the Courban Bairam. This would shorten their stay in the Hedjaz, and enable them to return homewards, this year, before the season of the great heat at Medina and Yambo.

Ahmed Effendi, having observed that the effluvia arising from the immense concourse of persons assembled at Mecca during the sacrifices taints the air, has further recommended the revival of the old rule which forbid pilgrims staying more than four or five days in that city. He urges, moreover, the necessity of widening the alley that leads through the valley of Mina, and which becomes so crowded in the procession to the sacrifices that, should an unfortunate pilgrim fall to the ground, *he is instantly trampled to death* by the overwhelming mass of people pressing forward over him. Ahmed Effendi said that even camels and donkeys had been trampled to death in this way. He would forbid the consumption of an offensive kind of dried fish brought by the Javanese, and used as food. He thinks that vessels carrying pilgrims from the Hedjaz to Egypt should be limited in the number of their passengers according to their capacities. And, finally, insists on the advantages that would result from the construction of a Railway between Medina and El-wedge for the more ready and safe conveyance of pilgrims on that route.

The Committee, having considered all these proposals, and the various circumstances connected with the pilgrimage to Mecca, declares its incompetency to order measures for preventing cholera being imported from India into the Red Sea, and leaves the solution of that question to the Powers that took part in the Conference. It has, therefore,

limited its recommendations to simple measures of hygiene among the pilgrims; to a quarantine at Jedda upon such vessels as shall arrive with cases of cholera on board; to the nomination of a Commission in the Hedjaz to carry out its recommendations; and to the providing of sufficient Military and Naval means for enforcing them. The Committee has, therefore, treated the subject under four heads, viz:—

- 1.—Arrival of pilgrims in the Red Sea.
- 2.—Sanitary measures for the Hedjaz.
- 3.—Return of pilgrims.
- 4.—Local Commission entrusted with the execution of what is ordered.

1.—In order to diminish, as much as possible, the chances of introducing cholera from India by the Indian pilgrims, a surveillance will be exercised over pilgrim-ships on their arrival at the ports of Mokha, Hodeida, Confuda, Jedda, Yambo and Reis; and those vessels which are infected with cholera will have to perform quarantine, if possible, at Jedda.

2.—The sanitary measures will be applied in all the localities frequented by the pilgrims. Their chief object will be the removal of filth; the providing shelter for the indigent; the prevention of overcrowding; the construction of public latrines; and also of pits at Mina, to receive the offal derived from the sacrifices; the providing stores of provisions, and an ample supply of water,—more especially at Mecca, Medina, Jedda, Yambo and at El-wedge.

3.—The Indian and Persian pilgrims returning homewards will not be interfered with, further than to prevent their overcrowding on board ship; nor will anything be required of the caravans going to Damascus; since experience shows that cholera has never yet penetrated into Syria through the desert route. A surveillance, however, will be exercised over them while they are passing the frontiers. The real danger of propagating cholera to Europe from the Hedjaz lies in the road through Egypt. The Committee has, therefore, recommended the Porte to invite the Viceroy of Egypt to take efficacious measures for preventing its introduction into his dominions.

4.—A long Commission has been named for the purpose of carrying out the above measures; and will be composed of a Director, and a Physician (of course, Mussulmans) to reside at Mecca; a Christian Inspector and a Christian Physician to reside at Jedda; five Mussulman Physicians to be stationed at Medina, Yambo, Confuda, Hodeida, and Mokha; and a Christian Physician placed at El-wedge, to watch and report to the Board of Health at Constantinople passing events. El-wedge being under the jurisdiction of the Viceroy of Egypt, this Officer will not be required by the Board to take an active part.

The salaries and allowances of these Officers have been fixed as follows:—

The Director and the Inspector each to receive a salary of 8,000 piastres a month; and a sum of 15,000 piastres for travelling expenses.

And each physician to be allowed a salary of 5,000 piastres a month ; and a sum of 7,000 piastres for travelling expenses.

The Commission will be assisted by the presence of a sufficient land and naval force to maintain order, and its functions will cease at the termination of the present pilgrimage.

I beg to enclose a copy of the Committee's Report, which has to be submitted by the Board of Health to the Porte for its sanction before it can be carried into execution.

The closing of this Report may offer a fitting opportunity for mentioning to your Lordship a desirable measure under our own control, which, I think, might be adopted with advantage.

I am informed that Her Majesty's Agent and Consul General in Egypt nominates a British Medical Delegate to the Alexandria Board of Health. I would suggest, then, that this Officer directly, or through the proper channel, keep Her Majesty's Embassy promptly informed of any circumstances within the control of the Alexandria Board which may affect our interests, or be calculated to invite discussion here. During the last and this year great anomalies have occurred, affecting our commerce,—such as putting arrivals from Alexandria with reputed *clean* Bills of Health into quarantine on mere report of cholera in Egypt, &c.

The uncertainty also of our knowledge here concerning the sanitary state of Egypt at any particular time is a fact well known to your Excellency. I, therefore, feel that it would be very much more satisfactory to me, as a member of this Board of Health, to be timely and independently informed of all such matters as are likely to come before it from Egypt.

REPORT OF THE COMMISSION ON THE QUESTION OF THE MECCA PILGRIMAGE IN THE YEAR 1867.

The Members of the Commission were as follows :—

MM. Fezzi Effendi, Eshreff Effendi, Ahmet Effendi, Dickson, Fauvel, Marchand, Millingen, Testa, and Bartoletti, *Reporter*.

TO THE SUPERIOR BOARD OF HEALTH, &C.

GENTLEMEN,—The Commission appointed to institute emergent enquiries on the question of the Hedjaz, and to suggest what measures should be adopted on the occasion of the approaching pilgrimage, has the honor to submit its Report.

The Commission having proceeded with regularity, in order to arrive promptly at a practical result, has passed in review all the different proposals which have been made on this subject ; such as the

suggestions of His Excellency Salih Effendi, and the Egyptian Sanitary Board, as also some Reports submitted by Ahmet Effendi, who has returned from his mission to Mecca.

The Commission has also received valuable oral information from the latter, which agrees for the most part with the views entertained relative to the Hedjaz with those belonging to the Commission, who were also Members of the International Sanitary Conference.

After bringing the different propositions to a rigid examination, and separating those which appeared to the Commission to be impracticable in the present state of things, the Commission has limited itself to four groups of questions, which measures will, in their opinion, be quite enough to meet the emergency.

Such are the questions which have a bearing on the arrival of pilgrims from India in the Red Sea, on the hygienic conditions of the places of pilgrimage, and return of the pilgrims *via* Egypt, as also on the sending of a temporary medical mission to those places.

1st Question.—Measures applicable to the arrival of Hindoo pilgrims, to prevent the importation of cholera into the Hedjaz.

Every one is aware at the present day that the cholera is imported into the Hedjaz by pilgrims who arrive from India, where that disease exists in an endemic form.

In accordance with this theory, the International Sanitary Conference have proposed the erection of a large quarantine establishment in the latitude of Bab-el-Mandeb, where the pilgrims can be isolated before entering the Red Sea, for when once the Straits are passed surveillance becomes impossible, unless at a great expense. The Commission on that point cordially agrees with the Conference; but a dependent establishment, possessing as it does certain peculiarities that would necessitate the co-operation of several Governments who feel any interest in these measures, to be well conducted, must not be hastily got up, but the pressure of time and circumstances are such that the Commission must acknowledge the impossibility of adopting any serious and beneficial measures this year as regards quarantine. Though it is not to be inferred from this that nothing can be accomplished, except the diminution of choleraic importations. The Commission proposes in consequence to subject to quarantine measures those vessels carrying Indian pilgrims, among which measures it shall be signified before their arrival that the cholera has manifested itself on board.

Quarantine should be in that case practised in the environs of Jeddah, or upon another isolated spot on that portion of the Arabian sea-board, should there be a suitable one. But non-choleraic importations should be freely admitted throughout the sea-board. There would be a necessity of creating, in regard to this matter, places of observation at Mokha, Hodeida, Confuda, and Jeddah, and further to the northward at Yambo and Reis. We shall see further on what will

be the requirements of these places, according to the localities, and to meet the wants of navigation.

2nd Question.—Hygienic measures to be taken in the localities where pilgrimages are made.

Hygienic measures are of very great importance in reference to pilgrimages. They contribute powerfully to restrain the ravages of the cholera imported from another locality. The International Sanitary Conference has pronounced a very emphatic opinion on the subject. It has recognized the usefulness of the measures which have been taken last year by the Ottoman Commission. The instructions of that Board have, in a great measure, been executed, with the concurrence of the local Authorities, by the Commission presided over by Ahmet Effendi. It is then evident that these measures must be on a large scale and continuous. They are to consist chiefly in causing the filth, which is accumulated in places where many pilgrims are congregated, to be carried away; procuring shelter for those mendicants who throng the streets and mosques; in constructing wholesome water-courses and public latrines, and keeping them in a proper condition; digging pits for the purpose of burying the debris of animals which have been killed during feast days; and, above all, in supplying provisions for those places where there are great gatherings of pilgrims. The reports of Ahmet Effendi treat upon most of these important questions, with the exception of some few whose application is not immediately necessary, and the execution difficult. The Commission thinks that the Sublime Porte should earnestly recommend those measures being practised by the Authorities of the Hedjaz, as also in specially insisting on the necessity there is for establishing commissariat stores in the chief stations where the pilgrims congregate, either when going and coming, such as at Jeddah, Mecca, Medina, Yambo, as also at El-wedge, which will be alluded to further on.

Last year's experience having proved the good results of the measures which have been adopted, as also the good-will of the local Authorities, and specially of the Grand Sheriff and Governor General of Mecca, who have co-operated most cordially with the Commission sent to the Hedjaz, it is to be hoped that this concurrence will not be wanting for the future.

But it does not merely suffice to send orders to the local Authorities in order to attain the end in view; we must also take cognizance of the measures which will be indicated in the 4th group of our propositions.

3rd Question.—Measures to be adopted on the return of the pilgrims *vid* Egypt.

The pilgrimage to Mecca and Medina being accomplished, the pilgrims will return to their homes by different routes, the Hindoos, and most of the other pilgrims, proceeding *vid* the sea.

With the exception of overcrowding on board, the Commission need not occupy itself with the pilgrims. Another portion of the

pilgrims travel *viâ* the desert in following the Damascus route. No case has yet been instanced where cholera has penetrated into Syria by that route. Without enquiring into the causes of that immunity, and admitting such to be really a fact, the Commission thinks that it would be as well to continue to adopt the usual precautions on the borders of the desert, and to be prepared for anything that may happen. The route *viâ* Egypt now remains; and it is from thence that danger is to be apprehended. The Commission does not think that it is necessary that it should state what measures should be adopted, as regards Egypt, against a choleraic invasion. It also does not think itself called upon to discuss the propriety, or otherwise, of the measures proposed by the Egyptian Sanitary Board without the consent of the Commission;—the Superior Board of Health should confine itself to the question of proposing to the Imperial Government to move Egypt to adopt these precautions, in order to prevent the cholera from invading the Egyptian soil when the pilgrims return.

The return of the pilgrims *viâ* Egypt can be effected either by sea or land. In either case, the most convenient place for quarantine, in supposing that cholera has broken out amongst them, is El-wedge.

The International Sanitary Conference has found that this locality possesses every thing that can be desired, provided that care be taken to collect a sufficient supply of provisions.

The Commission is consequently of opinion that El-wedge is well able to meet the end in view. Moreover, as this locality appertains to Egypt, that Government must be asked if they will agree to receive the pilgrims. But on this point, as well on all others which have any relation to Egypt, it is the Sublime Porte who will have to treat with the Viceroy.

The Commission does not think it necessary to speak in detail on the operations of the embarkation and disembarkation of pilgrims, conditions of the voyage, and their arrival in quarantine ports,—all these details having been provided for and regulated by instructions that the Commission of the Hedjaz had received last year, and which are still applicable this year.

4th Question.—On the expediency of sending a medical staff to those localities.

To ensure the due performance of the measures which have been pointed out by us, *viz.*, quarantine and hygienic measures, a medical staff must be stationed at the most important points of the Yemen and Hedjaz, in the interior and at the sea-board. The Commission proposes sending a medical staff, which will consist of the following:—

A Director and two Mahomedan Doctors to be stationed at Mecca.

An Inspector and a European Doctor for the purpose of being located at Jeddah.

Five Mahomedan Doctors to be stationed at Mokha, Confuda, Hod-eida, Medina and Yambo. A European Medical Officer to be stationed at El-wedge for the purpose of observation only.

In all: one Mahomedan Director, a European Inspector, seven Mahomedan Doctors, and two European Doctors.

According to the past year's experience, it has been demonstrated that Christian medical men can only prove useful at Jeddah; the Commission has, under those circumstances, thought it necessary to propose sending Mahomedan Doctors every where except at Jeddah and El-wedge. The President will reside at Mecca, and the Inspector at Jeddah; the latter will have the special charge of the sea-board.

The Commission proposes to give the Medical Director and Inspector a monthly salary of 8,000 piastres, and 15,000 piastres each for their travelling expenses; to the Doctors 7,000 piastres for travelling expenses, and 5,000 piastres as their monthly salaries.

The medical mission under contemplation will only be a temporary one whilst the pilgrimage lasts.

The medical staff will have to return immediately afterwards. The instructions to be laid down for that service will be the same as those the Commission had in force last, with the exception of some modifications, which will be found in this Report.

Recapitulation.—The Commission proposes—

1st.—To place under quarantine measures, in the neighbourhood of Jeddah, all vessels carrying pilgrims on board in which cholera shall have manifested itself, and to allow free intercourse to all other vessels.

2nd.—To complete the hygienic measures that have been applied during the past year, according to the instructions of the Sanitary Board, and in accordance with the Reports of Ahmet Effendi.

3rd.—To ask the Sublime Porte to send emergent orders to the local Authorities to carry out the execution of all these measures, with authority to incur the necessary expenses.

4th.—To specially recommend to Government the question of making suitable provision for articles of consumption, and the establishment of depôts, for cereals, at Jeddah, Mecca, Medina, Yambo, and at Elwedge; and recommend the latter place to the energy of the Viceroy of Egypt.

5th.—To propose also to the Sublime Porte that a number of tents should be provided at every place where there is a large congregation of pilgrims, such as at Jeddah, and the valley of Mena and Yambo, &c.

6th.—To insist on the necessity of providing a Military force, both by sea and land, for the purpose of maintaining order; two armed steamers would be sufficient to guard the seaport towns of Jeddah and Yambo at the arrival and departure of the pilgrims. These vessels could also be placed at the disposal of the Inspector, with a view to his proceeding on tours of inspection to the sea-board, as also for the purpose of prosecuting the necessary enquiries that may be needed

in regard to the final organization of a sanitary service for the Red Sea.

7th.—To nominate a medical staff under the authority of the Director and Inspector, to carry out the quarantine and hygienic measures, according to the instructions they may receive from the Superior Board of Health. This mission to be temporary, and to be paid agreeably to the rate before mentioned in the 4th Article of the present Report.

8th.—As it is presumed that it will not be an easy matter to collect the required number of Mahomedan Doctors at Constantinople, the Medical Director will be authorized to recruit some in Egypt for the purpose of locating them at the seaports of Mokha, Hodeida and Confuda; and should Egyptian Doctors not be procurable, to employ some of the medical practitioners who may be found in these localities.

9th.—To ask the Egyptian Government for five or six Arabian Doctors to accompany the caravans on their return to Syria and Egypt, as it was done during the past year.

BARTOLETTI,

Reporter.

CONSTANTINOPLE; }
The 11th December 1866. }

Dated 1st January 1867.

From—His Excellency LORD LYONS, G. C. B., Her Majesty's Ambassador at Constantinople.

To—Colonel STANTON, C. B., &c., &c., &c.

With reference to the *Procès verbal* of the meeting of the Egyptian Board of Health on the 1st August last, which was inclosed in your Despatch to me, No. 56 of the 13th of the same month, I transmit to you a copy of a Report addressed to me by Dr. Dickson, physician to this Embassy and British Delegate to the Constantinople Board of Health, and also a copy of a Report of a Committee of that Board on the subject of quarantine and of hygienic measures to be applied to the approaching pilgrimage to Mecca, &c.

Neither Dr. Dickson nor I have discovered in the proposals made by the Committee in this Report anything likely to be unnecessarily vexatious to British Indian pilgrims, or any thing to which we deem ourselves bound to make objection. The matter is, however, one which is of so much delicacy and importance, and which depends so much upon local circumstances, of which my knowledge is imperfect, that I shall be very much obliged if you will give me your opinion on the Report of the Committee as soon as possible. If there appear to you to

be any thing seriously objectionable in it, I beg you to let me know by telegraph.

I request you to take into consideration the suggestion made by Dr. Dickson, at the end of his Report, that your Delegate to the Alexandria Board of Health should keep the Embassy regularly and promptly informed of any sanitary matters likely to be of interest here. If you see no objection to giving effect to this suggestion, I beg you to give instructions accordingly to the Delegate. He might be authorised in cases in which speed is desirable, to write directly either to the Ambassador, or to Dr. Dickson under flying seal to the Ambassador, as well as to address telegrams to the Ambassador.

Dated 31st January 1867.

*From—H. MERIVALE, Esq., C. B., Under-Secy. of State for India,
To—The Under-Secretary of State for Foreign Affairs.*

I have laid before the Secretary of State for India in Council your letter dated the 14th instant, forwarding a copy of a Despatch from Her Majesty's Ambassador at Constantinople, with its enclosures, relative to the measures of quarantine and hygiene which have been recommended by a Committee of the Board of Health at Constantinople for adoption in the Red Sea and the Hedjaz during the approaching season of pilgrimage to Mecca.

In reply, I am directed to state that Viscount Cranborne sees no reason, in the interests of the pilgrimage of Indian pilgrims, to object to any of the measures proposed by the Committee, it being understood that the measures are proposed for this year only, and that his assent to them on the present occasion will extend no further than the present season.

The only subject on which Lord Cranborne would wish to reserve his opinion is that which relates to the ports at which pilgrim ships entering the Red Sea are to be subjected to examination; and this point, His Lordship is quite willing, should be decided by the judgment of Colonel Stanton, to whom he observes the Report of the Committee has been forwarded by Lord Lyons for consideration.

P. S.—Lord Lyons' Despatch No. 1 (Commercial), dated 1st instant, is returned herewith as desired.

INTERNATIONAL SANITARY CONFERENCE MEETING
No. 32, OF THE 1st OF SEPTEMBER 1866.

H. E. SALIH EFFENDI, *Presiding.*

The International Sanitary Conference held its 32nd meeting at Galata-Serai on the 1st of September 1866.

PRESENT :

For Austria :

M. Vetsera, Councillor to the Internonciature of His Imperial Majesty the Emperor of Austria.

Dr. Sotto, Physician attached to His Imperial Majesty's Internonciature, Director of the Austrian Hospital.

For Spain :

Dr. Monlau, Member of the Spanish Superior Council of Health.

For the Papal States :

Dr. Ignace Spadaro.

For France :

Count de Lallemand, Minister Plenipotentiary.

Dr. Fauvel, Sanitary Physician for France.

For Great Britain :

Dr. Goodeve, Surgeon-Major, Indian Army, Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to Her Britannic Majesty's Embassy, and Delegate from Great Britain to the Superior Council of Health at Constantinople.

For Greece :

M. Kalergi, Secretary to the Legation of His Majesty the King of the Hellenes.

Dr. G. A. Maccas, Chief Physician to the King, Clinical Professor in the University of Athens.

For Italy :

Professor Frederic Bosi.

Dr. G. Salvatori, Italian Delegate to the Superior Council of Health at Constantinople.

For the Netherlands :

M. Keun, Councillor to the Legation of His Majesty the King of the Netherlands.

Dr. Millingen, Dutch Delegate to the Superior Council of Health at Constantinople.

For Persia :

Mirza Malkom Khan, Aide-de-Camp-General of His Majesty the Shah, Councillor to His Legation.

Dr. Sawas Effendi, Inspector of Hygiene and Health at Constantinople, Persian Delegate to the Superior Council of Health.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargé d'Affaires.

Dr. Bernardino Antonio Gomez, Councillor and Chief Physician to His Most Faithful Majesty.

For Prussia :

M. le Baron de Testa, Prussian Delegate to the Superior Council of Health.

Dr. Mühlig, Physician to the Legation, and Chief Physician of the Ottoman Marine Hospital.

For Russia :

Dr. Pelikan, Minister of State, and Director of the Civil Medical Department in Russia.

Dr. Lenz, Councillor of College, Attaché in the Russian Ministry of the Interior.

Dr. Bykow, Minister of State, and co-Military-Medical Inspector of the Arrondissement of Wilua.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, and Secretary to His Legation.

-Dr. Baron Hübsch.

For Turkey :

His Excellency Salih Effendi, Director of the Imperial School of Medicine at Constantinople, and Chief of the Civil Medical Service.

Dr. Bartoletti, Inspector-General of the Ottoman Sanitary Department, and Member of the Superior Council of Health at Constantinople.

For Egypt :

Dr. Salem Bey, Clinical and Pathological Professor in the Cairo School of Medicine, and Private Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

Dr. Naranzi, one of the Secretaries, read the Proceedings of the 30th meeting, which were unanimously agreed to.

M. le Comte de Lallemand asked permission to read extracts from some notes drawn up by a French Officer, referred to by him at the last meeting.

M. le Comte de Lallemand wishes that these extracts may, in consideration of the interest they possess, be inserted in extenso in these minutes.

Notes drawn up by the Captain of the Frigate "Salmon," now commanding the French sloop-of-war, the "Surcouf," upon Perim, Obok, Bab-el-Mandeb, and Tadjomah or Tadjinlah.

"*Perim.*—An English island 98 miles from Aden, an harbour incapable of affording shelter to many vessels at a time (two or three.) Little or no water. The English have erected a distillery to meet the wants of a future garrison. Very little vegetation. Volcanic soil (basaltic). In addition to the light-house already existing there, it would be necessary to have a light at the entrance of the port, and some buoys in the harbour. The island produces nothing, but vessels could obtain a supply of provisions at Aden, where they would touch the evening previous to their arrival at the lazaretto.

"In case it should be the intention of the International Conference to *compel* all vessels coming from India to stop at a sanitary establishment, Perim is the only place which combines all the requisite conditions, for every vessel entering the Red Sea is obliged to sight this island. Perim, therefore, would be the first spot to select.

"*Camaran.*—An island situated in the Red Sea on the Arabian coast of Yemen, 170 miles from Perim, and about 40 miles from the direct route followed by vessels proceeding from India to Suez. Good anchorage, excellent water. In 1865^d the sloop-of-war *Surcouf*, overtaken in a gale off the islands of Zebayer, took shelter to the east of the island of Camaran, off the village. The vessel was detained there for three days by a gale of wind, but held on very well by a single anchor. The anchorage is excellent.

"The sanitary establishment could be established to the east of the village opposite the anchoring ground. But it would be indispensably necessary to erect a light-house on the hill to the south of the island of Camaran, and a smaller one at the point called Rass Bayah.

"*Obok.*—A bay which affords an anchorage under shelter of the reefs on the coast of Abyssinia, 45 miles from Perim outside the Red Sea, 120 miles distance from Aden, and nearly 40 miles away from the route followed by vessels proceeding from India to the Red Sea; good *deep* anchorage, good enough to *resist* any gales; good water and almost sufficient in quantity; also a valley which produces good fuel, woods of immense trees, and through which large caravans of cattle and camels pass, &c. No habitations; temperature between 30 and 40 degrees centigrade; thermometer above zero during the months of June, July, and August; rains plentiful in January, February, and March.

"This port would be sufficiently suitable for the purposes of a sanitary establishment, but it would be necessary to remove a portion of the reefs at the entrance, and a small light might be fixed upon one of those reefs in order to render the entry of vessels practicable at nights.

"Establishment should be protected in an enclosure.

"*Bab-el-Mandeb.*—To the south of Bab-el-Mandeb the coast forms a bend, which is called the Bay of Heighgha.

"It often happens that vessels desirous of entering the Red Sea seek for shelter into this bay, if the north winds are so violent as to hinder them from running through the Straits. But it is not a good harbour, nor even a safe anchorage, because it must be abandoned as soon as the wind veers to east and south, or even south-west.

"The inverse description holds good of the anchorage which is found to the north of the Cape of Bab-el-Mandeb, where vessels often have to shelter in order to await the subsidence of strong southerly winds before attempting to leave the Red Sea.

"*Tudjonlah*.—Tadjonlah is situated on the African coast. Dangerous anchorage, close to the edge of a reef. It is true that near that place a charming spot will be found at Embolo, with water and vegetation, but no vessels can anchor there with any degree of safety."

August 1866.

Thanks were returned to M. le Comte de Lallemand.

The order of the day having reference to the continuation of the discussion of the report on the measures to be adopted in the east, &c., which was adjourned at the last meeting at page 29, His Excellency the President permitted Dr. Fauvel to continue the reading.

Dr. Fauvel stopped at page 31.

Dr. Dickson opposed the project of instituting international lazarettos or Commissions in the Red Sea. Under other circumstances he had already had occasion to explain his reasons for opposing institutions of this nature both in Europe and in the Red Sea, and he would not recur to them again.

He would simply observe that if the Conference adopted the plan of having a non-international sanitary institution in the Red Sea, it was to Egypt that its direction and superintendence should be entrusted.

M. Keun was of a different opinion. The Ottoman Government, he thought, should have this right, according to those very circulars which had convened an International Sanitary Conference. In fact, said M. Keun, if those circulars were consulted, it would be seen that the right to put into execution the measures proposed by the Conference had devolved upon the Governments of those countries where they should be applied. Independently of that these measures would not be of any efficacy if they were not executed by the Ottoman Government.

The Mussulmans, according to M. Keun, would with very great difficulty agree to subject themselves to any measures to be carried into effect by any other authority than that of the Ottoman Government, if non-Mussulman employès and Doctors were authorized to enforce them.

M. Keun thought that the measures in question would never be seriously enforced; but this right, he added, which cannot be contested as belonging to the Sublime Porte, does not imply the inadmissibility of control on the part of the other Governments. On the contrary,

M. Keun was of opinion that such control is necessary, and even indispensable.

Dr. Goodeve gives his support to those who oppose the institution of an International Commission to be established, with its head quarters at Suez.

He believes with M. Keun that, as the measures to be adopted relate principally to the Mahomedans, the restrictions regarding their pilgrimages would be received and accepted with less repugnance if they emanated from Mussulman authorities, than if they were carried out by other authorities professing a different creed. But Dr. Goodeve believes that it would be preferable to leave the regulation of sanitary matters in the Red Sea to the Egyptian Board of Health, strengthened, if thought advisable, by the Delegates of those powers not represented in the Council Board Conference as organized at present.

M. Kalergi observes that these objections are not radical, as they have no reference to the principle propounded by the Commission, *viz.*, that of an International Commission. In reality, he urges that Dr. Goodeve himself accepts the principle, the objections made referring to a matter of detail. Some wish the Sanitary Board of Health at Constantinople to have the surveillance, others that this surveillance should devolve on a mixed Council of Health at Alexandria. The Conference, he thinks, should not trouble itself about this question, for all that the Commission asks for is the institution of a mixed Council to supervise, near the spot, the new service which it is proposed to organize in the Red Sea.

Dr. Goodeve, in reply to M. Kalergi, said that he would willingly admit the necessity of a surveillance, but he does not admit any similarity between the existing Egyptian Board of Health and the International Commission spoken of in the Report. The Egyptian Board of Health is a local Egyptian Commission, in which it is true that Delegates from other countries are also included, but which does not possess the character that it is proposed to give to the International Commission. This Commission, Dr. Goodeve believes, could not have the same power as the Board of Health, which acts in co-operation with the Government of the country. He does not think in other respects that the distance between Suez and Alexandria is such that the Egyptian Sanitary Board could not vigorously act in the Red Sea; there would therefore be no necessity to instal a new Commission at Suez.

M. Stenersen pronounces in favor of the Reports. He finds that every thing that has been urged and proposed is very much to the purpose, and he cannot but approve. He would wish even, in order not to act in opposition to the Report and the general views therein taken, that all discussion of detail should be avoided. These details, he thinks, should not for the present furnish matter of discussion.

M. Mühlig is of the same opinion as M. Stenersen. The subject, said he, not being susceptible of discussion in regard to detail, it would be well to come to a proper understanding as to the fundamental principles. What are these principles? In order to ward off a fresh invasion of

cholera, we must establish a barrier in the Red Sea. Now, observes M. Mühlig, all discussion which would deviate from that principle would be out of place. It cannot be a question as to the means of ascertaining how we must undertake to establish such a barrier. There can be no difficulty in ascertaining what should be done to establish this barrier, for that is only a question of competency, which will be solved in favor of the power possessing the right.

Dr. Salem Bey tenders some information on the nature and organization of the Egyptian Board of Health. It is a mixed Council which exercises the greatest independence and authority. After speaking of its constitution and organization, Dr. Salem Bey adds that it offers the best guarantees for success, in consequence of its immediate proximity to the localities which it is proposed to supervise, and that it is the only one that could carry out the measures proposed in an efficacious and complete manner.

It is conversant with the language of the country, and has besides the consent of the public and support of the local authorities, which alone have the power to enforce new regulations.

The Commission, continues Salem Bey, sent to the Hedjaz was forced to acknowledge its want of power owing to its distance from the central authority. Independently of this, it is the interest of Egypt, more than of any other country, that preservative measures should be energetically applied; and Egypt will, more than any other Government, feel interested in the success of a work which has for its object preservation against fresh invasion. Consequently, the means that she has at her command, combined with the advantages which she possesses on account of her close proximity to the localities to be supervised, the identity of manners, language and religion with those of the pilgrims for whom it is in contemplation to legislate, give it, together with the necessary authority, the right to the superintendence of the surveillance which is the subject of the report.

Dr. Salem Bey begs to be permitted to call the attention of the honorable Conference to the fact that Egypt has for a long time made rapid strides in the east in the march of progress and civilization, and that the Viceroy, animated by the best sentiments and inspired by the most enlightened ideas, endeavours to follow the footsteps of a friendly Government, which is looked upon with admiration by the whole world.

Dr. Salem Bey concludes that, as it is in contemplation to institute an international administration, Egypt, considering both her geographical position and the vast means which she has at her command in the very places where it is considered necessary to adopt and execute new preservative measures, can offer more satisfactory guarantees than any other Government for the efficient direction of the sanitary service which it is intended to establish in the Hedjaz.

Besides, he observed, Egypt is already possessed of a Board of Health possessing an international character. This Board could be

enlarged, and from amongst its members a Commission could be selected for duty in the Hedjaz, which would thus be, as it were, a direct emanation from the International Board of Health, with this difference only, that it would not be a stranger to the country, notwithstanding its mixed character.

Dr. Bartoletti observes that the Conference has made it its special duty to study the origin of the cholera, and to find means for the prevention of fresh invasions in the Hedjaz, into which the pilgrims now convey it periodically from India. One of these means would be to inspect vessels at the Island of Perim, the only spot where this inspection could be properly carried into effect. The second means would be the erection of a lazaretto at the entrance of the Red Sea, in a locality suitable for a cholera quarantine, and the choice of which could only be made after some further enquiries. The Ottoman Government, said Dr. Bartoletti, has sent to the Hedjaz a Commission expressly instructed to prosecute these enquiries, which shows that that Government is inclined to admit the advantage of the principle of having such establishments. These two propositions of the report being consequently conformable to the views of the Ottoman Government, Dr. Bartoletti does not hesitate in giving them his support. The third proposition, he said, consists of having at Suez a mixed Council which will have entire control over the sanitary service of the Red Sea, in which will be included the quarantine to be established near Bab-el-Mandeb. Dr. Bartoletti believes that the Board of Health at Constantinople could readily fulfil its task, were it not for the difficulty that would be experienced in exercising its power at so great a distance. A Board analogous to that at Constantinople, but to be established at Suez, appears to be the best means for accomplishing such an object. That Board should have entire control over the sanitary service of the Red Sea, and the sea-board lazarettos should be administered immediately under the sanitary authorities of their respective countries. As these conditions do not differ materially from those of the Turkish sanitary establishments, Dr. Bartoletti considers that the purport of the report is in consonance with his views, and having no objection to urge, he adheres to it, as he does to the two preceding ones.

His Excellency Salih Effendi entirely supports the views enunciated by Dr. Bartoletti.

Professor Bosi is of opinion that the Commission has met the question as far as possible. It has not wished to enter upon the ground to which Drs. Goodeve and Salem Bey have wished to lead the Conference, that is to say, it has preferred to leave unsolved the question as to which Government will have to carry out the execution of the measures suggested by it. The Commission, said Professor Bosi, not having touched upon the question, it was not right that a discussion should have taken place upon it.

Dr. Fauvel believes that the Commission has done right in not having entered deeper into the question, and only touching upon it with every reserve. It was not for the Commission, said Dr. Fauvel, to

decide whether the right to apply those measures suggested by it devolves on the Egyptian or Ottoman Government. This right, he thinks, devolves on the Government in whose territory the new measures are to be adopted. This Government will be either Egyptian or Ottoman, and it might also be the English Government, if it be resolved that the surveillance or direction should be established on the island of Perim. Dr. Fauvel therefore has nothing to urge against the observations of Dr. Bartoletti. He does not wish to enter into the question of competence and right, either as regards the Ottoman or any other Government; the Commission not having judged it necessary to raise the question when it suggested the introduction of these measures.

At the instance of several Delegates, His Excellency the President put to the vote the text and conclusion of the 2nd paragraph of the 6th section of chapter the 3rd.

The Conference adopted them by a majority of 15 votes against 3, and 2, who did not vote.

Those who voted in favor were MM. Monlau, Spadaro, de Lallemand, Fauvel, Kalergi, Maccas, Salvatori, Bosi, Sawas, Mühlrig, Pelikan, Hübsch, Stenersen, Bartoletti, and His Excellency Salih Effendi.

Against—Drs. Goodeve, Dickson, and Bykow.

Those who did not vote were MM. Keun and Millingen.

Dr. Fauvel continued the reading of the Report until the 7th portion of the 3rd chapter (page 31).

Dr. Monlau asks permission to make a few remarks. He cannot accept, he said, the distinction made in the Report between the vessels freighted with pilgrims and ordinary packet-boats. It is in contemplation to adopt precautionary measures against importations of cholera by sea. The Report says that the danger exists as much in regard to vessels freighted with pilgrims, as other vessels. Dr. Monlau does not perceive wherein the distinction lies between these two classes of vessels, and the favorable circumstances alleged in regard to packet-boats do not appear to him to be to the purpose. Has the examination, asks Dr. Monlau, any other object in view than to prevent the entry into the Red Sea of all infected vessels? And could not vessels which do not transport pilgrims, as well as any other vessels, be the means of propagating the disease?

In consequence, Dr. Monlau proposes that the examination as well as quarantine measures must be rigorous for all vessels without distinction, packet-boats being also included.

Dr. Bartoletti, in reply, observes that the pilgrims do not go to Egypt, but to Jeddah, and that they have other ports of debarkation. The pilgrims who proceed towards Mecca will undergo quarantine at the entrance of the Red Sea, and the vessels intended for Egypt must do so at Tor.

Dr. Goodeve differs entirely from the opinions advanced by Dr. Monlau. In his opinion the sanitary conditions of the steamers of the

Messageries Imperiales and of the Peninsular and Oriental Company differ entirely, as he had already stated, from those of the pilgrim vessels, and that, consequently, they require special treatment. Dr. Goodeve thinks that no risk would be incurred if the former were allowed to proceed on their voyage, even though they had cholera cases on board. He does not agree with the Commission, who would wish to detain them at Perim for examination, for this, in his opinion, would be to condemn them to a useless loss of time, and the best way would be, according to him, to allow them liberty of passage to their destination.

Dr. Sawas asks permission to make some observations upon the following passage:—"With a view to carrying out these measures with all the impartiality, intelligence, and firmness that can be desired, the Conference feels convinced that it will not do to leave their execution to the authority of any single power, (see page 31).

It appears to Dr. Sawas that the sense of this paragraph is contrary to what has been adopted by the previous speakers in regard to the paragraph preceding it.

It is clear, he thinks, that, according to the locality chosen, the management of the lazaretto and the application of measures should be entrusted to the power to whom the territory belongs. And the Conference could not decide otherwise, without acting in direct antagonism to the circular of the Foreign Minister of France, as well as to the circular by which the Sublime Porte convoked the Conference. Dr. Sawas having voted, he said, for the preceding paragraph, was anxious to vote for this one also. He would vote, therefore, under reservation, for the reasons above given.

M. Stenersen thinks that a practical solution of the problem is possible, and he cannot agree with the Commission in saying that it is to be feared that such a solution is unattainable.

Dr. Fauvel refutes in a few words the observations made by Drs. Monlau and Goodeve, and the objection raised by Dr. Sawas. Dr. Fauvel is quite of Dr. Goodeve's opinion, that no comparison can be instituted between pilgrim vessels and the regular packet-boats. These latter, observes Dr. Fauvel, have never yet imported cholera, and never touch at any port in the Red Sea. These circumstances afford sufficient guarantee to authorize them, after inspection, to continue their voyage. There are, continued Dr. Fauvel, some other circumstances which militate in favor of steamers. As they are well-equipped, and not over-crowded, the passengers, if required to undergo quarantine, are in a position to remain on board until they reach their destination, whereas pilgrim vessels proceed everywhere, and the passengers disperse wherever they like.

If mail steamers, said Dr. Fauvel, alone were in question, there would be no occasion for lazarettos. The route pursued by these steamers is well known, they proceed from Aden to Suez; but the case is very different with pilgrim vessels, as wherever they make their appearance the pilgrims sow the seeds of cholera along their path.

Dr. Fauvel, though agreeing on this point with Dr. Goodeve, does not do so as regards the inspection of steamers. Dr. Fauvel thinks that this inspection cannot be prejudicial to them, nor entail any loss of time, and cannot in any manner inconvenience them; still it is not a condition upon which the Commission insists rigidly, as the measure has been mainly suggested with a view to the welfare of the packets, and to save them much inconvenience. The Conference can suppress this clause if it be thought superfluous.

Lastly, Dr. Fauvel points out to Dr. Sawas that the phrase he objects to is not at all contradictory to the circulars alluded to by him. The Commission has fully admitted that some power must be charged with the formation and management of a quarantine establishment at the entrance of the Red Sea, under the surveillance of a mixed International Council Board. The supervision and assistance of Europe does not imply, said Dr. Fauvel, the diminution or cessation of the rights which accrue to the power to which the locality belongs. No other end is contemplated than to secure the efficient working of the establishment and the carrying out of the prescribed measures.

Dr. Monlau thinks that Dr. Fauvel has not disposed of his objection; its force has not been weakened, as it has been shown that in order to preserve the Mediterranean Sea, efficacious measures must be adopted in the Red Sea. Dr. Bartoletti agrees with Dr. Monlau as regards inspection, but not as regards quarantine. Dr. Bartoletti would wish also that inspection at the island of Perim might be compulsory for all vessels, and proposes that this rule be laid down generally for all. M. de Lallemand, on the contrary, thinks that this assimilation is inadmissible, and could not be established without great injustice, for it is well known that there is a wide difference in regard to the danger to be experienced from pilgrim vessels and from Company's steamers.

At the general request, the text and conclusions were put to the vote and adopted by a majority of 17 against two.

Those who voted in favor were—M. Monlau, Spadaro, de Lallemand, Fauvel, Kalergi, Maccas, Bosi, Salvatori, Keun, Sawas, Mühlig, Pelikan, Bykow, de Hübsch, Steuersen, Bartoletti, and His Excellency Salih Effendi.

Against—Drs. Goodeve and Dickson.

Dr. Fauvel continued the reading of the report to the 34th page on the subject of the pilgrimage to Mecca.

Dr. Salem Bey states that though he entirely concurs with the Commission in the fundamental principle of breaking off sea communication with Egypt, in cases when cholera manifests itself amongst the pilgrims, a measure which Egypt had adopted this year, he cannot subscribe to the conclusion of the report for the following reasons:—

The two stations which it proposes to establish on the Arabian sea board, one at Jeddah and the other at Yambo; and the two lazaret-

tos, one at El-Wedge for the pilgrims, and the other at Tor for ordinary arrivals, are not of a nature to meet the views of the Conference.

In fact, said Dr. Salem Bey, the port of El-Wedge, which is a suitable spot for quarantine, will not afford quarantine accommodation for all the pilgrims who return from Egypt, and who amount to at least 10,000 or 12,000 per year. Not to mention the transports, the mere condition of the harbour, and specially the want of a sufficient supply of water, and the over-crowding which would necessarily ensue, incapacitate it for answering the purposes of an important quarantine station, and still more so for being the one locality to be selected for the establishment of a great lazaretto.

Dr. Salem Bey, with the object of obviating all these inconveniences, proposes to modify the proposal of the Commission as follows:—

For the Arabian sea-board—

1st.—Besides the sanitary station at Jeddah, a lazaretto should be established near that town at Ragbeh, which is situated at a distance of six hours' journey from Jeddah, and possesses every desirable advantage for the purpose of establishing a lazaretto for the use of the pilgrims and other travellers.

2nd.—Besides the station of Yambo, a lazaretto should be established in the vicinity of that town, or even on the island itself, which is situated in the centre of the Yambo harbour. This lazaretto should be intended for those pilgrims who come from Medina, and who are desirous of embarking for Egypt.

3rd.—A lazaretto should be established at El-Wedge for the large number of pilgrims who proceed to Jeddah for the purpose of embarking for Egypt. This lazaretto could be used in case the cholera should manifest itself during the pilgrimage.

As for the lazaretto at Tor, which the Commission proposes for ordinary sources of cholera, such as the Indian steam-packets, the choice of a station of inspection should be made by the Egyptian Sanitary Board.

Dr. Salem Bey hopes to put himself in early communication with the Egyptian Government as to selecting the Springa of Moses, which are, in his opinion, best adapted for the purpose.

Finally, Dr. Salem Bey thinks that the three sanitary stations on the Arabian coast should be kept up and provided with a medical staff, as suggested by the Commission.

Dr. Fauvel regrets to see that Dr. Salem Bey is constantly changing his opinions and proposals, and considers that his indecision is the cause of the confusion that has occurred.

It was on the special proposition, said Dr. Fauvel, of Dr. Salem Bey that the Commission chose El-Wedge. He had affirmed that neither Tor nor Moilah would be suitable quarantine stations. This opinion perhaps was at that time according to his instructions. More recently he wanted to maintain that El-Wedge would not be at all a

suitable place for the establishment of a lazaretto, and that, under these circumstances, another place must be chosen instead. Where then would he look for such a spot? In the very places where cholera reigns, *i. e.*, Jeddah and Yambo, which on this very account, it is of importance, in the opinion of the Conference, to avoid by all possible means. But is it true, asks Dr. Fauvel, that El-Wedge does not meet the requirements of the case? By no means; one has only to read the Report in order to be convinced that El-Wedge unites all the conditions necessary for a quarantine establishment, *viz.*, a capacious and safe harbour accessible to large vessels, fresh water in abundance and of excellent quality.

As regards Jeddah and Yambo, continued Dr. Fauvel, in recommending that these ports should be well provisioned and stored with all articles of consumption needed by pilgrims, the Commission has thought to render them more useful than by establishing lazarettos. If the pilgrims found in these two cities provisions and those things which they stand most in need of, we could very easily prevent their disembarkation.

Still if the Conference, says Dr. Fauvel, admits the unsuitability of El-Wedge, they would have to select another spot between El-Wesch and Yambo. Between these two ports many others will be found where there is an abundance of drinking water, and where provisions could be easily supplied.

Dr. Sawas regrets that he cannot support Dr. Salem Bey, for it is evident, he says, that, according to his scheme, he would enforce the performance of quarantine in the very places where cholera is most prevalent.

At the instance of all the members, His Excellency the President put to the vote the text of this portion of the subject of the pilgrimage to Mecca.

It was unanimously adopted.

Dr. Fauvel continues the discourse till page 38.

Dr. Dickson offers a few remarks. He would wish that the first portion of the subject of the Mecca pilgrimage should be divided into two, and that the first part should end at page 36. As this portion only contains facts and information, it would, he thinks, be unanimously adopted, and he himself would have nothing to urge against it. But the case is different as regards the second portion, many details of which call for discussion; and as he cannot approve of many of them, he will be obliged to vote against them.

Dr. Goodeve speaks to the same purpose, and with similar reservation. He believes, moreover, that the station of Tor is very far from Suez. Dr. Goodeve is also of opinion that we must make further enquiries to ascertain if it is possible to find a spot nearer Suez suitable for the location of a lazaretto which will not be dangerous to Egypt.

At the instance of several of the Delegates, His Excellency the President put to the vote the text and the two first paragraphs of the

conclusion (page 38), reserving to himself the option of making some remarks upon the third paragraph of the conclusion.

They were unanimously adopted by the majority.

In favor.—MM. Monlau, Spadaro, de Lallemand, Fauvel, Kalerigi, Maccas, Bosi, Salvatori, Pelikan, Bykow, Bartoletti, and Salih Effendi.

Drs. Goodeve and Dickson voted in favor of the greater portion of the text, except that portion which has reference to the formation of an International Commission, and also in favor of the two first paragraphs of the conclusion, with a reservation in regard to Tor.

His Excellency Salih Effendi, with a view to render the third portion of the conclusion more conformable to the text, proposes to reproduce it in greater detail as follows :—

An Ottoman Board established at Suez, and assisted by an International Commission organized on the same footing as the Sanitary Board at Constantinople, will decide all questions regarding the sanitary service of the Red Sea, including that of Bab-el-Mandeb.

Dr. Bartoletti agrees to this modification.

Dr. Fauvel proposes to adjourn to the next meeting the examination of the modification suggested by His Excellency Salih Effendi.

The Conference agree to the above suggestion.

The meeting separated at 4½ P. M.

Order of the day for the next sitting.

Continuation of the discussion of the report.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE, }
DR. NARANZI, . } *Secretaries.*

INTERNATIONAL SANITARY CONFERENCE. SITTING
No. 33, OF THE 3RD OF SEPTEMBER 1866.

H. E. SALIH EFFENDI, *Presiding*

In the year 1866, on the 3rd of September, the International Sanitary Conference held its 33rd sitting, in the usual place of meeting, at Galata-Serai.

PRESENT:

For Austria:

Dr. Sotto, Physician attached to His Imperial Majesty's Internouciature, Director of the Austrian Hospital.

For Spain:

Don Antonio Maria Segovia, Consul General and Chargé d'Affaires.

Dr. Monlau, Member of the Superior Board of Health of Spain.

For the Papal States :

Dr. Ignatius Spadaro.

For France :

Count de Lallemand, Minister Plenipotentiary.

Dr. Fauvel, French Sanitary Physician.

For Great Britain :

Dr. Goodeve, Surgeon-Major of the Indian Army, and Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to Her Britannic Majesty's Embassy, and Delegate from Great Britain to the Superior Board of Health at Constantinople.

For Greece :

M. Kalergi, Secretary to the Legation of His Majesty the King of the Hellenes.

Dr. G. A. Maccas, Chief Physician to the King, Clinical Professor of Medicine in the University of Athens.

For Italy :

M. A. Vernoni, Chief Interpreter to the Legation of His Majesty the King of Italy.

Professor Frederic Bosi.

Dr. G. Salvatori, Italian Delegate to the Superior Board of Health at Constantinople.

For the Netherlands :

M. Keun, Councillor to the Legation of His Majesty the King of the Netherlands.

Dr. Millingen, Delegate from the Netherlands to the Superior Board of Health at Constantinople.

For Persia :

Mirza Malkom Khan, Aide-de-Camp-General of his Majesty the Shah, Councillor to his Legation.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargé d' Affaires.

Dr. Bernardino Antonio Gomez, Councillor and Chief Physician to His Most Faithful Majesty.

For Prussia :

M. le Baron Testa, Delegate from Prussia to the Superior Board of Health.

Dr. Mühlig, Physician to the Legation, and Chief Physician of the Ottoman Marine Hospital.

For Russia :

Dr. Pelikan, Minister of State, and Director of the Civil Medical Department in Russia.

Dr. Bykow, Councillor of State, co-Military-Medical Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, and Secretary to His Legation.

Dr. Baron Hübsch.

For Turkey :

His Excellency Salih Effendi, Director of the Imperial School of Medicine at Constantinople, and Chief of the Civil Medical Staff.

Dr. Bartoletti, Inspector General of the Ottoman Sanitary Service, and Member of the Superior Board of Health at Constantinople.

(For Egypt:)

Dr. Salem Bey, Professor of Clinical and Medical Pathology in the Cairo School of Medicine, and Private Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

The sitting was resumed at 12 A. M.

The Proceedings of the 31st sitting were read by M. le Baron de Collongue and adopted.

Dr. Mühlig, who was not able to stay till the close of the last sitting, intimates his adhesion to that portion of the Report adopted during his absence.

MM. le Baron Testa, Gomez, Stenersen, Sotto, and Baron Hübsch made the same declaration.

The discussion having been resumed on the last portion of the conclusion of section 7, chapter III, where it had been discontinued at the last sitting, His Excellency Salih Effendi remarked that this conclusion is not perhaps in complete harmony with the text. The mode in which it was drawn up could be modified, or, perhaps completed, thus: *An Ottoman Board, holding its sittings at Suez and assisted by an International Commission*, and organized on the same basis as the Board of Health at Constantinople *which should decide on all questions relating to the sanitary service of the Red Sea* comprising that of Bab-el-Mandeb. His Excellency Salih Effendi states that there is nothing in the conclusion so modified which is contrary to the text of the Report, it is only in the shape of a commentary, or species of interpretation; it is not, however, his intention to introduce an amendment, nor does he wish the Conference to deliberate on these modifications.

Dr. Fauvel explains the reservation which the Commission has thought it necessary to show. It thought, as it is said at page 37, that it would be advisable to confide the direction of the sanitary service of the whole of the sea-board of the Red Sea, comprising the straits of Bab-el-Mandel, to a special mixed Commission, but it has been careful in specifying that the executive power should be left to the authority which possess it of right. It is not within the province of the Conference to decide whether the Ottoman or Egyptian Government should exercise such power.

Dr. Salem Bey thinks that the Egyptian Board of Health, in reference to its mixed character, is the one naturally pointed out as the best fitted for being put in charge of the direction of the Red Sea sanitation; as for the executive power, it was well understood that it should, as the Commission says, be left to the power which may be entitled to exercise that right. In his capacity of Delegate from the Egyptian Government, Dr. Salem Bey does not admit the creation, otherwise useless, in his opinion, of a special Commission stationed at Suez, and distinct from the Egyptian Sanitary Board.

The last portion of the conclusion of the first portion of section 7 is put to the vote and adopted, *viz.*, 18 in favor, 4 against, and 3 abstentions.

In favor—M. M. Sotto, Segovia, Monlau, Spadaro, Comte de Lallemand, Fauvel, Kalergi, Maccas, Vernoni, Professor Bosi, Chevalier Pinto de Soveral, Gomez, Testa, Mühlrig, Pelikan, Stenersen, Hübsch, and Salem Bey (with reservation.)

Against—Drs. Goodeve and Dickson, M. Keun, and Dr. Bykow.

Abstentions—Dr. Millingen, Malkom Khan, and His Excellency Salih Effendi.

The second text of the 7th Section is then read.

The prescription of the Mahomedan law, which requires that whoever undertakes pilgrimage should be provided with sufficient funds for the journey, is, according to Dr. Monlau, whatever the Report might state, scarcely observed in Algeria. Among other facts which can be produced by him in support of his observation, Dr. Monlau cites that of a steamer, the *Méandre*, which put in at Valentia in the year 1866, and which had a great number of Arab pilgrims on board proceeding to Mecca. The state of misery and uncleanness these poor people exhibited almost baffles description. Their fare was paid as far as Cairo, but they had barely enough means for providing for their daily wants; some were actually seen eating with great relish pieces of orange peel which had been thrown away by the other passengers.

Dr. Monlau thinks that it would be as well to call the attention of the French Government to these facts.

M. le Comte de Lallemand replied that the French Government was instituting enquiries into this important question. It was its intention to adopt the same plan in regard to Algeria as that which had

afforded such good results at Morocco, *i. e.*, to determine that each pilgrim should certify to his being possessed of a sum of 500 francs.

Dr. Salem Bey explains that the Algerians belong to the sect of El Malek, which only exacts from pilgrims that they shall be in sound health. It was impossible, however, not to applaud the measures just described—as about to be adopted by the French Government—the praise due to those measures which will be adopted by the French Government in the sense in which they have been indicated.

Dr. Monlau withdraws his remarks after the explanation tendered by M. le Comte de Lallemand.

Don Segovia adds that the fact cited by Dr. Monlau, as well as other similar facts, had been the cause of some complaints from the Spanish sanitary authorities. The French Ambassador at Madrid, to whom these complaints had been preferred, had promised, as M. le Comte de Lallemand has just done, that measures would be adopted to prevent a recurrence of the evil.

Dr. Millingen asks if we should not look more specially to the state of the pilgrims' health than to their ability to defray the expenses of the voyage. All the Imams invariably lay down as the first condition that the future Hadji should be in possession of sound bodily health. Should we not, under these circumstances, look to the healthy condition of the pilgrims at the time of embarkation, and prevent the departure of all those who are in an unhealthy condition.

Dr. Fauvel replies that this practice should form a part of the hygienic measures to be taken at the time of embarkation, and that the third Commission should not again re-open this question, as it has been already disposed of on a previous occasion.

Dr. Millingen suggests that the Report, in order to be complete, should have included Singapore with the Ottoman and Egyptian ports, when it speaks (at page 39) of the transport of pilgrims and the lamentable overcrowding too frequently permitted in the course of such transport.

The Ottoman and Egyptian ports are not the only ones where the transport of pilgrims presents the appearance of a greedy speculation. Singapore should also be placed in the same category.

The 2nd portion of section 7 is put to the vote and unanimously adopted. (24 members voted, Mirza Malkom Khan being the only absent member at that time.)

The Delegates from Great Britain explain that they vote under reservation as to the application of this paragraph to India.

The 3rd and 4th portions of section 7, not eliciting any remarks worth recording, are unanimously adopted.

Dr. Goodeve tenders his cordial adhesion to the 5th section, which has just been read, and which *treats of those measures which are to be adopted against all importations from the Hedjaz, should the cholera*

manifest itself during the pilgrimage. The measures proposed by the Commission appear to Dr. Goodeve as wise as they are efficacious, and he does not think that they could have better decided a question so difficult of solution.

Dr. Salem Bey expresses his satisfaction that the Commission has admitted (at page 47) the possibility of modifications, which without altering the fundamental principle of the measure proposed by it, may be considered necessary to facilitate its application. This determination of the Commission diminishes the force of the objections made by him (Dr. Salem Bey) regarding certain points in that portion of the Report.

The port of El-Wedge, which is suggested (page 4) as a place of quarantine for the pilgrims, is, in Dr. Salem Bey's opinion, unsuited to the purpose, especially if cholera were to break out at Mecca.

Dr. Mühlig does not consider that a delay of 10 full days after the disappearance of cholera amongst the pilgrims undergoing quarantine at El-Wedge, before giving them permission to proceed to Egypt (page 48), will be a sufficient guarantee. The Commission, which has fully considered this point, recommends, it is true, the previous disinfection of goods and luggage, and suggests besides that vessels which carry these pilgrims should be subjected to an inspection of 24 hours' duration at Tor; but will this disinfection be possible in actual practice? Dr. Mühlig, who has his doubts in this matter, and who does not admit the efficacy of the 24 hours' inspection, which will be applicable to all kinds of vessels, thinks that the captains of these vessels will always feel an inclination to conceal the real sanitary condition of their passengers, and would, under these circumstances, recommend that the pilgrims should not be allowed to quit El-Wedge until 15 days after the disappearance of cholera amongst them, as also that the maritime communications between the Hedjaz and Egypt be not re-established in less than 15 days instead of 10, as proposed, after the cessation of all signs of cholera in the Hedjaz; specially as 8 or 10 days after the conclusion of an epidemic, isolated cases have often occurred. Dr. Mühlig calls attention to the fact that arrivals which have been affected by cholera are not admitted to pratique in the ports of the United States of America before the expiry of 21 days after the manifestation of the last case of cholera.

The delay of 10 days proposed by the Commission is sufficient only with reference to caravans proceeding to Egypt, and this with regard to the length of the caravan journey.

M. Stenersen agrees in the opinions expressed by Dr. Mühlig, and remarks also that the Conference can take them into consideration without interfering with the decision that it will have finally to enunciate when the question as regards the duration of quarantine shall be discussed. When it is in contemplation to adopt sanitary measures in relation to importations from the Hedjaz, so momentous in reference to the importation of cholera into Europe, we must always reckon upon an application more or less defective, and, moreover, as there are no great

commercial interests at stake, the Conference can, according to M. Stenersen, be itself more strict without inconvenience.

M. Keun reserved his opinion in regard to what has been advanced on the subject of the permission to be accorded to pilgrims, whose destination is to countries beyond the Red Sea, to embark and return to their homes on condition that they should submit to the rules prescribed by the sanitary Authorities. The Commission having asked, in the first place (page 46), that the conditions of the English regulations may be observed previous to the departure of those pilgrims for the Hedjaz, M. Keun has reason to believe that his Government will be disposed to ask that this ruling be also applied when they re-embark in the ports of the Hedjaz to return to their own countries, and to suggest an agreement to this effect amongst the Powers interested.

His Excellency Salih Effendi disputes the statement that a portion of the pilgrims do not undertake (vide page 43) the journey to Medina. It would be more exact to say that they are "those who have been to Medina before going to Mecca, which is the case with the largest portion of those who return as quickly as they can to embark at Jeddah."

Dr. Fauvel replies that the Commission has had under its notice, reports wherein it has been mentioned that there are pilgrims that do not proceed to Medina. It may be, moreover, that the number is not considerable, and the Commission can only, in this respect, refer to what has been said by the Turkish Delegate.

Drs. Dickson and Bartoletti support the motion of Dr. Müblig; they observe that the duration of 15 days' quarantine has already been adopted by the Conference, and also by the Board of Health for importations from the Hedjaz.

M. le Baron de Testa asks that Dr. Müblig's motion may be the subject of a special vote on the part of the Conference.

Drs. Salem Bey and Gomez, on the contrary, think that 10 days' quarantine is quite sufficient. The latter observes that we must also take into consideration the duration of the voyage, which appears to him to be actually a continuation of the inspection. If during the voyage cases of cholera manifest themselves, precautions could always be adopted to prevent the importation of the malady into Egypt.

Dr. Müblig objects that the crews of vessels which have conveyed pilgrims in quarantine at El-Wedge should not be submitted to choleraic influence, and that they will be exposed to infection. If the embarkation of these pilgrims shall have taken place prematurely, according to Dr. Müblig, the result would be a further degree of danger in regard to Egypt; and this may be assigned as another argument in favor of a quarantine of 15 days' duration.

Dr. Fauvel declares that the majority of the Commission adheres to Dr. Müblig's proposition.

Dr. Bykow individually is of opinion that 10 days will suffice, the rather, as it has been well urged by Dr. Gomez, that the length of the

Voyage, 3 or 4 days, and the 24 hours' observation at Tor, which will altogether make up a period of 13 or 14 days, between the date of the disappearance of cholera amongst the pilgrims at El-Wedge, and that of their arrival in Egypt. Dr. Bykow, however, does not object to the quarantine being of 15 days' duration and even more. The longer this quarantine lasts, the greater will be the safety of Egypt and Europe.

Dr. Mühlig's proposition for fixing 15 days' quarantine instead of 10 days is put to the vote and unanimously adopted, with the exception of Dr. Gomez, who voted against it (25 voting).

The text and conclusions of the 5th paragraph of Section 7 are then put to the vote, and unanimously agreed to. Drs. Goodeve and Dickson vote under the reservations above referred to by them.

Section 8 (Clause A.) of Chapter III. is then read, in regard to "measures to be adopted in case cholera should manifest itself in Egypt."

Dr. Mühlig thinks that the Report should not have discussed the question whether, in that case, it would not be advisable to interrupt for a short period the maritime communications between Egypt with the whole of the Mediterranean sea-ports, but that it should have at once answered the question in the affirmative. The interruption of communications from the time that the cholera shall have penetrated into Egypt is evidently the only measure which can be adopted to preserve Europe from the invasion.

Dr. Monlau is of the same opinion; the question is perfectly clear, and the decision of it must be fully announced, and if the Commission has thought it prudent to show itself timid, the Conference should take more decided and explicit action in the matter, and declare openly that, in a sanitary and perhaps in a commercial point of view, the necessity for interrupting the communication cannot for a moment be doubted.

The efficacy of prophylactic measures depends on their being well-timed and rigorously applied. Dr. Monlau would, however, even wish to go further still beyond that, and that without interfering with the absolute temporary interruption determined upon in the event of an epidemic being authoritatively reported, all importations from Egypt should in the ports of the Mediterranean be subjected to a quarantine of observation during the whole period of the pilgrimage to Mecca. Egypt might be looked upon in the light of a compromised or suspected country immediately on the arrival of the Indian pilgrims at Jeddah, and in this point of view the quarantine of observation becomes a strict sanitary duty. Dr. Monlau thinks that this quarantine would be a further security against the importation of cholera *via* the sea, and that besides, if periodical and habitual, it would not cause much inconvenience to navigation. When we are desirous of accomplishing great results, can we shun great measures? In Spain there exists an analogous quarantine against the yellow fever. All arrivals from the Antilles and the Gulf of Mexico from the 1st of May to the 30th Septem-

ber, (i. e., during those months when the disease is most to be dreaded) are invariably subjected to a quarantine of seven days' duration, and for the forty years since this has been the established rule, it has afforded satisfactory results. The yellow fever, which formerly so often ravaged the coasts of Andalusia, has not since that time made its appearance. Dr. Monlau, after calling attention to the fact that this preventive quarantine had been employed most effectually against the plague, and that it was only within the last few years that unrestricted intercourse with the Levant has been permitted, asks in conclusion why quarantine should not also be adopted in regard to cholera, at least until the organisation of the sanitary service of the Red Sea. When Egypt affords, in a sanitary point of view, greater security than she now does, it will then be possible to dispense with precautionary measures, the necessity for which at present is evident.

Dr. Pelikan agrees with the Commission upon the principle of interruption of communications, only he is desirous of knowing what exceptions the report wishes to speak of when at the 50th page it says that the interruptions will not have reference to certain emergent communications, which, by the adoption of indispensable precautions, might be carried on without danger. If by this the mail steamers are meant, those measures would then lose all their efficacy, and he would be under the necessity of voting against them.

Dr. Fauvel replies that the Commission only alluded to mails, in fact to despatches. No exception will be made in favor of the mail steamers.

Dr. Goodeve votes against the conclusions of the Commission; he does not contest the efficacy of the measures proposed, but he denies that they are possible in practice, as also that they will meet with the approbation of those Governments who feel an interest in these measures. International and commercial interests might have been brought more in accord with the prescriptions of science, and the Commission would have done better if it had indicated practical measures of preservation, instead of deciding so summarily a question which interests the relations of one portion of the globe with the other. Dr. Goodeve is, however, happy to learn, from the formal explanations given to Dr. Pelikan, that the despatches and ordinary mail packages will be permitted to pass through Egypt, a point which had not been very clearly defined either in the report or in the conclusion, where only interruption of the maritime communications is mentioned, without which communications the transport of despatches cannot take place; but there still remain the numerous travellers from India, China, and Australia who traverse Egypt on their journey to Europe. Can it be intended that they may be obliged to delay in Egypt perhaps for the long period of three months? We could have had recourse to such means in former days when communications between different nations, it might be said, scarcely existed; but this is no longer possible in modern times, and if frequent intercourse renders the propagation of contagious diseases more easy, we should learn to accept the good as well as the evil.

Dr. Goodeve believes, in any case, that it would have been preferable if the discussion of this portion of the Report had been preceded by that portion of the Report of the Commission which treats of quarantine measures; perhaps that Commission will be able to point out precautionary measures which will prove equally efficacious but less onerous than those now under discussion.

As regards Dr. Monlau's proposition that the multitude of travellers from Egypt should each year regularly be subjected to observation in quarantine whilst the pilgrimage lasts, whether the cholera existed or not at the Hedjaz, Dr. Goodeve thinks that it would be a harsh as well as an unjustifiable measure, if we were to benefit by the experience acquired during the fifty years since cholera has been the subject of attention. He hopes that this proposition will not be adopted by the Conference.

Don Segovia admits that his opinions have undergone modification since the sitting of the Sanitary Conference of 1851, where he was in the position of a defender of commercial interests. We must, under any circumstances, prevent the transmission of diseases. Commerce, as its transactions are interrupted by the outbreak of an epidemic, has the greatest interest in the matter: it will gain rather than lose by protective measures. Though not, perhaps, as exacting as his colleague Dr. Monlau, he, Don Segovia, does not the less adhere to his proposition.

Dr. Mühlbig believes that Dr. Goodeve exaggerates the evil consequences of the interruption of maritime communications between Egypt and the Mediterranean ports. Why will not commerce be able to resume temporarily, in case of an epidemic, the former route of the Cape of Good Hope, the only one which it followed not many years ago? Sanitary interests should prevail over commercial interests; if last year communications had been interrupted for a period of four or five weeks, we should not have seen cholera extending its ravages throughout the whole of Europe.

Dr. Goodeve, in answer to Dr. Mühlbig, states that it would be impossible, either as regards India or Egypt, suddenly to direct a change of route for the three or four months during which the interdiction of communications may last. Besides, what advantage will the alternative offer to travellers who will have either to remain in Egypt, or be compelled to undertake a journey which it will take months to accomplish?

Dr. Maccas is aware that commerce will have to suffer greatly from the interruption of maritime communications; but he asks if that is really a question for a Conference whose first duty should be to devise safeguards for the public health. The first point to decide should be whether the measure proposed is efficacious or not; if it be efficacious, though perhaps also obstructive, and no other equally good can be suggested, the consideration that it would impede commercial relations should not be a sufficient reason for its rejection. Dr. Maccas,

without prejudice in other respects to the conclusions arrived at by the Commission appointed to consider quarantine measures, and differing from Dr. Goodeve in opinion, does not believe that they were sufficient to preserve Europe from the danger to which she is exposed by the presence of cholera in Egypt. Experience has shown that the efficacy of complex quarantine measures, which necessitate the co-operation of numerous agencies, depends on the mode of application, and the chances of infraction are too frequent to render those measures an infallible guarantee, especially if we take into consideration the impossibility of preventing the diffusion of cholera into Europe when once it has succeeded in penetrating into any portion of the European continent. Placing quarantines then out of the question, there is evidently no other means left than to interrupt the communications between Egypt and Europe. Under those conditions, Dr. Maccas does not simply bind himself to support the conclusions come to in the Report, but asks the Conference to reply in the affirmative, as has been suggested, to the question put by the Commission.

Dr. Goodeve states that he prefers the most rigorous quarantine to the interdiction of communications.

Dr. Bartoletti does not oppose the adoption of special measures in regard to Egypt, but they must be capable of practical application, specially as the Commission is the first to doubt the possibility of applying those measures which have been proposed by it. Dr. Bartoletti would have no objection to make to the interruption of communications if only emigrants and tourists were to be the sufferers; he thinks that we could, without any inconvenience resulting to the public health, permit the exportation of merchandise.

Don Segovia is not of the same opinion. The mails only should be exempted from these measures. Don Segovia adds that as the despatches from India are transported by means of well closed wooden boxes, made on an uniform plan, and which convey no susceptible matter, such as leather, or hemp, the precautions to be taken in regard to them, should an exception be made in their favor, would involve no danger.

Dr. Fauvel rises to explain the reasons which have guided the Commission in treating this question. The Commission has specially been mindful to bring forward the extreme importance of the measures recommended in the preceding chapters to prevent cholera from penetrating into Egypt, the interruption of communications being, in fact, the last expedient to which recourse need be had if the said measures are well applied. Should we at the present time draw back from adopting such a step, if unfortunately the cholera, overcoming every obstacle, were to invade Egypt? The Commission does not think so. In time of war we do not hesitate to place whole countries in a state of blockade, and to starve out and even bombard inoffensive towns, and all this is considered to be quite justifiable,—how then shall it be maintained that that which is permitted in this case, often for very trivial causes, should

be looked upon as unjustifiable when it is in contemplation to preserve humanity itself from a dreadful scourge? The Commission does not, in fact, think that the injury which may be caused to Egypt by the interruption of its relations with Europe for a period of two or three months will be as great as it is imagined by some persons.

Dr. Fauvel indicates one by one the consequences likely to result from the interruption of maritime communications, and he shows how much these consequences have been exaggerated, since this interruption will only apply to the conveyance of merchandise and travellers, and not to despatches, which are necessarily of the greatest importance. However serious the consequences indicated may be, whatever inconvenience may be the result, the Commission declines to admit that it can bear comparison with the great calamity which a choleraic epidemic causes in regard to commercial transactions, without speaking of the thousands of those whose death it has caused. Dr. Fauvel says, in conclusion, that if the Commission has framed its conclusion in an interrogative shape, it was not because it doubted what reply should be given to the question so put, but only because it found itself in the presence of certain obstacles which it was obliged to note, and preferred under those circumstances to pass a guarded opinion, leaving it to the Conference to pronounce its final decision.

Dr. Salem Bey stated that he would vote against the conclusion of the Report; not that he contested the right of Europe to have recourse to the most rigorous measures with a view to ward off any cholera invasion from Egypt, but because it appears impossible to him that this result could be attained by such impracticable means as those suggested by the Commission.

Dr. Salem Bey regrets that some Delegates should have thought it necessary to have gone even beyond the Commission, by asking the Conference to decide such an important question before the discussion of the Report of the 2nd Commission, which has demonstrated the impossibility of reckoning upon the application of rigorous quarantine measures, in order to arrive at the end in view.

Dr. Gomez asks if it would not be an act of injustice to impose on Egypt such an immense amount of responsibility with the sole object of watching over the public welfare of Europe.

Why not then also require the complete isolation of Italy, Spain or France, when the cholera shall have manifested itself there, and the neighbouring countries are still intact?

Dr. Gomez, who approves of the reservation with which the Commission recommends the isolation of Egypt during an epidemic, will vote in favor of the conclusions of the Report, but only in the shape in which they have been framed. M. Kalergi states that his Government reserves to itself the right of adopting such precautionary measures as it considers necessary in regard to those countries which should continue, contrary to the decision of the Conference, to hold communication with Egypt after a choleraic epidemic has broken out there.

Dr. Dickson admits that the interruption of communication with Egypt can in a theoretical point of view prove the safest means for preserving Europe, but he really doubts if it be possible in practice, on account of the opposition that this measure will meet with on all sides. Could we not, in order to conciliate all parties, select some island in the Mediterranean, where, on cholera appearing itself in Egypt, vessels coming from that country will have to perform quarantine before being permitted to prosecute their voyage towards Europe?

Dr. Fauvel remarks that this question is within the province of the Commission appointed to consider quarantine measures.

Dr. Bykow thinks that the Conference should be in a position to come to a decision after the explanations tendered by Dr. Fauvel. It devolved in fact on Egypt, to save itself from the losses it would suffer by the interruption of its communications, by a strict application in the Red Sea of the measures suggested by the Conference.

Don Segovia also suggests that the motion should be put to the vote, but asks that each Delegate should reply to the question of the Commission by saying either *yes* or *no*.

The President then put to the vote, in the shape of a question, the text of Section 8, as framed by the Commission.

The Conference adopted the proposition by a majority of 16 against 3, one member declining to vote.

The following members voted in favor of the above Section:—

Dr. Sotto, Don Segovia, Dr. Monlau, Comte de Lallemand, Dr. Fauvel, Kalergi, Dr. Maccas, Vernoni, Keun, Drs. Millingen and Gomez, Mühlig, Pelikan, Bykow, Stenersen, and Baron Hübsch.

Against—Drs. Goodeve, Dickson, and Salem Bey.

Abstention—His Excellency Salih Effendi.

His Excellency Salih Effendi afterwards enquires of the Conference if the question put by the Commission should be replied to in the affirmative; it was decided in the affirmative by a majority of 13 against 3, and 4 abstentions.

Those members who voted in favor were—

Dr. Sotto, Don Segovia, Dr. Monlau, Comte de Lallemand, Dr. Fauvel, Kalergi, Dr. Maccas, Vernoni, Drs. Mühlig, Pelikan and Bykow, Baron Hübsch, and M. Stenersen.

Against—Drs. Goodeve, Dickson, and Salem Bey.

Abstention—M. Keun, Drs. Millingen and Gomez, and His Excellency Salih Effendi.

The meeting separated at 4½ P. M.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE, }
DR. NARANZI, } *Secretaries.*

INTERNATIONAL SANITARY CONFERENCE. MEETING
No. 34, OF THE 6TH SEPTEMBER 1866.H. E. SALIH EFFENDI, *Presiding.*

The International Sanitary Conference held its thirty-fourth meeting on the 6th September 1866, at Galata-Serai.

PRESENT :

For Austria :

M. Vetsera, Councillor of the Internonciature of His Imperial and Royal Majesty.

Dr. Sotto, Physician attached to the Imperial and Royal Internonciature, Director of the Austrian Hospital.

For Belgium :

Count de Noidans, Secretary to the Legation of H. M. the King of the Belgians.

For Spain :

Don Antonio Maria Segovia, Consul-General, Chargé d' Affaires.

Dr. Monlau, Member of the Superior Council of Health of Spain.

For the Papal States :

Monseigneur Brunoni, Archbishop of Taron, Vicar-Apostolic at Constantinople.

Dr. Ignace Spadaro.

For France :

Count de Lallemand, Minister Plenipotentiary.

Dr. Fauvel, Sanitary Physician of France.

For Great Britain :

Dr. Goodeve, Surgeon-Major, India Army, Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to H. B. M.'s Embassy, British Delegate to the Superior Council of Health at Constantinople.

For Greece :

M. Kalergi, Secretary to the Legation of H. M. the King of the Hellenes.

Dr. G. A. Maccas, 1st Physician to the King, Clinical Professor in the University of Athens.

For Italy :

M. A. Vernoni, 1st Interpreter to the Legation of H. M. the King of Italy.

Professor Frederic Bosi.

Dr. G. Salvatori, Italian Delegate to the Superior Council of Health at Constantinople.

For the Netherlands :

M. Keun, Councillor to the Legation of His Majesty the King of the Netherlands.

Dr. Millingen, Dutch Delegate to the Superior Council of Health at Constantinople.

For Persia :

Mirza Malkom Khan, Aide-de-Camp-General to H. M. the Shah, Councillor to His Legation.

Dr. Sawas Effendi, Inspector of Hygiene and Salubrity at Constantinople, Persian Delegate to the Superior Council of Health.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargé d'Affaires.

Councillor Dr. Bernardino Antonio Gomez, Chief Physician to His Most Faithful Majesty.

For Prussia :

Baron Testa, Prussian Delegate to the Superior Council of Health.

Dr. Müblig, Physician to the Legation, Principal Physician to the Ottoman Marine Hospital.

For Russia :

Dr. Pelikan, Councillor of State, Director of the Civil Medical Department in Russia.

Dr. Bykow, Councillor of State, Assistant Military-Medical Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, Secretary to His Legation.

Dr. Baron Hübsch.

For Turkey :

H. E. Salih Effendi, Director of the Imperial School of Medicine at Constantinople, Chief of the Civil Medical Service.

Dr. Bartoletti, Inspector General of the Ottoman Sanitary Department, Member of the Superior Council of Health at Constantinople.

(For Egypt :)

Dr. Salem Bey, Clinical and Pathological Professor in the School of Medicine at Cairo, Special Physician to the Princess-Mother of His Highness the Viceroi of Egypt.

Dr. Naranzi, one of the Secretaries, read the minutes of the last meeting but one (No. 32). They were unanimously approved.

M. Maccas desired to make an urgent proposition.

The termination of the labors of the Conference, he said, was close at hand. To finish its task it only remained to it to enter upon the fourth group of its programme. He was of opinion that by immediately proceeding to the nomination of a Committee with the object of studying the question framed in that group, the Conference would gain some time, for it could receive the Report of the Committee immediately after the discussion of the Report of the second Committee.

The motion made by M. Maccas gave rise to a conversation between several Delegates, the object being to come to an understanding upon the following points:—

1st.—Was it necessary to appoint a special Committee, or should the Conference resolve itself into a Committee of the whole house, to consider and solve the question put in the fourth group thus—

“What definitive form should the Conference impart to the resolutions it may adopt?”

2nd.—In case a Committee should be appointed, should the Conference await its Report to discuss the meaning to be attached to the question framed in the fourth group of the programme, or would it be better to explain its definition at once, and trace out to the Committee the plan it should follow?

3rd.—Should it be the task of the Committee to draw up an official Act, a draft convention, or should it confine itself to framing a final minute, a resumé containing an analytical account of the labors of the Conference?

On the conclusion of a discussion in which MM. de Lallemand, Monlau, Stenersen, Kalergi, Keun, Segovia, Maccas, Fauvel, Goodeve, Bossi, de Soveral, Bykow, and Bartoletti, took part, it was unanimously resolved—

1st.—To immediately appoint a Committee of seven members, consisting of diplomatic and medical Delegates.

2nd.—To impose upon this Committee the task of framing an *enunciation* “of the principal proposition, and conclusions contained in the reports adopted by the Conference.”

This enunciation to be preceded by a short introduction, and the minute relating to each proposition as well as each conclusion to be indicated.

3rd.—This enunciation not to contain any commentary, and to be signed by all the Delegates, by whom it is to be submitted for the consideration of their respective Governments.

On the proposition of His Excellency the President, the following Delegates were appointed members of the Committee:—

MM. de Lallemand, Segovia, de Noidans, Goodeve, Bartoletti, Fauvel, and Monlau.

The Conference proceeded to the order of the day, and the President asked M. Fauvel to continue the reading of the Report of the third Committee.

M. Fauvel read from page 51 to page 55.

Mirza Malkom Khan desired to offer some remarks, not upon the substance of the chapter, which he accepted and for which he would vote, but upon some facts which seemed to him to be exaggerated, and also upon some details which he considered to be difficult and even impossible of application.

The precautionary measures proposed by the Committee to render the custom of the conveyance of corpses inoffensive were excellent, and he entirely concurred in them, although, to his thinking, the Report had imparted exaggerated proportions to this transport. Mirza Malkom Khan observed that all corpses were not so transported: he knew this positively, having often seen the custom described in his travels.

Regarding the proposed institution of a sanitary system organised on the model of the one working at Constantinople, Mirza Malkom Khan was of opinion that the European element was not indispensable, and that the adoption of such an institution might meet with great difficulties in Persia. But these difficulties would not be encountered at all if they were to content themselves for the time with the indigenous medical element recruited from amongst those who had pursued their studies in Europe. In time, he added, it would perhaps be easy to introduce the foreign element.

At page 54, continued Mirza Malkom Khan, it was said:—"If Persia could with security entertain a sanitary physician at Herat, we would recommend her to do so." There was no doubt, in his opinion, that Persia could perfectly well maintain one, and she was perfectly certain to do so. So that he thought the doubt expressed in the passage was in no way justified, and it should, therefore, be suppressed.

In the same page it was said that the Persian Government would do well to come to an understanding with the Imam of Muscat for the organisation of a system capable of defending the country against the importation of cholera by sea. He proposed the suppression of this passage. He had shewn, he said, at other times, the reasons which he might allege in support of what he had just asked. As he did not intend to revert to them, he confined himself to saying that the Imam of Muscat was possessed of no autonomy, that he exercised no domination in the Persian Gulf, and that Persia could act independently of him, having no need of his concurrence.

M. Fauvel begged those who wished to speak on the subject of the Imam of Muscat or the Persian Gulf, and he had heard that some Delegates intended to do so, to be good enough to bring forward their remarks at once.

M. Millingen said that amongst the other claims the Committee of the Report had to the gratitude of the Conference, the chief was surely the modesty of its labors. This modesty was displayed in various places in the Report; and notably when the Committee acknowledged the insufficiency of the measures proposed by it.

M. Millingen thought that this reserve should be properly and deeply valued, and more should not be required of the Committee than it had been able to do with the most hearty good will. Thus there were excellent measures in the report, and also others which were incomplete or impossible of application. The great interest of the question, he remarked, touched upon the Persian Gulf. But since the Conference had deemed it expedient to make special mention of Persia, the Committee in its turn should have made a special study of the measures to be taken to preserve the coast of the Persian Gulf, and it should not have confined itself to recommending them to the solicitude of Persia, the Imam of Muscat, and the Turkish Government, thus adjourning indefinitely the solution of such an important question.

No country, continued M. Millingen, with the exception of India, had been more frequently and more cruelly ravaged by cholera than Persia and Mesopotamia. In fact, from 1821 to 1866, the frequency of the epidemics there had been such, that it began to be thought that the disease really existed there endemically. The Conference, after long enquiry, had acquired the certainty that this frequency was due, in the majority of cases, to an incessant renewal of the choleraic germ by means of arrivals from the ports of Kurrachee, Suva, and Bombay, and that the importation was effected through the Persian Gulf, especially by the numerous Mahomedan pilgrims who, leaving choleraic foci, constantly proceeded to the venerated places and sanctuaries of the Shiahs. Now, if the actual state of the Persian Gulf, continued M. Millingen, deserved to be taken into serious consideration, in connexion with Persia and Mesopotamia and the adjacent countries, the future reserved to it interested Europe too much not to occupy the minds of people in anticipation. A Committee already provided with authority from the Ottoman Government had undertaken to connect the Mediterranean with the Persian Gulf by a railway, which, passing through Syria and following the course of the valley of the Euphrates, was to terminate at Bassora, whence passengers and goods were to be transported by steamers to the port of Bombay. This new route would shorten the distance between England and India by a thousand miles, and the journey would be accomplished in half the time taken by the Egypt route, *i. e.*, about eighteen days. When, added M. Millingen, the Suez Canal was finished, the Euphrates valley route would enjoy a superiority in comparison with the Isthmus route similar to that obtained by the latter in comparison with Vasco de Gama's route *via* the Cape of Good Hope.

Following up these observations, M. Millingen would ask whether it would not be more convenient to set up at the very entrance of the Persian Gulf, on the Islands of Kishm or Ormous, for instance, by which every ship entering the Gulf must pass a sanitary establishment, where all ships entering this sea should be subjected to search, and, if necessary, to measures of quarantine? If so, what character ought to be imparted to this establishment, and in what cases, by whom, and how should these measures be applied?

M. Millingen begged the honorable Conference to be so good as to take into its serious consideration the idea he spoke of, and which he submitted in the shape of a motion.

With regard to the Imam of Muscat, M. Millingen believed that his intervention would be indispensable; and as he alone possessed almost the key of the Persian Gulf, the previous mutual consent and concurrence of the Imam and the Persian Government were necessary for the establishment of a Sanitary Department on the coast of the Gulf.

M. Gomez desired to make some remarks and propositions on the same subject. The study made in the Conference of the march of cholera and of the means which facilitated its propagation, made it abundantly clear that great deserts, long journeys by mountainous and difficult roads, and long sea voyages, might oppose a barrier to the invading march of the disease, if these conditions of the route were not counterbalanced by other circumstances capable of annulling their effects, and permit of cholera surmounting these obstacles in spite of everything. Such obstacles as these would have more frequently arrested cholera in its march across the Continent of Asia, and also by sea, and prevented its arrival in Europe, if the scourge had not frequently found, in caravans, in the pilgrimage particularly, and in the effects of the great assemblages resulting therefrom, the means of concentrating the choleraic germ, of confining it, of maintaining it so long that time and space could not dissipate it before it was carried into the distant regions to which these assemblages proceeded. Hence, continued M. Gomez, the necessity of watching them, of following them in their travels, of exercising the strictest sanitary police over them. The report under discussion showed all the importance of this, and it proposed a system of measures which had been appreciated. In this system the Red Sea invited very special attention, the first cause of this being the pilgrimage to Mecca. Regarding some of the measures projected to prevent the entrance of the disease, the only difficulty that existed was that of execution. But the Persian Gulf, M. Gomez thought, none the less deserved to be the subject of anxious and foreseeing care: indeed, it required more, as it was closer to India and in more continuous connexion with Indian ports, and because it was the chief and the easiest entrance for the disease into Persia. Moreover, it was, as had been demonstrated, the most exposed point, being one of the first stages through which cholera most frequently passed on its way from India to Europe.

Why not, then, asked M. Gomez, organise for this sea, especially at the entrance of the Gulf, a system of measures similar to that proposed for the Red Sea? Instead of an almost uninhabitable rock, like the island of Perim, there would be a choice between the island of Ormouz and the islands of Kishm and Larej, where there is no want of resources, and where not only posts of observation but also great lazarettos might be established. In doing this, instead of having to deal with barbarous tribes, with whom for the present there would be no hope of maintaining pacific relations, (like those who people the coasts of Yemen and Abyssinia), they would have to deal with the Persian Government and

the Imam of Muscat, with whom there was every probability of coming to a good understanding. There was not, it is true, much to be said about these countries in respect of salubrity, but the corresponding countries of the Arabian coasts were not much better.

What had been made known by the march of cholera, continued M. Gomez, and what had been learnt of the means of preservation to be opposed to it, shewed that it was at the entrance of the two gulfs especially that it was necessary to oppose it, and this might be done by means of posts of observation and lazarettos properly established. This end could be attained, according to M. Gomez, by a regular watch being kept up by cruisers at the mouth of each gulf, if only at the time of the pilgrimage. He was of opinion that the maritime powers would easily come to an understanding with the view of organising such a cruising system: they had done a similar thing, at a much greater expense than this would amount to, in the suppression of the slave trade. Did cholera, spread by crowded ships, maintained by greedy speculation for which there was no excuse, deserve less attention from them? It would not be the least service rendered by the Conference if it were to indicate the causes of the propagation of cholera, looked in this point of view, and to invite the attention of Governments to the effectual means in their power to oppose a barrier to such propagation.

M. Gomez proposed therefore :

1st.—That a Sanitary Department, like that proposed in the Report for the Arabian Gulf, be established in the Persian Gulf, special attention being paid to the entrance of each gulf.

2nd.—That this Sanitary Department should be aided in both gulfs at the period of the pilgrimage by cruisers which should regularly watch over the execution of the sanitary police regulations on board ships, and also over everything in connexion with the measures of preservation against cholera in both seas.

These two propositions, said M. Gomez, one of which was identical with that of M. Millingen, had already been submitted by him to the Committee.

Mirza Malkom Khan would merely observe to M. Millingen that his speech, the chief object of which was the establishment of a special Sanitary Department at the entrance of the Persian Gulf, was at the least superfluous, considering that the Persian Delegates had already promised in the name of their Government that it should be established.

M. Sawas believed that M. Millingen's proposition might be useful as a precautionary measure, if, however, it were admitted by the Government to which the territory belonged. He remarked, however, that M. Millingen assumed a knowledge of the islands of Kishm and Ormous which did not exist. It was necessary, therefore, before anything else, to study the subject. He did not share M. Millingen's opinion that every ship must pass by these islands. That not being so, it was necessary to compel them, by armed force, to do so in order to subject them to inspection. The Persian Delegates, said M. Sawas, offered no opposition

M. Millingen begged the honorable Conference to be so good as to take into its serious consideration the idea he spoke of, and which he submitted in the shape of a motion.

With regard to the Imam of Muscat, M. Millingen believed that his intervention would be indispensable; and as he alone possessed almost the key of the Persian Gulf, the previous mutual consent and concurrence of the Imam and the Persian Government were necessary for the establishment of a Sanitary Department on the coast of the Gulf.

M. Gomez desired to make some remarks and propositions on the same subject. The study made in the Conference of the march of cholera and of the means which facilitated its propagation, made it abundantly clear that great deserts, long journeys by mountainous and difficult roads, and long sea voyages, might oppose a barrier to the invading march of the disease, if these conditions of the route were not counterbalanced by other circumstances capable of annulling their effects, and permit of cholera surmounting these obstacles in spite of everything. Such obstacles as these would have more frequently arrested cholera in its march across the Continent of Asia, and also by sea, and prevented its arrival in Europe, if the scourge had not frequently found, in caravans, in the pilgrimage particularly, and in the effects of the great assemblages resulting therefrom, the means of concentrating the choleraic germ, of confining it, of maintaining it so long that time and space could not dissipate it before it was carried into the distant regions to which these assemblages proceeded. Hence, continued M. Gomez, the necessity of watching them, of following them in their travels, of exercising the strictest sanitary police over them. The report under discussion showed all the importance of this, and it proposed a system of measures which had been appreciated. In this system the Red Sea invited very special attention, the first cause of this being the pilgrimage to Mecca. Regarding some of the measures projected to prevent the entrance of the disease, the only difficulty that existed was that of execution. But the Persian Gulf, M. Gomez thought, none the less deserved to be the subject of anxious and foreseeing care: indeed, it required more, as it was closer to India and in more continuous connexion with Indian ports, and because it was the chief and the easiest entrance for the disease into Persia. Moreover, it was, as had been demonstrated, the most exposed point, being one of the first stages through which cholera most frequently passed on its way from India to Europe.

Why not, then, asked M. Gomez, organise for this sea, especially at the entrance of the Gulf, a system of measures similar to that proposed for the Red Sea? Instead of an almost uninhabitable rock, like the island of Perim, there would be a choice between the island of Ormous and the islands of Kishm and Larej, where there is no want of resources, and where not only posts of observation but also great lazarettos might be established. In doing this, instead of having to deal with barbarous tribes, with whom for the present there would be no hope of maintaining pacific relations, (like those who people the coasts of Yemen and Abyssinia), they would have to deal with the Persian Government and

the Imam of Muscat, with whom there was every probability of coming to a good understanding. There was not, it is true, much to be said about these countries in respect of salubrity, but the corresponding countries of the Arabian coasts were not much better.

What had been made known by the march of cholera, continued M. Gomez, and what had been learnt of the means of preservation to be opposed to it, shewed that it was at the entrance of the two gulfs especially that it was necessary to oppose it, and this might be done by means of posts of observation and lazarettos properly established. This end could be attained, according to M. Gomez, by a regular watch being kept up by cruisers at the mouth of each gulf, if only at the time of the pilgrimage. He was of opinion that the maritime powers would easily come to an understanding with the view of organising such a cruising system: they had done a similar thing, at a much greater expense than this would amount to, in the suppression of the slave trade. Did cholera, spread by crowded ships, maintained by greedy speculation for which there was no excuse, deserve less attention from them? It would not be the least service rendered by the Conference if it were to indicate the causes of the propagation of cholera, looked in this point of view, and to invite the attention of Governments to the effectual means in their power to oppose a barrier to such propagation.

M. Gomez proposed therefore :

1st.—That a Sanitary Department, like that proposed in the Report for the Arabian Gulf, be established in the Persian Gulf, special attention being paid to the entrance of each gulf.

2nd.—That this Sanitary Department should be aided in both gulfs at the period of the pilgrimage by cruisers which should regularly watch over the execution of the sanitary police regulations on board ships, and also over everything in connexion with the measures of preservation against cholera in both seas.

These two propositions, said M. Gomez, one of which was identical with that of M. Millingen, had already been submitted by him to the Committee.

Mirza Malkom Khan would merely observe to M. Millingen that his speech, the chief object of which was the establishment of a special Sanitary Department at the entrance of the Persian Gulf, was at the least superfluous, considering that the Persian Delegates had already promised in the name of their Government that it should be established.

M. Sawas believed that M. Millingen's proposition might be useful as a precautionary measure, if, however, it were admitted by the Government to which the territory belonged. He remarked, however, that M. Millingen assumed a knowledge of the islands of Kishm and Ormous which did not exist. It was necessary, therefore, before anything else, to study the subject. He did not share M. Millingen's opinion that every ship must pass by these islands. That not being so, it was necessary to compel them, by armed force, to do so in order to subject them to inspection. The Persian Delegates, said M. Sawas, offered no opposition

to the adoption of efficacious measures in the Persian Gulf, but they were of opinion that nobody was in a position to decide so clearly and distinctly with regard to the Persian Gulf as had been done with respect to the Arabian Gulf. Further study and consideration were necessary, and so long as these were not undertaken, the proposals of M. Millingen and M. Gomez could not be taken in hand, still less discussed properly with a knowledge of the subject.

M. Millingen thought the Persian Delegates had not understood his proposition. He had asked whether it was not possible to find a place in the Persian Gulf suited to the establishment of a Sanitary Department. Such a place, in his opinion, did exist, and he had mentioned it. The information of which M. Sawas, according to his own showing, stood in need, was possessed by many other persons. The place mentioned by him was perfectly well known, thanks to the knowledge obtained from the geographical charts made by the English after their expedition against the pirates.

M. Gomez also maintained that the islands he had mentioned were perfectly well known, and he was able to give a physical and geographical description of them. It was, he could assure them, a well-known country, formerly the resort of pirates, a few of whom even at the present day made it their refuge. Ships could be watched as easily at the entrance of the Persian Gulf as at the entrance of the Red Sea, and indeed more advantageously, on account of the islands scattered about in the Gulf, which were quite habitable for Arabs. These islands, which now belonged to the Imam of Muscat, were formerly possessed by other masters. There was one of them which was not exactly at the entrance of the Persian Gulf, which still possessed the remains of an ancient castle built by the Portuguese, when their dominion extended as far as the Persian Gulf. By establishing sanitary posts in some of these islands, which were quite suited to the purpose, cholera might be seized and restrained at a point where it was very easy to get hold of it, particularly if the place were made a cruising ground. The working of the cruisers would be much easier than similar work which necessarily extended over a great space, like that, for instance, the object of which was suppression of the traffic in Negroes on both coasts of Africa, the Eastern and the Western.

Dr. Goodeve thought that the Committee had clearly indicated what, in principle, ought to be the nature of the Sanitary Department which it was expedient to establish in the Persian Gulf. It was in this Gulf, he himself thought, that the greatest danger existed, and this danger was more serious than in the Red Sea, on both coasts of which there was but little cholera.

It would, perhaps, said Dr. Goodeve, be easier to become possessed of guarantees by the sea route, but he must admit that that could not be done so effectually as the Committee supposed. When cholera enters by sea and by land, as had happened in the Persian Gulf, maritime precautionary measures could be neither as sufficient nor as efficient as was to be desired. Cholera entered the Persian Gulf by land from

the south and the north. It would be indispensable, therefore, to succeed in the establishment of an efficient barrier to adopt measures by land and by sea. This circumstance, Dr. Goodeve pointed out, completely changed the conditions of both Gulfs, which bore no resemblance to each other.

M. Fauvel confessed that he could not share in the confidence of M. Millingen or in the enthusiasm of Dr. Gomez with regard to the Sanitary Department they proposed to establish at the entrance of the Persian Gulf. It was not, in his opinion, so easy as they thought to stop cholera there, and it was this difficulty which had decided the Committee, by whom the matter had been thought of, to set aside any project of this kind. Dr. Goodeve had very well said that cholera might be brought by ships into the Persian Gulf, but that it entered it more easily and more frequently by proceeding from coast to coast and port to port as far as Bender Abbas. On these coasts, said M. Fauvel, cholera existed almost permanently, and its importation was possible along the whole extent of the coast as well as by land. Speaking theoretically, continued M. Fauvel, nobody disputed the utility of a sanitary establishment at the entrance of the Persian Gulf; but it was necessary to have the means of putting the project into execution, otherwise the idea would be perfectly Utopian. Did these means exist? He thought not. They were justified in expecting that M. Millingen would have made them known and proposed them; but instead of indicating the means of execution, M. Millingen referred to the geographical chart, and instead of details, he referred to the influence of the Imam of Muscat, with whom he suggested that an understanding should be come to, or the project would fall through. It was necessary then to obtain either his consent, or to dispossess him of the place. Grave difficulties these, remarked M. Fauvel, which the Committee did not consider it expedient to enter upon.

M. Millingen replied that the influence of the Imam in the Persian Gulf was great, that this influence was owing chiefly to the fact that the Imam had been an ally of England since the time when he had joined the English in the expedition against the pirates. Thousands of ships carried the flag of the Imam, and the trade of these ships between these islands and India was very continuous and very lucrative. The trade also gave great influence to the English, who maintained two resident agents in these parts, one at Muscat and the other at Bender Abbas. It would be easy, therefore, by employing the influence of the English Government, to obtain the concurrence of the Imam. M. Millingen said in conclusion that if his proposition were accepted, he engaged himself to afford all the information that it would be required.

M. Sawas was of opinion that M. Millingen would do better to withdraw his proposition rather than return to the charge in maintaining things not proven. What he brought forward with regard to the Imam and Great Britain was of a nature to bind him to do rather

more than he had a right to do. M. Sawas thought the question reduced itself simply to this: Was the proposition of M. Millingen and M. Gomez useful; and was it, at the same time, possible to apply it? The French and British Delegates, said M. Sawas, had abundantly demonstrated that the proposition was neither useful nor possible. The Conference, therefore, he thought, must have understood the emptiness of the promises made by M. Millingen. Another question subordinate to the first was that of territorial possession. To whom did the island of Kishm belong? Persia maintained that she had a right to it, and her claims were much better founded than any that any other Powers, Portugal for instance, could urge.

M. de Soveral remarked that the right of Persia to the island of Kishm was very doubtful, while the claims which might be urged by the Portuguese Government for the possession of the island of Ormous were founded on a long domination, a domination which was attested by the castle still existing which the Portuguese had erected.

M. Sawas desired to make a remark touching the advice given to the Persian Government in the matter of the exhumation and transport of corpses.

In page 54 of the Report, in the last line but one, it was said that the Persian Government ought not to permit the exhumation and transport of corpses except during the three winter months.

M. Sawas declared that such a measure would give rise to great difficulties, which the Persian Government would perhaps be unable to overcome. It must not be forgotten, said M. Sawas, that the three winter months in Persia were excessively cold. He said in conclusion that the Persian Government being ready to accept and adopt all measures calculated to oppose the propagation of cholera across Persian territory, it was expedient to advise and recommend to it practicable measures, and not to exact impossibilities from it.

M. Bartoletti, after expressing his concurrence with the Report, reminded the Conference that the principal period for the transport of corpses was in the month of Mohurum, which fell sometimes in summer and sometimes in winter, so that the advice given would be difficult and almost impossible to follow. There was another point in connexion with the transport of corpses, which, he thought, deserved the attention of the Conference. The Report might complete the guarantees it exacted by adding, in the interest of Persia, certain other precautions or formalities in the transport of corpses on the frontier in the direction of the Ottoman territory.

M. Fauvel, in reply to M. Sawas, said that the Committee had had no intention of imposing measures upon the Persian Government which it could not put into execution. The Persian Government was free to apply them or not. The Committee had confined itself to recommending them in the interest of Persia as much as in that of populations.

At the request of several Delegates, His Excellency the President put the 9th article to the vote.

It was adopted unanimously. Mirza Malkom Khan and M. Sawas voted under reserve as before.

The meeting terminated at 4-30 P. M.

Order of the day for the next meeting.—Continuation of the discussion of the Report.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE, }
DR. NARANZI, } *Secretaries.*

INTERNATIONAL SANITARY CONFERENCE MEETING
No. 35, OF THE 8TH SEPTEMBER 1866.

H. E. SALIH EFFENDI, *Presiding.*

The International Sanitary Conference held its thirty-fifth meeting at Galata-Serai, on the 8th September 1866.

PRESENT:

For Austria:

M. Vetsera, Councillor of the Internonciature of His Imperial and Royal Majesty.

Dr. Sotto, Physician attached to the Imperial and Royal Internonciature, Director of the Austrian Hospital.

For Spain:

Don Antonio Maria Segovia, Consul-General, Chargé d' Affaires.

Dr. Monlau, Member of the Superior Spanish Council of Health.

For the Papal States:

Dr. Ignace Spadaro.

For France:

Count de Lallemand, Minister Plenipotentiary.

Dr. Fauvel, Sanitary Physician.

For Great Britain:

Dr. Goodeve, Surgeon-Major, Indian Army, Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to Her Britannic Majesty's Embassy, British Delegate to the Superior Council of Health at Constantinople.

For Greece:

Dr. G. A. Maccas, Chief Physician to the King, Clinical Professor in the University of Athens.

For Italy :

M. A. Vernoni, Chief Interpreter to the Legation of His Majesty the King of Italy.

Professor Frederic Bosi.

Dr. G. Salvatori, Italian Delegate to the Superior Council of Health at Constantinople.

For the Netherlands :

M. Keun, Councillor to the Legation of His Majesty the King of the Netherlands.

Dr. Millingen, Dutch Delegate to the Superior Council of Health at Constantinople.

For Persia :

Mirza Malkom Khan, Aide-de-Camp General to His Majesty the Shah, Councillor to His Legation.

Dr. Sawas Effendi, Inspector of Hygiene and Health at Constantinople, Persian Delegate to the Superior Council of Health.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargé d'Affaires.

Councillor Dr. Bernardino Antonio Gomez, Chief Physician to His Most Faithful Majesty.

For Prussia :

Baron Testa, Prussian Delegate to the Superior Council of Health.

Dr. Mühlig, Physician to the Legation, Chief Physician to the Ottoman Marine Hospital.

For Russia :

Dr. Pelikan, Councillor of State, Director of the Russian Civil Medical Department.

Dr. Bykow, Councillor of State, Assistant Medical-Military Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, Secretary to His Legation.

Dr. Baron Hübsch.

For Turkey :

His Excellency Salih Effendi, Director of the Imperial School of Medicine at Constantinople, Chief of the Civil Medical Department.

Dr. Bartolèti, Inspector General of the Ottoman Sanitary Department, Member of the Superior Council of Health at Constantinople.

(For Egypt:)

Dr. Salem Bey, Clinical and Pathological Professor in the School of Medicine at Cairo, Special Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

The meeting opened at noon.

The order of the day being the continuation of the discussion on the report of the 3rd Committee, section 10 of that Report, *Measures to be taken on the Turco-Persian frontier*, was read.

Dr. Sawas commenced by acknowledging the good organisation of the Ottoman Sanitary Department on the Turco-Persian frontier: this organisation, which was due to one of the members of the Conference, Dr. Bartoletti, being however now some years old, it was possible that it might have in some parts become defective. Leaving aside, however, the efficacy of this system, the manner in which it was carried out at certain places must be vexatious to the Persians. The number of lazarettos was notably insufficient; and, where there were lazarettos, they did not always meet the exigencies of the Department any more than they did the necessities of the public safety. In these circumstances, and without at present entering more into detail, Dr. Sawas proposed that the Conference should express the wish that an International Commission should be appointed and deputed to the spot, to consider locally the measures to be taken in the interest of the preservation of both countries, and also to give advice as to the means of rendering the quarantine possible for the subjects of both countries. Dr. Sawas believed that there was all the more justification for this proposition, that the interruption of communications on this side could not be thought of,—a measure of which the possibility was admitted by the Committee, and which it thought might, in certain cases, be temporarily resorted to.

Dr. Bartoletti remarked, that the Sanitary Department of the Turco-Persian frontier had not been specially organised in view to cholera: at that time land quarantines were not thought of as a means of preservation, and in this point of view it might perhaps be necessary to complete them. The sanitary offices having been placed on the highways that had necessarily to be followed by the caravans on account of the configuration of the country, it would be sufficient to reinforce the surveillance at certain points, and it might perhaps be necessary to establish additional posts, but there was no reason whatever to appoint an International Commission to reconsider a question with regard to which the Ottoman administration possessed all necessary information. If the utility of quarantines on land frontiers was admitted by the Conference, it would rest with the Imperial Government to complete and bring to perfection a department which it had voluntarily established, and which, such as it was, had rendered incontestable service.

His Excellency Salih Effendi spoke to the same effect.

Dr. Sawas said, he would be sorry if the Turkish Delegates could suppose that he meant to attack the Ottoman Sanitary Department.

Whenever he had had any complaints to urge, he had not addressed himself to the Conference, but to the Superior Board of Health at which he had the honor to sit as Persian Delegate, and which alone was competent. If he had refrained from entering into detail, it was just because he had wished to avoid any misunderstanding of his meaning.

Dr. Bykow thought the appointment of an International Commission superfluous; it would devolve upon the Imperial Government to appoint a Special Commission, if necessary, to supplement the data already available upon the question.

Dr. Gomez thought that the adoption of M. Sawas' proposal would, no matter what they might do, be equivalent to a sort of censure upon the Superior Board of Health. The duty of the Conference was merely to lay down rules; it had nothing whatever to do with their execution: at the most it could express the wish that the Superior Board of Health would, without delay, take the necessary measures to complete the existing Department.

M. Fauvel supported M. Bartoletti's remarks. Everybody was agreed that the Department stood in need of improvement, and that there were omissions to be rectified; but the Board of Health possessed all the information it needed to do this.

The majority of the Conference appearing to concur in this view, Dr. Sawas said he would not press his motion. The Persian Delegate, however, remained convinced and maintained that an International Commission alone could bring to a desirable termination the enquiries yet required by the question, so important in the point of view of the preservation of Europe, of the measures of precaution to be adopted on the Turco-Persian frontier. Dr. Sawas expressly requested that this should be entered in the minutes.

Dr. Millingen reverted to the proposition he had made at the last meeting, relative to the insufficiency of the measures intended to prevent the importation of cholera by way of the Persian Gulf. It could not be denied that the Persian Gulf was one of the routes most commonly followed by cholera, and yet no serious precautionary measure had been adopted in that direction. After having reminded the Conference that no physician would consent to live at Bussorah on account of the climate, and after asking whether the surveillance exercised at Faô, which place was almost deserted, where there was no port, and by which a ship scarcely ever passed, could any longer be depended upon, Dr. Millingen declared that he considered it his duty again to call the attention of the Conference to this serious question.

M. Bartoletti replied, in regard to Faô, that that place was in an excellent situation for the surveillance of arrivals from the Persian Gulf, and that for this reason a custom-house even had been established there. Dr. Bartoletti announced that the Ottoman Government proposed to send a medical officer to Faô to complete the surveillance at that place.

Dr. Millingen maintained that his assertions regarding Faô were correct : he had received his information from an employé at the telegraph station at that place. Faô was situated at the extremity of a sandy plain : there were no habitations beyond the telegraph station and a few huts ; and, finally, whatever Dr. Bartoletti might say, ships were scarcely ever seen to pass that way.

Dr. Gomez concurred with Dr. Millingen in asking that his proposition should be put to the vote. Not to mention the long discussions to which the almost continual presence of cholera in Persia had given rise, and the question whether the disease was endemic there or not, the chapter of Dr. Fauvel's Report, which had just been read, only showed more clearly the necessity of a rigorous surveillance. It had been objected that it would be difficult to exercise this surveillance at the entrance of the Persian Gulf, but would not the difficulty be still greater at the bottom of the Gulf ; and, besides, could the surveillance there be so efficacious ?

Dr. Fauvel did not think that it was necessary to revert to a question that had been so lengthily discussed ; it would be equally superfluous to reproduce the arguments which at the last meeting had been opposed to Dr. Millingen's proposition. This proposition was not based upon any positive data ; and, moreover, as had been rightly said, supposing even that it was theoretically possible to establish a Sanitary Department at the entrance of the Persian Gulf, was it certain that the object proposed would be attained ? Was it certain that cholera would not pass, in spite of the surveillance, following the coast by land ? The Committee, which possessed no data of any kind regarding the localities situated at the entrance of the Persian Gulf, had stated the difficulty of defence on this side against the invasions of cholera. Only rather than risk itself on unknown ground, it thought that it would, on the contrary, be preferable to carry back the line of defence, protecting Bagdad on the southern coast by sanitary posts resting upon the barrier formed by the Tigris and the Euphrates. There, at any rate, a government existed which might be addressed, and the concurrence of which might confidently be depended upon.

Drs. Millingen and Gomez replied that their proposition was, so to say, copied from that of the Committee regarding the formation of a sanitary establishment at the entrance of the Red Sea. The difficulties which would be encountered by such an establishment at first setting up would not be more insurmountable at the entrance of the Persian Gulf than at the entrance of the Red Sea. In any case, and without entering into detail, which would be done by-and-by, the Conference might with propriety give its opinion upon the question of convenience.

M. Vernoni made the following proposal :—“ The Conference is of opinion that it would be useful to appoint a Commission composed of Ottoman and Persian Delegates, and Delegates from the Imam of Muscat, to consider and decide as to the establishment of a sanitary service at the entrance of the Persian Gulf and on the coast of the Gulf.”

Professor Bosi seconded the proposition.

Dr. Mühlig, on the other hand, proposed that the question, which seemed to him to deserve the most serious attention of the Conference, should be returned to the Committee, to which Dr. Millingen should be added.

Dr. Mühlig's proposal was put to the vote and rejected; there were 21 votes; three ayes (Drs. Millingen, Gomez and Mühlig), and 18 noes.

M. Vernoni's proposition was also rejected by 14 votes against five—two abstentions.

The Conference then proceeded to decide upon the 10th section of the Report. It was adopted: *Ayes*.—Dr. Sotto, Dr. Monlau, Dr. Spadaro, Count de Lallemand, Dr. Fauvel, Dr. Gomez, Dr. Dickson, Dr. Maccas, M. Vernoni, Professor Bosi, Dr. Mühlig, Dr. Bykow, Baron Hübsch, His Excellency Salih Effendi, and Dr. Bartoletti. No votes against. Six abstentions:—MM. Keun, Millingen, Mirza Malkom Khan, Sawas, Gomez, Stenersen.

After this vote, section 11 was read: *Measures to be taken against the importation of cholera via Bokharia and the steppes of Tartary.*

Dr. Bykow made some amendments and additions to the information he had furnished to Dr. Fauvel:

1st, (page 60, 2nd paragraph). The number of versts (400) that the caravan had to pass over in traversing the sandy wastes of Kara-Kouhm must be exaggerated. According to an itinerary published by a distinguished statistician, M. Beloustine, which was based upon documents worthy of credit, the distance was not more than 160 versts, 54 of which were unprovided with water.

2nd, (page 60, last paragraph). When mention was made of the *desert wastes* that the Bokhara caravans had to traverse before reaching the Ser-Daria, they should be mentioned as *desert and hilly wastes*.

3rd, (page 62). Three or four caravans from Khiva, three of which are bound to Orenburg, and one to Mangaschlyk, whence goods are carried to Astrakhan by the Caspian Sea, annually traversed the steppes extending between the Caspian Sea and Lake Aral, passing by the western coasts of this lake. The Orenburg caravans were larger than those for Mangaschlyk, amounting to 2,000 camels. The first caravan from Khiva to Orenburg which took this route did so in 1738, in the reign of the Empress Elizabeth. The journey was made during the winter months, and lasted for 50 or 55 days, the distance being 1,360 versts. The caravans preferred passing by Lake Aral on the west, because there is less snow there than on the other side, and at the same time there is more pasturage and abundance of water.

Dr. Bykow thought he should supplement the details given in the report regarding the Kirghiz hordes, by mentioning a pilgrimage held in great respect by such of these hordes as were subject to Khiva. The object of the pilgrimage was the tomb of a greatly venerated saint (Tok-mak-ata), who was esteemed one of the protectors of the town of

Khiva and of the river Oxus. The Khivan Kirghiz visited this tomb every year in great numbers, the tomb being situated in an island in Lake Aral close to the southern coast; the Khan himself never failed to go there, accompanied by his court. The pilgrimage commenced in August, and lasted for several weeks.

Section 11 was put to the vote, and adopted unanimously (17 votes).

Section 12 was then read. *Measures to be adopted on the Russo-Persian frontier.*

Dr. Bykow pointed out an error in the 1st paragraph of page 63 (last line but one): *Chekka* was the word, not Cherka.

Dr. Pelikan thanked the Committee for its confidence in the Russian Government, with respect to the organisation of the Sanitary Department on its Asiatic frontiers. The Conference might safely depend upon the active coöperation of the Imperial Government in the measures of precaution it would recommend.

Section 12 was unanimously adopted (19 votes).

The summing-up, which was then read, was put to the vote, and unanimously adopted, with one exception, Dr. Monlau, who declined to vote, thinking it useless to do so after having adopted every portion of the Report in succession.

Dr. Maccas did not doubt that the Report, which had just been discussed, and which it seemed to him contained in itself almost the entire solution of the problem submitted to the investigation of the Conference, would meet with the approbation of men who closely and deeply studied these serious questions, as also that of all the Governments represented in the Conference. He (Dr. Maccas) thought he interpreted the sentiments of his colleagues when he proposed a vote of thanks to the Committee, to which they were indebted for this work, which would not fail to do the greatest honor to the Conference, and more especially to its reporter, Dr. Fauvel.

The Conference unanimously and warmly concurred in the congratulations offered by His Excellency Salih Effendi to Dr. Fauvel and all the members of the Committee.

The Conference then adjourned to Thursday, the 13th of September, for the commencement of the discussion on the Report of the Committee appointed to examine the proposed plan of reform of the Ottoman sanitary tariff.

The meeting terminated at 4 P. M.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE, }
DR. NARANZI, } *Secretaries.*

INTERNATIONAL SANITARY CONFERENCE. MEETING.
No. 36, OF THE 13TH SEPTEMBER 1866.

H. E. SALIH EFFENDI, *Presiding.*

The International Sanitary Conference held its thirty-sixth meeting at noon of the 13th September 1866, in the ordinary place of meeting, at Galata-Serai.

PRESENT :

For Austria :

Dr. Sotto, Physician attached to the Imperial and Royal Inter-nunciature, Director of the Austrian Hospital.

For Belgium :

Count de Noidans, Secretary to the Legation of His Majesty the King of the Belgians.

For Spain :

Dr. Monlau, Member of the Superior Council of Health of Spain.

For the Papal States :

Dr. Ignace Spadaro.

For France :

Count de Lallemand, Minister Plenipotentiary.

Dr. Fauvel, Sanitary Physician of France.

For Great Britain :

Dr. Goodeve, Surgeon-Major, Indian Army, Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to Her Britannic Majesty's Embassy, British Delegate to the Superior Council of Health at Constantinople.

For Greece :

M. Kalergi, Secretary to the Legation of His Majesty the King of the Hellenes.

Dr. G. A. Maccas, 1st Physician to the King, Professor of Clinical Medicine in the University of Athens.

For Italy :

M. A. Vernoni, Chief Interpreter to the Legation of His Majesty the King of Italy.

Professor Frederic Bosi.

For the Netherlands :

M. Keun, Councillor to the Legation of His Majesty the King of the Netherlands.

Dr. Millingen, Dutch Delegate to the Superior Council of Health at Constantinople.

For Persia :

Dr. Sawas Effendi, Inspector of Hygiene and Health at Constantinople, Persian Delegate to the Superior Council of Health.

For Portugal :

Councillor Dr. Bernardino Antonio Gomez, Chief Physician to His Most Faithful Majesty.

For Prussia :

Baron Testa, Prussian Delegate to the Superior Council of Health.

Dr. Mühlig, Physician to the Prussian Legation, Chief Physician to the Ottoman Marine Hospital.

For Russia :

Dr. Pelikan, Councillor of State, Director of the Russian Civil Medical Department.

Dr. Bykow, Councillor of State, Assistant Medical-Military Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, Secretary to His Majesty's Legation.

Dr. Baron Hübsch.

For Turkey :

H. E. Salih Effendi, Director of the Imperial School of Medicine at Constantinople, Chief of the Civil Medical Service.

Dr. Bartoletti, Inspector General of the Ottoman Sanitary Department, Member of the Superior Council of Health at Constantinople.

(For Egypt :)

Dr. Salem Bey, Professor of Clinical and Pathological Medicine in the School of Medicine at Cairo, Special Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

The Secretaries read the minutes of the three last meetings, (Nos. 33, 34, and 35), which were unanimously adopted.

M. de Lallemand, in the name of the Committee appointed to consider the question of the reform of the Turkish sanitary tariff, of which he was the reporter, handed in a report (annexure to minute No. 36) bearing the title

REPORT ON THE PROPOSED REFORM OF THE SANITARY DUES IN THE
OTTOMAN PORTS,

drawn up by a Committee composed of Chevalier Pinto de Soveral, President; Baron Testa, M. Stenersen, Count de Lallemand, Diplomats; and M.M. Bartoletti, Sawas, and Spadaro, Physicians.

M. de Lallemand expressed his regret at not having been able to circulate the Report in question a little before the meeting. In order that the honorable Conference, which had expressed a desire to have the Report that day, might not have to wait longer, it had to be printed without its conclusions. These conclusions, however, evidently resulted from the text, and he would read them in their proper places as he proceeded with the reading of the text, if the Conference should decide upon entering on its discussion immediately.

H. E. the President consulted the honorable Conference upon this subject.

M. Vernoni said that the instructions received by the Italian Delegates, and which had prevented them from taking part in the vote when the majority of the Conference had decided upon appointing a Committee to consider the proposed reform of the tariff, not having since then been modified by his Government, he and his colleagues would refrain from taking part either in the discussion on the Report of the said Committee, or in the division which might ensue.

M. Gomez pointed out the necessity of adjourning the discussion in order to give time to the Delegates to study the Report. A simple reading of it during the meeting was not, in his opinion, sufficient to enable them to decide upon it with a proper knowledge of what it really was. That at least was his idea. M. Gomez wished to take part in the discussion and the vote, but after a previous study of the Report, and if the Conference would not agree to the adjournment he required, he would be compelled to decline taking part in both. His abstention was made all the more necessary that his colleague, Chevalier Pinto de Soveral, was not present at the meeting. It was probable that he was not aware that they were about to discuss the Report at once. He thought that if his colleague had known it, he would not have failed to be present at the discussion of the Report of a Committee of which he had been a member, and over which he had indeed presided. M. Gomez declared, in conclusion, that he did not mean in any way to interrupt the discussion.

M. de Lallemand reminded the Conference that as he had not been sure himself that the Report could be printed and distributed some days previous to this meeting, and foreseeing that objections like those of M. Gomez would be made, he had asked for the postponement of the discussion of the Report which had just been given in by him. But, notwithstanding his remarks, the Conference, with a view to save time, had insisted on bringing the Report upon the order of the day for the present meeting. This had been done, and the result was that the discussion must be proceeded with at once. It had not been possible, it was true, to circulate it a day previous to the meeting; but this delay, M. de Lallemand thought, could in no way justify the request made for the postponement of the discussion. The subject was one with which they had long been acquainted, and not only had it been discussed in the body of the Conference, but care had been taken to throw light upon the subject by reproducing in *extenso*, upon the same

subject (*see* minute No. 10) the report of the Superior Council of Health. A previous consideration of the report was, therefore, he concluded, not necessary, and a reading of it would suffice to enable the Conference to proceed immediately to its discussion.

M. de Lallemand added that he regretted the absence of Chevalier Pinto de Soveral, but it was not the case that he did not know that they were about to discuss it at once: he had even promised to be present.

M. Fauvel expressed himself to the same purport, and he added that it would be enough to glance over the report to be convinced that the question treated of was very simple, it being merely a question of morality and principle. The Committee had deliberately avoided all matters of detail, and had only laid down generalities. He was of opinion that no plausible reason existed for the postponement of the discussion.

A conversation ensued between MM. Stenersen, Maccas, Goodeve, Testa, Gomez, and Monlau, on one side; and MM. de Lallemand, Fauvel, Sawas, Bartoletti, Hübsch, and Salem Bey, on the other.

The first named desired an adjournment, the others wished that the discussion should take place at once.

M. Stenersen recommended that every member should be allowed full liberty of action. In the interest of the discussion, he said, it was necessary that every body should be free to judge whether he would or would not discuss the report.

M. Maccas begged that M. de Lallemand would, in the event of the Conference deciding upon a postponement, keep the discussion of the report for an extraordinary meeting, the meeting of Saturday being intended for the report of the second Committee.

Dr. Goodeve and M. Monlau seconded the proposition.

M. Sawas concurred with those who had asked for a postponement, but he did not think it would be necessary to have an extraordinary meeting. It would be necessary merely to meet earlier than usual next Saturday for the discussion of M. de Lallemand's report. The report not being of a nature likely to cause much discussion, they might immediately afterwards proceed to the discussion of M. Bartoletti's report.

M. Bartoletti, Baron Testa, Baron Hübsch, and Dr. Salem Bey supported the motion made by M. Sawas.

At the request of several Delegates, His Excellency the President put this motion to the vote, *viz.*, a postponement to Saturday next.

It was accepted by a majority of seven votes against four, and one abstention, *viz.*, M. de Lallemand.

For:—MM. Salih Effendi, Bartoletti, Stenersen, Testa, Gomez, Sawas, de Noidans.

Against :—MM. Mühlig, Fauvel, Spadaro, Monlau.

The British Delegates declared that they had not taken part either in the discussion or the vote.

M. Maccas said that he had no instructions whatever, and he did not consider himself authorised to pronounce one way or the other. He was compelled to be altogether silent.

Several Delegates requested that the report should be read, so that they might proceed with the discussion at once at the next meeting.

After having consulted the Conference, His Excellency the President called upon Count de Lallemand to read his report.

The reading having been finished, Count de Lallemand read the formal conclusions, which, there being no time to spare, had not been printed at the end of the text.

These conclusions were as follows :—

CONCLUSIONS.

Consequently, gentlemen, from the considerations urged in the report joined to those which we reserve to bring forward during the discussion, if necessary, your Committee is of opinion :

1st.—That the Ottoman Government possesses an incontestible right to levy, with the consent of the Powers, a tax upon maritime commerce, which should reimburse the expenses of the Sanitary Department, amounting to the very moderate sum of four millions and a half of piastres.

2nd.—That the valuations which have been adopted as a base on which to fix the duty of 26 paras per ton, are correct.

3rd.—That this duty of 26 paras per ton is the most moderate of any paid in the ports of the various States for the Sanitary Department.

4th.—That the revision of the tariff after three years' trial as proposed in the project of the Council of Health, is a further guarantee against any error injurious to commerce.

5th.—That the administration of the revenues of the Sanitary Department by the Superior Council of Health, under the approbation and control of the Government, as defined in the report of the Committee of the Council, dated the 18th February 1865, is desirable, useful to the Department, and profitable to the authority of the Council.

6th.—With regard to the questions touching the assessment of the duty on ships and the various kinds of shipping, the Committee thinks it ought to confine itself to the observations contained in the report, and make no further remark.

The meeting terminated at 3 P. M.

Order of the day for the next meeting :—1st.—Discussion of the report of the Tariff Committee (Lallemand, Reporter.)

2nd.—Reading and discussion of the report of the second Commission (Bartoletti, Reporter.)

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE, }
DR. NARANZI, } *Secretaries.*

INTERNATIONAL SANITARY CONFERENCE. MEETING
No. 37, OF THE 15TH SEPTEMBER 1866.

H. E. SALIH EFFENDI, *Presiding.*

The International Sanitary Conference held its thirty-seventh meeting, at Galata-Serai, on the 15th September 1866,

PRESENT :

For Austria :

M. Vetsera, Councillor to the Internonciature of His Imperial and Royal Majesty the Emperor of Austria.

Dr. Sotto, Physician attached to the Imperial and Royal Internonciature, Director of the Austrian Hospital.

For Belgium :

Count de Noidans, Secretary to the Legation of His Majesty the King of the Belgians.

For Spain :

Don Antonio Maria Segovia, Consul-General, Chargé d'Affaires.

Dr. Monlau, Member of the Superior Council of Health of Spain.

For the Papal States :

Dr. Ignace Spadaro.

For France :

Count de Lallemand, Minister Plenipotentiary.

Dr. Fauvel, Sanitary Physician of France.

For Great Britain :

Dr. Goodeve, Surgeon-Major, Indian Army, Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to Her Britannic Majesty's Embassy, British Delegate to the Superior Council of Health at Constantinople.

For Greece :

M. Kalergi, Secretary to the Legation of His Majesty the King of the Hellenes.

Dr. G. A. Maccas, Chief Physician to the King, Clinical Professor in the University of Athens.

For Italy :

M. A. Vernoni, Chief Interpreter to the Legation of His Majesty the King of Italy.

Professor Frederic Bosi.

Dr. G. Salvatori, Italian Delegate to the Superior Council of Health at Constantinople.

For the Netherlands :

M. Keun, Councillor to the Legation of His Majesty the King of the Netherlands.

Dr. Millingen, Dutch Delegate to the Superior Council of Health at Constantinople.

For Persia :

Dr. Sawas Effendi, Inspector of Hygiene and Health at Constantinople, Persian Delegate to the Superior Council of Health.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargé d'Affaires.

Councillor Dr. Bernardino Antonio Gomez, Chief Physician to His Most Faithful Majesty.

For Prussia :

Baron Testa, Prussian Delegate to the Superior Council of Health.

Dr. Mühlig, Physician to the Legation, Chief Physician of the Hospital of the Ottoman Marine.

For Russia :

Dr. Pelikan, Councillor of State, Director of the Russian Civil Medical Department.

Dr. Bykow, Councillor of State, Assistant Military-Medical Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, Secretary to his Legation.

Dr. Baron Hübsch.

For Turkey :

His Excellency Salih Effendi, Director of the Imperial School of Medicine at Constantinople, Chief of the Civil Medical Service.

Dr. Bartoletti, Inspector General of the Ottoman Sanitary Department, Member of the Superior Council of Health at Constantinople.

(For Egypt:)

Dr. Salem Bey, Clinical and Pathological Professor in the School of Medicine at Cairo, Special Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

The meeting commenced at noon.

The minutes of the 36th meeting were read by Dr. Naranzi, and adopted.

A discussion was opened upon the conclusions of the report regarding the proposed reform of the tariff of sanitary dues in the Ottoman ports.

The adoption of the first of these conclusions gave rise to no observations.

For:—M. Segovia, Dr. Spadaro, Count de Lallemand, Dr. Fauvel, M. Kalergi (under reserve,) Dr. Sawas, Chevalier Pinto de Soveral, Dr. Comez, Baron Testa, Dr. Mühlig, M. Stenersen, Dr. Baron Hübsch, His Excellency Salih Effendi, and Dr. Bartoletti (14 votes.)

Eight abstentions:—Dr. Goodeve, Dr. Dickson, Dr. Maccas, M. Vernoni, Professor Bosi, M. Keun, Dr. Millingen, and Dr. Bykow.

Dr. Maccas said he was neither for nor against in the matter of reform, but having received no instructions to take up the subject, he did not think he could take part either in the discussion or the division.

The Russian Delegates made the same declaration.

M. Vernoni said that it was not the intention of the Italian Delegates in any way to oppose or deny the incontestible right of the Ottoman Government to levy a tax to cover the expenses of the Sanitary Department upon maritime commerce with the consent of the Powers; but that the royal Government, considering that the question of the examination of the sanitary tariff of the Ottoman Empire was not comprised in the programme of the Conference, and that it was not in any manner within its province, had for these reasons maintained the instructions it had already given them to abstain from taking part in any discussion or division upon this matter.

M. Kalergi would be sorry if there could be any misconception of the meaning of the attitude maintained by the Greek Delegates. Dr. Maccas having already made known the motives of his abstention, M. Kalergi explained that he also was in the same position as when the Conference was made acquainted for the first time with the tariff question at the meeting of the 31st May. He would join in the discussion because, as he had already declared, the proposition of the French Delegates seemed to prove worthy of being taken into serious consideration for the simple reason that it emanated from the representatives of the Government which had taken the initiative in calling the Conference together. But at the same time, not having received instructions from Athens to discuss

the matter, he wished it to be understood that his opinion was purely personal, and that his Government would not in any way be bound by his views.

M. Segovia suggested the substitution of some other word for the word *sincere* in the second conclusion. It never occurred to the mind of any body to cast a doubt upon the entire good faith of the valuations which had been taken as a base in fixing the duty of 26 paras: the employment of the word *sincere* might give rise to a contrary supposition.

Count de Lallemand replied that the figure of 6,000,000 tons was not of a nature to admit of authentic proof, since it was derived from approximative calculations, made upon insufficient data. For this reason the Committee and the reporter had employed the word *sincere* rather than the word *authentic*.

Dr. Bartoletti explained that all the figures quoted in the report of the Council of Health had been taken from the registers of the sanitary administration. Annual tables of the movements of shipping in Constantinople as well as the other ports of the Empire had been drawn up, and the average of the last three years taken. The duty had been assigned to a special Committee.

M. Kalergi did not think that the Conference ought to decide upon the quota of the duty to be established. That was a question for discussion between the various Governments when the time arrived for making the international arrangement, of which the labors of the Conference ought to be the base.

Dr. Fauvel, having been a member of the Committee appointed by the Superior Council of Health to consider the question, thought it useful to enter upon some explanation on the subject of the valuations upon which the duty of 26 paras was based. In order to cover, by means of this tax, the expenses of the Department, estimated at 4,500,000 piastres, an amount which would not appear exaggerated to anybody acquainted with the organisation of the Ottoman Sanitary Department, the general measurement of the shipping had been calculated, exclusive of mail steamers, at an average of 6,000,000 tons per annum. This was not the figure that was found in the tables of the sanitary administration, according to which the measurement would be 7,758,555 tons, but it must be taken into consideration that these 7,758,555 tons did not represent a fleet of this tonnage, but rather the total of the calls of each ship at each port, the sanitary dues being paid, according to the present system, every time a ship entered a port. The duty of 26 paras laid down in the proposed tariff having, on the contrary, to be paid once for all on the first occasion of touching without regard to the number of ports at which a ship might put in afterwards, the Council of Health had assumed that this was a cause of inexactitude, and it had therefore deducted 1,758,555 tons from the total above given. Dr. Fauvel had no doubt that this necessarily approximative deduction was too small, the paying tonnage would certainly remain below 6,000,000 tons; but a larger deduction would have

necessitated an augmentation of the duty of 26 paras, and for a first trial they should rather keep within than go beyond the reality. After a trial of three years, if it were proved that the administration continued to encounter a deficit, the means of remedying it should be taken into consideration. Thus, therefore, in Dr. Fauvel's opinion, the tax of 26 paras, far from being exaggerated, would rather be below what was necessary in order to cause the expenditure of the Ottoman sanitary administration not to exceed the receipts.

Dr. Fauvel said, in conclusion, that the preceding remarks applied also to mail steamers, which were not comprised in the total of 6,000,000 tons. Their paying tonnage had been estimated approximatively at 3,500,000, but, as had been said in the table annexed to the report of the Committee of the Council of Health, this figure was so considerable only on account of the great number of compulsory calls of these mail packets.

Count de Lallemand pointed out that the observations made by Dr. Fauvel supported what he had said in justification of the use of the word *sincere*, and the impossibility of replacing it by some other word, such, for instance, as *authentic* or *exact*. Experience alone could demonstrate whether the estimate of future expenditure or receipts, which was always more or less contingent upon eventualities, was exact or authentic.

The second conclusion was put to the vote and adopted by a majority of thirteen votes against one, with nine abstentions.

For:—M. Segovia, Dr. Spadaro, Count de Lallemand, Dr. Fauvel, Dr. Sawas, Chevalier Pinto de Soveral, Dr. Gomez, Baron Testa, Dr. Mühlig, M. Stenersen, Dr. Baron Hübsch, His Excellency Salih Effendi, and Dr. Bartoletti.

Against:—M. Kalergi (under reserve).

Abstentions:—Dr. Sotto, Dr. Goodeve, Dr. Dickson, Dr. Maccas, M. Vernoni, M. Keun, Dr. Millingen, Dr. Pelikan, and Dr. Bykow.

M. Segovia asked whether the third conclusion could not be made less affirmative. In figures everything was relative; it was necessary to take into account the greater or lesser dearness of the Department the expenditure of which it was sought to cover, and also to consider that if a tax is moderate in such and such a country, it does not follow that it is not excessive in such another.

Chevalier Pinto de Soveral and Count de Lallemand stated that this remark, the justice of which, by the way, they did not dispute, only demonstrated once again the moderation of the proposed tax. Without speaking of the dearness of living in Turkey, the extent of the frontiers of the Empire, and the necessity of maintaining sanitary physicians on the land frontiers of countries where few physicians consent to live, caused the Department to be more costly in Turkey than in many other countries.

Dr. Bartoletti added, in support of what had just been said, that the rate of pay allowed to the agents of the Sanitary Department was

such, that the necessity for an increase became more apparent every day. Outside of the large towns, where the physicians were in a position to create resources which compensated for the insufficiency of their remuneration, the sanitary administration experienced the greatest difficulty in finding physicians contented with the terms offered to them; and the remuneration of the subordinate agents was still worse.

M. Segovia said that he had not meant to dispute the moderation of the duty proposed by the Committee. He did not insist, moreover, upon his remarks: it was sufficient if they were mentioned in the minutes.

Dr. Fauvel did not blame the Committee for having thought that it was better not to enter into the question of assessment. However, as this question was the stumbling block which had hitherto prevented the adoption not only of the proposed new tariff, but also of that which had preceded it, Dr. Fauvel thought it needful to explain, but as a matter of information merely it must be understood, the scale of the assessment proposed by the Council of Health. Besides the steamers specially engaged in the conveyance of merchandise or even of passengers, there were the mail steamers, which also carried on the postal service. The first, free in their movements, might leave when they pleased, and another very important consideration was that the roadsteads being always very costly, they need not stop anywhere but where their interests call them: in a word, they are in the same conditions, and have nearly the same speed as sailing ships, and may be subjected to the same dues. The mail packets, on the contrary, are obliged to put in at certain ports, forced to leave on particular days and at particular hours, whether their loading is complete or not, and even if they should be exposed to risk from the state of the sea. The situation being evidently not the same, it has been calculated that if the mail-packets were subjected to the same dues, as the others, they would pay, all proportions being maintained, six or eight times more than the latter. Dr. Fauvel proved this by the following instance: The mail-packets on the line from Constantinople to Trebizond touch at ports of call, on the voyage to and fro, ten times: if they were made to pay the duty of 26 paras on each occasion, they would have to disburse 260 paras altogether. Now, a sailing vessel, or even a steamer when it does not do postal work making the same voyage, would most frequently go direct, and, according to the draft tariff, would pay the duty consequently only once or twice, on its arrival at Trebizond and on its return to Constantinople, if it enters into commercial operations there, or 52 paras instead of 260. The necessity of a separate tariff for the purpose, not of favoring mail steamers, but simply to re-establish the equality between them and other vessels, being once admitted, the Committee of the Council of Health had, after many endeavors, hit upon the duty of 4 paras which seemed to it, applied to mail packets, to be equivalent to the duty of 26 paras. Dr. Fauvel repeated that it was so far from being a partial

tariff, that it gave rise to objections on the part of several Navigation Companies which it might be supposed to favor, and that it was these very objections which contributed to the failure of the project.

M. Stenersen regretted that Dr. Fauvel had raised a question which the Committee had thought, and rightly, that it should avoid. Desirous of gaining time for the Conference, and not wishing therefore to lead to a discussion upon the subject, he (M. Stenersen) confined himself to asking that it should be recorded in the proceedings that his opinion was diametrically opposed to that of Dr. Fauvel.

Chevalier Pinto de Soveral pointed out that the remarks of Dr. Fauvel, who had not been a member of the Committee, ought to be considered simply as information; besides Dr. Fauvel himself had put them forward as such.

The 3rd conclusion was put to the vote and accepted.

Twelve votes *For*:—Dr. Spadaro, Count de Lallemand, Dr. Fauvel, Dr. Sawas, Chevalier Pinto de Soveral, Dr. Gomez, Baron Testa, Dr. Mühlig, M. Stenersen, Dr. Baron Hübsch, H. E. Salih Effendi, and Dr. Bartoletti.

Abstentions:—Dr. Sotto, M. Segovia, Dr. Goodeve, Dr. Dickson, M. Kalergi, Dr. Maccas, Dr. Salvatori, Dr. Millingen, Dr. Pelikan, and Dr. Bykow.

The adoption of the 4th conclusion gave rise to no remark.

Thirteen votes *For*:—M. Segovia, Dr. Spadaro, Count de Lallemand, Dr. Fauvel, Dr. Sawas, Chevalier Pinto de Soveral, Dr. Gomez, Baron Testa, Dr. Mühlig, M. Stenersen, Dr. Baron Hübsch, H. E. Salih Effendi, and Dr. Bartoletti.

Abstentions:—Dr. Sotto, Dr. Goodeve, M. Kalergi, Dr. Maccas, M. Vernoni, Professor Bosi, Dr. Millingen, Dr. Pelikan, and Dr. Bykow.

M. Kalergi was of opinion that the 5th conclusion should be suppressed: it seemed to him to be useless. It referred to administrative details which were not within the province of the Conference, and with which it had no right to meddle. Finally, if a vote were taken on this part of the draft tariff, why not then discuss the whole project altogether?

Dr. Sawas and M. Stenersen objected to M. Kalergi that the conclusions of the report depended upon each other, and that they were all, therefore, to just the same extent, within the province of the Conference.

Dr. Fauvel and Count de Lallemand added that the 5th conclusion related to general principles which were the base of the report of the Council of Health, and that its adoption did not infer that of the draft tariff. The thing was a simple desire regarding a better direction to be given to the product of the taxes levied.

Dr. Bartoletti observed that the Conference could have the less hesitation in expressing such a desire that the Imperial Government

consented to leave to the Council of Health the administration of the revenues of the Sanitary Department.

The third conclusion was put to the vote and adopted by 13 votes : M. Segovia, Dr. Spadaro, Count de Lallemand, Dr. Fauvel, Dr. Sawas, Chevalier Pinto de Soveral, Dr. Gomez, Baron Testa, Dr. Mühlig, M. Stenersen, Dr. Baron Hübsch, H. E. Salih Effendi, and Dr. Bartoletti.

Abstentions :—Dr. Sotto, Dr. Goodeve, Dr. Dickson, M. Kalergi, Dr. Maccas, M. Vernoni, Professor Bosi, M. Keun, Dr. Millingen, Dr. Pelikan, and Dr. Bykow.

The whole of the report together was then put to the vote and adopted by 14 votes, *viz.*, M. Segovia, Dr. Monlau, Dr. Spadaro, Count de Lallemand, Dr. Fauvel, Dr. Sawas, Chevalier Pinto de Soveral, Dr. Gomez, Baron Testa, Dr. Mühlig, M. Stenersen, Dr. Baron Hübsch, H. E. Salih Effendi, and Dr. Bartoletti.

Abstentions :—Dr. Sotto, Dr. Goodeve, Dr. Dickson, M. Kalergi, Dr. Maccas, M. Vernoni, Professor Bosi, M. Keun, Dr. Millingen, Dr. Pelikan, and Dr. Bykow.

The British Delegates requested that it should be recorded that they have not joined in the discussion or vote upon anything connected with the proposed reform of the sanitary tariff.

H. E. Salih Effendi, both as President of the Conference and as a Turkish Delegate, thanked the members of the Committee, and particularly Count de Lallemand.

Baron Testa, after expressing his regret at seeing the Delegates of the Powers most interested in the question of the reform of the Turkish sanitary tariff refrain from joining in the discussion, proposed that the Conference should express the wish that the Sublime Porte, backed up by the votes of the Conference, should without delay commence fresh negotiations in the view of hastening the solution of this important matter.

Dr. Sotto, who had been absent during the course of the meeting, declared that his abstention was the result of the instructions he had received. As M. Vetsera had already stated, the Imperial Government was of opinion that the Conference was not competent to take up the matter.

The Italian Delegates could only refer to the declaration they had made at the commencement of the discussion.

Dr. Sawas seconded Baron Testa's proposition.

This proposition was adopted by a majority of 15 votes : *For* :—Dr. Monlau, Dr. Spadaro, Count de Lallemand, Dr. Fauvel, M. Kalergi, Dr. Maccas, Dr. Sawas, Chevalier Pinto de Soveral, Dr. Gomez, Baron Testa, Dr. Mühlig, M. Stenersen, Dr. Baron Hübsch, H. E. Salih Effendi, and Dr. Bartoletti.

Nine Abstentions :—Dr. Sotto, Dr. Goodeve, Dr. Dickson, M. Vernoni, M. Bosi, M. Keun, Dr. Millingen, Dr. Pelikan, and Dr. Bykow.

Dr. Bartoletti, reporter of the 2nd Committee on the 3rd group (*Quarantine measures*), then read the first section of chapter I of the report of this Committee.

Dr. Mühlig thought it would be expedient to modify the conclusion of this section, for it did not seem to him to reply sufficiently to what was said in the text. Experience had proved that quarantines, such as were formerly in vogue, did not suffice to prevent the importation of cholera, and indeed so far from that, that it sometimes favored it: the proof, therefore, was conclusive. Dr. Mühlig proposed to modify the conclusion thus:—"The Committee is of opinion that the lessons to be derived from the experience of this first period of quarantines are not favorable to the system hitherto generally followed."

Dr. Monlau similarly criticised the conclusion. If it was clearly demonstrated by experience that a badly effected quarantine, or one insufficient in duration, was powerless to arrest cholera, it was not the less proved that a rational and well applied quarantine constituted an effectual guarantee.

Dr. Monlau again objected to the title of the report, *Quarantine measures applicable to choleraic arrivals*, as not being sufficiently general. The use of the word *arrivals* seemed to indicate that there was no question of any but measures applicable to ships.

Dr. Sotto concurred in Dr. Mühlig's remarks.

Dr. Bartoletti replied that the second section of chapter I explained the conclusion of the first: if the application of quarantine measures had not always afforded good results, there were cases where it had not been so. It could not, therefore, be said yet that the proof was conclusive. As for the title, the word *arrivals* applied equally as well to arrivals overland as to maritime arrivals.

Dr. Sawas did not offer any opposition to Dr. Mühlig's remarks being taken into consideration, these observations containing nothing opposed to the spirit of the report; and Dr. Mühlig having admitted the text of the section under discussion, the objection urged was substantially a matter of form.

Dr. Maccas replied that in experimental science a single experiment does not always lead to a positive or negative conclusion. Very frequently it is necessary to repeat the experiment, either because of its having been defective, or because it may be needful to multiply the experiments in order to become assured of the result observed. This, according to Dr. Maccas, was what happened in the matter of quarantines such as were applied when cholera first made its appearance in Europe. Their results were not always nor everywhere unfavorable, and, moreover, their application was always more or less defective. The Greek Delegate mentioned, as an instance, his own country, where quarantines had succeeded from their commencement; but he would ask whether it could be affirmed with certainty that this happy result was due to themselves alone, which, however, people at present, now that the experiment has been frequently repeated, have a right to believe. The

Committee could not undertake a detailed description of all the quarantine systems hitherto tried in various countries, for the work would have filled a volume by itself. It was its duty rather to draw lessons from the past, useful either for or against the system. It thought it had come as close as possible to the truth in declaring that the first experiments were not conclusive, and the Conference could not fail to be of the same opinion.

Count de Lallemand asked whether different opinions would not be conciliated by completing the conclusion as follows:—"have no conclusive value *either for or against the principle of quarantines.*"

Dr. Sawas pointed out that what Dr. Mühlig wanted to see introduced into the conclusion was contained in the text.

Dr. Millingen stated, as had been done before, that every body was agreed upon the substance of the text, and that the question now, therefore, was merely a matter of form. The sentence, at the end of the first paragraph of page 3, "what lesson could be derived from it but that of the inefficiency of such means to prevent the invasion of a healthy country by cholera from an infected country," was the best reply that could be given to the question, the solution of which was under discussion.

The President put successively to the vote the text of the first part of the 1st section of the report, the amendment proposed by Dr. Mühlig, and finally the conclusion, as it stood, of the Committee.

The text was adopted unanimously.

Dr. Mühlig's amendment was rejected by eighteen votes against four: *For*:—Dr. Sotto, Dr. Monlau, Baron Testa, and Dr. Mühlig. *Against*:—M. Vetsera, Count de Lallemand, Dr. Fauvel, Dr. Goodeve, Dr. Dickson, M. Kalergi, Dr. Maccas, Professor Bosi, M. Salvatori, Dr. Millingen, Dr. Sawas, Dr. Gomez, Dr. Pelikan, Dr. Bykow, M. Stenersen, Dr. Baron Hübsch, Dr. Bartoletti, and Dr. Salem Bey.

The conclusion, as it stood, was adopted by a majority of 18 votes against 2, with three abstentions.

Against:—Baron Testa and Dr. Mühlig.

Abstentions:—Dr. Sotto, Dr. Monlau, and M. Keun.

The 2nd section of chapter I, text and conclusion, was then read.

Dr. Mühlig objected that this conclusion, unlike the other, was too absolute. Without denying the principle, he thought that the report did not quote a sufficient number of facts to place the Committee in a position to affirm that "it was incontestible that quarantines established on rational bases, bases in conformity with the progress of science, might serve as an efficacious barrier against the invasion of cholera." It was necessary to suppress the word *incontestible*.

Dr. Sawas, on the other hand, required the retention of the word *incontestible*. The principle shown in the conclusion was the base of

the labors of the Conference. Anything, therefore, which might tend to render the affirmation of this principle less absolute, ought to be rejected. It would besides be easy to add numerous facts to those contained in the report.

Dr. Goodeve would prefer, like Dr. Mühlig, to see the conclusion rendered less affirmative. It was evident that quarantines established on bases which were rational and in conformity with the indications of science were in theory an efficient guarantee, but could the same thing be affirmed of quarantines as really practicable? The report having quoted the instance of what had happened at New York as a striking proof of these importations having been averted, thanks to intelligent measures of segregation, Dr. Goodeve remembered that cholera had ended by penetrating into the United States. It might, it was true, have entered by some other route than that of New York, but after all this fact lost no part of its value unless proof to the contrary were adduced, and it would be another reason for the Conference to show itself somewhat less categorical.

Dr. Mühlig seconded these remarks. The great difference between segregation in theory and in practice must be taken into consideration.

Dr. Bartoletti said there was no want of facts to bring forward in support of the conclusion; they were to be found in the continuation of the report, and especially in the historic review. In regard to the importation of cholera into the United States, the posterior fact, in his opinion, did not weaken the anterior facts mentioned in the report.

Dr. Fauvel, who said he was in favor of retaining the word *incontestible*, remarked that this word did not bear, as Drs. Mühlig and Goodeve seemed to believe, upon the necessary efficacy of quarantines, but upon the word *might*, everybody decisively admitting that well practised quarantines might constitute an efficient guarantee. There was, it could be seen, nothing absolute in the conclusion; it confined itself to asserting its *possibility*, which possibility nobody denied.

Professor Bosi believed that the enquiries of the Conference had abundantly proved the efficacy of quarantine measures when well applied. In his opinion, if there was any objection to urge against the conclusion, it was that it admitted only the possibility of this efficacy: in a word, that it was not sufficiently affirmative.

Dr. Mühlig not insisting further, the 2nd section of chapter I was put to the vote as it stood (text and conclusion), and adopted *nem. con.*

The meeting terminated at 4-30 P. M.

SALIB,

President of the Sanitary Conference.

BARON DE COLLONGUE,
DR. NARANZI,

} *Secretaries.*

No. 44, dated 8th May 1867.

From—SIR STAFFORD H. NORTHCOTE, BART.,

To—*His Excellency the Governor General of India in Council.*

In continuation of Viscount Cranborne's Despatch of the 31st of January last, No. 8, I forward herewith, for your information and guidance, and for communication to the several Local Governments,

* Dated 2nd April 1867, No. 23, and 9 enclosures. a copy of a Despatch* from Her Majesty's Ambassador at Constantinople, and of its enclosures, together with a copy of a

† Dated Cairo, 19th April 1867, No. 38. Despatch† addressed to Her Majesty's

Ambassador at Constantinople by Colonel Stanton, which have been transmitted to this Department from the Foreign Office, respecting the sanitary measures proposed to be applied this year to the pilgrimage to the Hedjaz.

2. I likewise enclose a copy of Protocols 38, 39, 40, and 41 of Proceedings of the Cholera Conference at Constantinople.

No. 23, dated 2nd April 1867.

From—LORD LYONS,

To—LORD STANLEY.

With reference to my Despatch of the 1st January last, marked

1. From Colonel Stanton, 9th January 1867, No. 5.
2. " Dr. Dickson, 7th March 1867.
3. " Dr. " 24th March 1867.
4. Instructions to Hedjaz Commission of 1866.
5. " to Director, 1867.
6. " to Inspectors, 1867.
7. From Dr. Dickson, 27th March 1867.
8. " Fuad Pacha, 12th March 1867.
9. To Colonel Stanton, 2nd April 1867.

Commercial, No. 1, and to your Lordship's Despatch of the 2nd February last, marked Commercial, No. 5, I have the honor to transmit to your Lordship a copy of a Despatch from Colonel Stanton, stating that he sees nothing seriously objectionable in the sanitary measures proposed to be applied this year to the pilgrimage to the Hedjaz.

2. These measures are explicitly stated to be intended for the pilgrimage of this year only. I have, nevertheless, thought it advisable to abstain from committing Her Majesty's Government to any formal approval of them, or consent to them. I have contented myself with allowing the British Delegate to the Board of Health to let them pass without remonstrance, and without special amendment.

I have the honor to transmit to your Lordship herewith copies of three reports from Dr. Dickson, and copies of the instructions given by the Board of Health here, to members of the Sanitary Commission of the Hedjaz.

3. I enclose also a copy of a note from Fuad Pacha, requesting that an Ottoman corvette, about to be sent from Bassorah to Jeddah for sanitary purposes, may be supplied with coals from British Depôts in the Persian Gulf and at Aden. I have requested Her Majesty's Consul General at Bagdad, and Her Majesty's Agent in Egypt, to take measures for giving effect to this request.

4. Finally, I enclose a copy of a Despatch which I have addressed to Colonel Stanton, calling, with reference to the instructions of the Board of Health, for a report on the best mode of carrying out effectual sanitary measures without injury to British interests, and without prejudice to the health, comfort, or religious sentiments of Her Majesty's Mahomedan subjects.

Dated 9th January 1867.

From—COLONEL E. STANTON,

To—LORD LYONS.

I have the honor to acknowledge the receipt of your Excellency's Despatch No. 1 of the 1st instant, transmitting a copy of a report addressed to your Excellency by Dr. Dickson, British Delegate to the Constantinople Board of Health, and also a copy of a report of a Committee of that Board on the subject of quarantine and of hygienic measures to be applied to the approaching pilgrimage to Mecca; and in obedience to your Excellency's desire to be furnished, as early as possible, with my opinion on the report of the Committee, have the honor to state that I have carefully perused these papers, and cannot see any thing seriously objectionable in the measures suggested to be taken.

I beg also to report to your Excellency that I have given instructions to the British Delegate to the Alexandria Board of Health, who is, however, not a medical man, none such being available for this service, to report either directly or through the British Consulate to your Excellency, any circumstances within the control of the Alexandria Board which might be calculated to affect British interests, or invite discussion at Constantinople, in order that timely notice may be given to Dr. Dickson of all such matters from this country as are likely to be brought before the Constantinople Board of Health.

Dated 7th March 1867.

From—DR. E. D. DICKSON,

To—LORD LYONS.

I have the honor to inform your Excellency that the Porte has sanctioned the sanitary measures proposed by the Board of Health for regulating the next pilgrimage to Mecca, as stated in my report of the 19th December 1866; but, owing to the absence of any Government

steamer in the Red Sea, it cannot grant one for the special service of the Hedjaz Commission. The Board of Health, however, insists on the necessity of this measure, to enable the Commission to make a survey of the Red Sea, and fix on the most eligible locality where a lazaretto could, in future, be established for the performance of quarantine on arrivals from India ; and will, therefore, renew its application to the Porte.

The Board has named Halil Effendi, Director, or Chief of the Commission ; Dr. Castaldi, Inspector at Jedda ; Dr. Milesian, Medical Officer at Jedda ; and Dr. Soci, Medical Officer at El-Wedge ; and, as soon as the President of the Board has appointed the other Members of the Commission, it will proceed without further delay to its destination.

Dated 24th March 1867.

From—DR. E. D. DICKSON;

To—LORD LYONS.

I have the honor to inform your Excellency that, on the 14th instant, the Hedjaz Commission left this place for Alexandria, from whence it will proceed, without delay, to the Red Sea.

The members composing the Commission are the following:—
Halil Effendi, Director in Chief, whose head quarters will be at Mecca.

Dr. Castaldi, Inspector, whose head quarters will be at Jedda.

Doctor Malezian, Medical Officer, to reside at Jedda.

Doctor Soci, Medical Officer, to reside at El-Wedge.

Seven Mahomedan physicians besides have been added to the above number, and will be stationed in various parts of the Hedjaz, viz., Mustafa Effendi, Servet Auf Bey, Nouri Ismail Effendi, Mehined Effendi, Arif Ibrahim Effendi, Hussein Halil Effendi, and Raif Mehined Effendi.

The Commission will be guided by the rules drawn up for it, as stated in my report of the 19th December 1866, to which have been added the printed instructions that governed the Hedjaz Commission of last year. Special instructions have, moreover, been given to the Director, and also to the Inspector. I herewith enclose copies of them.

An Ottoman steam corvette, at present stationed in the Persian Gulf, has been placed at the disposal of the Hedjaz Commission, for the purpose of lending it assistance when required, and to enable the Inspector to make a survey, more especially at Bab-el-Mandeb, Obokh, and at the islands of Faisan and Camaran ; and ascertain where a lazaretto establishment could best be placed, in accordance with the views proclaimed by the late Cholera Conference.

Intelligence, received by the Board of Health from Alexandria up to the date of the 6th instant, declares the public health in the Hedjaz to be excellent.

Instructions given by the Superior Board of Health to the Hedjaz Commission.

The Sanitary Commission of the Hedjaz is composed of a President, Ahmed Effendi, and two physicians, Dr. Akif Bey and Dr. Yusuf Bey. Its mission is temporary, and not to exceed six months, unless arranged otherwise by higher authority.

The members of the Commission should submit to the Board of Health fortnightly, and oftener if necessary, and either singly or collectively, a circumstantial report upon the object of their mission. Reports separately submitted by the physicians should be written in French.

This delicate mission requires great tact and management with regard to the population as well as the places to be explored, and the Commission should proceed with the greatest circumspection, while, at the same time, it should carry out its orders with scrupulous precision.

The Commission is ordered to study the question of cholera in the Hedjaz, a complex question, embracing, in a prophylactic point of view, the past, the present, and the future.

As to the past, the Committee should commence an enquiry into the epidemics which have prevailed every year at Mecca for some years past; but it ought especially to enquire into the last, which was the most violent of all in its progress and its ravages. It should endeavor to ascertain with precision whether cholera was engendered spontaneously in the Hedjaz, or whether it was imported. If it is ascertained to have been imported, the Commission should show the way by which it entered, whether by land or by sea, and whether it arrived simultaneously with the pilgrims or before the pilgrimage. If, on the contrary, it is found that cholera is endemic in the Hedjaz, and that it is spontaneously engendered there, the Commission should apply itself to the discovery of the causes conducing to its local generation, whether these causes are local or inherent to the pilgrimage; it should enter upon a profound and conscientious consideration of these causes, so as to enlighten the administration upon this important question. At the same time it should indicate, with as great precision as possible, the outbreak of the last epidemic, its progress, the number of deaths in proportion to the number of pilgrims, and the mode of propagation in the country and beyond it. In this last point of view, it should be careful to obtain authentic information of the manner in which the transport of the pilgrims from Jeddah to Suez, on board the steamers navigating the Red Sea, is carried on. It is all the more necessary to become acquainted with this last circumstance, that it is of the very greatest interest to the future of the public health of Egypt, and, therefore, of the numerous States with which this country has commercial relations.

Whatever may be the result of the enquiry as regards the past, the Commission should employ the greatest activity in obtaining information as to the present sanitary condition of the Hedjaz, as well as of the pilgrims, on the arrival of each batch. It should write a

correct description of the different pilgrimage stations, pointing out such elements of insalubrity as may be present in each. In connection with this matter, the encampments at Arafat and Wadi-Mina should receive especial attention, and the Commission should ascertain the means of preventing the infection arising from the consequences of the crowding of men in confined spaces, as well as from the decomposed remains of the animals slain in the Valley of the Sacrifice. It should carefully examine the conditions of insalubrity appertaining to the towns on the Arabian coast, where pilgrims land, and whence they embark on their departure. Besides Jeddah and Yambo, which should be the chief objects of its enquiries in the point of view of the landing and shipping of the pilgrims, it should endeavor to collect precise information regarding the ports of Mocha, Confuidah, and others on the Arabian coast in connection with the pilgrimage. The Commission should also visit the town of Medina, which is one of the stations most frequented by the pilgrims; it should make the same researches, and, if necessary, adopt the same measures with regard to Mecca. After having stated the causes of insalubrity and disease, the Commission should consult with the constituted authorities of the country as to the works to be executed, with a view to their removal, or, at any rate, the diminution of their effects. To provide against the approaching pilgrimage, the Commission should organise encampments so arranged as to avoid crowding and its deleterious effects.

If cholera should have existed among the pilgrims arriving from India or any other country, the Commission should provisionally organise quarantines at the ports of arrival, in spacious encampments, well open to the air, and as far removed as possible from inhabited localities. The duration of the quarantine, in such cases, should be proportioned to the gravity of the danger, but it should never exceed 15 days after the occurrence of the last accident in an infected group. It is to be understood, of course, that these precautions, dictated as they must be by urgent circumstances, can only be of a temporary and provisional nature, seeing that it rests with the superior sanitary administration to decide as to the definite quarantine system to be applied to the pilgrimage.

In the event of the development of cholera, and its propagation in caravans, the Commission should exercise all necessary anxiety and activity in the separation of such groups as are infected from such as are not so. It should render assistance to the sick to the utmost extent of its means of action, and it should spread among the people advice upon public and private hygiene.

When the separation of the pilgrims commences, previous to their return to their respective homes, the Commission should watch over their departure. It is especially at Jeddah, where there is the greatest gathering of the pilgrims with a view to embarkation, that the Commission should exercise great energy in the execution of such hygienic and prophylactic measures as it may deem necessary to apply either to the pilgrims or the vessels about to leave. It should visit all the

passengers, the number of whom it must fix in accordance with the capacity of the ship, so as to obviate crowding: it should prevent persons suffering from cholera, if there are any such, from being received on board, and it should have them properly attended to in appropriate places, and, preferentially, under tents. It should deliver bills of health to the ships, being careful to note the sanitary condition of the place of departure, the number of passengers, and the hygienic conditions on board.

At Jeddah, as well as at Mecca and Medina, where masses of pilgrims assemble at stated periods, the Commission should cause local measures of salubrity and hygiene to be carried out. It should prevent, as far as possible, all crowding in khans, inns, and coffee-houses, and it should invite the serious attention of the local authorities to the quality of the provisions exposed for sale in the markets. It should insist, above all, that trenches (to serve as latrines) shall be dug at a convenient distance from all encampments, that the choked-up wells at Wadi-Mina should be cleared out, and be used again, in accordance with the old custom, for the collection of the blood and remains of the animals slain during the sacrifices. Finally, it should manage to provide shelter for the poverty-stricken and almost naked pilgrims, whom the local authorities should provide with tents to secure them during the day from the scorching rays of the sun, and at night from the extraordinary humidity peculiar to that climate.

To sum up: the orders to the Commission are: *1st*, to institute an enquiry as to the epidemics of cholera in the Hedjaz, and especially as to the last, so as to ascertain whether its origin is endemic or exotic; *2nd*, to study the present sanitary condition of the country, to indicate the causes of insalubrity which may engender cholera, or develop it in the event of its importation; *3rd*, to propose measures of sanitation and prophylaxy, to adopt such measures provisionally in urgent cases, until the decision of the superior authority as to the definite and permanent system to be adopted; *4th* and *lastly*, to submit to the Board of Health detailed and continuous reports upon its observations, and the measures deemed by it to be necessary, or carried into execution in accordance with the tenor of the present instructions, without prejudice, however, to such fresh instructions as the Board of Health may hereafter find it necessary to transmit to it.

Read to the Board of Health, and approved at its meetings of the 9th and 16th January 1866.

Dated March 1866.

TO DR. CASTALDE

M. LE DOCTEUR,—The Intendancy informs you that, by order of the Superior Board of Health, you have been nominated Inspector of the medical mission to the Hedjaz for the year 1867.

The objects of this mission may be summed up under three heads, *viz.*, 1st, the adoption of such measures as may be rendered necessary by circumstances to prevent cholera from penetrating into the Hedjaz with the arrival of the pilgrims, and to regulate the conditions of departure of the latter on their return *via* Egypt, so as to diminish the danger of importing the disease into this country; 2nd, the organisation of a system of hygienic measures applicable to the places of pilgrimage, with a view to lessen the chances of the development of cholera among the pilgrims; 3rd, the undertaking of a series of studies on the coasts of the Red Sea, and the collection of all information adapted to enlighten the administration upon the important subject of the establishment of a definitive and permanent quarantine applicable to the pilgrimage.

Last year the Commission despatched to the holy places undertook and executed hygienic measures upon a considerable scale at Jeddah, at Mecca, and at Medina; and, as to the return of the pilgrims, it succeeded in lessening the danger of the importation of cholera into Egypt; but the problem of the studies that were to conduce to a permanent quarantine establishment has not been solved, owing to circumstances into which it is at present useless to enter.

Consequently, while we reckon upon you to fulfil the duties incumbent upon us in the point of view of this year's pilgrimage, by applying the hygienic and quarantine measures which were put into practice last year, and by completing them, you are invited to effect the necessary studies in the point of view of a permanent quarantine establishment. With this object in view, you will have to visit the islands of Tarsan and Camaran, the Straits of Bab-el-Mandeb, the States situated on the Straits, the position of Obok upon the African coast beyond Bab-el-Mandeb, and any other locality which may offer conditions more or less favorable to the proposed end. In this inspection, which you will have to carry out immediately after the departure of the pilgrims from Jeddah, for the purpose of returning to their homes, you must be accompanied by Mustafa Effendi and another of the Mussulman physicians of the mission, whose selection is left to you in concert with the Director, Halil Effendi. The Imperial Government, it is scarcely necessary to add, will place a steamer at your disposal to conduct you wherever your tour of inspection will call you, and the vessel will also be used by you for the exploration of the coast and the islands above-mentioned, including Bab-el-Mandeb and Obok.

The Intendancy does not doubt, M. le Docteur, that you will acquit yourself of your important and delicate task with that devotion and intelligence, without which the object of your mission can be but incompletely attained, or rather not attained at all in its most essential part.

You will find, M. le Docteur, in the documents that have emanated from the International Sanitary Conference, and the notes accompanying them, valuable hints for adoption in your explorations, and we need not, therefore, enter into detail at greater length regarding this subject.

As for the hygienic, and if necessary the quarantine, measures to be adopted in the present state of things, you will act in conformity with the instructions given last year, and with the contents of the report of the Commission submitted to the Government, copies of which we forward herewith. This report modifies in certain respects the instructions of last year, and we therefore direct your attention to it, so that you may inform yourself of the changes to be made in the said instructions.

The result of the arrangements made in consequence of this report are that, with the exception of the Jeddah service, and the presence of a Christian physician at El-Wedge, all the ports on the coast of the Hedjaz and of Yemen, as well as in the interior, have been placed in charge of the Mussulman members of the mission, presided over by Halil Effendi with the title of Director, to whom the administration has given special and detailed instructions drawn up in the Turkish language.

The *personnel* of the mission must be distributed in the following manner :—The Director Halil Effendi, as well as Servet Effendi and Medim Effendi, are to reside at Mecca ; the inspector and Dr. Maleziau at Jeddah ; Mustafa Effendi, sometimes at Mecca, and sometimes at Jeddah, according to the necessities of the Department ; M. Lozzi at El-Wedge ; Nouri Effendi at Medina, Arif Effendi at Yambo, Poif Effendi at Hodeidah or Confuidah, as may be convenient ; and lastly Hossein Effendi at Moka.

In regard to the inspection of the coast to be conducted by yourself, you will work in harmony, as far as possible, with the Director, and you will give your own instructions, when necessary, to the Mussulman or Christian physicians stationed at the various places on the Arabian coast, which instructions they are bound to obey, always provided that they correspond with the spirit of the instructions of the administration, which, as may be easily understood, do not provide for everything beforehand.

The regularity of the service and the success of the mission depend upon a good understanding between the inspector, the director, and the physicians of the mission. These physicians will submit their reports to you, and you will transmit them to the administration, summing them up and completing them according to circumstances.

In the service of inspection, and your relations with the Director at Mecca, and with the local authorities at Jeddah, you will have, as your intermediate agent, Dr. Mustafa Effendi, who is attached to you as sub-director and sub-inspector.

Finally, the Intendancy concludes by expressing to you its confidence that you will acquit yourself of your mission with all the zeal and courage of which you are capable. It now confirms what it told you verbally that your honorarium is fixed at 8,000 piastres per mensem, and a lump sum of 15,000 piastres for your travelling expenses. It considers it unnecessary to remind you that the fêtes of the pilgrimage are at hand, and that consequently you should proceed on your journey without any

interruption, or avoidable halts, which may delay your arrival at your destination.

Summary of the Report drawn up by Ahmed Effendi, President of the Hedjaz Sanitary Commission, in 1866, and forwarded, in virtue of a Vizieral letter to the Vilayet of the Hedjaz.

The streets and places about Mecca should be constantly kept clean. This was accomplished in 1866 at the expense of the Hedjaz Treasury ; but in future it ought to be done at the public cost, except during the time of the pilgrimage (that is, from the commencement of Ramazanto the end of Zilkhidjeh), when the expense would fall too heavily on the inhabitants, and ought, therefore, to be defrayed by the Hedjaz Treasury. Within Mecca and its environs there are about three thousand "ashe" or huts built of mats, consisting of one room each, but with no latrines. Part of these huts are inhabited by persons in easy circumstances, and the rest by dirty vagrants. These habitations should be occupied solely by respectable people who could keep them clean, while those of the other classes should be removed from the neighbourhood of Mecca to some convenient spot, at least an hour's distance from that city ; wide alleys and latrines should be made amongst them, and other huts should not be erected in the room of those taken away.

These "ashe" are all private property, the cost of building them varies from 80 to 700 piastres each ; and they are easily taken down. Those occupied by paupers have been constructed by themselves ; hence it would require a grant of money in order to defray the expense of displacing them.

Mecca is never entirely free from pilgrims, more especially from Ramazan to the end of Muharem ; a crowd collects there, which is far from desirable. The streets are not narrow ; but shop-keepers erect benches across them, during the season of pilgrimage, which impede the free circulation of the thoroughfares. It would be impossible, during the great heat of summer, to keep shop-keepers *within* their shops ; it is, therefore, proposed, in order to restrain, as much as possible, these encroachments on the public way, that they shall be limited to a space of two " arshins " (5½ inches) for every shop.

The way called " Massa " is straight, and has shops on either side of it, with houses above them ; and, moreover, it possesses a well-supplied market, much frequented by the inhabitants of Mecca. Vendors of oil and other objects, however, not satisfied with the space in front of their shops, are moreover, in the habit of extending their stalls far beyond " Massa," and thus obstruct the public thoroughfares, and the course of those pilgrims who visit the shrine of " Euméré." Besides which, the transformation of this sacred spot into a public market shocks the religious feelings of many pilgrims, and the crowd which gathers in this place endangers the public health. Since it would be impossible to limit shop-

keepers to witbin their shops during summer, a space of two "arshins" must here also be allowed to them for stalls; but every other concession should be abolished, and no public vendor must be allowed to enter "Massa" from the month of Ramazan until the termination of the pilgrimage.

Attention should be directed to the frequent out-breaks of small-pox, and Mahomedan surgeons sent to those places when this scourge prevails, for the purpose of extending the benefits of vaccination.

It is customary at Mecca to heat the public baths by burning all kinds of rubbish, instead of wood. This practice taints the air; and, according to the opinion of the Medical Officers of the Commission, it has an injurious effect upon the public health, and ought, therefore, to be discontinued.

The road which leads pilgrims from the valley of "Mina" to Mount "Arafat" is lined on either side with houses built of an irregular shape, and having projecting apartments on their upper story; these narrow the way, and cause the pilgrims to circulate with the greatest difficulty during the "hadj" or pilgrimage. The projections were, therefore, lately demolished; but it is still desirable to widen the path by at once pulling down those houses which still encroach on it, and by removing the others further back every time that they require building.

The valley of "Mina" is bounded on the Mecca side by two mountains, and on the "Mezdelefe" side by an extended plain. The Government officials, the imperial troops, and the escorts of the Syrian and Egyptian caravans are encamped close to these mountains, while the pilgrims, the native inhabitants, and the Bedouin Arabs occupy Mina. The former ought to remove their tents to convenient spots close to "Mezdelefe," while the latter would have to advance beyond them, and, as far as possible, into the plain. The better to explain this, a map has been sketched out by the local authorities for the Porte's information.

Should, therefore, the above plan be adopted, a sufficient number of latrines would have to be provided in the new localities.

To prevent the air from becoming tainted by the effluvia arising from the sacrifices, and the gathering of so many persons in one spot, and in a warm climate, thirteen "Mebze" or slaughter-houses were erected in 1866 at convenient places in the valley of "Mina"; and, moreover, 45 pits were dug at a distance of half an hour (one and a half mile) from "Mina," where the remnants of the victims were conveyed by means of carts and horses to be buried in them. These measures were only temporary, and their repetition on the occasion of every pilgrimage would cause great expense to the Treasury; it is therefore intended that the "Mebze" and pits should hereafter be situated close to each other, and built of lime and stone. But, in the meantime, to fulfil the requirements of the present pilgrimage, it will be necessary to establish immediately 12 temporary "Mebze" and the aforementioned number of pits alongside of them.

The pilgrims of the Syrian and Egyptian caravans place their tents in a systematic manner, but the other pilgrims pitch them at hap-hazard, and crowd them up together, which obstructs the passages, and confines the atmosphere. Ahmed Effendi hopes that the pilgrims will themselves feel the convenience of this mode of camping; and he, therefore, suggests that Engineer Officers be hereafter appointed to regulate the order of these camps.

The rivulet called "Ain-Zubrida" flows into the plain at the foot of "Arafat"; hence, while the pilgrims remain there, they feel no distress from want of water. This rivulet, however, does not pass into the valley of "Mina," but swerves round a mountain at a distance from it; the pilgrims, therefore, when staying at Mina, are put to great trouble and fatigue to procure their water supply from this source. Ahmed Effendi, therefore, proposes to divert the course of this stream into the valley of "Mina," or else bring its water there by means of an artificial canal; and he, moreover, deems it expedient that new tanks should be constructed at "Mina," for the purpose of holding a constant supply of water during the entire period of the pilgrimage.

As already explained, the temporary slaughter-houses being at a distance from the pits, the remnants of the sacrifices have to be carried from the one to the other upon carts, or animals. Should these, however, be remodelled according to Ahmed Effendi's plan, this transfer of the remnants will no longer be needed; but as the extensive encampments in the valley of "Mina" are never free from the carcasses of dead animals and other filth which must vitiate the air, the beasts of burden belonging to the Syrian and Egyptian caravans, together with the Government Artillery horses stationed at Mecca, could be employed to remove this filth, under the superintendence of an Officer expressly named for the purpose.

The "Imaret," or pious institutions founded at Mecca and Medina for the express purpose of giving alms to indigent natives, extend their charities as well to the poor coming from India and Afghanistan; these strangers, therefore, accumulate in and about the holy sanctuary, sleep there and in the streets, and dirty every place, and not satisfied with the daily ration of soup and bread allowed them from the Imaret, they are perpetually begging and annoying the public with their importunate behaviour. To put a stop to this inconvenience, Inspectors will be stationed at Jeddah, Yambo, Ras, &c., whose duty it will be to examine these beggars on their arrival, and issue to each of them a Permit, allowing him to perform the pilgrimage on condition of his departure from the country by the end of the month of Zilhidje.

It is an undoubted fact that crowding and filth engender and propagate divers maladies.

Most of the pilgrims visit the various shrines before making the ascent of "Arafat"; and even those who have not done so, can accomplish their devotions (at Mecca) in three or four days' time. It would,

therefore, greatly contribute to the public weal were the ancient custom renewed, which, according to the local ulema, was instituted at the period of the Khalif Omer-el-Fazook, *viz.*, *not to allow pilgrims to remain at Mecca more than four or five days*

Crowds are always everywhere inconvenient. The ceremony of lapidating the devil causes much crowding and inconvenience, and many persons are thereby injured by being hit with stones on the head, face, or eyes. It is, therefore, proposed, providing religion permits it, and excepting the great devil, to surround the localities of the two other devils with strong iron fences put up in such a manner as to prevent crowding and all dangers to the bye-standers, who will thus be enabled to stone these excommunicated spirits with all the ease and zest imaginable.

Note! the back of the *great* devil is covered with a *hillock* of stones; and, according to the local ulema, it is not lawful to lapidate him from the *four sides*, as done to the other devils, but only *in front*, and at a level with the ground; hence it will not be necessary to put a fence over this spot.

It is evident that eating unripe fruit, and especially melons, water-melons, and cucumbers, and indulging in the drink called adjoor, engenders maladies. As the sale of these articles could not be entirely suppressed, it would be desirable to prohibit them at least at "Arafat" and Mina, or only stop their sale for about five days, that is, from the commencement of the "Mina" ceremonies until the departure of the pilgrims. But should this prohibition distress the vendors, it might then be limited to times when an outbreak of disease occurred.

Pilgrims are generally poor, and some of them beg and importune the natives and their fellow-pilgrims, and offer an aspect of misery and distress that foils description. The travelling expenses between Alexandria and Mecca amount to at least 2,000 piastres, to which sum must be added the expenses incurred in the journey between Alexandria and one's home.

Until nearly a century back none but persons possessed of the means to defray their expenses were allowed to perform the pilgrimage, but the custom has since been abandoned. The performance of the pilgrimage being *voluntary*, it is desirable that this neglected custom were revised, for it would protect natives and pilgrims from the above annoyances, and withdraw the indigent from the distress at present arising out of their poverty.

The "Takroori" or pilgrims that arrive from London (Central Africa) belong generally to the Maleki sect of Mahomedans, or those who hold that it is not necessary for the accomplishment of the pilgrimage that a person should possess the means, but that every one who is not unwell must perform this act of his faith. Most of them being unprovided, find themselves in the greatest distress on arriving at the holy places, and are, therefore, obliged to live by begging. This poverty prevents them from taking back to their homes (as customary with pilgrims in general) gifts of merchandise;

but they procure instead meat from the sacrifices ; dry it in the sun without salt on the ground about Mina, and carry it to their country as a present. The indigent Indian pilgrims do alike for the purpose of storing provisions for their return. This process of meat drying infects the air, and must injure the public health. It should, therefore, be discontinued, or, at all events, it should only be permitted upon the further side of the mountains beyond Mina, and only in those places where no crowding exists.

According to the regulations of the hadj (pilgrims) persons returning from Arafat must be at Mezdelefe before sunrise to celebrate the ceremony of the Vakfe (halt). In order, therefore, to effect this, they quit Arafat at the time of evening prayer, and arrive at "Mezdelefe" one hour and a half after sunset. On the plea that it is contrary to ancient usage, tents are not put up here, so that both pilgrims and the natives have to lie upon the ground in the open air until morning, and this causes bowel complaints. To avoid the danger, therefore, and which becomes even more apparent when the pilgrimage occurs in winter, it is necessary that tents shall be erected at "Mezdelefe."

Notwithstanding the great trouble taken in 1866 to cleanse the valley of "Mina," and that slaughter-houses were established for the killing of the victims, pits dug to receive the remnants, and every care taken for their prompt removal ; and notwithstanding that, every exertion was made to prevent the killing of the victims in any places but those indicated, and that this was expressly forbidden by the "Delhi Bashi," or chief conductors of the ceremonies, as well as by the other officials, yet the Police Agents discovered that many persons sacrificed sheep in their tents, while others brought the meat from the slaughter-houses into their tents, and threw the remnants outside. It will, therefore, be necessary, in future, to adopt coercive measures to repress these evils, and the rubbish derived from meat used for culinary purposes and other dirt soever will have to be buried in the ground in the front of the tents.

Although fresh spring water can be brought into Jeddah, yet tank water is that used instead. Some of these tanks are placed at the mouth of a water-course, and get filled by the torrent stream, which brings with it dead animals and filth of every kind. The owners never clean them, so that, in consequence of the late absence of rain, their water has become slimy and filled with worms. The drinking of wholesome water is of primary importance for the preservation of health. It is, therefore, indispensable that these tanks should be cleaned from time to time. Moreover, brackish water is sold at Jeddah for drinking purposes, which, it is needless to add, produces bad effects on the constitution. The cost of bringing fresh water into Jeddah, and distributing it by means of fountains, would amount to about 125,000 piastres, and this ought to be done without further delay.

It has been stated, moreover, that the arrival of the Egyptian General, Ismail Pasha, at Jeddah, was for the purpose of making the survey and estimates required to bring fresh water into that town,

At Yambo, also, there is no running water, but most of the tanks there are placed within the town, and fed by the rain that falls in the streets, so that as the inhabitants have no latrines, and men and women make use of the open streets in lieu of them, the rain water carries their ordure into the tanks, and turns it into a slimy fluid, emitting an intolerable stench, and this beverage is drunk by the pilgrims who pass through Yambo, whether they like it or not. It is superfluous to add how very prejudicial this must be to the public health, and how necessary it is that persons who can afford it should construct latrines in their houses. The inhabitants of Yambo, not being accustomed to such comforts, show no inclination to improve their present habits. The Government ought, therefore, to persuade, and even force them to use latrines, while, at the same time, it should build, at its own expense, those intended for the houses of the poor, or instead establish public latrines in different localities and adopt measures for supplying them with running water.

Much crowding occurs on board of the vessels that carry pilgrims between Suez and the Hedjaz. Ships ought, therefore, not to be allowed to take more passengers than their tonnage capacity will permit, and arrangements ought to be made with the various steam companies to enforce this rule.

Another source of danger to the public health arises from the dense masses of the pilgrims that proceed from Mecca to Medina, as amply shown by the disasters of 1866. Moreover, the collecting provisions at Medina, in the hot season for the journey to Yambo, is a difficult task.

Every pilgrim is obliged to go to Mecca; but it is optional whether he visits or not the shrine of Medina, although the prostration made at the tomb of the prophet is considered highly meritorious.

These two ceremonies are, therefore, independent of one another; and Ahmed Effendi proposes that the pilgrims who arrive early in the Hedjaz should visit Medina first, and thence proceed to Mecca.

Pilgrims coming from Java and the surrounding countries bring with them an offensive kind of dried fish that serves them as food, and which they also sell to others on the way. Nothing on earth (adds Ahmed Effendi) can be compared to the stench emitted by this article of diet, which clearly shows how injurious it must be to the health of those who feed on it. Such, moreover, is the unanimous opinion of all the Hedjaz doctors. It is, therefore, requested that measures be taken through the Hedjaz authorities to hinder the importation of this article, or prohibit its sale.

Dated 27th March 1867.

From—DR. E. D. DICKSON,

To—LORD LYONS, G. C. B.

I have the honor to inform your Excellency that the President of the Board of Health has received a Despatch from the Pasha of Jeddah, announcing the arrival of the first pilgrims from India.

From 21st January to 20th February eighty-two vessels had reached Jeddah, bearing a crew of 1,201 men, and 2,854 passengers,—all in excellent health. Their voyage lasted about three months, during which period five persons had died of old age, and two from inveterate sores.

Dated the 12th March 1867.

From—FUAD PACHA,

To—LORD LYONS, G. C. B.

I have the honor to inform your Excellency that the Sublime Porte has just telegraphed to the Governor-General of Bagdad an order for the immediate despatch to Jeddah of one of the corvettes of the Imperial squadron at Bassorah, in order to look after the maintenance of the sanitary arrangements recently adopted, with the object of preserving the coasts of the Hedjaz from invasion by any epidemic disease.

As it will be necessary, in consequence of the length of the voyage, for the vessel to take in a fresh supply of coals *en route*, I beg your Excellency will be good enough to move the Government of Her Britannic Majesty to give the necessary orders to the Royal authorities at Aden to furnish, against the receipt of the commander of the Imperial steamer, such quantity of coal as may be necessary, either on her voyage to Jeddah or back, for the amount of which the said authorities should draw a bill upon the Imperial ministry of marine.

I beg your Excellency will also be good enough to forward an order by telegraph to Her Majesty's Consul at Bagdad to cause to be obtained for the same corvette the quantity of coal required for a voyage in the Red Sea, the price of which will be paid upon the spot in accordance with orders which have just been given to His Excellency Namick Pasha.

Dated 2nd April 1867.

From—LORD LYONS, G. C. B.,

To—COLONEL STANTON, C. B.

With reference to my Despatch No. 1 of the 1st January last, and to your answer of the 19th of the same month, marked No. 5, I transmit to you herewith copies of three Reports from Dr. Dickson, and copies of instructions given by the Board of Health to members of the Sanitary Commission of the Hedjaz.

I beg you to take these papers into consideration, in connexion with those which were enclosed in the Despatch to you (marked No. 1,) to which I have already referred, and to communicate to me any observations which they may appear to call for. The measures

to which the paper relates are applicable to the pilgrimage of the present year only; and it is probable that next year an endeavour will be made to carry out more completely the recommendations of the Cholera Conference. I am, therefore, particularly anxious to be supplied with information as to the sanitary measures best calculated to guard against the spread of disease, without unduly embarrassing commercial operations, or interfering unnecessarily with the religious observances, or the health and comfort of Her Majesty's Indian subjects.

I may observe that, although the measures already adopted are explicitly stated to be applicable to this season only, I have nevertheless thought it advisable to abstain from committing Her Majesty's Government to any formal approval of them, or consent to them. I have contented myself with allowing the British Delegate to the Board of Health to let them pass without remonstrance and without special amendment.

Her Majesty's Principal Secretary of State informs me that, with regard to the question as to the ports at which pilgrim-ships entering the Red Sea are to be subjected to examination, he is willing to be guided by your opinion. I beg you, therefore, to pay particular attention to the question in drawing up the report for which I have asked you.

I send a copy of the present Despatch to Lord Stanley.

Dated 19th April 1867.

From—COLONEL E. STANTON, C. B.,

To—LORD LYONS, G. C. B.

In reply to Your Excellency's Despatch No. 16 of the 2nd instant, transmitting me copies of two Reports from Dr. Dickson, as well as of instructions given by the Board of Health to Members of the Sanitary Commission at the Hedjaz, I have the honor to submit the following remarks:—

The summary of the Report drawn up by Ahmed Effendi, President of the Hedjaz Sanitary Commission in 1866, which forms one of the enclosures in Your Excellency's Despatch, appears to take into consideration every question connected with the sanitary measures that could reasonably be expected to be taken to guard against the outbreak of epidemic diseases amongst the pilgrims, and the printed instructions given to the Hedjaz Commission of 1866, which are also adopted for the present season, contain directions as to the best method of guarding against the spread of such diseases.

I do not feel myself competent to offer any remarks to your Excellency on these subjects, which are so specially the province of medical men, and which have been adopted after mature consideration by

the Constantinople Board of Health; and, as these instructions appear to have been drawn up with every regard to the religious prejudices of the populations to which they refer, and are confined to measures to be taken during the period of the pilgrimage, they do not, in my opinion, offer any unnecessary embarrassment to commercial operations.

The question of quarantine is, however, my Lord, of more general importance, and requires more consideration as to the manner in which it may affect Her Majesty's Indian subjects.

The Committee, appointed by the Board of Health to draw up rules on the occasion of the present pilgrimage to Mecca, after stating its incompetence to order measures for preventing cholera being imported from India into the Red Sea, determined that a surveillance should be exercised over pilgrim-ships on their arrival at the ports of Mokha, Hodeida, Confuida, Jeddah, Yambo, and Reis, and that those vessels found to be infected with cholera would have to perform quarantine, if possible, at Jeddah.

To these regulations I cannot see that any serious objection can be raised; it has unfortunately been proved that cholera has been imported into Hedjaz by pilgrim-ships arriving from India, and that these ships have frequently been much over-crowded with passengers; the surveillance at the several ports of the Hedjaz, and the quarantine in case of cholera at Jeddah, do not, therefore, appear to be unnecessary precautions under such circumstances. I may, however, here mention to your Excellency that, in consequence of representations made to me last year by the President of the Egyptian Board of Health, that British vessels arrived from India at Jeddah or other ports of the Red Sea without being provided with bills of health, and frequently carrying a greater number of passengers than is allowed by law. I submitted to Her Majesty's Principal Secretary of State for Foreign Affairs, Colucci Bey's suggestions that these pilgrim-ships should be subjected to a visit at Aden, and that the number of passengers on board should be there ascertained, and recorded on the bill of health, so that any attempt to land passengers surreptitiously at ports in the Red Sea would be prevented, or at any rate discovered, on the arrival of the vessel at her destination by a comparison of the actual number on board with the certificate signed by the visiting authority at Aden. These suggestions were approved by Lord Stanley, and I was informed that instructions would forthwith be addressed to the Government of India, in order that the measures suggested by Colucci Bey might at once be carried into effect, so far as they might be found practicable by the Indian Government.

I am unable to inform your Excellency how far these instructions have been carried out, but I believe they would be of great utility in preventing the overcrowding of pilgrim-ships, and so lessening the dangers of an outbreak of cholera amongst the passengers, and the consequent necessity of a rigorous quarantine.

Mr. Vice-Consul Calvert, the British Delegate to the Egyptian Board of Health, has reported to your Excellency the measures adopted

by that Board with a view to prevent the introduction of cholera into this country from the Hedjaz.

They consist of seven days' quarantine at Tor for all vessels arriving from the Hedjaz, not excepting those with clean bills of health. Should cholera break out amongst the passengers during this observation, they will be re-embarked and sent to El-Wedge, there to perform a further quarantine of fifteen days; but should the seven days' quarantine at Tor pass without any case of cholera, the passengers will then be brought to Moses' Well, near Suez, and there perform an additional quarantine of seven days. In the event of cholera existing in the Hedjaz, vessels and passengers will have to perform a quarantine of fifteen days at El-Wedge, after which, if no case of cholera occurs, a further quarantine of seven days' observation at Moses' Well will have to be performed.

These measures may, perhaps, appear to your Excellency as unnecessarily stringent; but, as they do not affect Her Majesty's Indian subjects, or interfere seriously with commerce, I am of opinion that no objection should be raised to them, particularly when the exceptional situation of this country is taken into consideration, as well as the serious annoyances to which the commerce of Egypt is exposed by the vexatious quarantine to which vessels from Alexandria are subjected at Malta and at other parts of the Mediterranean on the slightest suspicion of the existence of cholera in this country.

The ports selected as the quarantine stations appear to me to have been well chosen, and are probably the best that could be procured on the Arabian coast. I would, however, venture to remark, with reference to the site to be selected near the Straits of Bab-el-Mandeb as a quarantine station, that from what I have lately ascertained of the climate of Mussowah, which has been suggested by the Egyptian Board as a quarantine station for vessels entering the Red Sea, that port should not be accepted by Her Majesty's Government as a quarantine station for British vessels, as I have every reason to believe it is totally unfitted for such a purpose.

INTERNATIONAL SANITARY CONFERENCE. MEETING
No. 38, OF THE 17TH OF SEPTEMBER 1866.

H. E. SALIH EFFENDI, *Presiding.*

The International Sanitary Conference held its thirty-eighth meeting at Galata-Serai at noon of the 17th September 1866.

PRESENT :

For Austria :

M. Vetsera, Councillor of the Internonciature to His Imperial and Royal Majesty.

Dr. Sotto, Medical Attaché to the Imperial and Royal Internon-
ciature, Director of the Austrian Hospital.

For Spain :

Don Antonio Maria Segovia, Consul-General, Chargé d' Affaires.
Dr. Monlau, Member of the Superior Spanish Council of Health.

For the Papal States :

Dr. Ignace Spadaro.

For France :

Count de Lallemand, Minister Plenipotentiary.
Dr. Fauvel, Sanitary Physician.

For Great Britain :

Dr. Goodeve, Surgeon-Major, Indian Army, Honorary Physician to
the Queen.

Dr. E. D. Dickson, Physician to Her Britannic Majesty's Embassy,
British Delegate to the Superior Council of Health at Constantinople.

For Greece :

M. Kalergi, Secretary to the Legation of His Majesty the King
of the Hellenes.

Dr. G. A. Maccas, Chief Physician to the King, Clinical Professor
in the University of Athens.

For Italy :

M. A. Vernoni, Chief Interpreter to the Legation of His Majesty
the King of Italy.

Professor Frederic Bosi.

Dr. G. Salvatori, Italian Delegate to the Superior Council of
Health at Constantinople.

For the Netherlands :

M. Keun, Councillor to the Legation of His Majesty the King
of the Netherlands.

Dr. Millingen, Dutch Delegate to the Superior Council of Health
at Constantinople.

For Persia :

Dr. Sawas Effendi, Inspector of Hygiene and Health at Constanti-
nople, Persian Delegate to the Superior Council of Health.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargé d' Affaires.

For Prussia :

Dr. Mühlrig, Physician to the Prussian Legation, Chief Physician to
the Ottoman Marine Hospital.

For Russia :

Dr. Pelikan, Councillor of State, Director of the Russian Civil Medical Department.

Dr. Bykow, Councillor of State, Assistant Military-Medical Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, Secretary to the Swedish Legation at Constantinople.

Dr. Baron Hübsch,

For Turkey :

His Excellency Salih Effendi, Director of the Imperial School of Medicine at Constantinople, Chief of the Civil Medical Department.

Dr. Bartoletti, Inspector-General of the Ottoman Sanitary Department, Member of the Superior Council of Health at Constantinople.

(For Egypt :)

Dr. Salem Bey, Clinical and Pathological Professor in the School of Medicine at Cairo, Special Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

M. de Lallemand wished to consult the Conference regarding a difference of opinion that arose in the Committee appointed to draw up the minutes which should give an abstract of the labors of the Conference.

It would be remembered, said M. de Lallemand, that the Conference, in one of its recent meetings, proceeded to nominate a Committee to which it gave very explicit directions. It was charged with the preparation of an enunciation, without commentary, of the principal propositions and conclusions of the reports adopted by the Conference, reference being made to the minutes appertaining thereto. As this enunciation was to be a final closing act, it was to be preceded by a prologue and followed by a conclusion or epilogue.

M. de Lallemand, as chairman of that Committee, desired to acquaint the Conference with the difficulties that had been met with in the strict execution of this decision; these difficulties, he believed, could not be overcome except by the Conference itself.

M. de Lallemand proceeded to say :

At its first meeting the Committee had called upon him to prepare the preamble and epilogue of the final act. Between the two the enunciation was to be placed. Each reporter had been told to make an abstract of his report.

At a later meeting, at which six members were present, the Committee found itself in presence of two different projects, each of which obtained three votes.

M. Fauvel declared that a simple enunciation of the principal propositions, and the conclusions of the reports, as had been decided

by the Conference, would, judging from the experiment that had been made, be incomprehensible without an explanatory commentary. He remarked that a simple enunciation without a commentary would be nothing but an *index* which would give but an imperfect idea of the labors of the Conference, and consequently could not be conveniently intercalated in the final act.

M. Monlau, on the other hand, continued M. de Lallemand, had attempted to carry out the plan, proceeding in a different manner. Having devised an analytic procedure, he commenced by drawing up an explanation of the principal propositions and the conclusions of the reports, which he connected together by extracts from the minutes and reports. His system, it was remarked by some members of the Committee, possessed two inconveniences—in the first place, it took too much time; and in the second, it was calculated to give rise to prolonged discussions. M. Segovia, who had strongly supported M. Monlau's system, did not share this apprehension, considering it to be unfounded.

A third system, added M. de Lallemand, had been proposed, which was to add to the paper he had drawn up, consisting of the prologue and epilogue, the questions and answers as given in the reports adopted by the Conference.

Such was the situation, said M. de Lallemand, and such was the difference of opinion among the members of the Committee. M. de Lallemand begged the Conference to give its attention to the different attempts that had been made, and to decide upon the subject, and then he read the preamble and epilogue he had drawn up.

M. Monlau also read his attempt. It was, he said, only an abstract, a very faithful extract from the report on hygienic measures. He had taken upon himself to draw up this abstract, it having been decided in Committee that each reporter should make an abstract of his own report. He had adhered strictly to the spirit and even the letter of the report, so that his abstract might strictly be placed between the preamble and the conclusion drawn up by M. de Lallemand. This system, in M. Monlau's opinion, could not occasion any discussion, being altogether in conformity with the decision of the Conference.

M. Fauvel made some remarks with the object of displaying the advantages and inconveniences of the different systems that had been tried.

He reminded the Conference, in the first place, that it had decided merely to enunciate the principal propositions and conclusions given in the reports. For his own part, he had attempted to proceed in that way, but without any satisfactory result. He had convinced himself that there were no means of appreciating the exact sense of the conclusions without having the text before their eyes. The simple enunciation of the conclusions and of the propositions would form only a table of contents which would scarcely answer the views of the Conference, or enlighten the public or Governments as to the nature of its labors. For this, an analytic abstract would be necessary, but it would entail considerable labor, which circumstances did not permit of being undertaken.

M. Monlau had made an attempt at something intermediate. He had made an abstract of his report, by taking detached sentences from it. This incomplete abstract, in M. Fauvel's opinion, could not attain the object. It would be more than an enunciation, and less than a final closing act intended to give a correct idea of the labors of the Conference. Moreover, in M. Fauvel's opinion, M. Monlau's system was calculated to give rise to interminable discussions, to judge merely by the preamble alone, which was open to great dispute.

M. Fauvel thought that, with some slight modifications, the statement drawn up by M. de Lallemand was excellent. To this statement, he thought, *ought to be annexed as a document* a copy of the conclusions adopted by the Conference, with the votes of each member upon them, and a reference to the minutes of the meeting, in which each question was discussed. The object of this statement would not be to give a complete idea of the labors of the Conference; for to do that, it would be indispensable to read both the minutes and the reports: but it would serve as a useful reference.

After these explanations, and a conversation which ensued on the subject between several members, and especially between MM. Salem Bey, Segovia, Goodeve, Fauvel, Monlau, and de Lallemand, His Excellency the President consulted the Conference, and invited it to pronounce its opinion as to the method to be adopted for carrying out the closing act.

After a long discussion, the Conference adopted by a majority of 18 against 2, who declined to vote, (Messrs. Segovia and Monlau) the following formula:—

“The Conference decides that the closing act shall consist of the text read by Count de Lallemand, to which shall be annexed an enunciation of the conclusions adopted by the Conference, with reference to the minutes and votes.”

The Conference proceeded to the order of the day, *viz., the discussion of the report upon quarantine measures.*

M. Bartoletti, the reporter, read the report as far as the 2nd chapter.

M. Mühlig asked permission to make a few remarks.

In the first chapter, he said, the Committee had stated the bases upon which it desired to found its quarantine system. Although M. Mühlig differed in some points with the Committee, he would vote in favor of the chapter, but he wished to show the points of difference. The Committee, he thought, should have taken into its serious consideration the objections bearing upon the value and efficacy of quarantines. As these objections showed the *unsafe* points which had to be avoided, they deserved to be regarded with attention. The Committee had not sufficiently appreciated the great difficulty there would be in distinctly specifying diarrhoeas, which specification was now considered of great importance. It had confined itself to saying that such cases would be attentively watched, but to what extent was this surveillance

practically possible? There was another point, said the report, which should be taken up: *When need arose*, patients suffering from diarrhœa should be subjected to the same regimen as cholera patients. M. Mühlig thought the expression, *when need arose*, out of place. This diarrhœa, in his opinion, ought always, and not merely in case of necessity, be subjected to the same regimen as confirmed cholera. In connection with this subject he pointed out another incorrect expression in the report. It was said there that diarrhœa was the first manifestation of cholera, while he (M. Mühlig), on the contrary, regarded it as being often the sole manifestation of the disease.

Restrictive measures and means, said M. Mühlig, might be efficacious, if the great difficulties they encountered in practice were duly appreciated and overcome.

M. Monlau believed that the Committee had done well to recommend quarantine measures, but it ought, in his opinion, to have paid more attention to the objections opposed to them, especially those of Griesinger, which were well founded. The Committee, it was true, had mentioned them in its report, but it had not refuted, or given any reply to them. These objections, however, were such as greatly to reduce the value of quarantine measures; and it was for this reason, remarked M. Monlau, that he had laid stress upon measures of hygiene, the concurrence and the action of which were indispensable as much for the prevention of the disease as for checking its progress. The action of hygienic measures was permanent, and their efficacy was general. Griesinger's objections were of great weight; they were real, and the Conference should not overlook them. At the same time, however, practical difficulties or inconveniences ought not to divert their minds from the quarantine system. But in order to make quarantines efficient, it was necessary that they should be well carried out, which was very difficult, and it was necessary to reinforce them by hygienic measures; then only, it should be distinctly understood, could they be useful, spite of the difficulties met with in their application.

M. Monlau added that the report should have caused it to be understood that the edifice of a new system of prophylaxy was based upon the principles admitted by the Conference regarding the transmissibility of cholera; and by these principles it was laid down that the disease must be opposed in its cradle. But all that, in his opinion, should be given forth with reserve, for what was admitted now might not always be admitted. The doctrine of transmissibility, proclaimed by the Conference, was not yet the universal doctrine, and the ideas which had till recently been current had not yet been altogether abandoned. These ideas might again predominate some day or other, and might be maintained by some school.

M. Sawas was not of this opinion. He believed, on the contrary, that the Committee had sufficiently refuted the objections of Griesinger and others. But it had agreed with itself, and with the principles laid down by the Conference, which had passed over these objections; for it

could not have accepted them without sapping the bases of its quarantine system, which system was based upon the certainty of quarantines being efficacious. It might be added, said M. Sawas, that M. Mühlig and M. Monlau had both stated that the objections were not such as to cause the abandonment of the quarantine system. This, he thought, was the best refutation that could be given to these objections.

The Committee, said M. Sawas, had been faithful to the bases fixed by the Conference. Discussion consequently not being possible, he proposed that the first chapter should be put to the vote.

M. Fauvel remarked that the questions concerning the bases of the quarantine system had been lengthily discussed on other occasions, and the Conference had given very categorical opinions upon the point. There was no occasion for the Committee to take up M. Griesinger's opinions in its report, whatever M. Monlau might say. M. Fauvel understood very clearly that M. Mühlig wished to go back to them. He had from the beginning professed an opinion contrary to that of the majority, relative to the duration of choleraic diarrhoea, and he wished to put it prominently forward on every occasion. M. Fauvel did not dispute the difficulty there was in always discovering the existence of cases of diarrhoea on board a ship; but he believed that cases of this kind, which could be concealed, were not so dangerous as one would be tempted to suppose, if pratique were not allowed until after all necessary precautions had been taken. In the first place, these cases of diarrhoea made their appearance generally during the first few days of the voyage, and they as generally were either rapidly cured, or resulted in confirmed cholera; and, admitting that a stray case of tardy diarrhoea would escape search, the chance that such a case would propagate cholera would be very greatly reduced, if all other chances of contagion had been suppressed. Unfortunately, absolute efficacy could never be imparted to any quarantine system, because in actual practice chances of contagion could never be absolutely avoided altogether. But by the adoption of suitable precautions, the chances of infection might be reduced to a minimum, which would give large guarantees of efficacy. The possibility of choleraic diarrhoea escaping careful search would, no doubt, remain as a very rare chance of infection, and it was to be wished that there were no others, for then there would be very few risks to run.

M. Fauvel, moreover, was of opinion that on board ships where there was a sanitary physician, it was not such a difficult matter as was supposed to ascertain the existence of diarrhoea.

M. Sotto mentioned, with reference to the German authors noticed in the report, a circumstance which had not been taken into consideration. Mention was made in the report of the Bavarian Commission, of which M. Pettenkofer himself was a member. But the report of this Commission was dated in 1854. Now, M. Sotto believed that since that time the German physicians composing the Bavarian Commission had acquired from experience many facts which they had not had the advantage of possessing at that period, which must have led them to modify their opinions considerably regarding the system of quarantines. This

supposition, in his opinion, was well founded, since in 1866 in a memoir published by the German authorities, among whom was M. Pettenkofer, it was demonstrated that they had modified their opinions on many points. M. Sotto firmly believed that at the present day restrictive measures were looked upon in a light very different from that in which they were regarded in 1854, and that they were almost in conformity with the views of the Conference.

Dr. Goodeve wanted some explanations regarding an expression used in the report, where it was said that *the populations of Eastern countries were scattered*. He thought it was necessary to state what Eastern countries were meant, for there were vast countries in the East which were very thickly, and not sparsely, peopled.

Dr. Goodeve also maintained a reserve regarding the paragraph in page 7, where it was said that the data collected by the Committee on the 3rd group proved that the balance was all in favor of the system of quarantines.

M. Bartoletti remarked to Dr. Goodeve that the sentence following that in which the scattered populations of the East were alluded to sufficiently showed what Eastern countries were meant. By the East was meant Turkey and the parts about the Asiatic frontiers of Europe.

M. Monlau remarked to M. Sawas that it was true that the objections against the quarantine system were not such as to cause its abandonment, but still it was proved that they were such as to impose redoubled surveillance and strictness. If it was not possible to reach the absolute, as had been well remarked by M. Fauvel, an endeavour must be made to approach it as much as possible; every effort must tend towards that object. M. Monlau was also of opinion that the dangers resulting from sanitary evasion, of which M. Fauvel had just spoken, were immense, and that this evasion was much more to be dreaded than commercial smuggling, which could merely cause material damage, while the former might cause the loss of a whole country.

M. Mühlig said that he had only maintained the difficulty of ascertaining the existence of diarrhoeas to point out the dangers that had to be avoided in the system. This difficulty had been admitted by M. Fauvel himself, who only differed with him (M. Mühlig) in opinion as to the degree of danger that might result from it.

M. Sawas confessed that he did not see any great difference between the various opinions expressed, and he believed that the same spirit prevailed in all. As to sanitary cordons, his conviction was that they were more efficacious in Europe than in the East. This opinion must, to more than one, appear paradoxical, but it was based upon the following considerations :—

1st.—In Europe boundaries were well defined, and it was possible to keep them isolated. Moreover, correct knowledge existed of all routes and passages;

2nd.—There were special authorities and special institutions of every sort for the frontiers;

3rd.—Employés were accustomed to do their duty, and they knew how to do it ;

4th.—The people specially were civilized, and consequently trained to obedience to the laws. They sought their safety only in carrying out the prescriptions of those who governed them.

In the East, on the other hand,—

1st.—There was a complete ignorance of roads, defiles, paths, &c., and boundaries were ill-defined ;

2nd.—There was an absence of frontier institutions, and there were hardly any frontier authorities ;

3rd.—Employés were recruited at hazard : they were all, to say the least, novices at their work.

4th.—Finally, frontiers were constantly passed at a hundred different points by populations which, during the greater part of the year, were floating and nomadic. These people submitted to nothing but material force, and paid not the least respect to civil or sanitary laws ; on the contrary, they did everything they could to violate them.

M. Maccas considered that most of the objections urged against the report had been refuted : he, therefore, did not mean to enter into any detail regarding them. He thought it necessary, however, to say a few words about the remark—a very just one in other respects—made by M. Sotto regarding German authors. The Bavarian report was dated in 1857 ; if since then German opinion against quarantines had been modified, it could not have been so to such an extent as M. Sotto believed. Hostility to the quarantine system still continued, and the ideas expressed in the Bavarian report still prevailed. They were followed by Griesinger and Pettenkofer, who thought that quarantines, to be of any use, ought to last for at least four weeks.

The opinions of those, said M. Maccas, who were opposed to the system of quarantine, had been taken into serious consideration by the Committee, which had felt that they could not be neglected. The Committee also had recognized, as well as M. Mühlig, the difficulty of ascertaining the existence of diarrhœas, and further on in the report, it would be seen by what means success—at least as much success as was possible—would be attained in ascertaining the existence of diarrhœa. M. Maccas concluded by saying that the Committee had, therefore, foreseen the difficulty, and suggested the means of overcoming it.

M. Bosi said that he would wish, where it was suggested (in the 2nd part of the conclusion) to establish quarantines in accordance with the principles now admitted regarding the transmissibility of cholera and its mode of propagation, the words "*by the Conference*" to be added after the word "admitted," or the word "now" to be struck out. These principles, said M. Bosi, did not date from the present day merely ; they had been proclaimed by Betti and Roseburg at the first Conference of Paris. This theory, which they admitted in different

terms, had only gained ground. Many physicians upheld it in Italy and elsewhere. The only difference was that this theory, which till lately had belonged to the minority only, was now upheld by the majority of physicians.

M. Sotto was of opinion that, to state correctly in what the opinions of the present day differed from those of 1857, it was necessary to compare point by point the experiments of the present day with those of that period. In doing this, it would be found that remarkable changes had been adopted in many points. In regard to quarantines, said M. Sotto, the German authors were quite right to require that they should last for four weeks, inasmuch as the duration of diarrhœa was some times very long. This showed, however, that the German authors were commencing to believe in the efficacy of the quarantine system. They only required that it should be of what they considered the necessary duration. There was, therefore, a change in their ideas since the publication of the Bavarian report.

M. Maccas insisted upon the point that the German physicians, who had been the first to express the ideas now current, relative to the transmissibility of cholera, and with reference to which they had undertaken studies of the greatest importance, which now served as the base of the labors of the Conference, had not modified, in any salient manner, their ideas regarding the value of the quarantine system. It was on this point alone that he differed in opinion with M. Sotto, but he admitted with him there had been, even in Germany, a change of opinion on many other points since the date of the Bavarian report.

M. Bartoletti thought that the reasoning of M. Mühlig, as well as that of M. Monlau, would lead to the negation of quarantines. But was it enough, he would ask, to invoke against quarantines merely the difficulty of ascertaining the presence of diarrhœa? Would not the abolition of all quarantine systems result inevitably in favoring the propagation of cholera?

At the request of several Delegates, His Excellency the President put to the vote the 3rd part of the 1st chapter.

It was adopted unanimously, with the exception of Dr. Goodeve's reservation touching the balance of the advantages and disadvantages of quarantines.

M. Bartoletti read the 2nd chapter.

M. Mühlig said that in that chapter two very distinct kinds of facts were mentioned, which had not been sufficiently distinguished in the report. The conclusion was based on two sorts of sanitary cordons, but in the text the necessary details were not given to establish properly the difference existing between these two kinds. Yet the distinction of the cordon into two kinds was, in the point of view of the efficacy and the danger, of the greatest importance. When a cordon was set up for a population already infected, the disadvantages and the dangers were much greater and much more to be dreaded than when a cordon was established for an uncontaminated population desiring

to preserve itself from a choleraic invasion. In the first case, the furnishing of supplies being very difficult, serious risks of scarcity were incurred, to avoid which the persons within the cordon were very much disposed to take to flight, and they had an incessant tendency to break bounds. This species of cordon was, therefore, in his opinion, the least to be recommended, and the least efficacious; while the cordon, the object of which was the preservation of an uninfected population, being easy of application, the inhabitants themselves willingly assisted in establishing and maintaining it; and bounds being scarcely ever broken, it was also most efficacious. M. Mühlig thought it necessary, therefore, to lay great stress upon the difference between these two kinds of cordons, and to show that the defensive cordon was a great deal more efficacious and less dangerous than the other. During the epidemic in the Grand Duchy of Mecklenburg-Schwerin in 1859, about ninety or a hundred uncontaminated localities were isolated by cordons and maintained themselves uninfected. Only nine or ten of them were attacked in spite of this measure. It must be added, nevertheless, that many places remained untainted, notwithstanding their frequent communications with infected places.

M. Bartoletti considered that the distinction on which M. Mühlig had laid so much weight was a pure subtlety. This distinction was anything but practical, and M. Bartoletti was firmly convinced that both kinds of cordons were equally useful and efficacious.

M. Sotto said that reading the text, one remained persuaded that the Committee, by wishing to prove too much, had proved nothing. M. Sotto alluded to what was said regarding Russia. If the figures of the report were admitted, the conclusion would be arrived at that cordons had been established throughout the immense Russian Empire. Could that, he would ask, be accepted as a real fact? Was it merely owing to cordons that cholera had spared many provinces and had lost its strength in Russia? and was it not more natural to attribute its diminution to other causes? M. Sotto did not deny the utility of cordons; he admitted their efficacy, but he believed that they could not be properly established, except in thinly populated countries. In Austria, he said, they had resulted badly. When a cordon was established in Galicia, which did no good, the scourge passed through the province. The cordon was also set up on the frontiers of Hungary, and two weeks afterwards cholera had not only passed it, but reached Vienna. The efficacy of the cordon then depended upon many conditions, among others those he had specified. These conditions, he thought, could never be met with in Russia, so that cordons established in the Russian Empire could only favor the propagation of the disease.

M. Bartoletti pointed out to M. Sotto that what he had just said had been clearly established in the report. In the conclusion of the 2nd chapter, it was said that sanitary cordons employed in the midst of a thick and numerous population were uncertain in effect and often dangerous; that, on the other hand, employed in limited localities, or in thinly peopled countries, cordons were destined to render great services, &c.

M. Bosi was also of opinion that M. Mühlig's distinction was merely turning in a circle a play of words. Generally, he said, cordons were not established in countries that were attacked, but only in those which were yet uninfected, with the object of preventing the penetration of the disease. M. Bosi believed that, in reality, only one species of cordon existed. He admitted, however, that this cordon might be more or less efficacious. Now the Committee had not failed to point out what were the requisite conditions for its success.

M. Mühlig expressed his surprise to hear a most important distinction qualified as a subtlety and a play upon words. He considered that this distinction was indispensable, for the cordon established around an infected locality would always be of doubtful efficacy, since the population, a prey to terror, would wish to seek safety in flight, and would violate the cordon; while an uninfected population, which would itself establish the cordon from fear of a choleraic invasion, would know how to respect it, and make it respected. In the latter case, a cordon would be a perfect guarantee of security, as was proved by experience.

M. Bykow, in support of M. Sotto, stated that what he had said regarding Russia was very true. The inefficacy of cordons having been discovered in Russia, they were abolished shortly after their establishment. Nevertheless, they had been very useful in some places in the Governments of Orenburg and Astrakhan, where the population was scanty, and where towns, villages, and forts were generally very far apart and separated by almost desert tracts.

M. Bykow added that he could cite other instances, in addition to those given in the report, to prove that cordons had sometimes been very efficacious. M. Bykow thought that if the statistics prepared by M. de Roseburg did not incontestibly prove that it was owing to the sanitary cordons that the epidemics of 1829 to 1831 had been less murderous than those of 1847-49, they at least gave rise to the presumption that the cordons had been very useful.

The fact relative to Karamala, M. Bykow said, he had also extracted from Lichtenstadt.

M. de Lallemand admitted the correctness of the remarks just made by M. Bykow regarding the value of sanitary cordons in Russia.

M. Monlau thought the conclusion of this chapter imperfect. In his opinion it only enunciated a generality, and neglected the question which it was important to solve. This question consisted in the manner of applying the cordons, the cases in which their application was necessary, and whether they should be applied by themselves, or in connection with lazarettos. In Spain, said M. Monlau, cordons had been abolished thirty years ago, notwithstanding which there had always been populations by whom they had been voluntarily established, but not without opposition. At the present moment of speaking, a sanitary cordon existed at Majorca. The nature of a sanitary cordon must be distinctly understood, for many persons persisted in thinking that a sanitary cordon was always a military cordon. As there were three species of cordons, the

least efficacious of which had always been the, so to speak, living cordon, it was very requisite to consider them in all points of view, and to specify the qualities inherent in each. This was indispensable to the determination of how, and in what circumstances, they ought to be applied. M. Monlau reminded the Conference that he had already had occasion to speak against half measures.

M. Fauvel was of opinion that the distinction upon which M. Mühlig had laid stress was of some value in the point of view of efficacy; but he believed, nevertheless, that what the Committee had said regarding cordons was important. M. Fauvel deduced, from what had been said by M. Monlau, that he was, to a certain point, in favor of sanitary cordons, and that he had had considerable experience of them. However that might be, it did not follow, from what he had said regarding these cordons as they existed in Spain, that they had any advantageous result. The last epidemic, in effect, in spite of the cordons voluntarily established at certain places, had, nevertheless, invaded almost every province. In countries where the fear of cholera was extreme, and where, while some sought safety in flight from the infected places, others endeavored to prevent the irruption of these fugitives, the establishment of sanitary cordons might occasion dangerous collisions. Definitively, the utility of sanitary cordons was limited to certain conditions specified in the report. As for the opinion expressed by M. Sawas, who believed that sanitary cordons would be more efficacious in Europe than in the East, it was, in fact, as he had said, a paradox which it was needless to refute. The occasions in Europe when a sanitary cordon might be applied with efficacy were in reality very rare, while it was not so with regard to certain countries in the East. Thus, to mention only the Turco-Persian frontier, the passage of the Kurds from the one territory to the other had not the dangerous consequences attributed to it by M. Sawas. In reality, the Kurds, though they changed their valleys in accordance with the necessities of their herds, did not change their countries; they did not travel; they stayed in their mountains; and this was why cholera, which was now prevailing among them, and which had been so prevailing for a year past, had no tendency to spread in the neighbouring provinces. The Kurds then were not an insurmountable obstacle to the establishment of a sanitary cordon in that direction, the conditions indicated in the Report being observed.

M. Maccas did not deny the importance of the distinction sought to be established between cordons; this distinction existed, and the report had pointed it out. But the report, while it indicated the different species of cordons, had not sought to lay stress upon the fact that the object of the cordon was to guarantee the preservation of a whole country. The Committee had believed that the other kinds of cordons could not but be of extremely restricted application. M. Maccas did not share the fear expressed by M. Mühlig. A scarcity, in his opinion, would scarcely be possible, for it would be enough to make the necessary arrangements for the supply of provisions to the enclosed country.

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declared that he had no intention of putting into the balance the advantages and the disadvantages special to Europe and the East in the matter of cordons. He had only set up a question of possibility, application, and facility; and if M. Fauvel wished to dispute his opinion, it was necessary that he should prove generally that every measure, every law, was easier of application in a barbarous than in a civilised country. M. Sawas being convinced of the contrary, maintained that the most salutary measures were treated with contemptuous negligence by people who were not accustomed, by a long course of education, to respect the laws. As for the Turco-Persian frontier, continued M. Sawas, M. Fauvel had pleaded the cause of the cordons. Compelled to leave this part of the speech of his honorable colleague unanswered, he ought to refrain from pleading against it. He had imposed upon himself, as a rule, not to descend into the details of this question, which might be disagreeable, and which he considered to be beyond the competence of the Conference.

M. Bartoletti thought himself bound to state that the chapter under discussion did not treat the question of cordons thoroughly. The Committee did not care, in this chapter, to enter into all details, because the same question was discussed in other chapters.

M. Bartoletti thought, in spite of everything that had been said, that M. Mühlig had attached too much importance to the distinction between cordons.

The President put to the vote the 2nd article of the 2nd chapter. It was adopted unanimously, with the exception of Dr. Goodeve, who refrained from voting.

The meeting terminated at 4 P. M.

Order of the day for the next meeting.

Continuation of the discussion of the Report.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE, }
DR. NARANZI, } *Secretaries.*

INTERNATIONAL SANITARY CONFERENCE.

[ANNEXURE TO MINUTE No. 33.]

REPORT ON THE QUARANTINE MEASURES APPLICABLE TO CHOLERAIC ARRIVALS.

Submitted by a Committee consisting of H. E. Salih Effendi, *President*; M. Stenersen, *Vice-President*; Count de Noidans, *Chevalier de Soveral, Diplomats*; and Dr. Bartoletti, Dr. Dickson, Dr. Baron Hübsch, *Secretaries*; Dr. Maccas, Dr. Pelikan, Dr. Salvatori, and Dr. Sawas Effendi, *Physicians*.

DR. BARTOLETTI, *Reporter.*

GENTLEMEN,—We have reached one of the practical portions of our task, the consideration of prophylactic regimen against the invasion of

Asiatic cholera. In the development of the work the Committee has the honor to submit to you, and which comprises all the quarantine measures applicable to choleraic arrivals, it has made it a point to adhere, as closely as possible, to the spirit and the letter of the principles adopted by the Conference regarding the transmissibility of cholera and its mode of propagation. In taking for its guide the conclusions of the *General Report*, and the questions of the programme for its starting point, with a few additions that were deemed necessary, the Committee believes that it has acted in conformity with the views of the Conference.

Making allowance for the difference of opinion that existed upon some of the points discussed, and which we shall not omit to notice in the course of the report, most of the conclusions we have arrived at were adopted unanimously by the Committee.

Among the questions which were assigned to us, and which it is our duty to analyse and solve there are some which have been treated of by the Committees on the other groups of the programme. We think there is no necessity to enlarge upon these. We shall content ourselves by simply touching upon them so far as shall appear necessary to complete the order of the measures in general, the object to be attained being, in our opinion, to elucidate the subject without encumbering the discussions of the Conference with materials.

This being so, we divide our work into five parts or chapters, in which we successively enter upon the questions of restrictive measures in general, sanitary cordons and isolation, quarantine establishments or lazarettos, the regimen applicable to choleraic arrivals and disinfection, and lastly the bill of health and survey and search.

CHAPTER I.

GENERAL CONSIDERATIONS REGARDING THE QUESTION OF RESTRICTIVE MEASURES.

I.

What are the lessons of experience with regard to the quarantine systems hitherto in force against cholera? Is there ground to hope for success from quarantines established upon other bases? What are the fundamental principles deduced from experience which ought to guide us in this question?

There was a time, and not very long ago, when scientific opinions differed greatly regarding the transmission of cholera. Individual men of great merit, academic bodies, and, following in their footsteps, enlightened Governments, attached themselves to the idea that cholera was transmitted by the air to great distances without the coöperation of sick men or contaminated objects. This was the most widely-spread and the most accredited opinion. On the other

hand, a considerable number of learned men holding a contrary doctrine, *viz.*, that of the transmission of cholera by man, sought in vain to make their opinion prevail, because, being for the most part imbued with the principles of absolute contagionism, they applied all their efforts to the resuscitation of ancient practices which had fallen into desuetude and which had formerly been applied against the plague. It was evident that each of these systems had its weak side. Experience not being as yet sufficiently decisive, and the two camps making mutual concessions to satisfy the exigencies of the period, the result was a transaction, sanctioned, in a manner, by the act of the Conference of 1852, which in reality was neither a very serious quarantine, nor yet free pratique pure and simple. From such a system no light could be thrown upon a question so obscure and so difficult of solution. What, indeed, could be expected from a quarantine of three or five days, most frequently including the days passed on the voyage, no reckoning being made of the period of incubation, of the premonitory diarrhœa, of contaminated articles, or linen soiled with dejecta,—all of which are conditions by which at the present day the transmissibility of cholera is determined? Similarly with the greater number of the lazarettos; these establishments, situated upon badly chosen ground attached to towns, constructed like barracks or gaols, often crowded, and with a confined and unwholesome atmosphere, were generally more apt to communicate cholera to the population in the neighbourhood than to save the people from its attacks. We can cite as instances the lazarettos of Beyrout, the Dardanelles, Ancona, and many others. What lesson could be learnt from all this, but the inefficacy of such agents to prevent the transmission of cholera from an infected to a healthy country.

It is true that, since the first appearance of cholera in 1830, severe quarantines have been established, and sanitary cordons organized upon a vast scale, in Russia, Prussia, and elsewhere in Central Europe, to avert an epidemic; but these measures, undertaken in the midst of thickly peopled countries, the inhabitants of which possessed only a vague knowledge of the disease with which they had to deal, either failed, or had only negative results. It is even probable that the cordons contributed to disseminate the evil against which they were intended to act. Between 1847 and 1850, Sweden made a still more sustained effort than the other States of Northern Europe in order to save herself; but on this occasion too cholera passed the very costly barriers erected against its progress.

Such systems, powerless to stop cholera in its invading march, brought discredit upon quarantines in the eyes of a great number of civilised people, and led to a belief, for a long time, in the diffusion of cholera by means of the air and the inutility of restrictive measures. With reference to these quarantines, we quote here the opinion of an author of repute in cholera matters:—"It is unjust," says Greisinger, "to draw a conclusion from these first attempts, for at that time isolation and separation were very frequently not applied until the

"disease had already been introduced into the country, or after the "appearance of the premonitory symptoms of diarrhœa." To these words of the German *savant*, can we not add that the men forming the cordons have been the first attacked, and, as has often been seen since, have served as vehicles for the wider propagation of the disease? Recently, was it not in this way that the outer sentries of the Dardanelles lazaretto communicated cholera to the population of the town?

The Committee, therefore, is of opinion *that the lessons to be drawn from the experience of this primary period of quarantines have no conclusive value.*

Some of the attempts that were made, however, resulted in a substantial success. Before we come to the epidemic of 1865, which offers numerous instances of preservation by means of quarantines, we shall mention the circumstance of Mecklenburg in 1859, which caused Niemayer to say that the general conviction formed from the times of the first epidemics of cholera as to the inefficiency of quarantines in preserving a country was altogether *erroneous*. But Greece, above all countries, profited by a very strict quarantine system. By a complete isolation of choleraic arrivals on uninhabited islands, that country altogether escaped the epidemics that have in succession ravaged Europe since 1831. Once only was Greece, whose peculiar shape enables her to isolate herself completely, invaded by the scourge, and she owed the invasion to the exceptional circumstances by which she was prevented from imposing her usual severe system,—it was in 1854, when the Piræus was occupied by foreign forces.

But it is in the epidemic of 1865 that we find proofs, as numerous as they are conclusive, of the efficacious action of quarantines. In Greece, twelve times in the space of two months was cholera imported into the lazarettos of Delos and Skiathos, and as often was it extinguished there. Crete obtained the same success twice in one month by strict isolation on two islets. The island of Volo was saved by means of a quarantine established upon a desert isle where cholera, which was imported there twice, raged among the persons in quarantine. New York gave the striking proof of three abortive importations, thanks to intelligent measures of isolation. We might multiply examples, but it would be needless, for they are to be met with in great numbers in the historical précis of the epidemic submitted to the Conference.

The Committee concludes, in accordance with these facts, *that it is incontestible that quarantines established upon rational bases and in conformity with the progress of science may serve as efficacious barriers against an invasion of cholera.*

But what are the bases upon which we ought to build the superstructure of a new system of prophylaxy? We must look for our standpoints in the experience of the various epidemics, and especially in that of 1865, as well as in the conclusions adopted by the Conference with respect to the question of transmissibility. Cholera, says the Conference, is

transmitted by diseased man, by choleraic *excreta*, by contaminated effects, by soiled linen,—its principal vehicle is the atmosphere. The period of incubation, it also says, scarcely ever exceeds a few days, seven at the most, and choleraic diarrhœa is of every short duration. We should have contented ourselves with simply indicating these principles here, principles which form the corner-stone of the system we are about to propose in separate chapters, but we deem it useful to place them, at starting, in opposition to certain objections which have been raised, not by the opponents of transmissibility, but by its most judicious defenders.

In fact, at the present day, the transmissibility of cholera is opposed by only a weak minority, with which we need not concern ourselves here. But not so with regard to the efficient action of restrictive measures in arresting the propagation of cholera. In this point of view we find ourselves opposed by adversaries of great authority, with whom it is necessary to deal. The Bavarian Commission expresses itself thus in one of the conclusions of its report on the cholera of 1854:—“Measures
“ with the object of preventing the importation of cholera into a coun-
“ try yet uninfected, or of stopping its extension in a place already
“ attacked, by means of the interruption of communications and isolation,
“ are ineffacious, impossible of execution, and injurious.” Griesinger
“ says also, that :—“ Military cordons intended to isolate an entire coun-
“ try are illusory ; that choleraic diarrhœa, by means of which import-
“ ation is generally effected, cannot be prevented by restrictive
“ measures ; that the period of incubation is sometimes long ; that
“ probably Europe will never come to an agreement for the adoption of
“ equal measures everywhere ; and that, lastly, the great interests of
“ commerce will always induce people to elude the restrictions imposed
“ upon them, and that consequently quarantines, even in seaports, are
“ of very little use.”

Here it will be seen we have two very different kinds of objections : the first direct, and touching at the very essence of the question, for they are based upon the length of incubation and upon choleraic diarrhœa ; the others, indirect and secondary, relate to the inefficacy of cordons, the disagreement of Governments, and the interests of commerce. Not to lay too much stress upon the matter, we would call attention, as to the first point, to the principle of the short duration of incubation and to the exclusion of the exceptionally rare facts of a prolonged incubation, complex facts, and consequently of very doubtful value. (*Chapter XIII of the General Report.*) We find it, in fact, to be wiser to adhere to the results of continuous and general observation than to base our deductions upon unfrequent and uncertain facts. We might say as much for choleraic diarrhœa, which, according to the opinion of the Conference, is also of short duration, never exceeding a few days. Hitherto neglected in the point of view of restrictive measures, choleraic (what is called premonitory) diarrhœa will, in the new order of things, be as attentively watched, and when necessary, subjected to the same regimen, as the disease itself, of which it is, in point of fact, the first manifestation.

We shall have to return to these questions again ; for the present, let us pass on to the objections of the second kind. We have already expressed our opinion regarding the inefficacy of military cordons, such as they have practically been hitherto. We admit that even now these cordons would offer no substantial guarantees if they were applied upon a great extent of territory, in the countries of Central Europe which are so thickly peopled, and where the communications are so multiplied and varied ; but we believe that in opposite conditions, in the East for instance, and towards the Asiatic frontiers of Europe, cordons are not only possible but necessary, as we shall see presently.

Another objection, more apparent indeed than real, is that of the impediments thrown in the way of commerce by quarantines. No doubt quarantines are not made to accelerate commercial transactions, and commerce loses something by them. But this is not the question. The question is contained entirely in the terms of Article 20 of the programme : *If, on the one hand, we weigh the inconvenience caused to commerce and international relations by restrictive measures, and, on the other, the obstruction occasioned to trade and commercial operations by an invasion of cholera, to which side, is it supposed, would the balance incline?* This important question having been discussed by another Committee, we will not undertake to repeat its arguments, but we will remark generally that the balance is wholly in favor of quarantines, and we give here briefly the principal reasons why it is so.

The losses which would be occasioned to the material interests of people by the restrictive system of quarantines have been singularly exaggerated. It has been said that commerce would be completely ruined, trade would be annihilated, labor suspended to the prejudice of the masses, and that many other evils, more serious than those resulting from an epidemic of cholera, would weigh upon people. All these assertions are vague and unfounded. On the contrary, the information collected by the Committee on the 3rd group proves that the balance is altogether in favor of the system of quarantines.

We admit that, if quarantines were to be established in accordance with the errors of the past, and if, heedless of the lessons taught by experience, we were to re-establish those permanent cordons and those lazarettos of the middle ages which systematically separated the East from the West, we admit, we say, that quarantines applied in this way to all countries would seriously affect the interests of the whole world. It is even probable that the most inveterate opponents of quarantines are so in fact only because they dread such a retrogression. But there need be not the slightest apprehension of this. The system we propose is based upon data determined by science which do away with that blind and condemned routine.

The bases of this system are deduced from the programme. They may be divided into two series of measures,—*first*, to find the means of preventing the importation of cholera from the direction of India ; to isolate it in the Hedjaz when it develops itself there after the pilgrimage ; to adopt special measures when it appears in Egypt ; to prohibit emigration from contaminated places ; to interrupt the communications

between an infected spot and the surrounding countries; in a word, so to act as to apply restrictive measures, as close as possible to the primitive and initial foci of the epidemic. *Secondly*, to establish completely isolated lazarettos; to determine the duration of the quarantine according to the duration of the incubation of the disease and without losing sight of the premonitory diarrhœa; to subject ships, clothes, and linen to disinfection by washing, ventilation, and such chemical processes as are reputed to be most efficacious; not to subject merchandise, save in exceptional cases, to purification; to give credit to ships for the duration of their passage, by means of a series of measures applicable to their start and the voyage, so as to shorten, within limits compatible with public security, the duration of quarantine on arrival. In other words, the bases of the new prophylactic system would, according to the Committee, consist—*1st, in combating the germs of the disease in its original foci before they disseminate and propagate themselves abroad; 2nd, in the establishment of quarantines, in accordance with the admitted principles of the present day regarding the transmissibility of cholera and its mode of propagation.*

It is evident, from this explanation, that the tax upon commerce, and the losses to trade occasioned by restrictive measures, are infinitely small if they are compared with the ruinous effects of emigration, the cessation of labor, and the absolute stagnation of affairs which are inseparable from a great epidemic, as was seen by the afflicting spectacle presented in 1865 by Alexandria, Marseilles, and Constantinople. We shall proceed no further with these generalities. We state simply that, such at the present day is the almost unanimous opinion of Governments and people, whose concurrence as to the necessity of restrictive measures seems to us to be a decisive reply to M. Griesinger's last objection.

CHAPTER II.

Of Sanitary Cordons, Isolation, and the Interruption and Restriction of Communications.

Sanitary cordons, the isolation of foci, the interruption and restriction of communications are so many different measures, in certain respects, but which, according to the case, are summed up, in one single measure, because they concur altogether to form what is called the isolation of a locality or country. We are about to examine them all in the same chapter, allowing, at the same time, for the difference proper to each of them in particular.

II.—Sanitary Cordons.—What is the degree of utility of these Cordons? In what conditions are they applicable, and how they are to be applied?

The object of cordons, formed by a line of troops or detachments posted at certain distances from each other, is to isolate a country and to

intercept its communications, so as to prevent the propagation of an epidemic. Experience has proved that the utility of cordons depends upon the extension given to them, and the manner of their application. The attempt made in 1831 failed, as we have said, because the cordons were applied upon a great scale in populous countries having but vague notions regarding the mode of transmission of cholera. Too close to the foci not to be exposed to choleraic contamination, the military who composed the cordons were attacked, and became the means of disseminating the disease. It has even been ascertained that, in Prussia, the cordons were not established until the disease had already penetrated into the country; and more than that, it is certain that, at that time, attention was entirely directed to the confirmed disease, no regard being paid to choleraic diarrhoea as a propagating agent. Now it is evident that, under such conditions, cordons become more dangerous than useful.

It would be altogether otherwise if cordons were established in contrary conditions; if the population of the country in which they were to work was thin and scattered; if the ground, by its formation and other circumstances, were adapted to facilitate surveillance; if the men forming the cordon, placed at a convenient distance from the focus, were themselves not exposed to contamination; if the sanitary authorities attached to the premonitory diarrhoea the importance it possesses in the point of view of the transmissibility of the disease; in a word, if all the rules of isolation were scrupulously observed, so as to produce a vacant space around a choleraic focus.

Facts are not wanting in the annals of cholera (1830-31) to prove the efficacy of cordons applied in restricted proportions, to encircle the localities attacked as well as to preserve others not yet touched. We meet with these instances chiefly in Russia. Forts and villages in the Governments of Orenburg and Astrakhan were preserved by the timely employment and rigorous observance of cordons. It was in this way that the estates of MM. Smirnow, Beketow, and Dolgorouky escaped the epidemic, which raged in their environs. And similarly with the town of Sarepta, situated twenty-six kilometres from Tsaritsin, where cholera was raging. (*Observations of Dr. Solomon, published by the Medical Board of St. Petersburg.*) In the same way were preserved, in 1831, Peterhoff, Tsarskoe-selo, Pavlovsk, and the island of Elaguine, places of recreation around St. Petersburg, which was being ravaged by the epidemic. It is even to be remarked that the island of Elaguine was attacked by the disease after the abolition of the cordons. (*Lichtenstadt, Du Choléra en Russie 1830-31.*) The military governor of Orenburg mentions the following fact in support of the efficacy of cordons. A violent epidemic raged in 1829 in the Tartar village of Karamala (41 attacks and 20 deaths in ten days in a population of 145 persons). A neighboring village, 85 mètres from the former, and inhabited by Russian peasants, was saved by strict isolation, applied immediately on the appearance of the disease at Karamala. It appears from a statistical paper, submitted to the Russian ministry of the interior by Dr. Rosenberger, that from 1847 to 1849 the deaths from

cholera in the Russian Empire exceeded the number of one million, and that the number of towns attacked was 471. Now at that time the communications between infected and healthy places were open. On the other hand, in the first invasions, from 1829 to 1835, when the progress of cholera was interrupted by sanitary cordons, the number of deaths did not exceed two hundred and ninety thousand, and there were only 336 towns attacked. Does not this difference, the epidemic on both occasions being equally violent, seem to be explained by the action of restrictive measures and cordons? (*Extracted from an official communication made by M. Pelikan*).

Lately (1866) the small town of Tiberiad in Palestine was tried by the epidemic. It lost more than a hundred out of three thousand inhabitants. Being situated in conditions rendering isolation easy, it was encircled by a cordon, and the cholera died away there without spreading to any other place in Syria.

Almost at the same time cholera raged at Nejeff and Kerbela. One of the eight small forts existing on the skirts of the desert to restrain the incursions of the Bedouins, was infected. It was isolated and guarded. The disease died out in it without touching any of the other fortlets which were only an hour's journey distant from each other. (*Records of the Ottoman Sanitary Intendancy*.)

From these facts, the Committee is led to conclude that the effect of sanitary cordons, employed in a thickly peopled country, is uncertain, and frequently dangerous; that, on the other hand, employed within reasonable limits of space, or in countries, with thin and scattered populations, as in certain Asiatic countries, these cordons are destined to render great service against the propagation of the disease.

III.—Of the isolation of the foci of cholera.—What are the lessons of experience on this head?

If we take the question of isolation in its general point of view, it is intimately connected with that of cordons, for, directly cordons become useful, and directly it is possible to establish them, we are sure of succeeding in beneficially isolating a focus of cholera, and we have just seen under what conditions cordons may be established with a chance of success. The isolation of a focus then is practicable and useful in certain cases, and difficult in others. In the East, for instance, where villages are comparatively scarce, where the relations between one town and another are not so frequent as in Central Europe, and where the habits of the people are sedentary, the application of isolation is much easier than in countries where the rapidity and multiplicity of communications, commercial activity, and the interchange of interests, keep the waves of population in perpetual motion. In this case contravention of the regimen would be inevitable, and the object of isolation would not be attained. Nevertheless, we are of opinion that isolation, wherever it can be applied to the first cases

marking the outbreak of an epidemic, is a measure of prudence, the adoption of which no country having a regard for its safety ought to neglect.

If, on the other hand, we regard isolation in its connection with the initial foci of cholera, we do not hesitate to reply in the words of the programme—*that the closer restrictive measures are applied to these foci, the more may their efficacy be depended upon.* In fact, the transmissibility of cholera being admitted, as well as the efficacy of quarantines and of disinfection in stifling its germs, it follows that isolation has infinitely more chances of success in operating upon a centre than upon the circumference and after the epidemic has spread in all directions. Assuming, for instance, that had measures of isolation been taken at Suez in 1865, when the pilgrims brought cholera there from the Hedjaz, is it to be believed that cholera would have shown itself at once at Alexandria, thence invading the entire basin of the Mediterranean in the space of a month? And can it be asserted that quarantines would succeed better in circumscribing ten secondary foci than in effectually isolating one single primitive focus? The fact is so patent that it appears to us idle to go further into the subject, and we conclude, *1st, that the more scattered is the population of a place attacked by cholera, and the sooner isolation after the outbreak of an epidemic is effected, the more useful and practicable will such isolation be; 2nd, that the isolation of the primitive foci is the most important prophylactic measure against the invasion of cholera.*

IV.—Temporary interruption of communications with an infected place.— In what cases is this measure applicable?

To interrupt the communications of a locality while cholera prevails there completes the measure of isolation and renders it more efficacious. In this case would happen what is seen to happen in the desert with regard to caravans: the epidemic would die out on the spot without spreading further. But these desperate means are not applicable always and everywhere. They can indeed be employed only rarely, and we do not think they would be possible except when it was sought to extinguish cholera in a circumscribed and primitive focus, like a house, a public establishment, a village, and even a town or a canton. This measure would also be applicable to a seaport town with limited trade, and having only limited maritime relations with the surrounding countries. But, as we have said with respect to cordons and isolation, if cholera has once extended and disseminated itself over a great surface in densely populated countries, or in a large commercial port, this restrictive measure becomes impracticable and illusory.

The facts we have mentioned with respect to the subject of cordons apply, in all points, to the question of the interruption of communications. We think, therefore, we need not revert to them, and we conclude *that interruption is the best means of isolating choleraic foci, and that, consequently, it is right to make use of it whenever circumstances admit of its rigorous execution: but that this measure, applicable as*

it is only within circumscribed places, would become impracticable and inefficacious after the propagation of an epidemic over a great space. (Adopted unanimously, except by Drs. Dickson and Sawas, who voted contra.)

V.—Temporary restriction of communications.—Would it not be advantageous in every respect to restrict emigration from infected places—By what means could the measure be carried out successfully?

The restriction of communications is more frequently applicable, and is more capable of execution, practically, than their absolute interdiction. In fact, this measure, which mollifies the rigor of isolation, consists in not permitting any departure of either persons or things from a contaminated and isolated locality, except under certain determined conditions. Thus the exportation of goods would be authorised, with the exception of articles capable of retaining the germs of choleraic infection, and tainted articles or things capable of becoming tainted, such as drills, rags, leather, hides, and other animal matter of this kind. As to persons, in seaport towns it would be well to restrict their embarkation as much as possible, and to subject them, before doing so, to a series of precautionary measures, such as, for instance, a special medical visit and the purification of their effects and wearing apparel, &c. But the restriction of embarkation should chiefly be applied to emigration. Let us remember that the diffusion of cholera in 1865 was effected by the current of men that fled from Alexandria, and that thirty-five thousand persons, fleeing from this focus of infection, infected most of the Mediterranean ports in the short space of a few weeks. Let us also remember that these secondary foci, the emigrating movement being directed upon a great number of other localities, spread the germs of cholera over the entire surface of the European continent. This circumstance is specially noticeable in Spain in which country the emigration from the towns, during the last epidemic, assumed extraordinary proportions. From Valencia, with a population of 107,000, 40,000 of the inhabitants emigrated: the population of Palma, generally amounting to 50,000, was reduced as low as 10,000; 15,000 out of 37,000 inhabitants emigrated from Carthagena; the population of Barcelona, amounting to 190,298 inhabitants, was reduced to one-half in consequence of the emigration. And thirty-one of the forty-nine provinces of the kingdom were invaded, and very badly treated by cholera.

It would, therefore, be of immense advantage to prevent the flight from choleraic foci of the avalanches of emigrants who carry the germs of the scourge in every direction. We certainly do not believe this to be possible, and we do not propose rigorously to prevent the departure of the inhabitants of a great town stricken by cholera. But are there no means of so regulating the movement as to diminish its disastrous effects? Are there no means of determining, by law, the number of passengers to be carried by every ship, and so restrain emigration, while

preventing overcrowding? On this point we concur in the opinions of the Committee on hygienic measures in times of cholera (*additional note, article—Sanitary Police at departure*), and we propose, first, to *restrain emigration within the limits of an infected town*; second, to *fix by a legislative enactment the number of persons to be carried by a ship in proportion to its capacity*; third, to *subject these persons and their baggage to previous precautions such as a medical visit, the purification of their wearing apparel, and baggage, &c.* The Committee is of opinion that this system is a very important guarantee, not only with respect to the ports of destination, but also with respect to the passengers, whose lives are perhaps more exposed to danger on board crowded ships that have started from a choleraic focus, than in the infected town they have quitted.

CHAPTER III.

QUESTION OF LAZARETTOS.

VI.—Lazarettos.—What are the conditions demonstrated by experience to be necessary for these establishments to answer in every respect to what they are intended to be? Questions relative to the choice of site, distance from inhabited places, mode of construction, interior distribution, classification of the persons in quarantine, &c. Lazarettos of observation? Temporary lazarettos? Floating lazarettos? International lazarettos?

The lazarettos at present existing in quarantine ports in Europe as well as in the East, were established at more or less remote periods with a view to preservation against the plague,—a disease reputed to be eminently contagious. These lazarettos, no doubt, rendered great service while they were fulfilling their special object; but the nature of cholera and the laws of its propagation differ essentially from those of the plague; and at the present day, it is demonstrated by experience that these establishments, such as they are, do not offer any serious barrier against the invasions of the Indian scourge.

During the last epidemic the greater part of these lazarettos failed in their object, by allowing cholera to penetrate into the towns in proximity to which they were built. The defects attributed to them are numerous:—defects of site, construction, distribution, internal regulation, and others, which must be taken into consideration in the system of quarantine appropriate to cholera.

On the other hand, improvised lazarettos, consisting of tents and huts, but with complete isolation and communications with inhabited places interrupted, have afforded the best results. This contrast is striking between the lazarettos of Greece, Crete, and Volo, organised upon islands, and the lazarettos of Odessa, Aucona, the Dardanelles, &c., situated in proximity to towns. Here the communication with the

inhabitants of the neighbourhood, overcrowding of passengers, the confinement of the infection, developed the choleraic germ, and propagated the disease; there isolation, the open air, and a large space, acted in a contrary manner, dissipated the germs of cholera, and prevented the propagation of the disease.

The lesson to be drawn from this experience is that, in the selection of places intended for quarantine establishments, preference must, above everything, be given to desert isles; and, *secondly*, to places very distant from centres of population, and so situated as to ensure absolute isolation.

But, isolation having been obtained, many other conditions yet remain to be fulfilled in the choice of a site for a lazaretto: *Firstly*, the composition of the soil. The most suitable soil should be of a rocky and granitic consistency, seeing that a porous and alluvial soil, by its permeability, is susceptible of becoming, according to the now generally admitted theory, a receptacle of morbid germs. *Secondly*, it is also necessary to avoid marshy soils, foci of intermittent fevers, and which are adapted naturally, in the circumstances assumed, to facilitate the evolution of the choleraic principle. *Thirdly*, it is important that the site intended for a great lazaretto should be provided with water of good quality and sufficiently abundant to meet the wants of the occupants of the lazaretto. *Fourthly*, a condition of the highest importance is that of good anchorage, sufficiently large to be capable of safely sheltering a large number of ships. Facility of access in all seasons would be all the more necessary if the establishment were placed in an island, because then the supplies should be regular, and so kept up as to allow the persons in quarantine to want for nothing.

VII.—After the selection of a site, the question of the plan and construction of the lazaretto presents itself. The defects of those that now exist may be pointed out in a few words. Imagine a square court yard, a sort of cloister, surrounded by buildings communicating with each other, more or less, and forming the dwellings of the persons undergoing quarantine, the store-houses intended for the deposit and disinfection of the merchandise, an infirmary (which does not always exist), a parlor, and some rooms assigned to the administration of the lazaretto. The capacity of these establishments for seasons in which a choleraic epidemic prevails is generally insufficient, for never since the period of the plague has such emigration *en masse* been seen as has been provoked by the fear of cholera; and, on the other hand, the arrangement of the quarters tends in itself singularly to produce a mixture of categories which ought to be kept carefully separate and distant from each other. All these buildings ought to be abandoned, or should be used as quarantines of simple observation, and be replaced by constructions conceived upon a plan adapted to their new destination.

In 1865, quarantine was performed, as we have said, either in lazarettos, or in tents or huts. The system of huts has afforded very

good results and would be preferable to masonry buildings, were it not for their want of solidity and their ephemeral nature. Encampment in tents will always be advantageous in certain Oriental countries, and on the shores of the Red Sea, where the climate and the habits of the people are adapted to it; but it is especially applicable to the masses of pilgrims on their return from Mecca. With these exceptions, the system of masonry buildings is what we propose to adopt generally for the quarantine establishments of whose plan and internal distribution we are about to give a brief sketch.

An extensive site being given upon an island, if possible, or, in the absence of an island, in a place several miles distant from any habitation, on it should be constructed the lodgings of the persons undergoing quarantine, a hospital for cholera patients, wash-houses, stables, and an enclosure for animals, a hotel, rooms for the administration and other accessory buildings. There should also be a wharf, store-rooms for merchandise and provisions, an office for the maintenance of relations between the lazaretto and the outside world.

1st.—The dwellings of the persons undergoing quarantine should consist of several ranges of small houses, all only one story high, divided interiorly into four compartments, pierced with windows on all four sides, and capable of accommodating 20 persons, or five in each compartment. Each house or pavilion should be about 20 mètres away from the next, and each range should consist of 10 of these buildings, and be 100 mètres distant from the next range. This system is in force in Greece, and worked well during the last epidemic.

We shall return further on to the important question of the distances to be marked between the different buildings composing the entire establishment.

2nd.—*The hospital* should consist of several separate pavilions built on the same plan as the lodgings of the persons undergoing quarantine. It should be divided into two departments, one of which should be devoted to cholera patients, the other to patients suffering from simple diarrhœa. Each pavilion should be in an exposed position and well ventilated, and should contain from five to ten beds. A dispensing room, provided with all necessary medicines, should be attached to the hospital, as well as a kitchen for the use of the convalescent. And in addition, a dwelling should be reserved for the physicians and hospital assistants.

3rd.—*Two wash-houses* should be set up in each lazaretto, one for the hospital, the other for the persons undergoing quarantine. They should be situated in different places at a distance from each other, as well as from the other buildings of the establishment, and particular care should be taken to prevent the water flowing out from infiltrating the surrounding soil.

4th.—A stock of bedding and furniture should be placed at the disposal of the establishment, and the administration should see that these articles are so kept as not to become agents of transmission.

5th.—The Committee, moreover, is of opinion that it would be advisable to establish three classes of lodgings:—the first for well-to-do persons; the second for persons passably well off; and the third for persons less accustomed to certain comforts. The charge for these lodgings should be fixed by regulation, and differ according to the class.

6th.—The hotel of the lazaretto ought to be isolated and provided with the necessary provisions, the prices of which should be fixed by competent authority. The servants of the inn should, in no case, be allowed to communicate with the persons in quarantine.

7th.—The store-rooms intended for merchandise, not subject to purification, ought to be situated without the precincts of the lazaretto and near the wharf, so as to facilitate the operations of landing and re-shipping. They should, moreover, in point of capacity, be proportionate to the probable degree of importance of the quarantine establishment. The store-rooms for susceptible merchandise, ought also to be of a capacity proportionate to this importance, but might be comparatively smaller than the others, articles subject to disinfection being very restricted, as we shall see further on. The situation of these latter stores ought to be different from that of the former, but always outside the enclosure of the lazaretto, and at such a convenient distance from the ships as to facilitate their operations.

8th.—As a lazaretto must necessarily be guarded by an armed force of greater or less strength in order to ensure order and security, especially if situated in an island or a remote and solitary spot, it becomes necessary to provide quarters for the military. A guard-room, then, must be built at a distance of 200 mètres at least from the quarantine establishment, for it is a matter of importance to give the soldiers as much security as possible from the attacks of the disease.

9th.—We have spoken of the wharf. There must be two for each lazaretto,—one for the landing of persons and merchandise under fowl bills of health, the other for those under free pratique. It is necessary, moreover, to have a health office, where the superintendent of the whole establishment should reside. He must live near the port, for he must be in connection, on the one hand, with everything concerning the lazaretto and its dependencies, and, on the other, be the intermediate agent of communication with the outside world.

10th.—The question—whether it is necessary to keep up the custom of parlors attached to the lazarettos, and to permit the visits of outsiders to the persons undergoing quarantine—gave rise to a discussion in Committee. It was maintained on the one hand that such visits should be strictly prohibited, because isolation, even in an island, could not possibly be complete while persons were going to and fro between the town and the lazaretto; because the privilege would certainly be abused; and that, the principle being admitted that, at a given distance, the air is the vehicle of the choleraic germs, it follows that the disease may communicate itself to visitors, and so propagate itself, in spite of all the rigors of isolation. On the other

hand, it was thought that such a prohibition would be too severe; that a distance between the visitors and the persons in quarantine as great as that between the quarters of the latter would sufficiently guarantee the former from all attack, and that consequently there need be no apprehension of a compromise. Although the justice of these remarks was clear to the majority of the members of the Committee, yet, having regard to the probability of abuses, and the necessity of maintaining the strictest stoppage of communication between the town and the lazaretto, the opinion prevailed that it would be prudent to do away with the parlors of lazarettos and prevent visits. M. Pelikan, however, dissented from this view, thinking that parlors were necessary for exceptional cases. What is said of visits is not, it must be understood, applicable to such persons as may wish, for some reason or other, to enter the lazaretto and stay there for the full period of the quarantine of those with whom they may be in communication, and who may chose to submit to all the consequences of their position.

11th.—The Conference having admitted "that there is no known fact proving that cholera has been imported by living animals, but that it is rational to consider them, in certain cases, as being so-called susceptible objects, and that, moreover, they may, by means of their covering, serve as receptacles of the principle of the disease," the Committee is of opinion that it would be right to subject them to measures of purification, and, consequently, every lazaretto ought to be furnished with a special enclosure, stables, and cattle-sheds, in which animals should be kept and subjected to such measures as may be considered necessary.

12th.—One of the questions which greatly occupied the Committee was that of latrines. It passed all existing systems in review. In the old lazarettos each room had its closet, or there was a range of closets for the use of all the persons in quarantine, discharging into fosses or sinks, vicious systems which could not be continued without great danger in the point of view of cholera whose principal source of propagation is in the *excreta*. Among the modern systems, that which seemed to the Committee to be best adapted to lazarettos is the system of *movable cesspools*, charged with disinfectants, such as sulphate of iron, quicklime, and such other chemical agents as have been proposed for this purpose. The excrementitious matter should then be taken away, thrown into ditches dug in the soil, and covered with quicklime and vegetable charcoal dust. (*Report of the Committee on Disinfectants.*) Two members of the Committee were desirous that each person in quarantine should have a separate vessel, so disposed that the physician might be able, in his daily visit, to inspect his alvine dejecta, and thus find out the commencement of diarrhoea. But this system, though practicable perhaps in hospital, seemed to the majority of the Committee to be too complicated for a lazaretto containing hundreds of persons, and the Committee, in conclusion, decided upon the adoption of the best movable latrines, charged beforehand with disinfectants. It was also of opinion that in all lazarettos intended for

choleraic arrivals common fosses and easing places should be done away with.

13th.—In speaking of the quarters of the persons in quarantine, we have said that each pavilion should be 20 mètres distant from the other, and that there should be a space of 100 mètres between each range of pavilions. This distance the Committee thought it might adopt as a rule for a minimum, in accordance with the opinion that cholera might, in certain cases, be transmitted by the atmosphere as far as 100 mètres. (*General Report, chapter XXX.*) This system would, in the first place, permit of the easy isolation of the group of persons occupying a pavilion amongst whom one or more cases of cholera might occur; it would, moreover, ensure the complete separation of the different categories of persons in quarantine according to the degree of suspicion and the date of arrival. To effect the isolation of each of these categories is a question of the highest importance. Unless this precaution is strictly observed, we shall have a repetition of the infection that then occurred, which so greatly contributed to the propagation of the disease in 1865 in the lazarettes of the Dardanelles, Beyrout, Salonica, &c., for it is easy to conceive that a healthy individual is exposed to contract the disease in the lazaretto up to the very last moment preceding his admission to pratique. The separation of the categories is, therefore, a condition of security for the persons in quarantine, and a necessary measure to prevent the spread of cholera beyond the precincts of the lazaretto; and the Committee concludes that it ought to be maintained with the greatest strictness.

The distance to be maintained between the different buildings of a lazaretto depends upon the space at command; and it would be difficult to fix it beforehand with exactness, but it ought to be a rule that the hospital should be at least 200 mètres distant from the quarters of the persons undergoing quarantine; that the quarters of the employés should be still further away from the hospital, as well as from the quarters of the persons in quarantine; and that the inn, the goods stores, and the cattle-sheds, should be situated outside the precincts of the lazaretto at still greater distances from each other. Generally, it is important not to lose sight of the fact that isolation is not complete unless there is an unoccupied space of 200 or 300 mètres around the various buildings occupied by cholera patients, by patients suffering from simple diarrhoea, by persons undergoing quarantine in good health, and by the employés.

14th.—*The employés.*—The question of the persons employed is of the greatest importance in the organisation of a lazaretto; but we do not think it necessary to go into detail on this point. We leave it to each Government to decide as to the number and capacity of these employés. However, we invite attention to the propriety of confiding the superintendence of quarantine establishments to instructed physicians who understand the value of the measures applicable to cholera. We propose, moreover, that each lazaretto should have three physicians—one to be attached to the hospital, the second to the persons in

quarantine generally, both of them being kept strictly to their own special department, and having no communication with outside; the third to be entrusted, under the orders of the superintending medical officer, with the port duties, the entrance and the departure of the persons performing quarantine.

VIII.—1st.—Of the number of lazarettos.—Lazarettos of observation. We have just indicated the plan in accordance with which lazarettos appropriated to rigorous quarantines, to which ships under foul (cholera) bills of health must proceed, should be built. The number of these lazarettos should be as restricted as possible, but always in proportion to the extent of seaboard possessed by each State; for, on the one hand, we must avoid too much crowding at any single point; and, on the other hand, it would be dangerous to permit the indiscriminate dissemination of choleraic arrivals in several localities. In the settlement of this question, it is quite as important to protect the interests of public health as to see that those of navigation and commerce do not suffer. By causing these two elements to harmonise in a compatible measure, we should arrive, without very much difficulty, at the rigorous application of restrictive measures.

Here is what experience teaches us with regard to this subject. Russia, Turkey, Greece, and perhaps other States, have three kinds of quarantine establishments: a limited number of lazarettos for the rigorous quarantine; a greater number for the quarantine of observation; and more numerous posts, the object of which is merely to control arrivals and to *viser* bills of health.

This system seems to the Committee to be of incontestible practical utility, for, at the same time that it limits the number of quarantine establishments of the first class, it allows lazarettos of observation to remain. These latter should be specially devoted to taking charge of certain arrivals under clean bills whom the sanitary authorities may have reason to suspect, either because the port of departure does not offer all the desirable guarantees of security, or on account of circumstances peculiar to the ships under suspicion, or on account of communications at sea, or of having touched at intermediate ports of call of a suspicious nature. Lazarettos of this kind might exist, without inconvenience, in all ports frequented by much shipping, and without requiring so many accessories as have been indicated for rigorous lazarettos, considering that the quarantine of observation does not, save in exceptional cases, require the landing of passengers or goods.

2nd.—Temporary lazarettos, the objects of which are arrivals by sea or by land, have only a provisional character. Their object is to preserve a locality not possessing a permanent lazaretto from invasion by the epidemic, and the experience that has been had of them in the East during the last epidemic is a sufficient proof of their efficacy. We mean the system of encampments—a system which will always be of great service; for it is, perhaps, the only one possible in certain

Asiatic countries on account of the climate and the manner of life of the people. We believe it to be specially applicable to great masses of persons in quarantine and to pilgrimage.

3rd.—*Floating lazarettos* are pontoons or hulks which, if regulated as well as possible, might be utilised in urgent cases in the absence of local conveniences. They were made use of in New York to isolate, at once, the passengers arriving in vessels with cholera on board, the *Atlanta*, the *England*, the *Virginia*, with the most satisfactory results. (See the *Historical Report upon the march of Cholera, Art. New York*.) But in very many cases floating lazarettos do not possess, generally speaking, anything like the requisite conditions of ventilation and salubrity, and the Committee cannot recommend their employment, except in very urgent and exceptional cases.

IX.—*Question of International Lazarettos.*

Taken in its widest sense, an international lazaretto would mean a mixed institution, both as regards the employés and the cost of maintenance, which would be shared by the Governments interested. Situated in a convenient spot on a well-frequented maritime track, or at the entrance of a sea, all ships coming from an infected place, should be obliged to perform quarantine there. Such an establishment would possess the advantage of preventing the dissemination of contaminated arrivals upon several points, and of thus restricting the chances of the propagation of the scourge. Its maintenance in common might also contribute to make it a model establishment, in the point of view of salubrity and well being, as well as that of an administration, economical in expenditure, and strict in the application of the necessary measures, for everything would be placed under the direct control of each Government represented.

But all these advantages, real as they are, are counterbalanced by numerous disadvantages. In this way there would be, *first*, as many differing opinions, in certain cases, as there are representatives of Governments interested; and, therefore, a difficulty in arriving at an understanding and conflicts of opinion and authority; *second*, great prejudice caused to commerce and navigation by ships often being forced to take an opposite path to that of their destination, in order to perform quarantine in a more or less remote place. It will be understood that disastrous consequences may be entailed, upon sailing ships especially, by such a *détour*; *third*, a great accumulation of ships and persons, possibly giving rise to the formation of vast foci of infection, dangerous in every respect, and such as are only seen in the crowds attendant upon pilgrimages, and which must be avoided at any cost; *fourth*, and lastly, there would be an encroachment upon the sovereign rights of the country in which a mixed establishment of this sort might be situated, and it may be presumed that no Government would feel disposed to admit it upon its territory. The Committee, consequently,

after having weighed the advantages and disadvantages of such a project, suggests its abandonment.

In giving a more restricted sense to the signification of the words "international lazaretto," however, the question presents itself under a more practical aspect, and one more worthy of attention. We mean an establishment situated in a position advantageous to navigation, administered by the local Government without any foreign interference, in which ships of two or more nations might be allowed to perform quarantine by virtue of a special convention between the Governments interested, and the payment of a duty settled by common consent of the contracting parties. This system is in force in the Baltic between the States having seabords there. Sweden possesses the establishment of Kanzoë, an islet in the Cattegut on the west coast of Sweden, administering it singly, paying its expenses, and reimbursing herself by a duty which she levies upon the ships, and which has been settled between her, Russia, Prussia, Mecklenburg, and Denmark. Since its existence, the establishment has afforded satisfactory results, both as regards the welfare of the persons undergoing quarantine and the public security. The Committee thinks it would be advisable to recommend this system to Governments who might think it useful to adopt it.

To sum up, the Committee proposes the following conditions in the institution of quarantine establishments:—

1st.—*That the lazarettos should, as far as possible, be set up in desert isles, and, in the absence of isles, in isolated localities, many miles distant from towns, villages, and other inhabited places. That the air of those localities should be wholesome, the soil rocky, water abundant, and anchorage easy, certain, and spacious.*

2nd.—*That the buildings, of which these lazarettos are composed, should be constructed in accordance with the principles of Article VII of the present Report, and so as to ensure the strict separation of the different classes of persons in quarantine, according to the nature of the arrival and the date thereof. That the isolation of the cholera hospital, the quarters for the persons performing quarantine, the wash-houses, the store-rooms, and cattle-sheds, the quarters of the employés, &c., should be complete. That the distance between all these buildings, though it is impossible to fix it in anticipation, should harmonise with the indications given in paragraph 13 of the Report.*

3rd.—*That the latrines should be organised in accordance with the system of movable sinks, charged with disinfectants. That common sinks and sewers should be proscribed. That excrementitious matter should be thrown into ditches dug in the soil, and covered with quicklime, argillaceous earth, or vegetable charcoal dust.*

4th.—*That each lazaretto should be provided with two wharfs, one for quarantine purposes, the other for pratique, a health office, quarters for the administration, a military guard, a stock of bedding and furniture, a stock of provisions, and an hotel.*

5th.—That the visitors' parlors in lazarettos should be done away with, and visits to persons performing quarantine prohibited; that, however, permission might be given to persons to enter a lazaretto, provided they undertook to stay there, submitting, in that case, to the rules governing those persons performing quarantine with whom they might be in communication.

6th.—That the superintendence of quarantine establishments should be entrusted to medical men, and that, moreover, each lazaretto should be provided with at least three medical officers, one for the hospital, another for the persons undergoing quarantine, the third appointed to the port and the exterior of the lazaretto.

7th.—That the number of lazarettos for the rigorous quarantine should be limited in proportion to the maritime movement and the extent of seaboard possessed by each State; but that there should, however, be secondary posts for arrivals subjected to the quarantine of observation.

8th.—That, in urgent cases, temporary lazarettos should be established, encampments, or floating lazarettos, according to the particular circumstances of each locality.

9th.—The Committee finally is of opinion that, in general, the institution of international lazarettos, administered by mixed Commissions, cannot be recommended on account of the inconveniences of the system and the insurmountable obstacles most frequently opposed to its realisation.

All these conclusions were unanimously adopted by the Committee, excepting the last, with regard to which MM. Maccas and Pelikan have recorded the following opinion:—"Admitting that, in general, the institution of international lazarettos, administered in common by the employes of several Powers, cannot be recommended, we are, nevertheless, of opinion that in certain cases, the utility of these establishments, administered by the local authorities under the control of mixed boards, is incontestable."

CHAPTER IV.

OF QUARANTINE REGULATIONS AND DISINFECTION.

As has been demonstrated in chapter II, the lessons of experience militate in favor of restrictive measures, rigorously applied, against the importation of Asiatic cholera.

If it were necessary to revert to this question to strengthen the proofs of the efficacious action of quarantines, we could quote the arguments brought forward in the *General Report* upon the subject of transmissibility, and we might enumerate the numerous cases of preservation recorded in the historical précis upon the cholera of 1865. We might mention, one by one, all the towns that have been saved from the scourge by the application of quarantine measures; all the lazarettos where the disease, having been introduced by infected

arrivals, was stifled. We might once more bring to your notice the results obtained in Greece, Crete, New York, and many other places where cholera found, in isolated lazarettos, barriers which it was unable to pass, notwithstanding all the violence of the foci formed in them. Do not all these facts sufficiently prove the efficacious action of isolation and disinfection, that is to say, of quarantine measures? The Committee is of opinion that doubt upon such a matter is impossible.

The Conference on its side has admitted as an incontestable fact :—
 “1st, that there are no original foci of cholera in our countries, into which the disease is always introduced from without; 2nd, that cholera is transmitted by men affected by the disease, as well as by contaminated objects; 3rd, that the atmosphere is the chief vehicle of the generative principle of the disease, but that its transmission through the atmosphere is limited to a very short distance from the focus of emission.” Now, it follows logically from these facts and these principles that measures of quarantine, or, in other words, isolation and disinfection, are applicable on every occasion when it is to be dreaded that the transmission of cholera may be effected, either by sick men, or by articles containing the germs of the disease.

In coming to the most important chapter of quarantine systems, we take upon ourselves again to invert the order of contents in the programme, so as to facilitate its study; but we shall take care to reply to all the questions laid down omitting nothing that ought, in our opinion, to form the base of prophylaxy. Thus, we divide the work into two sections: in the first we treat of the quarantine, properly so-called, of the difference to be observed between the rigorous quarantine and the quarantine of observation, the duration of the quarantine and the various conditions of its application to persons and ships; in the second, we make an exposition of the system of disinfection applicable to ships, to objects supposed to be contaminated, to baggage, wearing apparel, merchandise, living animals, &c.

X.—Question regarding quarantine.—Is it right to admit two sorts of quarantine under the names of quarantine of observation and rigorous quarantine? In what does this difference consist?

A quarantine is composed of two essential elements, the isolation of an arrival and disinfection. Applied to objects reputed to be susceptible of transmitting the disease against which it is desired to have a guarantee, it is separated into a rigorous quarantine and a quarantine of observation. This distinction, which we are about to explain clearly by showing the difference between the two systems, was established by ancient regulations; it was maintained by the Sanitary Conference of Paris, and your Committee *thinks it necessary in the system of prophylaxy applicable to cholera.*

The quarantine of observation consists in keeping at a distance and watching a ship, her crew, and her passengers, for a time generally not

exceeding a few days, reckoning from the time of placing the health guards on board, but which may be prolonged by the sanitary authorities. It does not entail the landing of goods, unless at least they should consist of damaged or rotten articles. It does not require disinfection, but simply general hygienic measures. It would be difficult to determine all the circumstances in which this quarantine is applicable: we must leave this to the discretion of the sanitary authorities, but we are enabled to mention the chief circumstances. It is applicable to vessels which are regarded as suspicious, though provided with *clean bills of health*: 1st, on account of the suspicions which may exist relative to the sanitary condition of the port of departure, so as to give time to dissipate such suspicions, or on account of a ship's having touched immediately at a doubtful port of call, or had doubtful communications at sea; 2nd, in proportion to the particular conditions of the ship subjected to the quarantine, and the sanitary conditions of the crew and passengers. The quarantine of observation may be performed in all ports where there is a sanitary department. The passengers remain on board, or are landed at the lazaretto, according to the special conditions of each arrival.

The rigorous quarantine is the sequestration and isolation, for a certain fixed time, of ships as well as persons, together with the disinfection of every thing that is susceptible of containing the morbid germs. The rigorous quarantine necessarily implies the landing of goods at the lazaretto. It is applicable, 1st, to ships from an infected port, under *foul (cholera) bills of health*, with the exceptions hereinafter indicated; 2nd, to ships which may have had choleraic accidents on board during the passage, although carrying *clean bills*. The rigorous quarantine commences, for ships in ballast, from the moment the health guards go on board; for loaded vessels, after the unshipment of the cargo; for persons, immediately on their entrance into the lazaretto. To sum up: *the difference between the two systems consists, in the opinion of the Committee, in this that the quarantine of observation is a time of proof, of simple surveillance, while the rigorous quarantine consists in landing at the lazaretto, as well as disinfection and comprises all the measures applicable to a choleraic arrival.*

XI.—*Of the quarantine applicable to persons coming from a contaminated place.—What ought to be its duration? From what time should the quarantine be considered to have commenced?*

The quarantine meant in this question of the programme is the rigorous quarantine, that is to say, that persons coming from a contaminated place must, on their arrival in an uninfected locality, be subjected to the system of isolation in a lazaretto, and that their baggage must be subjected to disinfection.

But what should be the duration of this rigorous quarantine? This question is without doubt the most important of all those which, collectively, constitute a system of quarantine; and we must confess that it is also the most difficult of solution, for it is essentially connect-

ed with the period of incubation of the disease, with regard to which opinions are as yet far from being in harmony. It is true that the problem has just been in a manner solved by the Conference in the conclusion of chapter XIII of the *General Report*, where it is said that "in almost every case the period of incubation, that is to say, the lapse of "time between the contraction of the choleraic poison by a person and "the commencement of premonitory diarrhoea or confirmed cholera "does not exceed a few days, and that all the instances mentioned of a "longer incubation are not conclusive, either because the premonitory "diarrhoea has been included in the period of incubation, or because the "contamination must have occurred after departure from the infected "place." But notwithstanding that this opinion is strongly supported by general observation, exceptions are mentioned which would lead to the admission that the period of incubation may last for two or three weeks.

Another question connected with the same subject is that of premonitory diarrhoea, which very probably is apt, like confirmed cholera, to transmit the disease. It has been maintained in fact that cases of diarrhoea have been observed to last for many weeks, then transmit cholera, and terminate in death. Dr. Pelikan, seconded by Dr. Maccas, insisted upon this point when urging the following considerations:—*1st*, that it is not always easy to distinguish, in cholera seasons, between a simple catarrhal diarrhoea and the choleraic diarrhoea which is considered with reason to be of the same nature, and as dangerous, in the point of view of transmissibility, as cholera itself; *2nd*, that cholera is propagated especially by those who are suffering from this diarrhoea, while they are travelling; *3rd*, that the diarrhoea which breaks out on board a ship from a choleraic locality is of this nature in the immense majority of cases; *4th*, that, in general, individuals attacked by simple catarrhal or bilious diarrhoeas are very much disposed to contract cholera in epidemic seasons. But the majority of the Committee adhered to the opinion of the Conference expressed as follows:—"Observation shows "that the duration of choleraic diarrhoea, premonitory diarrhoea, as it is "called, and which must not be confounded with all the diarrhoeas that "exist in cholera seasons, does not exceed a few days. The cases mentioned as exceptional do not prove that those cases of diarrhoea which "are prolonged for a longer period are choleraic and are susceptible of "transmitting the disease when the individual attacked has been kept "from all sources of contamination."

We would have refrained from discussing these questions of principle which are only indirectly connected with our sphere of operations, and we would have confined ourselves simply to adopting as a rule the opinion of the Conference upon the duration of incubation and diarrhoea with respect to the duration of quarantine, if the members of the Committee had not, as we have just said, disagreed. Nevertheless, notwithstanding this divergence of views between the majority and minority, the Committee, taking as its basis, the vote of the Conference upon the questions of the duration of incubation and the duration of

diarrhoea, proposes that *the rigorous quarantine applicable to persons coming from a contaminated place ought to be fixed, as a general rule, at ten clear days, and that this quarantine ought to commence, for persons, as soon as they enter the lazaretto. That if, during the course of the quarantine, any cases of cholera or choleraic diarrhoea should occur amongst them, the healthy persons should be separated from the sick and recommence the quarantine of ten full days. (Adopted unanimously, except by M. Pelikan, who proposed a quarantine of fifteen days.)*

The Committee believes that, for persons, a quarantine two or three days longer than the ordinary maximum duration of incubation is a sufficient guarantee against the transmission of cholera; but it thinks it right to invite attention to choleraic diarrhoea which, as has been said, is not always easily distinguishable from other diarrhoeas, and whose aptitude to transmit cholera is very probable. Consequently, the Committee is of opinion *that it would be right to consider persons suffering from diarrhoea as suspicious, to isolate them from healthy persons as well as from persons suffering from cholera, and not to admit them to pratique, after the termination of the regulated quarantine, unless medical inspections shall have shown that the diarrhoea is non-choleraic.*

(Adopted by all, except MM. Pelikan and Sawas, who thought that pratique should not be given to persons suffering from diarrhoea, coming from a place infected with cholera, until after their thorough cure, except in chronic cases declared to be such by a medical certificate furnished at the port of departure).

XII.—Quarantine applicable to ships supposed to be contaminated. —Should not a distinction be made between those in which cholera has manifested itself and those in which it has not made its appearance? What should be the measures applicable in each case? Should disinfection always be rigorous? If a serious epidemic of cholera should break out on board a crowded ship, would it not be proper to subject her to exceptional precautions? What should these precautions be?

It is a principle that every ship coming from a place infected by cholera is subjected to the rigorous quarantine. In this case, after survey on arrival, a ship of this class is isolated, the passengers are landed at the lazaretto as well as such merchandise as is subject to purification, and disinfecting measures are immediately proceeded with.

Here we meet with the case of the difference to be established between a ship arriving from an infected locality, and which has had cases of cholera or of choleraic diarrhoea on board during the voyage; and another ship whose crew and passengers have enjoyed a satisfac-

tory state of health, and on board of which no cases giving rise to suspicions of cholera have occurred during the voyage.

In the first case, after the landing of the passengers and the unloading of the goods at the lazaretto, the ship, being anchored in an isolated place, should be disinfected by means of the various agents that shall be indicated, the disinfection being repeated at various intervals while the quarantine lasts. If a serious epidemic has broken out on board, and the ship should be much crowded by passengers, it will be understood that more severe measures and more minute precautions should be employed. The most absolute isolation, at a great distance from other ships, disinfection by means of the most active agents, even the prolongation of the quarantine, should be employed in these exceptional cases. In such cases, the Committee would, moreover, feel disposed to recommend that the crew should be landed, at least partially, only a sufficient number of sailors being left on board to execute the disinfecting measures under the guard and supervision of the sanitary agents. We shall revert further on to the means of disinfecting ships in ordinary cases, as well as in more serious ones.

But in the contrary alternative that we have put forward, that is to say, supposing a ship to arrive from a contaminated place without having had any choleraic cases on board during the voyage, and whose hygienic conditions are satisfactory, would it be necessary to subject her to the same precautions as ships on board of which cholera has shown itself? The Committee is of opinion that, in this case, the treatment ought to be much less severe, considering that the danger to be dreaded is not nearly so great. We agree that the isolation and duration of quarantine, fixed at ten days, ought to be the same in both cases; but we think that the great measures of disinfection are not necessary, and that it would suffice to employ simple purification by means of the ordinary hygienic agents, aeration, washing, &c.

There is yet another among the different classes of ships which deserves attention, viz., ships that carry merchandise, and have only a small crew, and generally no passengers, or very few, if any. These ships often make long voyages, exceeding fifteen and twenty days. The Committee deliberated whether it would not be just to treat these ships with less rigour than ships making a short voyage, granting that there was no obstacle to so doing in their hygienic condition, and that no choleraic accident had shown itself during the voyage. We are of opinion that, except in the cases of the conveyance of emigrants and over-crowding of passengers, such a long passage is a guarantee which must be taken into consideration, and that it would be right to allow these ships a diminution in the duration of their quarantine.

In conclusion, the Committee proposes: 1st, to apply the rigorous quarantine to ships supposed to be contaminated, the quarantine being fixed at ten clear days counting from date of arrival; 2nd, to admit a difference between ships on board of which cholera or choleraic diarrhœa may have shown itself, and ships on board of which no choleraic

accidents occurred during the voyage: in the first case, every rigorous measure, isolation and disinfection, would be applicable; in the second case, the ships might be exempted from unloading merchandise not subject to purification, and should be subjected only to general measures of hygiene without disinfection properly so called; 3rd, to subject crowded vessels, on board of which a serious epidemic of cholera may have appeared, to exceptional precautions which should consist in more complete isolation, disinfection by means of the most active agents, and even to the prolongation and doubling of their quarantines, if necessary; 4th, to reduce to five days the quarantine of ships whose voyage may have lasted for fifteen days without any choleraic accident having occurred during the passage.

XIII.—With regard to maritime arrivals, would it not be proper, under certain specified conditions, to include the duration of the voyage in the period fixed for the quarantine? If so, determine these conditions.

In the preceding chapter we have established three classes of maritime arrivals under *foul bills of health*—1st, crowded ships on board of which a serious epidemic has broken out; 2nd, those in which some cases of confirmed cholera or choleraic diarrhoea may have occurred; 3rd, ships in which the disease has not shown itself. For each of these classes of arrivals, we have proposed more or less severe measures, according to the supposed degree of contamination. For the third class we have said that a quarantine of ten full days would be sufficient, but that there need be no unloading of goods, nor disinfection of the ship, but simply general measures of hygiene. To this category of vessels the question applies, whether it would not be proper to comprise the period of the voyage in the time fixed for the quarantine.

The Committee had no hesitation in admitting that ships under such advantageous conditions, although coming from a place notoriously contaminated, had a right to be treated differently from those in opposite sanitary and hygienic conditions, and it thought it might admit in principle that, under certain determined conditions, the duration of the quarantine ought to be reckoned from the date of departure. These conditions should be, 1st, the presence on board of a physician commissioned *ad hoc*; 2nd, a series of measures applicable at the place of departure of the ships, during their voyage, and at the place of arrival; that the crew and passengers to be embarked should be officially visited by a physician, who should note their good state of health, excluding such as offered the least indications of choleraic indisposition (persons suffering from chronic affections might be embarked under a special certificate from the medical officer); that the persons embarked should carry with them only so much baggage, as was strictly necessary, and that their linen should be washed before embarkation. The measures to be adopted during the voyage would consist in continuing the disinfection,

eration, and washing of the ships, articles of common use, and especially foul linen. The ship's doctor should look after all these operations, verify the state of health of the persons embarked, keep notes in a register of any choleraic accidents he may have occasion to observe, which register should be submitted to the sanitary authorities at the place of arrival. With these conditions, and when no case of cholera or choleraic diarrhœa has occurred on board, the Committee think that the days spent on the voyage might unobjectionably be taken into account in fixing the duration of the quarantine.

But to what extent should they be taken into consideration with regard to a ship fulfilling all these conditions? What should be her treatment at the port of arrival? It was here that opinions were divided.

Dr. Dickson maintained, on the one hand, that after a voyage of ten days pratique might be accorded without any danger to the public health, according to the admitted duration of incubation. On the other hand, M.M. Maccas and Pelikan were of opinion that the system of counting the days of the voyage as days of quarantine was based upon a bad principle; that it nullified the object of the quarantine, and rendered it inefficacious; that measures of disinfection during the voyage could only be carried out incompletely; the most active and conscientious physician to whom the duty might be entrusted would be unable to surmount the difficulties opposed to its execution; that measures taken on board were useful, but that they could not be assimilated to those deemed necessary by the Committee in lazarettos. Consequently, he proposed the reduction to seven days of the quarantine of ships arriving at their destination in very good hygienic conditions after a voyage exceeding a week, and to five days for ships having made a voyage of more than two weeks' duration; but this quarantine should always be rigorous, and the full number of days should always be strictly reckoned. Between these two extreme propositions, an intermediate one was put forward. Several members of the Committee thought that a ship, which should fulfil all the conditions above specified, and on board of which no indication of cholera was manifested during a voyage of nine days, offered a considerable guarantee against the presumption of the existence of the choleraic germ, and that pratique might be accorded to her after a quarantine of observation of 24 hours at the port of arrival, and under the immediate surveillance of the agents of the sanitary authorities, who would be enabled to assure themselves that all the prescribed measures were taken on board, and to note the absence of all choleraic indisposition.

The three opinions we have just detailed were subjects of a long discussion, which, however, terminated without such an understanding having been arrived at as would enable us to submit a homogeneous conclusion to the Conference.

The opinion of the majority of the Committee was as follows:—*Ships under foul bills of health (of cholera), which shall have fulfilled the conditions prescribed during the course of this article, may reckon the days of the voyage as days of quarantine to the extent of nine days. They should, at the port of arrival, undergo a quarantine of observation,*

calculated in such a manner as to make up the regulated quarantine of ten full days.

As, however, the voyages of ships are not always of the same duration, but may vary from one day to nine days and upwards, the Committee proposes the following scale to be observed in the application of the proposed measure :

After a voyage of 24 hours, a quarantine of observation of 9 days.

"	"	2 days	"	"	8 "
"	"	3 "	"	"	7 "
"	"	4 "	"	"	6 "
"	"	5 "	"	"	5 "
"	"	6 "	"	"	4 "
"	"	7 "	"	"	3 "
"	"	8 "	"	"	2 "
"	"	9 "	"	"	24 hours.

For ships whose voyage may have exceeded nine days, the quarantine of observation should always last for at least 24 hours.

XIV.—*After the arrival of a ship, can quarantine be performed on board? In what cases, within what limits, and how?*

This question has been solved by what we have said regarding the quarantine of observation. In this system, the crew of a ship and her passengers remain on board, unless there is crowding, and the contumacy counts from date of arrival. But there are exceptional cases in which even the rigorous quarantine is performed on board. This may be the case in ports where there is no lazaretto, and where ships are compelled by unavoidable stress to put in, as, for instance, such damage as would prevent a ship from ever attaining a quarantine port. The quarantine might also be performed on board ships under foul bills, but whose sanitary and hygienic state was satisfactory, and the number of passengers very limited. In all these cases, moreover, the sanitary authorities would look after the health of the persons in quarantine and the execution of the measures indicated. To sum up: The Committee is of opinion that the quarantine may be performed on board ships, in the case of a quarantine of observation, and that sometimes also the rigorous quarantine may be so performed, under circumstances of unavoidable necessity, but that in every case the sanitary authorities should be careful that crowding is avoided, and the health of the persons in quarantine should be attentively watched.

XV.—*Land Quarantines.—What ought to be its duration?*

The programme does not contain this question, or, at any rate, it is not formally framed there. It is, however, important to know whether quarantine is applicable to land arrivals, and, if so, what ought to be its

duration. As to the first point, it results from the questions, collectively, that have been discussed in this report, that the principle of land quarantine is admissible wherever there is a possibility of its application with any chance of success, as has been said in connexion with cordons and isolation. The Committee, therefore, need not revert to the subject. But as for the duration of the land quarantine, it is a question which it seems to us should be solved.

There can be no doubt that sea arrivals are the most dangerous and the most adapted to transmit the disease on account of the foci which form on board ships; and that, for the contrary reason, land arrivals are less adapted to transport the germs of the disease on account of the aëration and isolation of persons travelling, a circumstance which lessens the chances of the propagation of the disease. The Committee believes that this difference between sea and land arrivals authorises a diminution of the quarantine in favor of the latter, except when an epidemic is raging in the neighbourhood; and it proposes, in consequence, *a quarantine of eight full days for all arrivals by land, excepting pilgrimages and movements of troops, the system for which ought to be more severe. It must be understood, however, at the same time, that, if these land arrivals have come from a focus distant only three days' march, the quarantine must last ten full days.*

XVI.—QUESTION OF DISINFECTION.

The question of disinfection has been specially treated by the Committee on hygienic measures, to which report we refer. Disinfection, we have said, completes the measures of isolation, and constitutes the rigorous quarantine. It is applicable to all contaminated ships, to wearing apparel and effects, to certain stated kinds of merchandise, and to living animals.

1st.—Of the disinfection of Ships.

When speaking of the quarantine of ships under foul bills of health, we have said that those on board of which a serious epidemic of cholera has shown itself, or only a few cases of cholera or choleraic diarrhæa, should be subjected to rigorous disinfection. This operation is described in the appendix to the report on hygienic measures. The disinfection ought to commence with the unloading of the goods, by the crew as much as possible, at least unless the sanitary authorities should dispose otherwise in certain grave cases; such, for instance, as a violent epidemic on board, which would necessitate the landing of the entire crew at the lazaretto. The ship being anchored in an isolated place, the well should be emptied, and the disinfection of the hold should be immediately proceeded with by means of fumigations of chlorine; all the hatches should be opened and windsails and ventilators set up to admit plenty of fresh air to the inner parts of the vessels; plenty of water should be used in washing, and painting in oil should complete the disinfection. In the event of a great epidemic on board, all these disin-

fecting measures should be employed oftener during the period of quarantine, and with greater persistence than in less serious cases.

2nd.—Of the disinfection of linen, clothes, and articles of common use.

The facts collected in the *General Report* regarding the transmission of cholera by means of linen made use of by cholera patients (chapter XV) leave no room for doubt that the germs of the disease can be imported by these means from an infected to a healthy place. The conclusion upon this point come to by the Conference is, therefore, that "cholera may be transmitted by articles of common use brought from an infected place, and specially by those that have been used by cholera patients, and that the disease may even be carried to a distance by these same articles shut up from contact with the open air." In consequence, the Committee was unanimous in the necessity of disinfecting linen, articles of common use, and wearing apparel belonging to persons coming from places infected by cholera.

These articles should be landed at the lazaretto at the same time as the persons to whom they belong; before sending them to the wash they should be steeped in water charged with chloride of lime, where they should be left for some time, and then sent to the wash, after which they should be dried in the open air. As for articles of apparel, they should be kept exposed to the open air during the whole period of quarantine. The linen and wearing apparel of cholera patients should be treated with the greatest possible severity, and should be destroyed by fire whenever possible, and when deemed necessary by the sanitary authorities.

3rd.—Of susceptible merchandise and its disinfection.

The aptitude of merchandise to transmit cholera has not yet been demonstrated as a fact, and the *General Report*, in dealing with this important question, gives a very circumspect opinion. That transmission is possible, especially by certain articles, such as drills, rags and hides, eminently apt to become impregnated with the morbid germs, is less doubtful; but it seems certain that merchandise imported from India, either to Suez or direct to Europe, has never transmitted cholera.

Moreover, merchandise can only be contaminated by becoming soiled by the *excreta* of choleraic patients. Now, it cannot be asserted that merchandise, coming from the factories, can be soiled like linen, &c., that has been made use of by cholera patients. Consequently, the Committee thinks that it would be right to establish two great divisions, one comprising well packed merchandise fresh from the place of manufacture, the other rags and drills, hides, leather, and other animal débris, as well as unbaled goods, such as raw wool and other similar articles, which, on board ships coming from contaminated places, would be more or less exposed to coming into contact with the passengers.

Merchandise of the first class, which may be called unsusceptible, should be landed at the lazaretto, placed in a room, and exposed to ventilation during the entire period of quarantine: it should then be disinfected. Goods of the second class, among which the Committee has deemed it necessary to place ready-made clothing because it is made up by workmen, who, if sick, might soil and infect these articles, should be subjected to disinfection by æration, immersion in water, washing, and chemical agents such as chlorides of lime and soda, &c., according to the nature of the goods. Letters and despatches which may be exposed to contamination by being touched by choleraic patients or persons suffering from diarrhœa, enter into the category of objects to be disinfected. Decomposed animal or vegetable matter should be burnt or thrown into the open sea.

4th.—*Living animals.*

The question whether living animals are capable of contracting cholera and transmitting it to man has not been solved by science, and the Conference has been obliged to decide upon this point with a prudent reserve, which it has expressed in these words:—"There is no fact to prove that cholera has been imported by living animals, but, on the other hand, there is nothing to prove that the covering of the animal may not become, through soiling, a receptacle of the morbid germ, and carry and transmit it." Foreseeing the possibility of such a case, the Conference, in the second part of the conclusion we have just quoted, adds "that it is rational to include animals, in certain cases, among so-called susceptible objects." Consequently, the Committee thinks that it would be right to subject them to restrictive measures and to disinfection whenever the sanitary authorities shall consider them necessary.

CONCLUSIONS.—*Disinfection consists in the employment of different agents adapted to sanitary objects and places contaminated by the choleraic germ. These agents are air, water, fire, in certain cases, as well as such chemical substances as are recommended by science and pointed out in the Report on hygienic measures.*

Disinfection is applicable—1st, to ships coming from an infected locality on board which either a serious epidemic of cholera or isolated cases of the disease, or merely cases of choleraic diarrhœa, may have broken out.

2nd.—It is applicable to the wearing apparel and other articles used by cholera patients as well as by all persons undergoing a rigorous quarantine, whether at the lazaretto or on board ships.

3rd.—It is applicable also to goods presumed to be contaminated, such as rags and drills, hides and skins, leather, feathers, and other animal substances, as well as wool and other unbaled articles brought from an infected place or from a ship herself subject to disinfection. Letters and despatches should be shut up in a box and disinfected, without being opened, by the evolution of chlorine. As to goods in general fresh from the factories and well packed, they are reputed to be not contaminated and consequently not subject to disinfection.

4th and lastly, disinfection is applicable to living animals by means of exposure to the open air, or immersion in water, when considered necessary by the sanitary authorities.

CHAPTER V.

OF THE BILL OF HEALTH AND SURVEY.

The presentation of the bill of health constitutes, with the survey of a vessel, what is called, in sanitary matters, the act of survey of a maritime arrival. It may be said that in the point of view of the public health, the bill of health is to a ship what a passport is to a traveller. It records the sanitary state of the port of departure and of the ports of call, and the sanitary authorities note upon it, when they occur, cases of disease subject to quarantine occurring on board. Bearing these points in mind, it will be seen that the bill of health is a document of the utmost importance. And so the programme, in framing the different questions relating to it, did not stop to consider the question whether every ship should have a bill of health or not, a question not requiring discussion, but it carefully pointed out all that, in actual practice, weakened the value of the bill, and consequently the amount of guarantees which should be offered by this document, which is the basis of public security in sanitary matters. We shall follow the exact path traced by the programme, adding only such details as are indispensable to the completion of the subject.

XVII.—Should three kinds of bills of health be admitted: foul, suspicious, and clean?

In actual practice what is called a *foul bill of health* is a bill delivered in a port where cholera prevails; a *clean bill*, that which is delivered in a place where cholera does not exist (and similarly with other transmissible and contagious diseases, such as the plague and yellow fever). A *suspicious bill of health* is an intermediate document which does not define the situation, which does not state whether cholera exists or not, which leaves one in doubt regarding the sanitary condition of the place of departure, because the place, though itself healthy, might be in communication, more or less direct, with an infected locality, or because cases of a doubtful character might have occurred, as well as some other analogous and undefined circumstances. After having discussed the question of the suspicious bill of health, the Committee came to the conclusion to propose its abandonment. In fact, what purpose would it serve to maintain a form of bill which does not describe the real situation, but which is only adapted to lead to error? If cholera should exist, the bill should be *foul*: it should show the number of isolated cases that may have occurred, or it should state the occurrence of an epidemic if the cases should be numerous. If, on the contrary, cholera should not exist within the sanitary circumscription of the place of departure, no mention of it should be made, and then the

bill would be *clean*. It would, moreover, devolve upon the sanitary authorities of the place of arrival to apply the system of the quarantine of observation, and even the rigorous quarantine, according to the degree of danger, to an arrival which they may have good reason to believe in a dangerous condition, even though it should have a clean bill of health. In conclusion, the Committee proposes the *suppression of the suspicious bill of health and the maintenance of clean and foul bills, the former testifying to the absence of cholera, and the latter to its presence as well as the degree of its manifestation.*

XVIII.—When should Asiatic cholera be mentioned in the bill of health, and when should mention of it cease?

In principle one single case of cholera, the first that may manifest itself in any place whatever, ought to be mentioned upon the bill of health, because the first case, when an epidemic is about to break out, is very speedily followed by others, and because it is known at present how important it is to adopt precautions against the chances of importation on the outbreak of an epidemic. If one or more ships were allowed to start with clean bills after the appearance of a case or two, who could assure us that the next cases would not break out on board these ships, which before their departure were just as liable to contamination as the inhabitants of the place they had quitted. They would thus carry the germs of cholera with them to the place of arrival, and propagate the disease amongst a yet untouched population, and one, therefore, for that very reason, all the more disposed to contract the disease. It is of the utmost importance, therefore, that the first known cases should be mentioned on the bills of health.

But here we are met by a circumstance which deserves all our attention. The question is to determine what is meant by the first cases marking the outbreak of an epidemic of cholera. We must distinguish between a case of cholera *nostras*, and a case of Asiatic cholera. It is a matter of fact that Asiatic cholera is an exoteric disease in our countries. Now, if, in the absence of an epidemic in our parts, one or more cases of cholera should suddenly show themselves, and not be traceable to a focus of Asiatic cholera, it is evident that in this case we should have to deal with a disease very different from that which it is important to note upon the bill of health. But if, on the contrary, the first cases that show themselves in a locality are connected with an epidemic raging near, about, or further away, if, in a word, there should be any dread or any threat of an invasion of Asiatic cholera, then it would be necessary to mention the first accidents observed upon the bill of health. This distinction is necessary for the avoidance of mistakes. A cause of error in ordinary language is in frequently confounding the expression of "case of *sporadic cholera*" with that of "*sporadic cases of cholera.*" They are very different: the first expression denotes isolated cases of cholera *nostras*; the second isolated cases of Asiatic cholera. It is these last which it is important to announce upon the bill of health when they show themselves in a town threatened with an invasion of the epidemic.

The bill ought to mention the existence of the epidemic as long as it lasts, and in this there is no difficulty. But when should mention of it cease? We believe that the bill ought to be, from the beginning to the end of the epidemic, only the faithful echo of the situation, and should reproduce the facts as they occur. Thus, on the decline of cholera, the bill should state the number of cases until the complete disappearance of the epidemic; and from and after the date of the last case observed, it should be noted on the bill that since such date no new case had occurred within the limits of the place. This annotation should be the guide of the sanitary authorities at the port of arrival with respect to pratique.

The Committee here put the question as to what time it was necessary to place between the cessation of the epidemic and the pratique to be given to ships provided with clean bills of health? To accord pratique upon the simple statement of a bill of health that there was no more cholera in the place of departure, would be an imprudence which might have disastrous results. In fact, the Committee thought that, especially in a great town, nobody could be sure at once that the last case of cholera had occurred, that frequently fresh cases occurred several days after the last known case, and that there were even instances of fresh and somewhat serious outbreaks of the disease after a short interruption. These considerations led us to believe that it is a necessary precaution to place a term of fifteen days between the cessation of the epidemic and the declaration of a clean bill; in other words, that pratique should not be given to a ship coming from a place where an epidemic has ceased to rage until fifteen days after the appearance of the last case of cholera.

In conclusion, the Committee is of opinion *that the bill of health ought to make mention of Asiatic cholera from the appearance of the first case of the disease down to the last case marking the termination of the epidemic; that the sanitary authorities ought not to give pratique to arrivals from a place where an epidemic has prevailed until fifteen days after the date of its complete disappearance.*

XIX.—*Is it not absolutely necessary, as a guarantee for the public health, that a ship should have but one bill of health, delivered by the sanitary authorities of the place of departure, and is it not equally necessary that this bill should not be changed until the arrival of the vessel at her definitive destination?*

The bill of health shows the sanitary condition of the port of departure and the ports of call; it shows the number of persons on board, the nature of the cargo, and the state of contumacy or of pratique of the vessel on her departure. It is, therefore, necessary that this document should be unique, and incumbent on the sanitary authorities to deliver it, for they are in a position to be acquainted with all these circumstances, and to state them in the bill on their own responsibility. In actual practice, however, this is not always observed; and it happens sometimes that masters of vessels are in possession of two or three bills,—one from the sanitary authorities of the port, the second from their consul

and the third from the consul of the country of their destination. Now, it is evident that this practice is very dangerous to the public health, not only because the documents sometimes do not agree with each other, but because captains, with a view to escape restrictive measures in certain cases, may elude the vigilance of the sanitary authorities by presenting in a compromised port one of the bills given to them with a *visa* of cholera, and then afterwards in another (uninfected) place the clean bill of health of the original place of departure. Abuses of this sort, which are calculated to compromise the public health of a country, have sometimes occurred, and the sanitary intendancies have notes of them in their registers. It is evident that a single case of this kind suffices in an epidemic season to upset the entire system, to render the most rigorous measures useless and illusory, and to propagate the disease, against which it would be useless to struggle if this dangerous door were left open to it. The remedy would consist in suppressing, with the consent of the Governments interested, all consular bills of health, and to substitute for them consular *visas* upon bills of health delivered by the sanitary authorities. The Committee thinks that this remedy is calculated to satisfy all reasonable requirements.

Another practice equally injurious to the public health is that adopted by the sanitary authorities of certain countries in exchanging the original bills of the place of departure for fresh bills which they deliver to ships touching at their ports before they reach their definitive destination. They thus deprive the sanitary authorities of the next port of call of the only document from which they can learn the antecedent circumstances of the voyage and the sanitary condition of the original place of departure. This is a vicious practice, which should promptly be put a stop to. The means of causing its cessation are simple: it is sufficient to attach *visas* to the original bills without changing them for new ones.

As supplementing the questions we have just examined, regarding the bill of health, the Committee considered whether it would not be useful that the text of this document should be everywhere uniform and in harmony with the principles admitted by the Conference, and whether it was not necessary also that foul bills of health should be of a yellow color to distinguish them better from clean bills, which should be white? As to the first point, we cannot do better than recommend, as a model, the bill of health inserted in the records of the International Sanitary Conference of Paris, and which has been adopted in France and Italy. We think also that it would be useful if the text were printed in two languages, that of the country in which it was delivered, and in French for general purposes, as is the custom in Turkey and in the Russian ports of the Black Sea.

But in regard to the white and yellow colors, we are afraid that they would be more likely to occasion mistakes than to prevent them, for this reason that a bill of health, originally clean, may become a foul bill during the course of the voyage, and *vice versa*, if the compro-

mised ship were to undergo a rigorous quarantine in a lazaretto port before reaching her final destination.

In conclusion, the Committee, expressly using the words of the programme, expresses the opinion *that it is absolutely necessary, as a guarantee for the public health, that a ship should have only one bill of health delivered by the sanitary authorities of the port of departure; that it is equally necessary that this bill should not be changed until the arrival of the ship at her definitive destination; and that, consequently, the sanitary authorities at the ports of call should confine themselves to attaching their visas to the original bill without replacing it by a new one until the return voyage.*

The Committee also proposes that the Conference should express the wish *that those Governments that attach a peculiar importance to the maintenance of the consular bill of health would be good enough to consent, in the interests of the public health, to substitute for it a consular visa upon the bill of health delivered by the sanitary authorities.*

XX.—Of the Survey and Declaration in times of Cholera.

The declaration is the verbal statement of a captain of all the incidents of the voyage interesting to the public health. At all times it is an important matter, but it acquires greater value during the prevalence of an epidemic. If the captain makes a statement contrary to the truth, he obtains free entry, and the door is open to cholera. This was realised in 1865 at Suez and Constantinople. If he declares that cases of cholera occurred during the voyage, even though the bill of health should be clean, the ship is subjected to the rigorous quarantine; if the statement is not sufficiently intelligible or convincing to the sanitary authorities, the arrival becomes suspicious and liable to restrictive measures. From this it will be seen how important the declaration is in times of cholera.

It is, as we have already said, the complement of the bill, together with which it constitutes the act of survey of an arrival. The admission of a ship to pratique, and, if necessary, her isolation, depend upon it.

In times of cholera ships under foul bills of health, and those which have had choleraic accidents during the voyage, should proceed to a quarantine port in order to undergo the rigorous quarantine. On entering the port, they should hoist upon the main-mast the quarantine flag, color *yellow*; ships under clean bills of health, or subject only to a quarantine of observation, have the *entrée* of all ports: the color of the flag by which they are distinguished before being admitted to pratique, is *yellow*; ships under foul bills of health entering an ordinary port by chance should be sent by the sanitary authority, under the surveillance of health guards, to the nearest quarantine port.

We have said that upon the fidelity of the declarations of the masters of vessels depends, especially when epidemics prevail, the safety of a country. It follows that a false declaration, a culpable reticence, ought to be severely punished by the laws of every country. In connection with this subject, the Committee has discovered an omission in Turkish legislation. Turkey does not possess a penal code applicable to infractions of sanitary regulations. The Committee hopes that this regrettable omission will be speedily rectified in the interests of the public health.

CONCLUSION.—*The declaration is an act of the greatest importance during the existence of cholera. Reticence or false declarations nullify the best constructed restrictive system, and endanger the public health. They ought to be severely punished by the laws of every country.*

With reference to this point, the Committee proposes that the Conference should express a wish for the speedy promulgation by the Ottoman Government of a penal code against infractions of sanitary regulations.

Our task is finished. We have shown under what conditions restrictive measures may serve as a barrier against the propagation of Asiatic cholera. We have sketched out a plan for lazarettos, not only to be adopted exactly as given, but one which shows the bases of the quarantine establishments intended to attain this object. We have determined the nature, and fixed the duration, of the quarantine applicable to the various kinds of choleraic arrivals, according to the degree of danger they may carry with them; and, lastly, we have proposed rules to ensure their full value to the bill of health and the act of survey of ships. We believe, we have, therefore, replied to all the questions of the Programme. It rests now with the Conference to decide, by its vote, upon the conclusions of the Report of the Committee.

SALIH EFFENDI, *President*,
 STENERSSEN, *Vice-President*,
 E. D. DICKSON,
 BARON HUBSCH, *Secretary*,
 MACCAS,
 COUNT DE NOIDANS,
 PELIKAN,
 SALVATORI,
 DE SOVERAL,
 SAWAS,
 BARTOLETTI, *Reporter*,

Members of
 the Com-
 mittee.

CONSTANTINOPLE ; }
 The 15th September 1866 }

INTERNATIONAL SANITARY CONFERENCE. MEETING
 No. 39, OF THE 19TH OF SEPTEMBER 1866.

HIS EXCELLENCY SALIH EFFENDI, *Presiding*.

The International Sanitary Conference held its thirty-ninth meeting at Galata-Serai on the 19th September 1866.

PRESENT :*For Austria :*

M. Vetsera, Councillor to the Internonciature of His Imperial and Royal Majesty.

Dr. Sotto, Medical Attaché in the Imperial and Royal Internonciature, Director of the Austrian Hospital.

For Belgium :

Count de Noidans, Secretary to the Legation of His Majesty the King of the Belgians.

For Spain :

Dr. Monlau, Member of the Superior Spanish Council of Health.

For the Papal States :

Dr. Ignace Spadaro.

For France :

Count de Lallemand, Minister Plenipotentiary.

Dr. Fauvel, Sanitary Physician.

For Great Britain :

Dr. Goodeve, Surgeon-Major, Indian Army, Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to Her Britannic Majesty's Embassy, British Delegate to the Superior Council of Health at Constantinople.

For Greece :

M. Kalergi, Secretary to the Legation of His Majesty the King of the Hellenes.

Dr. G. A. Maccas, Chief Physician to the King, Clinical Professor in the University of Athens.

For Italy :

M. A. Vernoni, Chief Interpreter to the Legation of His Majesty the King of Italy.

Professor Frederic Bosi.

Dr. G. Salvatori, Italian Delegate to the Superior Council of Health at Constantinople.

For the Netherlands :

M. Keun, Councillor to the Legation of His Majesty the King of the Netherlands.

Dr. Millingen, Dutch Delegate to the Superior Council of Health at Constantinople.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargé d' Affaires.

For Prussia :

Dr. Mühlig, Physician to the Prussian Legation, Chief Physician to the Ottoman Marine Hospital.

For Russia :

Dr. Pelikan, Councillor of State, Director of the Russian Civil Medical Department.

Dr. Bykow, Councillor of State, Assistant Medico-Military Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

Dr. Baron Hübsch.

For Turkey :

His Excellency Salih Effendi, Director of the Imperial School of Medicine at Constantinople, Chief of the Civil Medical Department.

Dr. Bartoletti, Inspector-General of the Ottoman Sanitary Department, Member of the Superior Council of Health at Constantinople.

(For Egypt :)

Dr. Salem Bey, Clinical and Pathological Professor in the School of Medicine at Cairo, Special Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

The meeting commenced at noon.

The minutes of the thirty-seventh meeting were read by Baron de Collongue and adopted.

The 3rd Section (chapter II) of the Report of the second Committee on the 3rd group was then read.

Dr. Mühlig informed the Conference that he was in a position to produce facts in support of the first conclusion, *viz.*, that isolation, wherever it could be applied to the first cases that marked the outbreak of an epidemic, was a measure of prudence, the adoption of which no country, having a regard for its safety, ought to neglect. During the epidemic which raged in Mecklenburg-Schwerin in 1859, in forty-two places the isolation of the first cases, combined with the employment of measures of disinfection, was proceeded with. In thirty-five of these places, complete success was obtained, and the epidemic did not develop itself; in seven other places, on the contrary, cholera could not be prevented from spreading. As, moreover, in twenty-one other places, there was no epidemic development, though nothing had been done to isolate the first cases, these facts evidently could not be considered as absolute proof of the efficacy of measures of isolation. Still, however, they appeared to him to demonstrate the utility of these measures.

Dr. Bartoletti remarked that the facts quoted by Dr. Mühlig proved that it would have been easy to increase the number of instances

given in the report. Dr. Bartoletti reminded the Conference, moreover, that the Mecklenburg epidemic was mentioned in the first chapter of the report.

Dr. Fauvel said that the report was in contradiction with the opinions admitted by the Conference, when it said that, in 1865, the epidemic would not have declared itself at Alexandria, thence invading the basin of the Mediterranean, if measures of complete isolation had been taken at Suez when the pilgrims carried cholera there from the Hedjaz. This, it was true, was simply a supposition, but the report ought not to have supposed that what was declared impossible by the Conference was possible. Now, it had formally denied that the complete isolation of the pilgrims at Suez was possible.

Dr. Sotto supported these remarks. The Conference had decided too categorically in this respect to permit of the retention of the passage to which attention had been drawn by Dr. Fauvel as it stood. As for the facts quoted by Dr. Mühlig, Dr. Sotto did not think them sufficiently conclusive. In a country like Mecklenburg, containing no more than 1,800 persons to a square mile, where the population was scattered, where towns and villages were rare and far apart from each other, frequently separated by *landes*, recourse might be had to measures of isolation, and good results expected, but that could not be so in more thickly peopled countries, where the same measures would be incapable of execution, as was the case in most countries in Europe.

Dr. Mühlig stated that he had made no attempt to exaggerate the bearing of the lessons to be deduced from the facts observed in Mecklenburg. Besides, the question there was only of isolation applied to the first cases made known in a locality attacked by cholera, and not—which was a very different thing—the isolation of an entire locality.

Count de Lallemand believed that one word would remove all objections. Instead of “admitting that measures of thorough isolation could have been taken at Suez,” the words “could have been possible at Suez” could be substituted.

Dr. Bartoletti remarked that the whole thing was a simple supposition, and that, moreover, in the point of view of the principle isolation was always possible. He stated, however, that he consented to the modification proposed by Count de Lallemand.

Dr. Salem Bey reminded the Conference that the isolation of the first pilgrims returning from Mecca had this year been carried out successfully. A part of the pilgrims, who had arrived by the sea-route, had been detained and isolated at the Springs of Moses. Similarly, the caravan which had brought cholera with it as far as Sharafat, six stages from Suez, had first been placed in quarantine at Acaba, five stages from Suez, and afterwards, provisions failing at this place, at the Springs of Moses. The entire mass of the pilgrims, it was true, was not operated upon; but, after all, the isolation was complete, and the result obtained supported the conclusions of the report. Dr. Salem Bey

believed that the partial isolation of the pilgrims would be possible even at Suez.

Dr. Goodeve added that there were indeed, perhaps, few towns more easy to isolate than Suez, on account of its geographical position. Surrounded by deserts, this town was, so to speak, connected with the rest of Egypt only by the railway, which placed it in communication with Alexandria.

Dr. Fauvel did not think it was necessary to enter upon a discussion of this subject with Dr. Salem Bey. He would merely point out that what had just been said by himself and by Dr. Goodeve justified the criticisms of the report and the necessity of the modification agreed to by the Committee.

The 3rd Section, as modified, was adopted unanimously.

The 4th Section (chapter II) was read.

Dr. Sotto thought, with the Committee, that the interruption of communications was possible when the question was merely the extinction of cholera in a restricted focus, such as a house, a public establishment, or even a village. But as to having recourse to such means when a town, or, *à fortiori*, a canton, was in question, Dr. Sotto thought it was not to be dreamt of. The interruption of communications would for this reason be impracticable in most countries in Europe.

Dr. Bartoletti remarked that the report was the first to admit that the interruption of communications was an extraordinary measure, which could not be applied always and everywhere. Contrary to the opinion expressed by Dr. Sotto, there were cases, as at Tiberiad this year, in which an entire district had been successfully isolated. This instance, like those of the same nature that might be quoted, referred, it was true, to thinly-peopled countries where communications between the various centres of population were infrequent; but these were conditions that often occurred in various countries, as, for instance, in certain parts of Russia, as well as in Turkey.

Dr. Mühlig gave his approbation to the 3rd section, except as regarded one point, as to which he maintained a reservation. The Conference, which had declared that the interruption of communications was the sole means of preserving Europe when cholera existed in Egypt, could not admit that this restrictive means became, as was said in the report, impracticable and illusory after the development of the disease in a large commercial port.

Dr. Goodeve observed that the interruption of communications might be applied to certain countries in Europe, such as Italy and Spain, for instance, and even to the whole of Europe with reference to America as well as Egypt, if they were only to pay attention, as the Conference had done with reference to Egypt, to geographical conditions. Starting with this principle—which, however, it should be understood, he did not himself admit—the Committee ought, in this opinion, to have proposed the interruption of communications wherever the geographical situation allowed it.

Dr. Fauvel replied that the Conference had not meant to lay down a principle applicable everywhere. Reasoning as Dr. Goodeve had done, one would evidently arrive at impossible consequences. The Conference had taken great care to specify what it meant. Taking for its basis the fact that Egypt was a sort of defile, or strait, whence there was a great radiation on every side, it asked whether in such a circumscribed place, the communications could not be temporarily interrupted. But was there, in this respect, the slightest analogy between Egypt and countries like Spain or Italy, which, not to speak of their land frontiers, presented an immense extent of coast? Dr. Fauvel did not think that such a doctrine could be seriously upheld.

Dr. Fauvel, who concurred in Dr. Mühlig's reservation, also pointed out in the 4th section two expressions, which did not seem to him to be correct: 1st, the word *primitive* did not seem to him to be used in its true meaning; 2nd, the word *impracticable* excluded the word *illusory*. To ascertain whether isolation in certain conditions was an illusory measure, it must necessarily have been tried.

Professor Bosi quoted a fact in support of the conclusion of the Committee. The Italian Government had, by quite a recent measure, decreed the isolation of Pavia and of a certain number of places where the cholera had declared itself. Professor Bosi gave his entire approbation to the conclusion, which he thought very just, and which seemed to him to be capable of receiving application in a manner not anticipated in the report, as for instance, in the isolation of a *corps d'armée*.

Dr. Muccas replied to Dr. Goodeve that the Conference, in recommending the interruption of communications, whenever circumstances admitted of the rigorous execution of this measure, said implicitly that this means must be had recourse to when geographical conditions permitted of so doing.

Dr. Bartoletti, in reply to Dr. Fauvel, explained that by *primitive focus* the Committee had meant that place in a country where cholera made its first appearance. To take an example: When cholera was imported into Altenburg in 1865, that town became, with reference to Germany, a primitive focus, where it might have been possible to extinguish the disease. Dr. Bartoletti added that this part of the report had been already finished and printed, when the Conference discussed the question of the interruption of communications between Egypt and Europe. The Committee could not foresee what the decision of the Conference would be, and this explained the sort of contradiction that had been pointed out. It had also refrained from speaking about Egypt, because the consideration of the special measures to be taken with regard to that country had devolved upon the third Committee.

Dr. Salem Bey approved the reply made to the question forming the subject of the 4th section. The Committee had remained within the limits of the possible, while the Conference had plunged into theory, when it decided that communication could, and ought in certain cases to, be interrupted between Egypt and the basin of the Mediterranean.

The geographical considerations on which this decision was based seemed to Dr. Salem Bey to be valueless, and he persisted in denying that the measure in question was possible of application in practice.

Dr. Dickson explained that he had voted against this section because, except in some altogether special cases, he considered the interruption of communications to be a measure totally impracticable.

Dr. Bartoletti replied that, for all that, facts had been quoted in Committee which proved the contrary.

The 4th section was put to the vote, and adopted by a majority of 19 to 2.

Ayes:—M. Vetsera, Dr. Sotto, Count de Noidaus, M. Moniau, Dr. Spadaro, Count de Lallemand (under reserve as to the remarks made by Dr. Mühlig and Dr. Fauvel), Dr. Fauvel (under the same reserve), M. Kalergi, Dr. Maccas, M. Vernoni, Professor Bosi, M. Kenn, Dr. Millingen, Dr. Mühlig, (under the same reserve as Count de Lallemand and Dr. Fauvel), Dr. Pelikan, Dr. Bykow, Dr. Baron Hübsch, Dr. Bartoletti, and Dr. Salem Bey.

Noes:—Dr. Goodeve and Dr. Dickson.

The 5th section was then read.

Dr. Mühlig said he had no objections to the medical visit to which, as recommended by the report, emigrants should be subjected previous to embarkation; but he doubted whether it would prove an efficacious means of controlling their condition of health. It might be so with a disease manifesting itself, like the plague, for instance, by external signs. The visit would lead to the prevention of the embarkation of persons attacked by confirmed cholera, but how could it be verified whether an individual had or had not premonitory diarrhoea? Dr. Mühlig believed that the result to be attained would be arrived at sooner by requiring from each emigrant a certificate stating that, say for a week previous, no suspicious change had occurred in his health. As the additional note on measures of naval hygiene applicable in times of cholera recommended that emigrants should not be allowed to take passage on ships not built for the reception of passengers, Dr. Mühlig asked in conclusion, why the report had not mentioned this means among those it had recommended.

Dr. Fauvel blamed the Committee for not having made a sufficiently clear distinction between emigration by land and by sea. To prevent or restrict emigration by land in Europe was out of the question, but the thing was practicable so far as emigration by sea was concerned. He merely thought that, to a certain extent, the result would be best attained by direct means. Whatever might be done, the authorities of an infected locality would always be urged by an instinctive sentiment of self-preservation to favor emigration; and, on the other hand, the rules of embarkation would never be sufficiently strictly observed. In his opinion—and he regretted that this was not mentioned in the report—serious dependence could be placed for the restriction of emi-

gration only upon the regulations established by the countries that wished to preserve themselves, and which, with this object in view, would prevent any ship, not in proper condition, from entering their ports.

Dr. Monlau did not think that the conclusions of the Committee were a reply to the question it had to solve. The measures it recommended, good as they were as hygienic measures, were illusory when regarded as a means of restraining emigration.

Dr. Bartoletti replied that the Committee, in the absence of anything better, had appropriated the conclusions of the report of the Committee charged with the consideration of measures of hygiene, thinking that the application of these measures might, to a certain extent, contribute towards restricting emigration. As for the certificate mentioned by Dr. Mühlig, Dr. Bartoletti did not believe that, as a guarantee, it would be more efficacious than the medical visit. The embarkation of passengers on board tradingships was a case that was at present of such rare occurrence that the Committee had not thought it necessary to prevent it.

Dr. Sotto did not think that, looking to the results, there was any very great difference to be made between the medical visit and the certificate of good health. He was a warm partisan of the interruption of maritime communications, and he did not hesitate to declare that in that consisted the whole pith of the question, if it was desired to do anything serious and efficacious. At the same time, when Europe was in question, and though he approved of the distinction made by Dr. Fauvel, he did not believe in the possibility of restricting emigration by land. Dr. Sotto said he would vote for the conclusions of the report, though he had not much belief in the efficacy of the proposed measures.

Count de Lallemand remarked that the weakness of these measures was connected with the difficulty of limiting emigration.

Professor Bosi thought they would be compelled at length to regulate emigration by land to prevent the disorders sometimes occasioned by it, as, for instance, in Italy last year, and notably at Ancona.

The 5th section was put to the vote and adopted unanimously, with one exception, Dr. Millingen, who declined to vote.

The 6th section (chapter III, *lazarettos*) was read.

Dr. Mühlig would make a reservation regarding two points in this section: *1st.*—It did not seem to him to be correct to say that a porous and alluvial soil was susceptible of becoming a receptacle of morbid germs: what should have been said was that a soil in these conditions was eminently favorable to the development of cholera. *2nd.*—The passage referring to marshy soils, which were represented as adapted by their nature, under given circumstances, to impart activity to the evolution of the choleraic principle, seemed to Dr. Monlau to be liable to give rise to misconception; he would ask whether it could not be inferred from this conclusion that cholera, in our countries, could be generated spontaneously under certain conditions.

Dr. Bartoletti replied that this passage was based upon the generally accredited opinion that the emanations from a marshy soil, combined with the importation of the choleraic principle, could not but *increase the activity* of the epidemic development of cholera.

Dr. Goodeve said he was acquainted with no fact proving this indisputably. It had seemed to him, therefore, preferable that the report should not have said more than that it was necessary to avoid marshy soils, without giving any reasons for so doing, the remainder of the sentence being consequently eliminated.

Dr. Maccas explained that the Committee ought to recommend that marshy soils ought to be avoided for this one reason alone, that they were of a contrary nature to rocky, granitic formations, which were admitted by all to be what ought preferentially to be selected in determining the site of a lazaretto.

The 7th section was read, but the discussion, on account of the lateness of the hour, was postponed to the next meeting.

The meeting terminated at 4-30 P. M.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE, }
DR. NARANZI, } *Secretaries.*

INTERNATIONAL SANITARY CONFERENCE. MEETING
No. 40, OF THE 20TH SEPTEMBER 1866.

HIS EXCELLENCY SALIH EFFENDI, *Presiding.*

The International Sanitary Conference held its fortieth meeting at Galata-Serai at noon of the 20th September 1866.

PRESENT :

For Austria :

M. Vetsera, Councillor to the Internonciature of His Imperial and Royal Majesty.

Dr. Sotto, Medical Attaché to the Imperial and Royal Internonciature, Director of the Austrian Hospital.

For Denmark :

Chevalier Dumreicher, Consul-General to His Majesty the King of Denmark at Alexandria.

For Spain :

Dr. Monlau, Member of the Superior Spanish Council of Health.

For the Papal States :

Dr. Ignace Spadaro.

For France :

Count de Lallemand, Minister Plenipotentiary.

Dr. Fauvel, Sanitary Physician.

For Great Britain :

Dr. Goodeve, Surgeon-Major, Indian Army, Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to Her Britannic Majesty's Embassy, British Delegate to the Superior Council of Health at Constantinople.

For Greece :

M. Kalergi, Secretary to the Legation of His Majesty the King of the Hellenes.

Dr. G. A. Maccas, Chief Physician to the King, Clinical Professor in the University of Athens.

For Italy :

M. A. Vernoni, Chief Interpreter to the Legation of His Majesty the King of Italy.

Professor Frederic Bosi.

Dr. G. Salvatori, Italian Delegate to the Superior Council of Health at Constantinople.

For the Netherlands :

M. Keun, Councillor to the Legation of His Majesty the King of the Netherlands.

Dr. Millingen, Dutch Delegate to the Superior Council of Health at Constantinople.

For Persia :

Dr. Sawas Effendi, Inspector of Hygiene and Health at Constantinople, Persian Delegate to the Superior Council of Health.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargé d' Affaires.

For Prussia :

Baron Testa, Prussian Delegate to the Superior Council of Health.

Dr. Mühlrig, Physician to the Prussian Legation, Chief Physician to the Ottoman Marine Hospital.

For Russia :

Dr. Pelikan, Councillor of State, Director of the Russian Civil Medical Department.

Dr. Bykow, Councillor of State, Assistant Medico-Military Inspector of the Arrondissement of Wilna.

For Sweden and Norway:

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, Secretary to His Legation at Constantinople.

Dr. Baron Hübsch.

For Turkey:

His Excellency Salih Effendi, Inspector-General of the Ottoman Sanitary Department, Member of the Superior Council of Health at Constantinople.

(For Egypt:)

Dr. Salem Bey, Clinical and Pathological Professor at the School of Medicine at Cairo, Special Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

Dr. Naranzi read the minutes of the last meeting but one, No. 38 of the 17th September. They were unanimously adopted.

The order of the day being the continuation of the discussion of the report of the second Committee, His Excellency the President called upon M. Bartoletti, the reporter, to speak.

M. Bartoletti reminded the Conference that at the last meeting the report had been read as far as page 20. The discussion should commence with the seventh article of the third chapter, the heading of which was "Question of Lazarettos."

On the proposition of M. Mühlig, it was decided to discuss this chapter paragraph by paragraph.

M. Monlau said he had some observations to make regarding the 7th article.

In the construction of lazarettos, he said, the hygienist should have in view not only the architecture of the building, but also the site on which it was built. This site, regarded in a hygienic and æsthetic point of view, ought to be embellished with plantations of trees and a garden. Hitherto, lazarettos had been as dismal as prisons; it was a matter of importance, in his opinion, that sojourn there should be rendered as little dull and tiresome as possible, and they might easily be made more lively and agreeable by the adoption of plantations of trees all round or near the building. This was a very important point, and M. Monlau very strongly recommends that it should be taken into the serious consideration of the Conference.

M. Fauvel did not deny the advantages of plantations or gardens, but he believed it would be difficult to have everything. What was of by far the greatest importance was the security of the public health. Starting with this principle, the Committee had very carefully considered the conditions necessary to render lazarettos healthy. Now, the conditions which it believed it should specify, and the nature of the site, the selection of which it had recommended, could not, in M. Fauvel's opinion, be combined with plantations. In fact, he remarked, the Committee had laid it down that it was necessary above all to give

the preference to desert isles. These desert isles, it could easily be understood, could only be arid, rocky, sterile isles, without any vegetation. How, then, could they be adorned, in accordance with M. Monlau's views, with gardens and plantations of trees?

M. Maccas remarked that the Committee had confined itself to enunciating and specifying everything it had deemed indispensable to a good lazaretto. If it had not mentioned gardens and plantations, it was not because it had rejected them or excluded them as being useless or of no advantage, but simply because it had not deemed them absolutely necessary.

Dr. Goodeve protested against the proposal of the report that quarantine should be performed in huts, and especially in tents. Dr. Goodeve altogether failed to perceive the advantages attributed to them by the Committee, and he did not believe that they could be preferable to masonry constructions. In opposition to what was said in the report, Dr. Goodeve thought that, in the East especially, it would be very dangerous to pass a hot season under tents. Dr. Goodeve was of opinion that it was absolutely necessary to build houses, or, adopting the Indian system of quartering soldiers, to erect large huts, which might secure their occupants from the heat of the sun in torrid climes, such as that of the Red Sea. It should not be forgotten, he said, that, among the persons in quarantine, there would be many persons from northern countries who were not accustomed to the heat of the sun.

Dr. Bartoletti remarked to Dr. Goodeve that encampment under tents was perfectly suited to the habits of the people of the East. He knew that by experience, having been in hot countries traversed by pilgrims. At Bagdad, for instance, where the temperature was very elevated, he had seen all the pilgrims encamped under tents, and they did so throughout Mesopotamia, where he had passed many months. Towards the Hedjaz, added M. Bartoletti, the pilgrims on their travels always lived in the open air, and masonry buildings did not exist there. M. Bartoletti was of opinion that, in the East especially, encampment in tents was easier and more advantageous than living in houses. Those who were acquainted with the habits of the pilgrims could not doubt that they would always prefer encamping in tents.

Dr. Salem Bey was also of the same opinion as the Committee. The pilgrims, he said, preferred encamping in tents; it was a habit of theirs, and their habits scarcely adapted them for life in common. These tents, especially those belonging to the wealthy and comfortable classes, offered every desirable condition of security against the sun.

M. Bykow believed that Dr. Goodeve's remarks were in opposition to what was done in India. During the prevalence of epidemics, he said the barracks were evacuated, and tents pitched for the soldiers. Therefore the preference was given in India also to tents.

Dr. Goodeve confessed that that was the practice in India, but it was so because it was necessary to empty the barracks to purify them, and

the soldiers were made to change their camping ground every two or three days; there were no other means of sheltering them, except under tents. It could be imagined, said Dr. Goodeve, that it would be impossible to improvise, at a day's warning, constructions in masonry or wood for the shelter of the soldiers as soon as they left the barracks. This, therefore, was a necessity which could scarcely serve as a rule or law.

M. Sawas referred to the proposition of M. Monlau, with the object of calling the earnest attention of the Conference to the fate of the persons in quarantine. He knew by experience what a stay at a lazaretto was; he had had frequent opportunities of being a close observer of their melancholy and ennui, the privations they had to endure during their stay in these places, which were worse than prisons in their dreary monotony; and he considered that it was of the highest importance that the system should be changed—those who had to perform quarantine being recommended to the solicitude of governments. The desolate condition of the lazarettos of the countries which last year succeeded, thanks to severe measures, in preserving themselves from cholera, was known by experience, and had often been brought to notice in the newspapers. To solace the occupants of a lazaretto, the sick, and the convalescent, was a task of the highest humanity, and worthy of occupying an essentially humanitarian assembly like the Conference. As to the question of gardens, M. Sawas did not think they were beneath the notice of the Conference or unimportant; and as for the difficulty of establishing them, he did not consider it insurmountable,—witness the public garden at Malta.

After these remarks, article 7, as far as the first paragraph, was put to the vote and adopted unanimously, M. Monlau and Dr. Goodeve voting under reserve.

With reference to the 1st paragraph, M. Fauvel wished to know whether the Committee had entertained the idea of tracing a plan of architecture, a species of type for the construction of lazarettos. According to the description it gave of them, and the details into which it entered, it would appear that such was its idea. It divided each house into four compartments, enumerated the windows, and determined the distance that should exist between each house. All that led to the belief, he said, that it wished to present a model; for if that was not its intention, it had gone too much into detail. Why four compartments, and no more? Why a distance of 20 mètres between each house, and 100 mètres between each range of houses? What was the reason of all that, and what was the system of the Committee? M. Fauvel was of opinion that the Committee should have confined itself to laying down principles, leaving to the architects the care of giving to the building the best distribution possible.

M. Bartoletti replied to M. Fauvel that the Committee had taken for its point of departure the minimum fixed by the Conference as the distance to be kept between the quarters of the persons in quarantine (see the 13th chapter of the General Report). The Committee had not pretended to propose a type, and it had contented itself with indicating

certain indispensable conditions. If it had spoken of four compartments, it had not said that there might not be more if necessary. It had believed that four compartments were necessary properly to separate and isolate the different categories of persons in quarantine in little groups, and then to separate into larger groups the different classes of sick from among the various groups.

M. Maccas added some words to the explanations given by M. Bartoletti, with the object of distinctly showing the principal idea by which the Committee had been guided in the plan it had traced. This plan had not been proposed as a type, and the Committee had had no other intention but that of giving an example of the building to be used as a lazaretto. In laying down the bases of the building, the Committee had had chiefly in view the complete separation of different arrivals, a separation which could not offer very serious guarantees if sufficient space were not left between the different classes of arrivals, so that the disease could in no case spread from group to group. This was the object with which the principal divisions had been established. Twenty mètres, the Committee thought, could perfectly guarantee the smaller groups.

Dr. Goodeve asked whether these divisions would be maintained, by barred partitions, or by any other solid barrier.

M. Maccas said that the Committee believed that guards *ad hoc*, who would be obliged to follow the persons in quarantine always and everywhere, could prevent all communication between the different groups.

M. Fauvel remarked that, under such circumstances, the surveillance of guards could not afford sufficient guarantees. M. Fauvel recommended the erection of solid, and at the same time agreeable barriers.

Dr. Goodeve made another remark. He thought it was important and necessary to indicate how many cubic feet of space should be given to each person in quarantine.

M. Fauvel said he also thought this was necessary, and he proposed that a minimum number of cubic feet should be fixed for each person in quarantine.

M. Maccas believed that hygiene had already established the number of cubic feet necessary for each person in quarantine, and the maximum would be allowed them.

On the motion of Dr. Goodeve, seconded by Dr. Dickson and Dr. Fauvel, it was decided to fix the minimum space for each person in quarantine at 10 square feet, and 15 feet in height. Each person in quarantine would thus be allowed 1,500 cubic feet.

The first paragraph was put to the vote and adopted unanimously, the reservations of which notice had been given being maintained.

M. Mühlig wished to make some remarks regarding the second paragraph. The hospital, it was said in the report, would be divided

into two compartments, one of which should be reserved for cholera patients, and the other for persons suffering from simple diarrhœa.

M. Mühlig was of opinion that, in addition to the cholera hospital, a hospital of observation should be established within the precincts of the lazaretto, but far from this building. It would be imprudent, he thought, to send a patient, on mere suspicion, to the cholera hospital unless the choleraic diarrhœa was quite distinct.

To this M. Bartoletti replied that it had already been fixed in the report that the hospital ought to have two compartments,—one for confirmed cholera, the other for diarrhœas. If the diarrhœa, he remarked, had been duly found to exist, the patient should immediately be conveyed to the cholera compartment.

M. Mühlig remarked that it was not probable that it would always be possible to ascertain at its outset the presence of diarrhœa among the persons in quarantine, who would endeavour to conceal it. It was necessary then to have, for persons suspected as suffering from diarrhœa, a special place where they would be subjected to more attentive medical observation. They would not be sent to either the cholera or diarrhœa hospital until it became perfectly certain that the suspected diarrhœa really existed. If, on the one hand, said M. Mühlig, it was dangerous to have among the persons in quarantine any who were suspected of having the disease, it would, on the other, be cruel to thrust them, on mere suspicion, into the midst of a choleraic focus. It was for this reason that he had proposed a hospital of observation within the limits of the lazaretto, and distant from the cholera hospital.

Dr. Goodeve also showed that it was absolutely necessary to establish a convalescent hospital far away from the cholera hospital. Those who commenced to recover from the disease could no longer continue without danger to live among cholera patients. It was also necessary to erect another hospital for all other infectious diseases.

In the opinion of M. Maccas, the remarks made by M. Mühlig and Dr. Goodeve were refuted in the text of the report. The hospital, it was there said, ought to have two principal compartments, but there would also, according to the report, be many separate houses. The Committee, M. Maccas remarked, had indicated the most important point, *viz.*, the separation of cholera from non-cholera patients. It had believed that it was useless to say more.

M. Bykow proposed that there should be three principal compartments: *1st*, for cholera patients; *2nd*, for patients suffering from diarrhœa; *3rd*, for all other diseases. Doubtful cases of diarrhœa might be maintained under observation in a separate place in the last compartment.

M. Mühlig remarked that the object of the Conference would not be attained by dividing a single edifice into many compartments, for then all sorts of patients would be placed in one and the same building. Now, it was necessary that non-choleraic patients should be separated as much as possible from patients suffering from cholera, and that they

should not be allowed to breathe the same atmosphere. This separation, M. Mühlig was of opinion, could never be attained by simple partitions.

Dr. Dickson did not think a convalescent hospital was indispensable, because the convalescents might, without any danger, be placed in one of the houses attached to the hospital. Dr. Dickson considered that the more important point to be considered was the establishment of two distinct hospitals,—one for cholera, and the other for non-cholera patients.

His Excellency the President put the second paragraph to the vote. It was adopted unanimously, the reserves of which notice had been given being maintained.

Paragraphs 3 and 4 were adopted unanimously.

With regard to the 5th paragraph, in which it was said that the rent of the quarters in each of the three classes should be fixed by a rule, and should vary according to class, Dr. Goodeve remarked that paupers were frequently found among the persons in quarantine. Not having the money, how could they be made to pay? Dr. Goodeve proposed that for this class of persons, a portion of the huts might be set apart free of charge.

Besides, said Dr. Goodeve, if it were desired to fix three different rates of charges, it would be necessary also to set up three very different kinds of quarters corresponding to the rents paid.

M. Monlau seconded Dr. Goodeve's motion regarding the paupers. He added that to establish three classes of persons, as was proposed, it was necessary that this distinction into three classes should also bear upon the three categories of persons in quarantine, each of which should be kept separate from the others.

M. Bartoletti, in reply to Dr. Goodeve, said that it was understood, if not expressed, that the quarters would be more or less comfortable in accordance with the rates paid. These three classes of quarters would remain the same, in the matter of structure, for all classes of persons in quarantine.

M. Kalergi was of opinion that it would be well to strike out this paragraph. As it was not hygienic, he said, that required the three classes of quarters, and as the matter would depend upon the authorities or Governments, who would preside over the construction of these quarters, the Conference had nothing to say upon the question, which was beyond its competence.

M. Dumreicher believed that nothing more should be done than to fix the maximum charge to be paid by each person in quarantine, having regard to the space and the indispensable conveniences offered to him. For the wealthy, and those who were in tolerably good circumstances, and who might wish to surround themselves with many comforts and luxuries—of course, within the limits of the means of the place,—there ought to be a separate tariff, which should fix the surplus to

be paid for the extra articles with which they wished to provide themselves.

M. Sawas desired that it should be very clearly expressed that the indigent would be lodged gratis.

The President put the 5th paragraph to the vote. It was adopted unanimously (with the reserves noticed), and with the exception of M. Dumreicher, who declined to vote.

M. Fauvel asked for an explanation regarding the 6th paragraph. He wished to know exactly what the Committee meant by the word *hotellerie*? Was it an inn, a restaurant, to which people could go to eat, drink, and lodge? He did not think so, for that would expose the persons in quarantine, whom it was most important to keep separate and isolated, to very great dangers. These dangers would inevitably result from the frequency of communications between the different classes of persons in quarantine. It was known that at Pesth communications of this sort had been the great means of contagion. M. Fauvel understood that there was a store-house, an establishment furnished with provisions where each man might buy his own supplies. But in this case there would be no question of an inn: this establishment would be like those that were known as canteens. In his opinion, no person in quarantine should be permitted to enter the inn.

M. Sawas believed that the report had not omitted to give the definition of the word "inn," and the Committee, he thought, had expressed itself very clearly upon the subject. It was an establishment, whether it was called inn or canteen mattered very little, where the persons in quarantine would find everything they wanted in the shape of supplies. The Committee, he added, had been careful to direct that the servants of the inn should in no case be allowed to enter into communication with the persons undergoing quarantine.

M. Bartoletti furnished some explanations in this matter. The Committee, he said, meant by the word inn an establishment which could furnish, prepare, and serve such provisions as were required by the persons in quarantine. These establishments had always existed in Europe, where restaurants, situated beyond the limits of lazarettos, furnished the persons in quarantine with all they needed. The business was so conducted, that none of the servants had any communication with the persons in quarantine. In the East, too, restaurants outside the lazaretto, or even *buchals*, would not fail, moved by the spirit of speculation, to establish indirect communications with the persons in quarantine.

Dr. Goodeve did not understand that establishments like those that had just been mentioned by M. Bartoletti could furnish the persons in quarantine with all they wanted. At most, these establishments could only establish communications with persons who were well off; but, in regard to the poor, who would find it impossible to open communications with outside, it would be absolutely necessary to supply them with provisions by means of bazars or stores established inside

the lazaretto. Besides, Dr. Goodeve had learnt at the Dardanelles and elsewhere that in Eastern lazarettos there were very frequently persons who had not the means of providing for their own support. It would be necessary, therefore, he thought, that the other persons in quarantine should not be burthened with the expense of their maintenance, and that what was strictly necessary for them should be supplied by Government.

The Committee, said Dr. Bartoletti, had a while ago been blamed for having gone too much into detail, and now it was blamed for not having said enough. The Committee, knowing that everything that could be added was entirely within the competence of Governments, did not care to enter upon superfluous details in its report.

M. Maccas believed that the fear expressed by M. Fauvel regarding the communications that might be opened between the persons in quarantine and the hotel servants was needless, considering that, in the report, all such communication was strictly prohibited.

As for the bazars proposed by Dr. Goodeve, said M. Maccas, that was a matter of detail with which the Committee could scarcely deal, it being entirely a matter of speculation by traders, who could set them up if they thought the speculation would be profitable, in virtue of special authority from the local Government, which would have every interest in providing for the maintenance of the poor.

Dr. Goodeve remarked to M. Maccas that the duty of the Conference was to seek all means capable of rendering a stay in a lazaretto as commodious and agreeable as possible. It should, therefore, carefully remove all injurious elements. To abandon these establishments to the spirit of commerce would be exposing the poor to very hard conditions. The lazaretto that was to be established at Bab-el-Mandeb, and which would in great part be occupied by paupers and indigent people who would probably like to cook such cheap victuals as they could afford to buy in the vessels with which they were all furnished, would not accord with the system recommended.

In M. Bykow's opinion, it would be sufficient to say that the lazaretto would be furnished with provisions, and that the persons in quarantine would not enter into communication with those who furnished them.

M. Mühlig also expressed himself to the same effect. It was very important, he said, to exclude bazars from the precincts of lazarettos, for the resultant dangers would be numerous and incessant. Storehouses, furnished with supplies for all classes of persons in quarantine, might be established outside lazarettos, in which a sojourn should be made as agreeable as possible consistent with the necessary guarantees.

M. Sawas wished to ask whether Dr. Goodeve, whose notion certainly was not the establishment of a centre of commerce inside lazarettos, but to help the poor by means of bazars of provisions, organised by the local authorities, had weighed all the inconveniences and difficulties in the way of the poor cooking their own victuals separately. These

difficulties, he said, were as numerous in lazarettos as in prisons; there was, therefore, no ground for thinking of giving the poor the facilities alluded to for cooking. They had only to forget their cooking-pots during their stay in the lazaretto, and they ought to be satisfied if they were able to get such provisions as they strictly needed cheap.

M. Monlau thought it necessary to determine also the quality of the provisions intended for the persons in quarantine. The nourishment afforded in lazarettos was, in his opinion, a most important matter, for there were alimentary substances, the use of which it was necessary to prohibit during the prevalence of an epidemic.

Dr. Dickson believed that it would also be necessary to take some measures in regard to the deaths that might take place in the lazaretto. The report said nothing about the burial-ground.

M. Stenersen considered that all these details were superfluous. He remarked to M. Monlau that if it were desired to proceed in accordance with his system, it would be necessary to say also that persons undergoing quarantine should wear flannel and things of a similar nature.

After some other remarks and explanations, it was decided to put the 6th paragraph to the vote.

It was adopted unanimously, with some reservations.

The 7th paragraph was put to the vote, and adopted unanimously.

With regard to the 8th paragraph, M. Monlau mentioned that a lacuna existed. There was no mention made of the strict watch to be kept up over ships in quarantine. Such watch, in his opinion, was absolutely necessary, having regard to the sanitary and commercial contraband practices carried on in many lazarettos. M. Monlau did not require that a blockade should be placed upon ships in quarantine, but he thought it was necessary to keep up strict watch in the direction of the sea. The quarantine system was nothing if not severe.

M. Bartoletti thought M. Monlau's observation was quite correct, but he thought at the same time that it was out of place, considering that the paragraph in question related only to the interior of lazarettos.

The eighth paragraph was put to the vote and adopted unanimously.

The ninth paragraph was put to the vote. After a remark from Dr. Fauvel to the effect that he wished it were said that two landing places *at least* were necessary for each lazaretto, it was adopted unanimously.

Several members expressed their intention to speak with reference to the tenth paragraph.

M. Pelikan believed that parlors were indispensable for certain exceptional cases, certain criminal cases, for instance. He was in favor, therefore, of the maintenance of parlors, but he was of opinion that ordinary visits should be as greatly restricted as possible.

M. Monlau was of opinion that it would be almost impossible to do away with parlors, and prohibit visits. He thought that the reasons militating in favor of the suppression of parlors, and the prohibition of visits, had been exaggerated, and he was of opinion that they might be maintained without inconvenience.

M. Maccas informed the Conference that in Committee he had concurred in M. Pelikan's opinion, and that, by mistake, his name had not been placed in the report alongside that of his colleague. Although, said M. Maccas, he was for the greatest severity in regard to quarantine, he did not think it was possible to do away with parlors altogether.

Dr. Dickson stated that he had been one of those who had disputed the utility of parlors, which he considered to be very dangerous, because he thought it would be impossible to fix the disease within certain limits while they existed. He, therefore, proposed their suppression; and, in exceptional cases, the persons undergoing quarantine might, in his opinion, converse with strangers under the surveillance of the authorities of the lazaretto.

Dr. Goodeve considered that parlors ought to be maintained, because, to his thinking, they could present no danger whatever if certain precautionary rules were observed, as also certain conditions of surveillance, which could easily be instituted.

M. Bosi expressed himself to the same effect as Dr. Dickson, whose ideas, he said, were those of most of the members of the Committee. He added that as transmission could be effected through atmospheric channels, any precautions that might be adopted would be insufficient if a suspicious person were approached. Gentlemen had spoken of cruelty, but it would be very much more cruel to expose a healthy man to contract cholera, than to prevent him from speaking to strangers.

M. Sotto also considered parlors as indispensable. There were many circumstances, he said, which rendered them necessary; and as he failed to perceive the inconveniences attributed to them, he would vote in favor of their maintenance.

M. Bartoletti entered upon some explanations with reference to this point.

The predominating idea in this article, he said, was isolation. According to the views entertained by the majority of the Committee, the suppression of parlors had been advised, in order that visitors might not be compromised, and the propagation of cholera favored.

M. Monlau supported M. Bartoletti. Survey and search, he said, were always effected by persons who were not in a suspicious condition approaching those who were so. This communication had never, so far as he was aware, produced any inconvenience, and he was not aware of any instance of transmission through the atmosphere, either with reference to the plague, the yellow fever, or cholera.

Dr. Bartoletti remarked to M. Monlau that his opinion was given somewhat too decisively: he would like to know whether he had documents in support of it.

M. Maccas reminded the Conference that the lazarettos were to be established in an uninhabited island, or in a place far removed from any town. Communications, therefore, between a town and a lazaretto could be neither frequent nor easy. As parlors, added M. Maccas, had been maintained hitherto, there must have been strong reasons in their favor. It should be reflected also that cholera was transmissible only to a certain distance, and by means of a confined atmosphere. Parlors should, therefore, be established in the open air, and the distance should be fixed at which a person in quarantine could converse with a visitor, and thus a full and complete guarantee would be obtained.

M. Keun was against the maintenance of parlors. He quoted a circumstance that had occurred at Smyrna during the last epidemic of cholera. After two or three cases had occurred in the lazaretto, the disease having, two days afterwards, spread to the town, the general opinion attributed this propagation to a person who had previously visited the lazaretto parlor. M. Keun was of opinion that it would be useless, and even dangerous, to maintain parlors.

At the request of several members, His Excellency the President put the 10th paragraph to the vote.

It was adopted unanimously with the reservations above noticed.

The meeting terminated at 4-30 P. M.

Order of the day for the next meeting.

Continuation of the discussion of the report of the 2nd Committee.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE, }
DR. NARANZI, } *Secretaries.*

INTERNATIONAL SANITARY CONFERENCE. MEETING
No. 41, OF THE 22ND SEPTEMBER 1866.

H. E. SALIH EFFENDI, *Presiding.*

The International Sanitary Conference held its forty-first meeting at Galata-Serai on the 22nd September 1866.

PRESENT:

For Austria:

M. Vetsera, Councillor of the Internonciature of His Imperial and Royal Majesty.

Dr. Sotto, Medical Attaché in the Imperial and Royal Internon-
ciature, Director of the Austrian Hospital.

For Spain :

Don Antonio Maria Segovia, Consul-General, Chargé d'Affaires.

Dr. Monlau, Member of the Superior Council of Health of Spain.

For the Papal States :

Dr. Ignace Spadaro.

For France :

Count de Lallemand, Minister Plenipotentiary.

Dr. Fauvel, Sanitary Physician.

For Great Britain :

Dr. Goodeve, Surgeon-Major, Indian Army, Honorary Physician
to the Queen.

Dr. E. D. Dickson, Physician to Her Britannic Majesty's Embassy,
British Delegate to the Superior Council of Health at Constanti-
nople.

For Greece :

M. Kalergi, Secretary to the Legation of His Majesty the King
of the Hellenes.

Dr. G. A. Maccas, Chief Physician to the King, Clinical Professor
in the University of Athens.

For Italy :

M. A. Vernoni, Chief Interpreter to the Legation of His Majesty
the King of Italy.

Professor Frederic Bosi.

For the Netherlands :

M. Keun, Councillor to the Legation of His Majesty the King of
the Netherlands.

Dr. Millingen, Dutch Delegate to the Superior Council of Health
at Constantinople.

For Persia :

Dr. Sawas Effendi, Inspector of Hygiene and Health at Constani-
nople, Persian Delegate to the Superior Council of Health.

For Prussia :

Dr. Mühlig, Physician to the Prussian Legation, Chief Physician to
the Ottoman Marine Hospital.

For Russia :

Dr. Pelikan, Councillor of State, Director of the Russian Civil
Medical Department.

Dr. Bykow, Councillor of State, Assistant Medico-Military Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, Secretary to the Swedish Legation at Constantinople.

Dr. Baron Hübsch.

For Turkey :

His Excellency Salib Effendi, Director of the Imperial School of Medicine at Constantinople, Chief of the Civil Medical Department.

Dr. Bartoletti, Inspector-General of the Ottoman Sanitary Department, Member of the Superior Council of Health at Constantinople.

(For Egypt :)

Dr. Salem Bey, Clinical and Pathological Professor in the School of Medicine at Cairo, Special Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

The meeting commenced at noon.

The minutes of the thirty-ninth meeting were read by Baron de Collongue and adopted.

Dr. Sawas said that, if he could have attended that meeting, he would have voted, like Dr. Goodeve and Dr. Dickson, against the 4th section of the report—*temporary interruption of communications, &c.*

The discussion was resumed, where it had been broken off at the termination of the last meeting, *viz.*, at paragraph 11 of the 7th section (chapter III).

Dr. Bykow said he did not admit that living animals could transmit cholera to men, and therefore did not believe it to be necessary to subject them to measures of purification, and consequently to establish stables and cattle-sheds for their reception in lazarettos.

Dr. Sotto thought that the report did not go sufficiently into detail regarding the measures to which living animals should be subjected in lazarettos. This was an important question upon which, it seemed to him, it was necessary to throw light.

Dr. Millingen could not see any reason for retaining living animals, if it was found that nobody was acquainted with any facts proving that they might become agents of transmission.

Dr. Bartoletti replied that the subject of the paragraph under discussion was merely the locality—the enclosures—necessary to be reserved in every lazaretto for living animals. The question of the measures of precaution to be taken with respect to them was treated of further on in another chapter of the report.

Paragraph 11 was put to the vote and adopted unanimously, with one exception, Dr. Millingen, who voted against it.

Dr. Monlau thought that the Committee passed too rapidly over the question of latrines, which question was the subject of the 12th paragraph. The preference being given to level ground in the construction of lazarettos, and it being granted too that hundreds of persons might occupy the lazaretto at the same time, Dr. Monlau believed that the establishment of movable cesspits would meet great difficulties. It seemed to him that it would be preferable if each person in quarantine were allowed a separate vessel, and also that the excrementitious matter should be thrown into the sea, rather than buried, as recommended by the Committee, which would have the serious disadvantage of infecting the soil.

Dr. Bartoletti replied that it was after long discussions that the Committee had given the preference to the system of movable cesspits. The use of special vessels,—one to each person, which was good in a hospital,—presented difficulties in a lazaretto in precise proportion to the large number of persons in quarantine. The neutralisation of excrementitious matter, on the other hand, was easier and more certain in movable cesspits previously charged with disinfecting substances. The excrementitious matter being finally disinfected and neutralised, it might without danger be buried in the soil.

Paragraph 12 was put to the vote and unanimously adopted.

Dr. Mühlig said he did not dispute the system of classes (paragraph 13) as understood by the Committee: he would only ask to what extent the system, which was good in principle, could be applied in practice. Strictly, and pushing it to its most extreme consequences, it would be necessary to separate the arrivals of each day and by each ship, classing them even according to the degree of suspicion. Now, this was clearly possible only within certain limits. Dr. Mühlig was of opinion that three classes might be established, the first including arrivals on board ships having, or having had, sickness on board; the second, those arriving on board ships having had no sickness on board during the voyage, but whose passage was short, less than fifteen or sixteen days for instance; the third, those arriving by ships also having had no accidents on board, but having occupied a longer number of days than just mentioned in their passage.

Dr. Bartoletti explained that the Committee had only shown the bases of separation into classes. It was properly left to the sanitary authorities to work out the separation. The arrangement of the lazarettos, as recommended by the Committee, would furnish them with the means.

The 13th paragraph was put to the vote and unanimously adopted.

Dr. Mühlig did not think that three physicians would be sufficient for each lazaretto, as proposed by the Committee in the 14th paragraph. Four at least were required to provide against one being rendered inefficient by accident.

Dr. Goodeve, on the contrary, thought that two would be enough in certain lazarettos of minor importance.

Dr. Fauvel would prefer that no figure should be fixed. The matter was one for decision by the sanitary authorities, whose duty it was to see that every lazaretto was provided with the necessary number of physicians for the due performance of the various functions indicated by the Conference.

Dr. Bartoletti said that the Committee had understood the matter in that light.

The 14th paragraph was put to the vote and adopted unanimously.

Dr. Dickson again called the attention of the Conference to the question of cemeteries in lazarettos. No mention was made of them in the report, nor was any allusion made to the place to be reserved for depositing corpses previous to burial : this he thought was an omission which should not be allowed to exist.

Dr. Bartoletti remarked that a cemetery existed in all lazarettos, and especially in Turkey.

Dr. Dickson's remark that there should be in every lazaretto, or its dependencies, a suitable place for inhumations, having been deemed well founded, the Conference decided that it should be recorded in the minutes.

The 8th section having been read, Dr. Mühlig said that, though it was not expressly so stated, it ought to be understood that lazarettos of observation ought to be placed at a proper distance from dwellings.

M. Stenersen reminded the Conference that the Committee had said once for all that all lazarettos should be constructed upon an island, or, if that were not possible, in a place several miles distant from any dwelling.

The Committee having admitted, according to the system followed in certain countries, three classes of quarantine establishments, *viz.*, lazarettos for the rigorous quarantine, lazarettos for the quarantine of observation, and lastly, stations, the object of which was simply to control arrivals and to attach a *visa* to bills of health, Dr. Bykow, after having stated that nothing was said about the matter in the report, asked what was the opinion of the Committee regarding establishments of the 3rd class.

Dr. Fauvel did not deny the distinction established in the report between principal or rigorous quarantines, and lazarettos of observation, but he asked what were the attributes of each.

Where ships, which, though carrying a foul bill of health, would be placed in quarantine of observation—and, in Dr. Fauvel's opinion, this would be the general rule, while the rigorous quarantine would become the exception—to be received into lazarettos of observation ; or, merely because they might be carrying foul bills of health, were they always to be compelled to undergo quarantine in a principal lazaretto ? A ship did not always know to what species of quarantine she was about to be subjected ; and she might even, when possessing no physician on board, be ignorant that cholera existed in her ; she might then—

and if the bill did not form the rule—be refused entrance on presenting herself before a lazaretto of observation. And, as the obligation under which the ship would in this case be of proceeding to perform quarantine in a principal lazaretto, often very distant, might be the cause of serious prejudice to the vessel, Dr. Fauvel believed that it was necessary to make arrangements, so that such errors could not happen; and, for this reason, it seemed to him that the question required to be cleared up.

Dr. Bartoletti replied that every ship under a foul bill of health, would have to perform quarantine in a principal lazaretto, unless when there was a physician on board, and when no cases of cholera had occurred during the voyage. In this case the duration of the voyage was deducted from that of the quarantine; but this was the only exception to the rule. However, these were questions that could not be settled until the Conference should discuss that of the duration of quarantines.

Dr. Maccas remarked that the 3rd paragraph of page 21 was the best definition that could be given of lazarettos of observation, and of the part they were intended to perform. It was said there that they were intended for the performance of the quarantine of certain arrivals under clean bills of health, for keeping which under suspicion reasons might exist; this alone proved that ships under foul bills were not admitted to them. Dr. Maccas said that this was one of the chief points on which there had been a difference of opinion in Committee, some members desiring that there should be no exception to the rule.

Dr. Goodeve asked what was the use of lazarettos of observation if it were admitted that the quarantine of observations might be performed even on board ships.

Dr. Dickson only understood one kind of lazaretto, *viz.*, lazarettos intended for ships under foul bills. The lazaretto of observation corresponded with the suspicious bill; it was an imaginary creation which could not exist in reality; it was, in short, nothing but an expression applied to the *arrival*, and in no way to the *locality*, and serving to indicate the places in which ships under *clean* bills should be subjected to a quarantine of observation.

Dr. Bartoletti replied to Dr. Goodeve that the lazaretto of observation was a convenience for the passengers who might have reasons for preferring to perform their quarantine on shore rather than on board. The disembarkation of the passengers might also sometimes be necessary, if there were crowding in the ships subjected to observation.

Dr. Sawas thought that Dr. Fauvel's remarks supported the distinction drawn by the Committee between the various kinds of lazarettos. As these questions would all have to come up again, as had been remarked by Dr. Bartoletti, for the present the letter of the report should be held to.

The discussion of this part of the report being adjourned in consequence of this remark, the Conference proceeded to the discussion of the 9th section, which was read as far as the conclusions.

Dr. Fauvel said he wished to know what the Committee meant by a restricted international lazaretto. The lazaretto of Kanzoë was spoken of: what was the difference between this establishment and ordinary lazarettos? were only ships under the flags of Sweden, Russia, Prussia, Mecklenburg, and Denmark, admitted to it?

M. Stenersen replied that a ship performing quarantine at Kanzoë was admitted to pratique in the ports of all the contracting States. Every ship was admitted, without reference to its destination, to perform quarantine at Kanzoë: only, if a ship's destination was not a Russian, Prussian, Danish, Mecklenburg or Swedish port, it was possible that she might reap no benefit from this quarantine, having to perform it over again.

Dr. Sawas remarked that an establishment like that at Kanzoë might render great services to maritime commerce, as certain States refused, contrary to the established rule, to look upon any quarantine as having been performed, unless it was undergone in their own lazarettos. The Committee, though it decided against international lazarettos administered in common, thought, for this reason, that it ought to recommend international lazarettos in a more restricted sense, such lazarettos, in short, as the establishment at Kanzoë.

The quarantine performed in these lazarettos, the administration of which would be left to the territorial Government, would be admitted by all the contracting Powers, which would distinguish them from ordinary lazarettos, and shipping interests would not have to support the losses caused by the double and triple quarantines to which they were sometimes exposed.

In the opinion of Dr. Macca, restricted international lazarettos would be sanitary establishments administered, as had been said, by the agents of the territorial power, but under the control of a Commission composed of Delegates from all the contracting States.

Dr. Fauvel disputed the value of the arguments on which the Committee rested in rejecting the system of international lazarettos: *1st.*—Why should there be any conflict of opinion and authority between the representatives of the Governments interested; would not their decisions be those of the majority, as in all mixed assemblies? *2nd.*—Was not the objection drawn from the prejudice caused to navigation by the obligation imposed on ships to perform quarantine in a more or less remote place, sometimes out of the route pursued by them, applicable to the principal lazarettos, the number of which also would be restricted? *3rd.*—Independently of the known fact that a lazaretto never had become a focus of infection, would crowding, for the reason already given, be more to be dreaded in international than in principal lazarettos? *4th.*, and finally.—How could there be any infringement upon the sovereign rights of the territorial authorities if the international lazaretto were to exist only in virtue of an understanding between the various Governments?

In the opinion of Dr. Fauvel, who stated that he was not a partisan of the system of international lazarettos, except where special

circumstances rendered its necessity evident, as, *e. g.*, at the entrance to the Red Sea, the best argument to offer against the establishment of the system would consist only in the immense majority of the cases in which it would not be necessary.

Count de Lallemand and M. Kalergi concurred in these remarks.

Dr. Sawas replied that, whatever Dr. Fauvel might say, it might very easily happen that the agents of the powers interested, who would share amongst them the various departments of a truly international lazaretto, *i. e.*, one administered in common, could not succeed in coming to a common understanding. On the other hand, few in number as the principal lazarettos might be, they would always be more numerous than international lazarettos; it was, therefore, represented, and not without reason, that the latter were of necessity a cause of injury to ships forced to proceed to them; and it was represented that a dread existed of the enormous number of persons who might be accumulated together at a time undergoing quarantine. Could it be asserted that the mutual consent necessary for the establishment of an international lazaretto could possibly be obtained from the various Governments? This was a question which could not be prejudged. After having stated that Dr. Fauvel's objections had not diminished, as he believed he had shown, the value of the reasons urged by the Committee, Dr. Sawas said he was in favor of maintaining the conclusions of the report.

Dr. Bartoletti stated that in his quality of a Delegate of the Ottoman Government, he was opposed to the principle of international lazarettos. He believed, moreover, that he could make this declaration without placing himself in contradiction with the resolutions of the Conference relative to the utility of an international establishment at the entrance of the Red Sea. The question at present was being discussed in a general point of view, which did not exclude exceptions.

Dr. Monlau, who had been the first to suggest the idea of international lazarettos, persisted in his belief that good results might be expected from them. Lazarettos established according to the present system could not be depended upon, and it was only with the concurrence of every State that any hope could be entertained of imparting to them such improvements and amendments as were indispensable. For instance, certain model international lazarettos should be established at the mouth of each sea, or of the principal gulfs, at which ships should undergo quarantine during the existence of cholera. The advantages that would result from the adoption of this new system, which might at any rate be tried, would amply compensate, he thought, for the inconveniences that had been pointed out.

M. Stenersen remarked that the Committee had been the first to admit that lazarettos, as they existed, were capable of great improvements, only it had believed that these improvements were possible without having recourse to the system of international lazarettos.

Dr. Millingen asked the detractors of the system of international lazarettos how they would regulate the sanitary practice observed in the

Danube? Supporting his argument upon the inconveniences of the system at present in force, Dr. Millingen concluded that an international lazaretto would be indispensable at the mouths of that river.

Dr. Sawas replied that it was precisely with a view to this special case, and to similar analogous cases that the Committee recommended the Swedish system. A lazaretto instituted at the mouth of the Danube upon the model of that at Kanzoë would be the very thing to remove the difficulties mentioned by Dr. Millingen; it would have, moreover, the advantage, for all river states, of not in any way impeding the free exercise of their sovereignty.

The 9th section was put to the vote and adopted unanimously.

Dr. Sotto, Dr. Monlau, Dr. Spadaro, Count de Lallemand, Dr. Fauvel, M. Kalergi, Dr. Maccas, M. Vernoni, Professor Bosi, Dr. Mühlrig, and Dr. Pelikan voted under reserve only.

The conclusions of the 9th section were then put to the vote separately.

The first four were adopted unanimously, and without remark. Dr. Monlau voted for the third under reserve.

Dr. Maccas proposed that the fifth conclusion should be amended. The parlor ought not to be suppressed, but its use should be limited as much as possible, and special precautionary measures should be adopted with regard to visitors.

Dr. Fauvel proposed that this conclusion should be modified as follows:—"That the parlors for visitors be suppressed, and that visits be prohibited, *save in exceptional cases, and with the special permission of the sanitary authorities.*"

Dr. Maccas and Dr. Sotto supported this amendment. Dr. Sotto believed that there were urgent and exceptional cases, for which it was necessary to make provision.

Dr. Mühlrig did not hesitate to consider visits as the surest means of neutralising the good effects of quarantines. Admission into lazarettos, he believed, ought to be prohibited, even to persons consenting to stay in them and to obey, as the report said, the rules laid down for the persons in quarantine with whom they would enter into communication; permission should be given only to persons engaging to *subject themselves to the rules established for the quarantine of infected persons.* In Dr. Mühlrig's opinion, every lazaretto ought to be considered as a focus, and the isolation ought to be complete, with such exceptions as were necessitated by the service.

Dr. Sawas required the total suppression of the parlor. The Conference having admitted that cholera might in certain cases be transmitted by the atmosphere to a distance of 100 mètres, it would contradict itself if it were to maintain parlors. At the same time, however, he believed that Dr. Mühlrig went too far when he required that individuals, who might come into communication with the persons in quarantine, for instance, the day before the termination of

the quarantine, should be retained at the lazaretto after the departure of the others for a period equal to the whole duration of the term of quarantine. The quarantine was a trial to which persons coming from an infected place were subjected, in order to ascertain that they did not conceal cholera within their organization. If the persons subjected to quarantine did not present any sign of cholera after ten days' isolation, it was evident that they had not cholera, and not having it, could not transfer it to those who communicated with them, whether on the first or the last day of their trial.

M. Bosi accepted the conclusion of the report. Exceptions would always occur; it was useless, therefore, to provide for them.

Dr. Fauvel remarked that the observations put forward by MM. Mühlig and Sawas were based upon an error of fact; a lazaretto ought not to be considered as a contaminated place, and necessarily under suspicion, otherwise quarantines would be perpetual. Those parts of a lazaretto, where cholera patients were kept, were evidently contaminated; but if the class-system were admitted, it was also necessary to admit that a person, quitting a lazaretto after having performed quarantine, ought to be regarded as having left an uninfected place. Dr. Fauvel did not think that parlors would be necessary if visits were prohibited as a principle, but he maintained that such serious cases might occur that exceptions to this rule must necessarily be made, recourse being had to the necessary precautions. It was pushing things to an extreme length to attempt to prohibit visits by requiring that the visitor should not come closer to the person in quarantine than 100 mètres. If this were done, would it not be necessary, and for the same reason, to do away with the formality of survey and search? M. Fauvel did not believe that the amendment proposed by M. Mühlig could be adopted by the Conference, as M. Sawas had rightly said the visitor should share the fate of the persons in quarantine with whom he placed himself in communication. More than this could not be required.

Dr. Maccas also believed that Dr. Mühlig was too severe. The precautions to be adopted would be easy; and, moreover, communications in the open air would not present the same danger as in a parlor, in which the air was confined.

Dr. Mühlig persisted in his belief that a lazaretto ought necessarily to be suspicious and dangerous immediately a single case of cholera made its appearance there: the persons shut up in it already enjoyed a certain immunity, having been exposed to choleraic influence, but it was not so with visitors from outside, from an uninfected place.

Dr. Maccas did not think the hypothesis of the choleraic influence was sufficient to justify Dr. Mühlig's amendment: it was as yet only a theory in no way proved by experience.

Dr. Bartoletti said that the opinion of the majority of the Committee was against visits, because, if once permitted, they could not be prevented from becoming numerous and frequent. It was clearly understood, moreover, that such communications as the local authorities

should deem it necessary to enter into with persons in quarantine should not be regarded as visits, or treated as such.

M. Keun, who approved of the suppression of visits, proposed that every lazaretto should be furnished with a telegraph to convey the communications of the persons in quarantine.

Dr. Mühlig supported this proposal: it would be an efficacious means of restricting the number of visitors.

Dr. Bartoletti having remarked that the establishment of a telegraph in lazarettos could not on any ground be considered as a prophylactic measure, and that, therefore, M. Keun's proposition could not be made the object of a conclusion to be added to those already in the report, it was decided that the proposition should merely be recorded in the minutes, it being stated that it had met with the unanimous approbation of the Conference.

Dr. Fauvel's amendment was put to the vote, and adopted by a majority of 10 against 9.

Ayes:—Dr. Sotto, Dr. Monlau, Count de Lallemand, Dr. Fauvel, Dr. Goodeve, Dr. Maccas, Dr. Millingen, Dr. Pelikan, Dr. Bykow, and His Excellency Salih Effendi.

Noes:—Dr. Dickson, M. Vernoni, Professor Bosi, M. Keun, Dr. Sawas, Dr. Mühlig, M. Stenersen, Dr. Baron Hübsch, and Dr. Bartoletti.

Dr. Mühlig's amendment, which was voted for only by its mover and M. Keun, was rejected by a majority of 16, M. Stenersen not voting.

Dr. Mühlig declared that the Conference had, by admitting Dr. Fauvel's amendment, pronounced the doom of quarantines.

As the adoption of this amendment rendered it useless to vote upon the first part of the 5th conclusion, His Excellency the President put the second part to the vote. It was adopted by all but two members, *viz.*, Dr. Mühlig, who voted against it, and M. Stenersen, who did not vote at all.

The 6th, 7th, and 8th conclusions were separately put to the vote one after the other. They gave rise to no remark, and were adopted unanimously.

Dr. Maccas proposed, in concert with Dr. Pelikan, that the 9th conclusion should be amended as follows:—"While admitting that, in general, the institution of international lazarettos, administered in common by the employés, is not advisable, the Conference is of opinion that in certain cases the utility of these establishments administered by the local authorities under the control of mixed sanitary boards is incontestible." Dr. Maccas remarked that this was no new proposition; it was merely the conclusion of the Committee drawn up in other words.

Dr. Dickson proposed that the word *general* should be altogether struck out of the conclusion, which would thus harmonise better with the text.

M. Bosi believed that the Conference ought to express its opinion categorically: it ought to declare that "the institution of international lazarettos, administered by mixed commissions, is advisable."

Dr. Mühlig thought that the amendment moved by Dr. Maccas and Dr. Pelikan might with advantage be modified as follows:— "While admitting, in certain cases, the *fitness* of international lazarettos administered under the control of mixed boards, the Conference is of opinion that, in general, the institution of these establishments is not advisable."

Dr. Maccas and Dr. Pelikan said they would accept the modification. The Conference then divided.

The conclusion of the Committee was rejected by twelve to five, one member not voting.

Ayes:—Dr. Sawas, Dr. Baron Hübsch, Dr. Bykow, His Excellency Salih Effendi, and Dr. Bartoletti.

Noes:—Dr. Sotto, Dr. Monlau, Count de Lallemand, Dr. Fauvel, Dr. Goodeve, Dr. Dickson, Dr. Maccas, M. Vernoni, Professor Bosi, Dr. Millingen, Dr. Mühlig and Dr. Pelikan. M. Keun did not vote.

M. Bosi's amendment was also rejected by fifteen to three, the ayes being Dr. Monlau, M. Vernoni, and Professor Bosi.

The amendment of Dr. Maccas and Dr. Pelikan, which itself was amended by Dr. Mühlig, was adopted by a majority of nine to eight, one member not voting.

Ayes:—Dr. Sotto, Count de Lallemand, Dr. Fauvel, Dr. Maccas, M. Vernoni, Professor Bosi, Dr. Millingen, Dr. Mühlig and Dr. Pelikan.

Noes:—Dr. Goodeve, Dr. Dickson, M. Keun, Dr. Sawas, Dr. Bykow, M. Stenersen, His Excellency Salih Effendi, and Dr. Bartoletti. Dr. Monlau declined to vote.

The meeting broke up at 4-30 P. M.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE, }
DR. NARANZI; } *Secretaries.*

INTERNATIONAL SANITARY CONFERENCE. MEETING
No. 42, OF THE 24TH OF SEPTEMBER 1866.

H. E. SALIH EFFENDI, *Presiding.*

The International Sanitary Conference held its forty-second meeting at Galata-Serai at noon of the 24th September 1866.

PRESENT :*For Austria :*

M. Vetsera, Councillor to the Internonciature of His Imperial Majesty the Emperor of Austria.

Dr. Sotto, Medical Attaché to the Imperial and Royal Internonciature, Director of the Austrian Hospital.

For Spain :

Don Antonio Maria Segovia, Consul-General, Chargé d' Affaires.

Dr. Monlau, Member of the Superior Council of Health of Spain.

For the Papal States :

Dr. Ignace Spadaro.

For France :

Count de Lallemand, Minister Plenipotentiary.

Dr. Fauvel, French Sanitary Physician.

For Great Britain :

Dr. Goodeve, Surgeon-Major, Indian Army, and Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to Her Britannic Majesty's Embassy, British Delegate to the Superior Council of Health at Constantinople.

For Greece :

M. Kalergi, Secretary to the Legation of His Majesty the King of the Hellenes.

Dr. G. A. Maccas, Chief Physician to the King, Clinical Professor in the University of Athens.

For Italy :

M. A. Vernoni, Chief Interpreter to the Legation of His Majesty the King of Italy.

Professor Frederic Bosi.

Dr. G. Salvatori, Italian Delegate to the Superior Council of Health at Constantinople.

For the Netherlands :

M. Keun, Councillor to the Legation of His Majesty the King of the Netherlands.

Dr. Millingen, Dutch Delegate to the Superior Council of Health at Constantinople.

For Persia :

Mirza Malkom Khan, Aide-de-Camp General to His Majesty the Shah, Councillor to His Legation.

Dr. Sawas Effendi, Inspector of Hygiene and Health at Constantinople, Persian Delegate to the Superior Council of Health.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargé d' Affaires.

For Prussia :

Baron Testa, Prussian Delegate to the Superior Council of Health.

Dr. Mühlig, Physician to the Prussian Legation, Chief Physician to the Ottoman Marine Hospital.

For Russia :

Dr. Pelikan, Councillor of State, Director of the Russian Civil Medical Department.

Dr. Bykow, Councillor of State, Assistant Military-Medical Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, Secretary to His Legation at Constantinople.

Dr. Baron Hübsch.

For Turkey :

H. E. Salih Effendi, Director of the Imperial School of Medicine at Constantinople, Chief of the Civil Medical Department.

(For Egypt :)

Dr. Salem Bey, Clinical and Pathological Professor in the School of Medicine at Cairo, Special Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

Dr. Naranzi, one of the Secretaries, read the minutes of the last meeting but one ; they were approved unanimously.

Dr. Goodeve called the attention of the Conference to the necessity of insisting very strongly upon the arrangements to be made for rendering a stay in a lazaretto, in future, less monotonous and dismal, and as comfortable and healthy as possible. He thought the Conference ought to urge this idea strongly, and that it ought formally to express the wish that lazarettos should henceforward be constructed in accordance with a new system adapted to combine comfort and salubrity without lessening their efficiency. For their maintenance in proper condition he would propose that they should be subjected to frequent and strict inspections, carried out under the directions of some central authority established by the Government of the country in which the lazarettos were situated.

Dr. Maccas admitted the reasonableness of such a wish, and stated that he quite concurred in it.

Dr. Bartoletti also expressed his entire concurrence. He observed however that, according to the plan proposed by the Conference, the new lazarettos would be very favorably situated as regarded conditions of salubrity. They would be much better ventilated than the old lazarettos, and would be surrounded by large open spaces. In a word, contrary to the old system, the new lazarettos would offer, in his opinion, all the elements of comfort and well-being, and every guarantee of salubrity that could be desired.

The Conference concurred by acclamation in the proposition and the wish expressed by Dr. Goodeve.

Dr. Bartoletti resumed the report and read the 4th chapter, the title of which was "Of the quarantine system and disinfection."

He stopped at the end of the eleventh article, which terminated with the following conclusion:—"To sum up, the difference between the two quarantine systems consists, in the opinion of the Committee, in this, that the quarantine of observation is a time of trial, of simple surveillance, while the rigorous quarantine consists in disembarkation at the lazaretto with disinfection, and comprises every measure applicable to a choleraic arrival."

Dr. Mühlig asked permission to make a few remarks.

The Committee, he said, had given the definition of two different species of quarantine. The distinction which it had adopted could be maintained, but it was important to come to a proper understanding upon several points, for, in his opinion, there was a contradiction between the definition given and the application of the two quarantines. The quarantine of observation, said the report, was applied to ships which, though furnished with clean bills of health, were suspected; but, in other places, it was said also that there were cases where it was applied to ships under foul bills of health, which altogether contradicted the definition given of the quarantine of observation.

Moreover, continued Dr. Mühlig, it was said in the report that the quarantine of observation consisted in keeping apart and under surveillance for some days a ship, her crew, and her passengers. Dr. Mühlig thought that the manner of saying this was too vague, and he believed that it would be necessary to fix the period of this surveillance in the same way that this term should be fixed for the rigorous quarantine. The duration of the quarantine of observation would then depend upon the special circumstances of each case. This was a point to which he meant to revert.

Afterwards, continued Dr. Mühlig, the Committee, in enumerating the different occasions on which it was necessary to apply the quarantine of observation, had omitted to mention on what occasions it ought to be applied to ships under foul bills of health.

These occasions, in the opinion of Dr. Mühlig, would be the two following :—

1st.— If the ship under a foul bill of health was in good hygienic condition, and if she had on board a commissioned physician.

2nd.— If more than seventeen days had elapsed since the ship had quitted the contaminated place, it being understood that choleraic accidents had not occurred on board in either case.

Finally, said Dr. Mühlig, it was evident that there was a want of harmony between the definitions and the application of the two sorts of quarantine. With the object of making the definition accord with what followed, he proposed to insert the following passage in the text, where it was said “the quarantine of observation applies to suspected vessels although provided with clean bills of health,” &c.,—and after the circumstances for which provision was made in points 1 and 2, which he accepted—“the quarantine of observation also applies to ships under foul bills of health, but under certain conditions, to be specified further on.”

Dr. Fauvel stated that to a certain extent he concurred in Dr. Mühlig's remarks. He thought it necessary, however, to fix the question with greater precision, and to confine it to the chapter in question. There was rather confusion than contradiction, in Dr. Fauvel's opinion, between the definition and the application of the two kinds of quarantine. The Committee had forgotten that in fact, according to its system, the quarantine of observation would become the general rule, whatever might be the nature of the bill of health. This point was deduced from the report itself, which established that, in certain circumstances ships should be subjected to simple observation, notwithstanding that they were under foul bills of health. Dr. Fauvel admitted the definitions given by the Committee of the two kinds of quarantine, but he proposed to define them as follows as regarded their application :—

“1st.—*Quarantine of observation.*”

“The quarantine of observation is applicable to every ship whose *sanitary condition is only suspected*, whatever may be the tenor of the bill of health, and when no indication of cholera has appeared on board, and the nature of the cargo is not compromising. In the quarantine of observation the passengers may remain on board if the ship is not crowded, and if it is in good hygienic conditions. This quarantine includes disinfection of effects, clothes, and the suspicious parts of the vessel, but without previous unloading.

2nd.—*Rigorous Quarantine.*”

“The rigorous quarantine, *i. e.*, with obligatory disembarkation of the passengers and merchandise, and general disinfection of the ship, is applicable, in times of cholera, to every ship, whatever may be the nature of her bill of health, which has had choleraic accidents on board, or whose cargo is of a compromising character, or whose hygienic conditions may be deemed dangerous.”

It was not the bill, said Dr. Fauvel, which determined the nature of the quarantine, but the sanitary conditions on board. The true motives

which supported the distinction established by him were the following :—

The difficulties attendant upon conveniently separating the classes of persons undergoing quarantine in lazarettos had been made apparent at the last meeting.

Now, this distinction would facilitate the separation at the same time that it would obviate the overcrowding, which would necessarily occur at the large ports. It did not compromise healthy persons, and would facilitate surveillance at the same time that it would diminish the cost of the service.

It would save commerce from useless charges ; and, on the whole, it would offer more guarantees.

This mode of regarding the question, said Dr. Fauvel, would solve the two principal questions relating to quarantines, *viz.*, overcrowding and classification : it would remove the great objection urged against lazarettos, which, to contain the immense number of persons in quarantine, would have to assume enormous proportions, and almost become little towns.

Public security would lose nothing, but, on the contrary, would gain.

Dr. Fauvel asked the Conference to take his proposition into consideration.

Dr. Maccas thought that Dr. Fauvel's proposition should be completed by adding to it the following words :—“ As soon as it is learnt that cholera has manifested itself after the departure of a vessel in the port she has left, she should be subjected, while she remains under watch, to a rigorous quarantine.”

Dr. Maccas remarked that many vessels arrived in thirty or forty hours from the place of departure to the place of destination, and that consequently the disease which declared itself in the port of departure shortly after the ship's leaving, might exist in the ship in a state of incubation : in any case, in his opinion, a certain amount of doubt existed with respect to them.

Dr. Maccas thought that it was also necessary to look to the duration of the quarantine of observation.

Dr. Fauvel thought the time had not yet come for that. That matter would be discussed by and by, and with more advantage. It was not, in fact, the duration which characterised either the rigorous quarantine, or the quarantine of observation : the latter might be short in case of a simple suspicion in the absence of information, and it might be as long as the rigorous quarantine. In regard to the remark made by Dr. Maccas, Dr. Fauvel stated that if it were learnt, while the ship was under quarantine of observation, that cholera had broken out, or already existed, in the country which the ship had quitted, that would not change the question if the ship were healthy : but

if cholera were to break out on board during the quarantine of observation, then the latter would be transformed into the rigorous quarantine, *viz.*, including disembarkation at the lazaretto.

Dr. Fauvel remarked to Dr. Maccas that his observation, besides, was addressed as much to the report as to his proposition.

Dr. Mühlig believed that every ship under a foul bill of health coming from an infected place, but not having cholera on board, ought, in the first place, to proceed on arriving in port to a principal lazaretto to undergo survey and search, and it would then depend upon the sanitary authorities whether they would retain the ship to perform quarantine, or permit her to continue her voyage. In the latter case she should be subjected to a quarantine of observation in a secondary lazaretto.

Dr. Goodeve agreed in opinion with Dr. Fauvel as to the quarantine of observation and the mode of utilising the ships by obliging persons to perform their quarantine on board. He, however, believed it was necessary to provide that every ship under observation should be visited by a physician, and be furnished with every thing necessary for cholera patients.

In the opinion of Dr. Monlau, the question under discussion was of the highest importance, for it comprised the entire quarantine question. He recommended, therefore, that it should be attentively considered. M. Monlau thought that Dr. Fauvel's proposition would tend to make bills of health a mere formality, and in that case he did not think that their delivery could be continued. The suppression of bills of health would entail, to his thinking, a state of disorder and almost of anarchy, inasmuch as ships would never know to what sort of quarantine they were going to be subjected. According to Dr. Fauvel's system, the quarantine of observation would be the same thing as the rigorous quarantine, with the exception of the disembarkation. Such, said M. Monlau, ought to be the definition to be given of the quarantine of observation, which, according to Dr. Fauvel's proposition, it was desired to substitute for the rigorous quarantine which would thenceforth cease to exist. But would the quarantine of observation have as much efficacy as the latter? Dr. Monlau did not think so, and he declared himself to be in favor of the old system of lazarettos, for there would in his opinion be many difficulties opposed in practice to the performance of quarantine on board ships. There would be a difficulty in ascertaining the condition of the vessels, in attending to the sick, in preventing overcrowding, in making medical visits.

Moreover, said Dr. Monlau, every quarantine ought to be performed in isolation, and this was not said in the report with sufficient precision, the Committee having confined itself to saying that those who had to perform quarantine should be kept separate. Keeping them separate, said Dr. Monlau, was not equivalent to complete and rigorous isolation.

Dr. Bartoletti pointed out to Dr. Monlau that isolation was treated of in many parts of the report. The Committee might, therefore, have employed the word *separate* as being equivalent to *isolation*.

As for the definition he had just given of the quarantines, let him add to the words "except the disembarkation" the words "except during the period," and the Committee, said Dr. Bartoletti, would be of the same opinion as Dr. Monlau.

Dr. Sawas refuted the proposition and remarks made by Dr. Fauvel. According to Dr. Fauvel, he said, the quarantine of observation would be the rule. This was altogether in opposition to what the Committee had desired to establish, *viz.*, that the rigorous quarantine should always be applied, and that the application of the other should be merely exceptional. By rigorous quarantine, the Committee had meant a quarantine the duration of which was fixed, while the duration of the other was to be dependent altogether upon circumstances. There was, therefore, a complete difference of opinion between the Committee and Dr. Fauvel. But which of the two opinions was the more correct? He analysed the different arguments put forward by Dr. Fauvel in support of his system, and he concluded that this system implied the negation of the quarantine system. It was in vain that Dr. Fauvel pointed out that there was confusion between the definition and its application. Dr. Sawas could not see it; on the contrary, he remained convinced that the definition given by the Committee was clear and distinct, and that it was in perfect harmony with the conditions laid down for its application. Why had the quarantine of observation been admitted, if it were not for the clean bill of health? Had the decision of the Conference with regard to Egypt been forgotten? It had recommended that arrivals from Egypt under clean bills should be kept under observation, because the arrivals were regarded as suspicious.

The Committee, continued Dr. Sawas, enumerated the principal conditions desired by the two classes of quarantine, and by these conditions it thought it would obtain every necessary guarantee. If the conditions were analysed, it would be seen that the system of the Committee was the only one which could give serious and complete guarantees. The Committee, moreover, had not failed to establish exceptions in favor of certain arrivals.

Dr. Sawas desired that the Conference should decide between the system of the Committee, and Dr. Fauvel's proposition. That proposition, he thought, was neither an elucidation nor a rectification—it was a system diametrically opposed to that of the report.

M. Pelikan was of opinion that the quarantine of observation ought to be applied only to ships under foul bills of health, and when the sanitary authorities had grounds for suspecting the presence of cholera in the place whence the ship had come, and also for other reasons mentioned in the report. But ships under foul bills of health ought, in Dr. Pelikan's opinion, to be subjected only to the rigorous quarantine with unloading of goods and landing of passengers, and with disinfection of effects. For the rest, he observed, this idea would be developed further on in connection with the question of duration, with regard to which he and Dr. Maccas had both stated their opinions.

The quarantine of observation, added Dr. Pelikan, applied to ships under foul bills of health, could be only a half measure, and would never offer a complete guarantee with regard to arrivals from a contaminated place even when there might have been no cases of cholera on board during the voyage.

M. Kalergi expressed his concurrence in Dr. Pelikan's views.

Dr. Fauvel remarked that he agreed with the Committee as to the principal points, and he adopted them as regarded the denomination. He had, he said, reduced the thing to its reality, and he had demonstrated that confusion existed. This confusion existed in the report relative to the paragraph following the definition. Dr. Sawas did not wish to admit it, but he had no doubt that in the system of the Committee the quarantine of observation would be the rule.

Dr. Fauvel had only desired a change of words—he recommended the substitution of “quarantine of observation” for “rigorous quarantine.” This change, he thought, was altogether necessary, since the immense majority of ships, according to the report itself, would be subjected to the quarantine of observation. It was to be noted, said Dr. Fauvel, that the Committee spoke of sailing ships and not of mail-steamers, which had physicians on board. Dr. Fauvel had consequently asked that the real word should be applied to the thing. He had not had any intention of establishing a system differing from that of the Committee, and he had invented nothing; he had simply wished to cause the acceptance of the system put into practice every day. This system consisted in placing in quarantine of observation many vessels under clean bills of health with a view to being perfectly reassured with respect to them.

To Dr. Monlau, who believed that the quarantine of observation did not admit of isolation, Dr. Fauvel replied that this isolation might be perfectly well carried out in the ships better perhaps than in the lazarettos.

Dr. Bosi believed that the question as to whether two sorts of quarantine ought to be admitted, referred to the information which might be furnished by the ship's bills of health. Dr. Bosi accepted the bases on which Dr. Fauvel had founded the two species of quarantine—he even went further; he would be disposed to admit only one quarantine, since there was ground to admit that one of these two kinds of quarantine was based only upon an absence of information. Dr. Bosi was also of opinion that the definition of the report was not exact.

M. de Lallemand wished it had been more distinctly shown in the report that there was complete separation in both species of quarantine. It was important, he said, to state this separation very clearly and precisely, since both Dr. Monlau and Dr. Pelikan, according to their statements, had understood the matter differently from the Committee.

Dr. Bartoletti gave some explanations with the view of demonstrating that the Committee had meant that there was to be complete separation in both species of quarantine.

M. Segovia, in reply to M. de Lallemand, said that M. Monlau did not doubt that the Committee admitted separation. M. Monlau believed only,—and here M. Segovia quite concurred with him—that separation in a ship could not be complete. It was no use talking of spacious ports: custom-house smuggling, and the desertion of sailors—which were matters of frequent occurrence—attested that in ships measures of sequestration were easily evaded. Surveillance in lazarettos was, in his opinion and in that of M. Monlau, easier and more efficacious than in ships, and it was especially for this reason that they had given the preference to lazarettos, for in them, whatever might be said, it was much easier than on board ships.

M. Mühlrig remarked that the whole question was in disembarkation. The Committee required disembarkation for all foul bills of health, which were often subjected to the rigorous quarantine, while, in his own opinion and in that of those who agreed in his views, disembarkation was required only in certain cases of foul bills of health, especially if there had been cholera on board.

To M. Maccas it seemed that Dr. Fauvel's proposition had its weak and dangerous sides, although, at the first glance, it appeared attractive. Before developing this proposition, M. Maccas desired to attract the attention of the Conference to the necessity of examining whether the definition was not correct, and whether there was any contradiction or confusion. If the Conference accepted the definition of the report, it would cause each contradiction to disappear as it came forward, and also all confusions, if there was any. But it was not fair, he thought, to pretend to demolish the entire system for fear of encountering contradictions, or because confusion existed. The entire paragraph should be studied and analysed, and if it were not found correct, then only would it be allowable to change it. M. Maccas had made and compared the different definitions, and he had found no essential difference. If there was any difference, it only bore specially upon the application of the quarantine of observation.

M. Maccas was of opinion that in times of epidemics of cholera there could be but one kind of quarantine for all ships coming from a place infected with cholera, *viz.*, the rigorous quarantine, more or less severe, for every ship under a foul bill of health. If this were the only case, he said, a difference of opinion would be scarcely possible. But there were cases in which the quarantine of observation was allowed, though never for ships under foul bills of health. These cases referred to ships which, though under clean bills of health, gave room for suspicion in regard to the existence of cholera in the place they had quitted. M. Maccas believed that if, in M. Fauvel's proposition, it was not said "whatever might be the nature of the bill," everybody could agree with him, but, as it stood, it required to be very carefully considered. According to M. Fauvel's system every ship under a foul bill of health might demand admission to the quarantine of observation. Let it be considered, said M. Maccas, that in the Mediterranean the voyage of most ships lasted for only two or three days; they might, therefore, quit

a contaminated place and arrive in a healthy port without having had any choleraic accidents on board during the voyage. In this case these ships would be simply subjected to a quarantine of observation. But if, before the expiry of the period of quarantine, some cases of cholera were to occur on board of these ships, they would immediately be subjected to the rigorous quarantine, and the days passed in quarantine of observation would count for nothing. The addition, therefore, proposed by M. Fauvel, viz., "*whatever might be the nature of the bill,*" might give rise to serious danger. In the opinion of M. Maccas, this addition could be of no advantage to commerce, but it would be pernicious in a sanitary point of view, for it would destroy all the guarantees and all the efficacy of quarantines.

As for M. Fauvel's opinion that the separation of persons in quarantine was easier on board ship than in lazarettos, M. Maccas did not concur in it, and he considered that, in many ways, it was quite illusory. M. Segovia had, he thought, well demonstrated this, when making known the difficulties met with in watching the persons in quarantine and in obtaining their complete separation. The Conference, said M. Maccas in conclusion, ought to admit, as a rule, but one quarantine: the rigorous quarantine. The quarantine of observation ought to be only an exception.

M. Bartoletti had a word or two to say regarding the blame attached to the Committee by MM. Müblig and Fauvel. According to the latter, confusion existed in the report,—in spite of which he stated that he agreed with the Committee. If the confusion related only to words, it would be easy to come to an understanding, but if there was a difference of system, and this was what there was, according to Dr. Fauvel, the Conference ought, before pronouncing its decision, to study the two systems, and the Committee should do so too, considering that it was thoroughly acquainted with its report, but had not the slightest idea of M. Fauvel's system.

M. Fauvel wished particularly that the Committee would understand that nobody argued against it. A question was discussed which ought to be submitted for the consideration and approval of Governments—and it was essential, therefore, to be sure that the solution proposed answered the practical object. The Conference could not propose measures that were open to dispute, except at the risk of seeing them rejected. This consideration necessitated the thorough study of the question with a view to coming to a decision as to what was acceptable and what offered the desirable guarantees, and also to be sure that what was proposed was practical. It was in this sense and with this intention that he had submitted his proposition, a proposition which he had maturely considered before bringing it forward. If it were demonstrated to him that what was proposed was not good, and that the arguments he had urged in support of it were not solid, he declared himself ready to accept whatever opinion might be deemed by the majority to be based on the best foundations.

M. Fauvel added, in the interests of the discussion, other considerations in addition to those he had already brought forward. It had been

said that in the point of view of isolation, the two quarantines were altogether different, and to prove this it had been mentioned that the one necessitated disembarkation while the other did not. Disembarkation, said M. Fauvel, was a very onerous operation, and an attempt to impose it upon all measures would be simply making the measure impracticable. It had been pretended that a ship subjected to the quarantine of observation could not be strictly watched, and that consequently it could not be completely isolated. But M. Fauvel was of opinion that this danger existed quite as much, and even more, in lazarettos. Unless immense lazarettos were provided, it would be impossible to obtain a complete separation of the different classes. Let them suppose 2,000 persons in quarantine,—and this was a figure which, thanks to the facility of communications, might in these days be easily attained and even exceeded,—how could they succeed in keeping one class separated from the other, and what a quantity of space, and what a prodigious number of buildings, they must have in every lazaretto?

All this, on the other hand, was quite naturally accomplished on board ship: there the classes made themselves, so to say, and nothing was easier than to obtain complete isolation. Would it be just, asked M. Fauvel, on mere suspicion to expose untainted persons to the risk of contracting the disease by throwing them abruptly into a lazaretto and leaving them to mingle with cholera patients? It was pretended that the ship might easily enter into communication with outsiders, but nothing was easier than to anchor the ship at a distance from the port and to isolate her. The quarantine was ordinarily performed in this way. It was also the system in force in Constantinople, and it had certainly not given bad results; on the contrary, it might be affirmed that it had been practised with success. It had also been said, continued M. Fauvel, that disinfection could only be partial—but the report itself said that hygienic disinfection would be performed, and that goods would not be disinfected unless they were susceptible. In the opinion of M. Maccas, the distinction would be justified if the duration of the voyage were taken into consideration, but M. Fauvel had already said that the duration had nothing to do with the question: the duration of the quarantine of observation might be quite as long as that of the rigorous quarantine. The important difference consisted in the disembarkation or not at the lazaretto. M. Fauvel said, in conclusion, that his proposition was only an addition which in no way contradicted the conclusion, but which completed it and made it harmonise with the text.

M. Bartoletti confessed that he was not quite clear as to this addition, and he believed that M. Fauvel's proposition bore upon a question not under discussion, and which constituted a system opposed to that of the Committee. There was, he remarked, an entire chapter in the report which treated of the application of the quarantine system: when this chapter would be brought under discussion, then only could the question put by M. Fauvel be brought before the Conference.

Dr. Dickson was of opinion that the want of agreement depended in great measure upon a sufficient distinction not having been made of what was due to the nature of the bill, and what was due to the condition of the ship. The bill showed the sanitary condition of the port of departure: it stated whether cholera existed or not. But the quarantine which ought to be applied to the ship should result from the conditions presented by her on her arrival, including the conditions of the passage. To all this was to be added the tenor of the bill. This being admitted, a ship under a clean bill of health would, in certain cases, perform the rigorous quarantine, and a ship under a foul bill of health might perform only the quarantine of observation.

Baron Hübsch thought that the different opinions might be made to agree if, in mentioning quarantines, the words "*of observation and rigorous*" were left out.

Dr. Bartoletti remarked that that was scarcely possible, considering that the words occurred in the programme. He reminded Dr. Dickson besides that an entire chapter of the report was specially devoted to the question of the bill of health.

M. Sawas desired to make an observation. Hitherto, he said, the Conference in its discussions had commenced with an examination of principles, but on the present occasion it was desired to make it follow another path. M. Sawas believed that there should be no change of system, and he asked the Conference to proceed in the matter as it had hitherto done with other affairs. Once the principle was admitted, the Conference might, in his opinion, proceed to consider its application, and then also room might be found for the additions or explanations contained in M. Fauvel's proposition, which proposition, however, was, in point of fact, nothing else but a system altogether opposed to that of the Committee.

M. Fauvel added a few words more with the view of making it clearly understood that his proposition only referred to that paragraph in which the cases in which the quarantine of observation was to be applied were mentioned. His addition might be inserted in the text in place of the first and second points, if it were not considered desirable to add it to the conclusion. He expressed his readiness to strike out of his definition the words "*whatever might be the nature of the bills,*" so as to agree with M. Maccas, but seeing the impossibility of agreeing, he maintained his proposition as it originally stood.

At the request of several Delegates, His Excellency the President put M. Fauvel's amendment to the vote.

It obtained 11 votes against 14.

Ayes:—MM. Sotto, Spadaro, de Lallemand, Fauvel, Goodeve, Dickson, Millingen, Testa, Mühlig, Bykow, and Salem Bey.

Noes:—MM. Vetsera, Segovia, Monlau, Maccas, Bosi, Salvatori, Keun, Mirza Malkom Khan, Sawas, de Soveral, Stenersen, Hübsch, Pelikan, and Bartoletti.

M. Mühlig requested that a division should also be taken upon his amendment. It might be intercalated in the text immediately after the words "and of the sanitary condition of the crew and passengers."

M. Sawas considered this amendment was altogether superfluous.

M. Bosi considered it was only a detail of M. Fauvel's amendment.

M. Bartoletti said that the amendment might be inserted in the text, where he believed M. Mühlig wished to place it.

M. Stenersen was of opinion that this amendment had no connection with the question under discussion, and he was surprised that M. Mühlig persisted in wishing to connect them.

His Excellency the President put the amendment to the vote.

It obtained 10 votes against 14.

Ayes :—MM. Sotto, Spadaro, de Lallemand, Fauvel, Goodeve, Dickson, Testa, Mühlig, Hübsch, and Salem Bey.

Noes :—MM. Segovia, Monlau, Maccas, Bosi, Salvatori, Keun, Millingen, Mirza Malkom Khan, Sawas, de Soveral, Pelikan, Bykow, Stenersen, and Bartoletti.

The President put the text of the 4th chapter of the report to the vote as it stood.

It was adopted by a majority of 11 against 5, and 7 who declined to vote.

Ayes :—MM. Maccas, Bosi, Salvatori, Keun, Mirza Malkom Khan, Sawas, de Soveral, Pelikan, Stenersen, Bartoletti, and His Excellency Salih Effendi.

Noes :—MM. Sotto, Spadaro, Fauvel, Testa, and Mühlig.

Declined to vote :—MM. Segovia, Monlau, de Lallemand, Goodeve, Dickson, Bykow, and Hübsch.

The President put the conclusion of the 4th chapter to the vote.

It was adopted by a majority of 21—none against it, and 3 abstentions.

Ayes :—MM. Spadaro, de Lallemand, Fauvel, Goodeve, Dickson, Maccas, (under reserve,) Bosi, Salvatori, Keun, Millingen, Mirza Malkom Khan, Sawas, Pinto de Soveral, Testa, Mühlig, Pelikan (under reserve), Bykow, Stenersen, Hübsch, Bartoletti, and H. E. Salih Effendi.

Declined to vote :—MM. Sotto, Segovia, and Monlau.

MM. Monlau, Maccas, and Pelikan said they did not mean to accept the statement that there would be a quarantine of observation for ships under foul bills of health. They declared, moreover, that they were opposed to half-measures.

M. Bartoletti read Article 11 of the 4th chapter, bearing the title "Of the quarantine applicable to persons coming from a contaminated

“ place. What ought to be its duration? When should the quarantine be considered as having commenced?”

M. Mühlig wished to speak. This was a very important question with regard to which he was about to explain his views, and as they differed from those of the Committee, he begged the attention of the Conference to what he was about to say.

It would be well, in his opinion, to fix, above everything, in a general way, the duration of quarantine, leaving aside for the moment the quarantine of observation and the rigorous quarantine. Hitherto, said M. Mühlig, the duration of incubation was taken as a base; but this principle did not seem to him to be applicable to the present case, and, moreover, it was a principle which necessarily led to mistakes. The Committee had said that incubation never lasted for more than ten days, and that at the end of that term either confirmed cholera or choleraic diarrhoea was necessarily developed. This was correct, said M. Mühlig; but it would be dangerous to take this fact for a basis in fixing the duration of the quarantine. Such a proceeding would presuppose that persons had been kept under observation and perfectly isolated from each other by a distance of 100 mètres at least, and that it would be easy to ascertain the immediate occurrence of an intestinal disorder. It was impossible, in M. Mühlig's opinion, to seize these indices of cholera, for observation had always been maintained over groups of individuals, and intestinal derangements very easily escaped observation if there was any interest in concealing them. These diarrhoeas certainly were of some importance in this question, but only in this sense, that if the existence of diarrhoea was stated, the existence of danger was inferred, while at the same time it was not enough to give confidence that its existence was not stated, for the absence of any statement of its existence was far from being a proof of its non-existence. So that the opinion of the Committee could not be accepted, viz., that if at the end of ten days no case of diarrhoea was stated, pratique must be given to the persons in quarantine. It was important then, in M. Mühlig's opinion, to look for quite another principle in fixing the duration of quarantine. Now, he thought that, in this case no other guide was possible—and here he was agreed with almost every physician—but confirmed cholera. The question then would be: What was the maximum period of time which elapsed between the departure of a group of men from a choleraic focus and the first choleraic attack manifesting itself in that group? The question thus put, said M. Mühlig, had truly practical importance. But what had experience taught upon this point?

M. Mühlig thought it would be useful, in this respect, to consult the historic précis of the Conference, and he called its attention to the following facts:—

At page 8:—

A guard who had performed a quarantine of ten days fell ill two days after being admitted to pratique and died in town—the attack occurred twelve days after isolation.

At page 9 :—

A man named Stamati Aivalioti was attacked at Enos thirteen days after his arrival: till then no case of intestinal indisposition or of cholera had been observed at Enos.

At page 14 :—

In Crete, the first death among the passengers by the steamer Missiri took place on the 6th July. A man named Antonio, brother of the apothecary who attended upon the cholera patients, was attacked on the 16th July—there had, therefore, been an interval of ten days, which proved that the ten days which had elapsed since the last case did not offer a sufficient guarantee.

At page 20 :—

At Suleimanieh the first cases occurred on the 31st October. There were no new cases till the 13th November, *viz.*, an interval of thirteen days.

At page 22 :—

At Erzeroum there were no accidents from the 7th to the 23rd November—on the 23rd November, 12 cases—an interval, therefore, of sixteen days.

At page 28 :—

The diarrhoea of the child of the woman of Altenberg, which was more than eleven days old, became the probable cause of the choleraic attack of the mother.

At page 31 :—

The woman Puccinotti, who arrived from Alexandria at Trieste on the 4th August, was placed under quarantine of observation, cholera not having shown itself during the voyage. She was attacked by cholera on the 8th, *i. e.*, four days after her arrival and ten days after her departure, adding the period of the voyage.

At pages 39 and 41 :—

The following facts were clearly ascertained at Gibraltar by Mr. Inspector General Rutherford :—

1st.—The 2nd battalion of the 22nd regiment embarked on the 5th and 6th of July at Malta, where cholera prevailed. It arrived at Gibraltar, which was quite free from the disease, on the 10th July. The first case of cholera at the latter place occurred on the 18th, that is to say, at the end of twelve days.

The second case in this regiment did not occur till the 31st of July, *i. e.*, thirteen days afterwards. Cholera prevailing at Gibraltar, a part of the first battalion of the 9th foot was embarked on board the *Renown*; the following day, the 22nd August, a case of cholera occurred on board, and thirty hours afterwards the ship put out to sea. Now, on the 5th September, *viz.*, after the ship had been thirteen days at sea, and the 14th day after the occurrence of the first case, cholera broke out on board in a

very malignant form and carried off nine men. There was a physician on board, who had not observed a case in the interval.

Facts then proved, said M. Mühlig, that the period during which cholera remained latent in a group of persons might extend to 10, 12, 13, 14, and even 16 days. M. Mühlig said *latent*, for it was probable that cholera already prevailed amongst them in the form of diarrhœas, which succeeded each other, but which necessarily escaped observation in an assemblage of men. Let it not be said that diarrhœa would certainly be discovered in a lazaretto. How, he would ask, could one or two physicians control, in an assemblage of some hundreds and even some thousands of men, an affection so difficult to control as diarrhœa, especially if all by common consent, had determined on concealing it? But it would be said that there were health guards. Did they seriously believe they would find a sufficient guarantee in the presence of a health guard, where the presence even of a physician scarcely offered one? There was thus no possible doubt in his, M. Mühlig's, mind upon this subject: to arrive at a rational term of quarantine, and one that afforded the desired guarantees, it was necessary to take into account not only the incubation but also the duration of the diarrhœa, and it was necessary to ascertain especially what time elapsed before the manifestation of the first cases of confirmed cholera in an assemblage of contaminated men. Taking all this into account, M. Mühlig would feel disposed to fix the duration of the quarantine in general at seventeen clear days. In America, he said, twenty-one clear days were admitted. That was to say, the duration of the quarantine would be seventeen full days with the modifications indicated, accordingly as the quarantine in question was a quarantine of observation or a rigorous quarantine.

Now for the differences to be established in this latter respect: differences which especially resulted when it was taken as a point of departure for calculation.

Quarantine of observation.—No disembarkation at the lazaretto, anchorage at a distance from it, for ships under foul bills of health.

1st.—Physician on board—reckoning from the day of departure—the term of the voyage, therefore, to be deducted from the 17 days—a day of observation over and above this period.

2nd.—No physician on board—more than 17 days' passage—5 days of observation.

For ships under clean bills of health, the duration of the quarantine should be determined in each special case by the sanitary authorities.

Rigorous quarantine.—Cholera on board, less than 17 days' passage and with no physician on board—17 days' quarantine to begin from the time of landing goods and passengers and from the moment of taking on board a guard of health. If the existence of cholera or of choleraic diarrhœas were still stated, the quarantine to date from the last accident occurring during the period of quarantine.

For land arrivals, M. Mühlig was of opinion that only the rigorous quarantine should be admitted.

The term of 11 days, said M. Mühlig, might startle some, but in practice the question was presented in a very different manner. For steamers having a physician on board and coming from a distance, the quarantine would most frequently be reduced to a few days, or even to nothing; for those which came from a very near focus, greater rigor would, on the other hand, be a necessary guarantee. For sailing vessels the quarantine in most cases would not exceed five days: for the rest, as there were not ordinarily many passengers on board, there would be no crowding in the lazarettos, even if a prolonged quarantine had to be performed.

M. Mühlig submitted to the Conference the opinion of Dr. Hukemann, who had described the epidemic of Mecklenburg. He said, with reference to quarantines, that they had often been inefficacious to prevent the propagation of cholera for two reasons, either because the duration of incubation had been longer than ordinary, or—as was most frequently the case—because the choleraic germ reproduced itself during the period of quarantine, merely by means of patients suffering from diarrhœa. Now, for the quarantine to offer a certain guarantee of efficacy, it would be necessary, in the first place, that it should comprise all ships coming from infected places; then, if a case of cholera had taken place on board, it would have to last until the maximum period of incubation was passed, reckoning from the termination of this case; it ought to last as long, if the persons on board remained in good health, counting from the day of departure from the infected place. Finally, it should not cease until all the crew were free from any disorders of the alimentary canal.

Dr. Goodeve wished to make an observation regarding the 3rd conclusion enunciated in the report by MM. Pelikan and Maccas. They maintained that the diarrhœa which manifested itself on board a vessel coming from a choleraic locality was, in the immense majority of cases, of a choleraic character. Dr. Goodeve disputed the correctness of this assertion, so far as regarded arrivals from hot countries, India for instance, and the extreme East in general. He affirmed, on the contrary, that the great majority of bowel-complaints which occurred among those who embarked at the infected ports of those countries, were not in any way of a choleraic character. The diseases that were current under the name of chronic diarrhœa and dysentery were extremely frequent in hot countries, and a change of domicile was imperiously necessary for the patient's recovery—so that persons suffering from these diseases were always to be found in homeward-bound vessels from India. It would be a most fatal thing to confound them with choleraic patients, and consequently he deemed it his duty to bring the fact to notice.

The ingenious system which M. Mühlig had just detailed did not seem to M. Fauvel to be as practical or as certain as M. Mühlig believed it to be. In the opinion of M. Fauvel, the duration of the quarantine M. Mühlig wished to establish would prove useless rigor. According to the view entertained by M. Mühlig, the duration of the

period of incubation would have to be reckoned, not from the first premonitory choleraic accidents which (M. Fauvel did not deny the fact) ordinarily escaped attention, but from the time when confirmed cholera generally declared itself. If every known instance were taken, said M. Fauvel, it would be seen that two or three days after departure from an infected place, choleraic diarrhoea, followed or not by confirmed cholera in a very short time, declared itself on board, or nothing at all occurred. Now, M. Mühlig would wish to wait for the period of the development of the attacks of cholera to fix the duration of the quarantine.

As for the facts quoted by M. Mühlig, they were capable of receiving a different interpretation from that given them by M. Mühlig, and nothing would be more easy than to refute them and to make them support a theory opposed to that maintained by M. Mühlig. Thus, for instance, it might be maintained that the person, in the first case quoted, who was attacked by cholera two days after pratique, received the germs of the disease in the lazaretto itself while he was undergoing quarantine.

The individual who died at Enos (in the second case,) might have contracted the disease after his departure from the vessel. Was it known what he had done and where he had gone during the thirteen days which had elapsed between the day he quitted the ship and the day of his death? What could be said relative to the Cretan case, was that the man Antonio having been in constant and direct communication with his brother the apothecary, who attended upon the cholera patients, might have contracted the disease from his clothes, his brother not having been subjected to any regulated purification.

The Gibraltar case, said M. Fauvel, was also far from proving the duration of incubation. In fact, twelve days had elapsed between the time of departure and the development of the first case. But it should not be forgotten that at that period diarrhoea was not taken into consideration at all. It was, therefore, natural to assume that it existed among the soldiers, and passed unperceived.

As Dr. Fauvel knew that Dr. Bartoletti would not allow the cases M. Mühlig had extracted from his historical précis to pass unrefuted, he would not carry his analysis of the same facts further. What had been said was more than sufficient, he believed, to demonstrate their insufficiency in respect of the thesis M. Mühlig wished to found upon them. He would proceed, therefore, to consider the other points in M. Mühlig's speech.

And in the first place, now that attention was fixed upon the importance of diarrhoea, was it as difficult as M. Mühlig supposed to discover cases of suspected diarrhoea even in a group of persons? M. Fauvel did not think so.

On the other hand, there were instances proving that after an epidemic, there were little remains of it, which broke out after several months. Could it be said that during the whole time that had elapsed between the

great epidemic and these reminiscences, the disease had remained in a state of incubation? Was it not necessary to admit other causes?

M. Fauvel believed that the scale given by M. Mühlig was arbitrary. Why should the quarantine be fixed at 17 days? There were cases where the development of the first attacks of confirmed cholera did not take place until 20 and 25 days, and sometimes more, after the date of departure. The duration of the quarantine might, therefore, be further extended. But in reality this was not necessary, and M. Fauvel was of opinion that the term of ten days gave a sufficient quarantine combined with the means of disinfection. If even the first cases of diarrhoea on board a ship escaped notice, cholera would by the ten days quarantine have time to manifest itself, and the diarrhoea might be revealed to attentive surveillance. But if there were some exceptions, they should not serve as a rule for an entire system. There must be a certain proportion between the danger and the means of preservation from it, otherwise measures would be arrived at which were exaggerated and inapplicable because they were not sufficiently justified.

M. Bartoletti remarked that the cases taken from his report were, as had been very well said by Dr. Fauvel, far from being so conclusive as Dr. Mühlig thought. To become conclusive the facts should be exempt from any other interpretation. Now this was not so.

In fact, said Dr. Bartoletti, the guard of health who had been attacked after a ten days' quarantine and two days' stay in town, might have contracted the germ of the disease while he was performing quarantine in such an infected place as the Dardanelles lazaretto. Was not the soldier who was posted as sentry outside the lazaretto, and who had contracted cholera, more secure from the disease than the health guard who was inside? Stamati Aivaliotis had been sick since his arrival at Enos and had attended upon himself, without any medical assistance. On the 13th day his disease developed into confirmed cholera. It must be added that a great number of ships arriving from localities infected by cholera performed quarantine in the port to which Stamati, who was a sailor, belonged; the date of his attack could not, therefore, be told.

In Crete, the man named Antonio, the brother of the apothecary who attended upon the cholera patients, had probably received the germ of the disease, which was developed some days later, from the clothes of his brother, who had not yet accomplished the regulated period of quarantine. Moreover, the previous case of cholera in the lazaretto did not take place on the 6th but on the 8th July, which would reduce the presumed period of incubation to two days.

The Suleimanieh and Erzeroum cases proved absolutely nothing with respect to incubation. They only referred to such recrudescences as were everywhere seen. The matter was also explained by the successive arrivals of pilgrims and travellers who frequently imported the disease into those places.

The woman of Altenburg had had her child ill of diarrhoea since her departure from Odessa, and, besides, it was not said that she had not had compromising communications along the Lower Danube, where the steamer had to stop at several places where cholera prevailed.

Had not the woman Puccinotti, who came from Alexandria, her baggage with her, coming from a focus of infection, the contamination in which was a very admissible fact?

As for the Gibraltar cases and those that occurred at sea after an interval of thirteen and fourteen days, the report made mention but once of diarrhoea. Now, as in these cases the subjects were regiments embarking, the thing was not easily ascertained and might have passed unperceived.

It was evident, concluded M. Bartoletti, that, according to all the circumstances, the complex facts in question might be interpreted in different ways, and consequently they were a very equivocal demonstration in the point of view of the duration of incubation. Proper criticism should consider the matter so.

According to Dr. Goodeve, M. Mühlig's theory was based upon a principle very open to dispute, viz., upon cases of long incubation, which were altogether exceptional. The general rule shewed, on the contrary, that incubation did not ordinarily last for more than a few days, therefore M. Mühlig asked either too much or too little. Instead of stopping at fifteen or seventeen days' trial, he might in the same way, and taking as his basis the long duration of the diarrhoea, require thirty days and even more. Statistics as to the duration of fatal diarrhoea of every kind during epidemics of cholera (those of London, for instance, in 1845 and 1854) showed a mortality in which the duration of the cases varied from a few hours to five and six weeks. But the great majority of cases terminated in death before the tenth day. It was very probable that cases of cholera of long duration were everywhere cases which had commenced with simple diarrhoea, or summer diarrhoea, which on account of the prevailing epidemic, transformed themselves into cases of cholera or choleraic diarrhoea, and that it was from these complex cases that conclusions had been drawn as to the occasional duration of cases of premonitory diarrhoea for several weeks. The possibility of such a complication deprived them of much of their value when they came to be practically applied. Dr. Goodeve did not concur in Dr. Mühlig's opinion, who maintained that it was necessary in practice to reckon in the period of incubation all the time that might have elapsed from the moment when the person might possibly have become infected till the development of cholera; but he believed that in practice it was necessary, as in other diseases, rather to reckon from the invasion till the first symptoms.

In regard to the case of the *Renown*, quoted by M. Mühlig, it did not prove, in Dr. Goodeve's opinion, that there had been definitively an incubation of fourteen days. As they did not possess the complete history of the epidemic, there were grounds for the belief that premoni-

tory diarrhœa had prevailed on board for several days before the outbreak of confirmed cholera. Five or six days of incubation, and seven or eight days of diarrhœa would, said Dr. Goodeve, account for the fourteen days that elapsed after the death of the soldier on board, and this even in the absence of any other more tardy cause of infection, either by contaminated baggage of clothes.

Dr. Goodeve believed with Dr. Fauvel that it was not so difficult as M. Mühlig thought to ascertain the existence of diarrhœa in groups of persons, and he was of opinion that the term of ten days was sufficient for cholera, for during this lapse of time choleraic diarrhœa would declare its nature in a sufficiently decided manner. Though he did not deny that there might be exceptions of longer duration, Dr. Goodeve was convinced that in practice it would be impossible to base the rules of quarantine upon altogether exceptional cases, which would require besides three or four weeks' isolation. Dr. Goodeve concluded that a quarantine based upon exceptional cases would be more prejudicial than advantageous to commerce, and would be opposed to the true interests of peoples.

At the general request, Article 11 of the 4th chapter was put to the vote. It was adopted by a majority of 17, none being against it, and three conditional votes of support.

Ayes:—MM. Sotto, Monlau, Spadaro, de Lallemand, Fauvel, Goodeve, Dickson, Maccas, Bosi, Salvatori, Malkom Khan, Sawas, Bykow, Hübsch, Stenersen, Bartoletti, and H. E. Salih Effendi.

M. Pelikan and M. Millingen said they would have voted for the entire article if the quarantine had been extended to 15 days, and MM. Keun and Mühlig said they would have done so if it had been extended to seventeen days.

The meeting terminated at 6 P. M.

Order of the day for the next meeting. Continuation of the discussion of the 2nd Committee.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE, }
DR. NARANZI, } *Secretaries.*

INTERNATIONAL SANITARY CONFERENCE. MEETING
No. 43, OF THE 25TH SEPTEMBER 1866.

H. E. SALIH EFFENDI, *Presiding.*

The International Sanitary Conference held its forty-third Meeting at Galata-Serai on the 25th September 1866.

PRESENT :*For Austria :*

M. Vetsera, Councillor to the Internonciature of His Imperial and Royal Majesty.

Dr. Sotto, Medical Attaché to the Imperial and Royal Internonciature, Director of the Austrian Hospital.

For Belgium :

Count de Noidans, Secretary to the Legation of His Majesty the King of the Belgians.

For Denmark :

Chevalier Dumreichèr, Consul-General to His Majesty the King of Denmark at Alexandria.

For Spain :

Don Antonio Maria Segovia, Consul-General, Chargé d'Affaires.

Dr. Monlau, Member of the Superior Board of Health of Spain.

For the Papal States :

Dr. Ignace Spadaro.

For France :

Count de Lallemand, Minister Plenipotentiary.

Dr. Fauvel, Sanitary Physician.

For Great Britain :

Dr. Goodeve, Surgeon-Major, Indian Army, Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to Her Britannic Majesty's Embassy, British Delegate to the Superior Council of Health at Constantinople.

For Greece :

M. Kalergi, Secretary to the Legation of His Majesty the King of the Hellenes.

Dr. G. A. Maccas, Chief Physician to the King, Clinical Professor in the University of Athens.

For Italy :

M. A. Vernoni, Chief Interpreter to the Legation of His Majesty the King of Italy.

Professor Frederic Bosi,

Dr. G. Salvatori, Italian Delegate to the Superior Council of Health at Constantinople.

For the Netherlands :

M. Keun, Councillor to the Legation of His Majesty the King of the Netherlands.

Dr. Millingen, Dutch Delegate to the Superior Council of Health at Constantinople.

For Persia :

Dr. Sawas Effendi, Inspector of Hygiene and Salubrity at Constantinople, Persian Delegate to the Superior Council of Health.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargé d'Affaires.

For Prussia :

Baron Testa, Prussian Delegate to the Superior Council of Health.

Dr. Mühlig, Physician to the Prussian Legation, Chief Physician to the Ottoman Marine Hospital.

For Russia :

Dr. Pelikan, Councillor of State, Director of the Russian Civil Medical Department.

Dr. Bykow, Councillor of State, Assistant Medical-Military Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, Secretary to His Majesty's Legation at Constantinople.

Dr. Baron Hübsch.

For Turkey :

H. E. Salih Effendi, Director of the Imperial School of Medicine at Constantinople, Chief of the Civil Medical Department.

Dr. Bartoletti, Inspector-General of the Ottoman Sanitary Department, Member of the Superior Council of Health at Constantinople.

(For Egypt :)

Dr. Salem Bey, Clinical and Pathological Professor in the School of Medicine at Cairo, Special Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

The meeting commenced at noon.

The minutes of the 41st meeting were read by Baron de Collongue and adopted.

The twelfth section (chapter IV) of the report of the 2nd Committee was read.

Dr. Goodeve proposed that the duration of the voyage should be deducted from the quarantine for ships admitted to be in good hygienic

condition, even though two or three cases of cholera might have occurred during the first three or four days of the voyage. The quarantine of observation would then be reported to have commenced twenty-four hours after the last noted case, the clothing and effects of the sick having besides been destroyed, and the place in which they lived having been carefully disinfected. The ship would, therefore, on arrival at her destination, be subjected only to a quarantine of observation, the duration of which would be calculated in such a way as to complete the ten days of observation. Dr. Goodeve added that this concession would have a special interest for ships coming from India to Europe, and especially for ships from Calcutta. These latter frequently took on board persons who had contracted the choleraic germ on shore, and who fell sick a day or two after embarkation; choleraic accidents most frequently ceased after the ship dropped down the river and put out to sea.

The report, on the other hand, reducing the duration of the quarantine to five days in the event of the voyage lasting for fifteen days or more, Dr. Goodeve proposed in the second place that for ships starting from a contaminated place, but having passed entire months upon the voyage, the quarantine should be altogether suppressed. Basing his argument upon the fact that for fifty years there had been no instance of cholera having been imported from India into Europe by sailing ships doubling the Cape of Good Hope, Dr. Goodeve was convinced that it would be sufficient if a ship, after a voyage of more than thirty days, were subjected to the formality of survey and search; if the result were satisfactory, the ship might then be admitted to pratique.

Baron Testa supported this last proposition.

It was also supported by M. Keun, who mentioned the fact of a sailing ship recently arrived at Constantinople from Antwerp, and which, though her voyage had lasted for seventy days, had, nevertheless, been subjected to a ten days' quarantine at the Dardanelles.

Count de Lallemand thought that this proposition could not in any case be received unless there was no merchandise on board of the kind declared by the Conference to be dangerous, and which, confined on board a ship, might transmit cholera after the termination of voyages of more than thirty days in length. The Conference ought not to forget that quite recently cholera seemed to have been imported into Guadaloupe by a vessel whose voyage had been not less than thirty-six days in duration.

Dr. Goodeve did not believe that, beyond a certain time, merchandise could retain the power of transmitting the disease, and, therefore, that its disinfection was unnecessary. The only exceptions were drills and rags.

Dr. Salem Bey believed that it would be running a risk of very great danger to accord pratique to ships on board which choleraic accidents might have occurred during the voyage. On the contrary,

it seemed to him that Dr. Goodeve's second proposition might be entertained without inconvenience.

M. Segovia seconded Count de Lallemand's remark: A ship ought to be considered as a suspicious focus, and if science had not yet succeeded in fixing a time during which the choleraic germ retained in confined merchandise maintained its power of action, it was not less evident that this action might maintain itself after voyages of several months' duration. Without demanding, however, that all kinds of merchandise without distinction should be disinfected, M. Segovia remarked that there were some kinds with regard to which it would doubtless be imprudent not to adopt some kind of precaution.

Dr. Dickson divided all choleraic arrivals into two classes: such as were dangerous and such as were not so. He classed amongst the first, ships which during their voyage had had cases of choleraic diarrhœa on board, which were crowded, which carried emigrants or pilgrims, lastly, those that were in bad hygienic conditions. In the second class he placed those which could not be included in any of the cases just mentioned. Dangerous arrivals, ought, in Dr. Dickson's opinion, to undergo the rigorous quarantine. As for non-dangerous arrivals, they should, with the exception of those which had made a long voyage, and to which pratique might properly be accorded almost immediately, undergo the quarantine established by the Committee.

M. Keun did not believe that any instance could be cited of the transmission of cholera by merchandise after a voyage of sixty or seventy days. At the same time he admitted, with Count de Lallemand, that it might be necessary, even after a long voyage, to adopt special precautions with respect to certain kinds of merchandise.

Dr. Goodeve objected that on board large ships, such as were now built, the ventilation was as good as, if not better than, in any lazaretto. A first class ship, going at the rate of ten knots an hour, was certainly in the best condition in the point of view of disinfection by air.

In Dr. Fauvel's opinion, the Conference could not adopt Dr. Goodeve's first proposition without upsetting all the principles it had previously admitted. The foundation of these principles was that every ship having had choleraic accident on board might become a persistent focus, and that therefore it was indispensable on her arrival to have recourse to measures of disinfection. Dr. Fauvel, moreover, disputed the assertion that all parts of a vessel were in the same condition as regarded aeration and ventilation. If the higher parts, those which were inhabited, left nothing to be desired in this respect, it could not be pretended that that was the case in the hold, for instance.

In regard to the second proposition, Dr. Fauvel admitted that the general rule was that sailing ships had never imported cholera after a long voyage. There was, nevertheless, the fact quoted by Count de

Lallemand of the importation of the disease into Guadaloupe, and even if this fact were doubtful, it was not the less a reason for being forearmed. Dr. Fauvel declared that he would, however, be disposed to vote for the proposition in question, if Dr. Goodeve would consent to amend it. After a voyage of thirty days at least, sailing ships should be admitted to pratique after twenty-four hours' observation, with the purification of such goods as were susceptible, luggage and the suspicious parts of the ship, but without an entire unloading of the vessel. This delay, in Dr. Fauvel's opinion, would be sufficient to enable the sanitary authorities to ascertain the hygienic condition of the vessel, to disinfect her suspicious parts, and to proceed to measures of purification. The end of the conclusion would be modified as follows:—"4th. To reduce to five days the quarantine applicable to ships whose voyage may have lasted for from fifteen to thirty days without any choleraic accident, and to twenty-four hours when the duration of the voyage may have exceeded thirty days: in both cases, susceptible goods, luggage and the suspicious parts of the vessel being disinfected, but the ship not being entirely unloaded."

Dr. Goodeve consented to this modification in the second part of his proposition.

Dr. Bykow supported the observations made by Dr. Fauvel. He would vote against Dr. Goodeve's first proposition, for it seemed to him to be contrary to the principles admitted by the Conference, but he approved of the reduction of the quarantine to twenty-four hours for ships whose voyage might have exceeded thirty days. Below thirty days, the quarantine ought to last, as proposed by the Committee, for five days. Dr. Bykow also stated that he was in favor of the employment of measures of disinfection in both cases.

Dr. Maccaas concurred in these views.

Dr. Bartoletti also expressed his concurrence, in the name of the Committee, in Dr. Goodeve's second proposition as modified by Dr. Fauvel.

Dr. Goodeve's first proposition was rejected by a majority of 20 to 1, viz., its mover.

The second was adopted unanimously, with the exception of Dr. Pelikan, who declined to vote.

The Conference next proceeded to vote upon the 12th section. It was adopted, text and conclusions, unanimously, with the exception of Dr. Goodeve, who declined to vote. Dr. Pelikan said he voted under reserve with regard to the first conclusion, to which he did not agree.

The 13th section was then read.

Dr. Fauvel said he was glad that the Committee had considered that the presence on board a vessel of a physician commissioned *ad hoc* was a guarantee permitting of the duration of the voyage being included in the quarantine, but if it wished the guarantee to be serious, he did not understand that the declarations of any physician should be admitted.

He would even wish that in every case the sanitary authorities of the place of arrival should have the right of testing the exactness of the declarations made, and of rejecting them, if there should be any well-founded suspicions of their correctness. Dr. Fauvel did not doubt that incorrect declarations would be altogether exceptional, and that, as a general rule, reliance might be placed upon them; but they ought not to forget what had happened last year at Constantinople, where cholera was imported by a ship which, contrary to the declaration of the physician on board, had had deaths from cholera on board during the voyage. The repetition in the East of what happened in this case must be all the more strongly provided against, that this false declaration was made with impunity.

Dr. Fauvel, with reference to its having been said that the persons embarked on board a ship ought to be allowed only as much baggage as was strictly necessary, remarked that it was the quality and not the quantity of the baggage which should be particularly looked to.

Dr. Goodeve thought that the indiscriminate application of the twenty-four hours' quarantine to ships having spent ten days or more on their voyage, might be dispensed with. Would it not be enough to verify the condition of these ships, and if this were found to be satisfactory, could not they be at once admitted to pratique?

Dr. Monlau did not admit that the duration of the voyage ought in any case to be deducted from the period of quarantine. With such concessions, the fatal termination of the suppression of quarantines would be reached. Dr. Monlau disputed the importance attached to the presence, evidently useful and desirable in the point of view of ease and attention to the passengers, of a physician on board. Was there not well-founded apprehension that the physician, being devoted to the interests of the Company by which he was employed and paid, would not always preserve his entire independence? In Dr. Monlau's opinion, moreover, the duration of the voyage could not always be included, unless the voyage was direct from port to port. Dr. Monlau asked, in conclusion, why the report, which made mention of the measures of hygiene and disinfection to be applied on board ships before their departure and during their voyage, did not also speak of the measures of the same kind to be adopted on their arrival?

Dr. Bartoletti, replying to the various objections that had been urged, remarked in the first place that the report referred only to physicians appointed by Government, and therefore offering all necessary guarantees. In regard to Dr. Fauvel's objection, that the quality rather than the quantity of baggage should be looked to, Dr. Bartoletti thought that it was unnecessary to say that the intention of the Committee could never have been to constrain travellers to deprive themselves of any portion of their baggage. If, finally, the report said nothing with respect to measures of hygiene on arrival, it was because

everything necessary in this connection had been said in the report of the Committee of which Dr. Monlau had been the reporter.

Dr. Maccas adhered to the views he had urged in the Committee. To reckon the days of the voyage as days of quarantine would be equal, in his opinion, to placing ships on the same footing as lazarettos in the point of view of purification. Now, this was inadmissible, inasmuch as it was opposed to the frequently expressed opinion of the Conference. Dr. Maccas stated that he was not opposed to a slight reduction of the period of quarantine after a long and prosperous voyage, when there was a physician on board, and when no suspicious accident occurred during the voyage, but could the guarantees enumerated in the report be considered as sufficient? If it was seen, by what had occurred last year at Constantinople, that unlimited confidence could not always be placed in the declarations of ships' doctors, could the complete application of the measures of hygiene and disinfection to be taken both before and after the departure of a ship, and notably the washing of the passengers' linen before their embarkation, be seriously admitted to be practically possible? And lastly, could any greater reliance be placed upon the results to be expected from the medical visit? Dr. Maccas, who did not believe it, protested beforehand against the decision of the Conference, if it should adopt the conclusions of the report.

M. Keun was of opinion that nobody should be bound by the declarations of ships' doctors except the sanitary authorities of countries where a sanitary penal code existed with provisions against false declarations.

The President put the 13th section to the vote. It was adopted, text and conclusions, by a majority of 12 to 9, five members declining to vote.

Ayes:—Count de Noidans, Dr. Spadaro, Count de Lallemand; Dr. Fauvel, Dr. Goodeve (under reserve with regard to the last sentence and whatever was opposed to the opinions expressed by him relative to the previous chapters), Dr. Dickson, Dr. Sawas, Dr. Bykow, M. Stenersen, Dr. Baron Hübsch, H. E. Salih Effendi, and Dr. Bartoletti.

Noes:—M. Vetsera, Dr. Sotto, Dr. Monlau, M. Kalergi, Dr. Maccas, Professor Bosi, M. Keun, Dr. Millingen, and Dr. Pelikan.

Declined to vote:—M. Dumreicher, Dr. Salvatori, Chevalier Pinto de Soveral, Baron Testa, and Dr. Mühlig.

With the view of anticipating the various interpretations that might be given of his abstention, Dr. Mühlig stated that he was not opposed to the principle of reckoning, in certain cases, the duration of the quarantine from the date of departure, but he considered that the application of this principle was dangerous when only ten days of quarantine were admitted, a period as to the insufficiency of which he had already expressed his opinion.

The 14th section was read.

Dr. Dickson desired that the word *rigorous* might be struck out of the conclusion: if the performance of quarantine on board was allowed, there was no longer any question of a rigorous quarantine.

The 14th section was put to the vote and adopted unanimously, with the exception of M. Dumreicher, who declined to vote. Dr. Dickson voted under reserve.

The 15th section was read.

Dr. Fauvel said he would vote for this section, but he disputed the accuracy of the assimilation established by the report between arrivals by land and arrivals by sea, and on which it rested in consenting to the reduction of the quarantine applicable to the former, in certain cases, to eight days.

Dr. Sawas replied that the Committee, without meaning to establish an assimilation which was impossible, had merely taken into consideration certain conditions peculiar to arrivals by land. Every contaminated ship itself became a choleraic focus in the midst of which and of confined air her passengers stayed, and the air too was often vitiated by the clothes of the passengers, and sometimes too by the vicinity of persons suffering from cholera and from diarrhoea, who could easily travel by sea, and who must be kept on board. Now, these were evidently unfavorable circumstances, which did not occur in a land journey. On land every cholera patient was necessarily compelled to stop *en route*, and even persons suffering from diarrhoea could with difficulty endure the fatigues of the journey; and as caravans travelled in the open air, the aeration, which constituted one of the surest means of disinfection, was effected naturally. Dr. Sawas repeated that no sort of assimilation had been thought of, but if it were impossible to accord to arrivals by land, whatever might be the length of their journey, the exceptional facilities allowed in favor of certain classes of ships, it was not to be forgotten that land lazarettos were far from being so well established as maritime lazarettos. This alone, in the opinion of Dr. Sawas, would justify the reduction of the quarantine to eight days for arrivals by land whose stay in insufficient establishments, when no danger could result from them, it was useless to prolong.

M. Bosi was opposed to the reduction of the quarantine for arrivals by land. This quarantine, if it were once deemed possible to maintain it, ought to be as serious as that to which maritime arrivals were subjected. M. Bosi cited some facts observed last year during the epidemic in Italy, which seemed to him to demonstrate the necessity of maintaining the duration of the quarantine at ten days at least.

Dr. Bartoletti, replying to a question put by Dr. Fauvel, remarked that, in the opinion of the Committee, the reduction of the period of quarantine for arrivals by land could not be thought of unless they were exempt from cholera.

Convinced as he was of the danger that was generally attendant upon the diminution of quarantines, Dr. Maccas said he was no partisan of the reduction consented to by the Committee for arrivals by

everything necessary in this connection had been said in the report of the Committee of which Dr. Monlau had been the reporter.

Dr. Maccas adhered to the views he had urged in the Committee. To reckon the days of the voyage as days of quarantine would be equal, in his opinion, to placing ships on the same footing as lazarettos in the point of view of purification. Now, this was inadmissible, inasmuch as it was opposed to the frequently expressed opinion of the Conference. Dr. Maccas stated that he was not opposed to a slight reduction of the period of quarantine after a long and prosperous voyage, when there was a physician on board, and when no suspicious accident occurred during the voyage, but could the guarantees enumerated in the report be considered as sufficient? If it was seen, by what had occurred last year at Constantinople, that unlimited confidence could not always be placed in the declarations of ships' doctors, could the complete application of the measures of hygiene and disinfection to be taken both before and after the departure of a ship, and notably the washing of the passengers' linen before their embarkation, be seriously admitted to be practically possible? And lastly, could any greater reliance be placed upon the results to be expected from the medical visit? Dr. Maccas, who did not believe it, protested beforehand against the decision of the Conference, if it should adopt the conclusions of the report.

M. Keun was of opinion that nobody should be bound by the declarations of ships' doctors except the sanitary authorities of countries where a sanitary penal code existed with provisions against false declarations.

The President put the 13th section to the vote. It was adopted, text and conclusions, by a majority of 12 to 9, five members declining to vote.

Ayes:—Count de Noidans, Dr. Spadaro, Count de Lallemand, Dr. Fauvel, Dr. Goodeve (under reserve with regard to the last sentence and whatever was opposed to the opinions expressed by him relative to the previous chapters), Dr. Dickson, Dr. Sawas, Dr. Bykow, M. Stenersen, Dr. Baron Hübsch, H. E. Salih Effendi, and Dr. Bartoletti.

Noes:—M. Vetsera, Dr. Sotto, Dr. Monlau, M. Kalergi, Dr. Maccas, Professor Boai, M. Keun, Dr. Millingen, and Dr. Pelikan.

Declined to vote:—M. Dumreicher, Dr. Salvatori, Chevalier Pinto de Soveral, Baron Testa, and Dr. Mühlig.

With the view of anticipating the various interpretations that might be given of his abstention, Dr. Mühlig stated that he was not opposed to the principle of reckoning, in certain cases, the duration of the quarantine from the date of departure, but he considered that the application of this principle was dangerous when only ten days of quarantine were admitted, a period as to the insufficiency of which he had already expressed his opinion.

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Dr. Dickson desired that the word *rigorous* might be struck out of the conclusion: if the performance of quarantine on board was allowed, there was no longer any question of a rigorous quarantine.

The 14th section was put to the vote and adopted unanimously, with the exception of M. Dumreicher, who declined to vote. Dr. Dickson voted under reserve.

The 15th section was read.

Dr. Fauvel said he would vote for this section, but he disputed the accuracy of the assimilation established by the report between arrivals by land and arrivals by sea, and on which it rested in consenting to the reduction of the quarantine applicable to the former, in certain cases, to eight days.

Dr. Sawas replied that the Committee, without meaning to establish an assimilation which was impossible, had merely taken into consideration certain conditions peculiar to arrivals by land. Every contaminated ship itself became a choleraic focus in the midst of which and of confined air her passengers stayed, and the air too was often vitiated by the clothes of the passengers, and sometimes too by the vicinity of persons suffering from cholera and from diarrhœa, who could easily travel by sea, and who must be kept on board. Now, these were evidently unfavorable circumstances, which did not occur in a land journey. On land every cholera patient was necessarily compelled to stop *en route*, and even persons suffering from diarrhœa could with difficulty endure the fatigues of the journey; and as caravans travelled in the open air, the a-ration, which constituted one of the surest means of disinfection, was effected naturally. Dr. Sawas repeated that no sort of assimilation had been thought of, but if it were impossible to accord to arrivals by land, whatever might be the length of their journey, the exceptional facilities allowed in favor of certain classes of ships, it was not to be forgotten that land lazarettos were far from being so well established as maritime lazarettos. This alone, in the opinion of Dr. Sawas, would justify the reduction of the quarantine to eight days for arrivals by land whose stay in insufficient establishments, when no danger could result from them, it was useless to prolong.

M. Bosi was opposed to the reduction of the quarantine for arrivals by land. This quarantine, if it were once deemed possible to maintain it, ought to be as serious as that to which maritime arrivals were subjected. M. Bosi cited some facts observed last year during the epidemic in Italy, which seemed to him to demonstrate the necessity of maintaining the duration of the quarantine at ten days at least.

Dr. Bartoletti, replying to a question put by Dr. Fauvel, remarked that, in the opinion of the Committee, the reduction of the period of quarantine for arrivals by land could not be thought of unless they were exempt from cholera.

Convinced as he was of the danger that was generally attendant upon the diminution of quarantines, Dr. Maccas said he was no partisan of the reduction consented to by the Committee for arrivals by

land. He believed, however, it was his duty to explain under what conditions it deemed such a reduction possible. It was necessary that the travellers should arrive at the lazaretto in good condition, and moreover, that the duration of the journey from the time of their departure from the contaminated place should have been three days' march, pilgrimages and movements of troops being always excepted.

Dr. Dickson said he had not the least confidence in the efficacy of land quarantines, for which reason he had refrained from taking any part in the discussion.

The 15th section was put to the vote and adopted by 15 votes against 5, who declined to vote.

Ayes :— Dr. Sotto, Count de Noidans, Dr. Monlau, Dr. Spadaro, Count de Lallemand, Dr. Fauvel, Dr. Salvatori, Dr. Millingen, Dr. Sawas, Baron Testa, Dr. Pelikan, Dr. Bykow, M. Stenersen, His Excellency Salih Effendi, and Dr. Bartoletti.

Declined to vote :—Chevalier de Dumreicher, Dr. Goodeve, Dr. Dickson, Dr. Maccas, and Professor Bosi.

The 16th section was read. (Question of *disinfection*.)

Having given his opinion, when the general report was under discussion, against the possibility of the transmission of cholera by merchandise, regarded as such in its proper signification, *viz.*, goods proceeding from manufactories and well packed, Dr. Bykow did not believe that disinfection was necessary, except for drills and rags.

And similarly, as he had not admitted that living animals could retain the choleraic germ in their skin and transmit it to men, Dr. Bykow added that he would vote against the 4th paragraph of the section under discussion.

Dr. Mühlig was of opinion that the ship's well (1st paragraph) ought to be disinfected previous to emptying it; moreover, as fumigations were now considered the least efficacious of all modes of disinfection, he was opposed to the employment, as recommended by the Committee, of gaseous chlorine in the purification of ships.

Dr. Mühlig then remarked that it was said (paragraph 2) that the aptitude of merchandise to transmit cholera had not as yet been demonstrated as a fact; indeed, the historic review quoted two facts which tended to prove the contrary.

Dr. Bartoletti explained that the Committee had preferred to base its conclusions upon the decisions of the Conference rather than upon doubtful facts.

In reply to the question put by Dr. Goodeve, Dr. Bartoletti explained that the Committee did not believe it was necessary that non-susceptible goods, which had to be subjected to aeration, should be previously unpacked.

Dr. Maccas stated that it was understood, the matter having been so decided, that the sanitary authorities, if any suspicion existed in their

minds, had always the right of opening cases stated to contain non-susceptible goods, in order to verify their contents.

The only susceptible goods being rags, skins, and other substances which were never packed, Dr. Bartoletti remarked that the verification was useless.

Dr. Fauvel did not see the necessity of retaining first class goods during the whole period of the quarantine : they might be given up before its termination without inconvenience, and the sanitary authorities ought to be allowed to do so on their own responsibility. Ventilation during the whole period of quarantine, on the other hand, did not seem to him to be either the best or the most rapid of the means that might be employed for the disinfection of cases and coverings, and the Committee, in his opinion, would have done better not to have gone into particulars.

Dr. Goodeve having asked what mode would be employed in disinfecting letters and despatches, and notably Indian correspondence, which was forwarded in closed boxes, Dr. Fauvel replied that letters and despatches passed in transit, and that every Government might adopt such means as it thought best for the disinfection of the correspondence received.

Dr. Monlau was of opinion that the use of chlorine should be abandoned in the disinfection of letters; the addresses became obliterated if the letters remained exposed a little too long to the action of that disinfectant.

The 16th section was put to the vote and adopted unanimously, with the exception of Dr. Goodeve, who declined to vote. M. de Dumreicher voted under reserve with regard to such parts of this section as were based upon the decisions of the Conference with regard to quarantines. Dr. Maccas and Dr. Bykow also voted under reserve with regard to the points they had brought to notice, and so did Dr. Millingen as regarded the 4th paragraph.

The 17th section (chapter V) was read.

Dr. Monlau, who pointed out that, as a matter of fact, the *suspicious bill of health* had had no existence since its suppression by the Paris Conference in 1861, believed that the bill ought to receive no sort of qualification at the time of departure. As bills might vary during the progress of the voyage in the event of communication with an infected place, or of suspicious changes in health occurring on board, this matter ought to be left to the sanitary authorities of the port of arrival. In the opinion of Dr. Monlau, who regretted that the Committee had not treated this important question at greater length, there ought to be four different kinds of bills, *viz.*, 1st, the *clean bill* when the ship, coming from a healthy locality, was in good egyptinich condition; 2nd, the *suspicious bill*, when there were reasons for keeping a ship under suspicion, even though coming from an uninfected place; 3rd, the *foul bill*, when the ship came from a contaminated place, but no accidents had occurred during the voyage; 4th and

lastly, the *aggravated bill*, when the ship came from a contaminated place, and cases of cholera had occurred during the passage.

Dr. Monlau also asked what the Committee meant by *sanitary circumscription* of the place of departure. In Spain a radius of six leagues was meant. Dr. Monlau remarked, at the same time, that there was no longer any reason for having sanitary circumscriptions since the establishment of railways.

Dr. Bartoletti remarked that the sanitary circumscription comprised localities sufficiently near the place of departure to allow of the sanitary authorities being equally and exactly informed of all facts interesting to the public health occurring in them.

The 17th section was put to the vote and adopted unanimously.

The 18th section was read.

Dr. Fauvel called the attention of the Conference to the inconveniences resulting from the custom that had prevailed of not commencing to note the existence of cholera upon the bills of health until the epidemic was confirmed, and of neglecting the first cases which were qualified as *sporadic*, as if the first cases marking outbreak of an epidemic were not of the same nature and quite as dangerous, in the point of view of transmission, as those that succeeded them. This usage dated from a period when people were not as yet properly instructed as to the transmissibility of cholera, and when the word *sporadic*, as applied to cholera, was opposed to *endemic*. But at a later period, by strange abuse of language, the word *sporadic*, which signified only *isolated* cases, in *small numbers*, was adopted as a qualification of the disease to be opposed to the word *Indian*, sporadic cholera being taken to signify *cholera nostras*, *i. e.*, non-transmissible. Now, this led to dangerous confusion in practice; and this was why Dr. Fauvel would wish the Conference to express the wish that the word *sporadic* should not be used in bills of health, in which only the existence of *Asiatic cholera* or *cholera nostras*, as the case might be, should be mentioned.

As for the period when mentioned of Asiatic cholera should first be made in the bill, Dr. Fauvel concurred in the opinion expressed by the Committee upon the subject:

Dr. Bartoletti remarked that Dr. Fauvel's proposition was in every point conformable to the views of the Committee.

The entire Conference concurred in the proposition.

The 18th section was put to the vote and adopted unanimously.

The 19th section was read.

Dr. Monlau pointed out that the consular patent, which the Committee required should be done away with, supplied the means of controlling the correctness of the bill delivered by the sanitary authorities, who were sometimes interested in delaying the official announcement of an epidemic, and, therefore, it was not without use in this respect.

Dr. Bartoletti and Count de Lallemand replied that it was necessary to prevent the same ship from being furnished with several bills of health. The consular *visa* would do quite as well as the consular bill, to control the declarations of the sanitary authorities.

Count de Lallemand added that the sanitary authorities of the place of arrival ought always, when there was any variation in statements, to accept the gravest declaration. This was what had been decided by the Conference of 1861.

The 19th section was put to the vote and adopted unanimously, with the exception of M. Dumreicher, who declined to vote.

The 20th and last section was also adopted in the same manner.

The Conference heartily concurred in Dr. Fauvel's motion of thanks to be offered to Dr. Bartoletti, the author of the report which had just been discussed, as well as to all the members of the Committee.

The meeting terminated at 5 P. M.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE, }
DR. NARANZI, } *Secretaries.*

No. 91, dated 17th July 1867.

From—The Secretary of State for India.

To—His Excellency the Right Hon'ble the Governor General of India in Council.

In continuation of my Despatch of the 8th May last, No. 44, I herewith transmit a copy of Protocol No. 44 of the Proceedings of the Cholera Conference at Constantinople with an Index and Title page (the latter being adapted for two volumes) to the completed sets of Protocols. I also forward a copy of the final Act of the Conference; these several documents have been sent to this office by desire of Her Majesty's Secretary of State for Foreign Affairs.

2. Protocols, Nos. 42 and 43 were despatched to your Government by the mail of the 10th ultimo.

INTERNATIONAL SANITARY CONFERENCE SITTING

NO. 44, OF THE 23RD OF SEPTEMBER 1866.

HIS EXCELLENCY SALIH EFFENDI, *President.*

In the year 1866, on the 26th of September, at noon, the Conference held its 44th sitting in the usual place of meeting at Galata-Serai.

PRESENT:*For Austria :*

M. Vetsera, Councillor to His Imperial Majesty's Internonciature.

Dr. Sotto, Physician attached to His Imperial Majesty's Internonciature, Director of the Austrian Hospital.

For Belgium :

Count de Noidans, Secretary to the Legation of His Majesty the King of the Belgians.

For Denmark :

Chevalier Dumreicher, Consul-General to His Majesty the King of Denmark at Alexandria.

For Spain :

Dr. Monlau, Member of the Superior Board of Health of Spain.

For the Papal States :

Monseigneur Brunoni, Archbishop of Jaron, Vicar-Apostolic at Constantinople.

Dr. Ignace Spadaro.

For France :

Count de Lallemant, Minister Plenipotentiary.

Dr. Fauvel, French Sanitary Physician.

For Great Britain :

Dr. Goodeve, Surgeon-Major of the Indian Army, and Honorary Physician to the Queen.

Dr. E. D. Dickson, Physician to Her Britannic Majesty's Embassy, and Delegate from Great Britain to the Superior Board of Health at Constantinople.

For Greece :

Dr. G. A. Maccas, Chief Physician to the King, Clinical Professor of Medicine in the University of Athens.

For Italy :

M. A. Vernoni, Chief Interpreter to the Legation of His Majesty the King of Italy.

Professor Frederic Bosi.

Dr. G. Salvatori, Italian Delegate to the Superior Board of Health at Constantinople.

For Persia :

Mirza Malkom Khan, Aide-de-Camp General of His Majesty the Shah, Councillor to His Legation.

For Portugal :

Chevalier Edward Pinto de Soveral, Chargé d' Affaires.

For Prussia :

Baron Testa, Delegate from Prussia to the Superior Board of Health.

Dr. Mühlig, Physician to the Legation, and Chief Physician of the Ottoman Marine Hospital.

For Russia :

Dr. Pelikan, Minister of State, and Director of the Civil Medical Department in Russia.

Dr. Bykow, Councillor of State, and Joint Military-Medical Inspector of the Arrondissement of Wilna.

For Sweden and Norway :

M. Oluf Stenersen, Chamberlain to His Majesty the King of Sweden and Norway, Secretary to His Legation at Constantinople.

Dr. Baron Hübsch.

For Turkey :

His Excellency Salih Effendi, Director of the Imperial School of Medicine at Constantinople and Chief of the Medical Staff.

Dr. Bartoletti, Inspector General of the Ottoman Sanitary Service, and Member of the Superior Board of Health at Constantinople.

(For Egypt :)

Dr. Salem Bey, Professor of Clinical and Medical Pathology in the Cairo School of Medicine, and Private Physician to the Princess-Mother of His Highness the Viceroy of Egypt.

His Highness A' ali Pacha, Minister of Foreign Affairs, was introduced by the President of the Conference.

His Excellency the President gave permission to speak to Count de Lallemand, President of the Commission entrusted with the duty of drawing up a statement of the conclusions adopted by the Conference. Count de Lallemand read over the Report of the Commission (*vide* annexation to the present proceedings.) After the reading of this report or concluding statement, His Highness A' ali Pacha made the following speech :—

“GENTLEMEN,—On the day on which I had the honor of being present at your first sitting, I expressed to you the conviction of my August Sovereign and of His Government that you would accomplish with success the high mission which had been entrusted to your lights.

“You have fully justified that conviction, Gentlemen. The scourge which afflicts humanity since so many years, and the means of preserving it from this scourge, have never been the object of such deep and also conscientious studies, as those which you have now concluded

Your labors will remain as a monument, and you can reckon on the blessings and gratitude of the whole world. Our wishes from this time forward can only be expressed for the realisation of the ideas you have brought forward ; and I am able to assure you that the Sublime-Porte, in taking them into serious consideration, will do her utmost to facilitate their being carried out.

“ I seize this opportunity to repeat to you once again that the Sublime-Porte is glad that the capital of the Empire was chosen for the meeting of a Conference whose deliberations will not fail, we are certain, to lessen, if not cause to disappear, entirely the terrible disease, which, up to the present time, has caused such fearful ravages. I have only now to thank you on the part of His Majesty the Sultan for the enlightened care with which you have fulfilled the task which was confided to you.

“ I also particularly thank the Conference for having displayed so much good-will in the solution of the sanitary question which especially concerns the Imperial Government, and which refers to a reform in the tariff of the sanitary dues in the Ottoman ports.

“ I trust, Gentlemen, that a diplomatic understanding will be soon established between the different Governments, for the purpose of fixing an equitable adjustment on that head.”

Count de Lallemand, in making himself the exponent of the feelings with which his colleagues are animated, expressed in feeling terms the grateful acknowledgment of the entire Conference, for the generous hospitality it had received from the Imperial Government, and for the friendly courtesies for which it was indebted to His Highness the Minister of Foreign Affairs.

M. Fauvel asked His Highness to allow him to say a few words.

He thought that he expressed the wishes of the entire Conference in bringing to the favorable notice of the Imperial Government and of His Highness particularly, Dr. Naranzi, who had discharged the duties of Secretary to the Conference with a great deal of zeal and ability, and who had greatly contributed to the elucidation of many questions by his able and precise reports of its debates.

The reward, M. Fauvel went on to say, which the Conference sought to obtain for M. Naranzi was, that the Government should confirm him in the appointment which he held provisionally on the Board of Health where, in order to assist their deserving colleague Dr. Bartoletti, on whom had devolved one of the most important duties of the Conference, he had kindly, for several months, discharged the duties of secretary. The post of secretary to the Superior Board of Health, said M. Fauvel, requires a man well versed in sanitary affairs ; and M. Naranzi has acquired the necessary experience owing to the duties he has just discharged both in the Conference and on the Board too. Besides, it is quite indispensable that Dr. Bartoletti should be lightened of the burden of reporting the minutes of the Board, in order

that he may be able to devote entirely his great experience to the improvements of the sanitary service, which are a natural result of the labors of the Conference.

In support of the wish expressed by M. Fauvel, all the Delegates declared that they fully approved of the favor he had solicited for M. Naranzi.

His Highness A'ali Pacha, in reply to M. Fauvel, said, that he was happy to hear him speak in such terms of M. Naranzi, whom the Ottoman Government had proposed as secretary to the Conference.

His Highness the Minister of Foreign Affairs assured the Conference, that he would have much pleasure in bringing M. Naranzi to the favorable notice of His Majesty the Sultan, and that he would not fail to inform the Government of the favor which the Conference, through M. Fauvel, had just solicited for him.

Whereupon His Highness the Minister of Foreign Affairs declared the Conference to be closed and withdrew. His Excellency the President authorized the secretaries to proceed with the reading of the minutes of the last two sittings.

They were adopted unanimously.

Count de Lallemand begged His Excellency the President to sign the concluding statement which he had read over, in order that all the Delegates might sign it before they separated.

M. Maccas proposed that they should be allowed to sign it also for the Delegates who were not present. M. Pinto de Soveral opposed this motion, and declared that he would consider as illegal every signature affixed to the concluding statement after the closing of the Conference.

As far as he was personally concerned, he did not mean to sign it for his colleague Dr. Gomez, notwithstanding that he was well aware of the purport of the concluding statement previous to his departure from Constantinople.

They could only sign for the Delegates who were not present except by special authority received from them and by proxies accepted by the Conference.

As none of the Delegates had received this authority, M. de Soveral still adhered to his opinion, namely, that none but the Delegates present at the sitting should be allowed to sign.

After having heard the opinion of several Delegates, the Conference decided to leave the concluding statement still open for three days with M. Naranzi, in order that those Delegates, who were not present at the sitting, and who had not as yet left the capital, might have the opportunity of signing it.

MM. Segovia and Kalergi, being still in the country, they would be asked to sign the concluding statement. There would be then thirty-one signatures affixed to it.

It was then signed by twenty-nine Delegates. M. Bartoletti, having received permission to speak, then said :—

“ I fully concur in the wish expressed by the Conference with regard to our worthy secretary M. Naranzi. As Delegate of the Sublime-Porte, I think that I am expressing the feelings of the entire Conference in proposing, that it should return a well-earned vote of thanks to his colleague Baron de Collongue, who shared with him with so much zeal and distinction the onerous and delicate duty of reporting the minutes of the Conference.”

His Excellency then addressed the meeting as follows :—

“ GENTLEMEN,—After eight months of unremitting and arduous labor you have accomplished your task.

“ You have conscientiously carried out the scientific as well as humane mission confided to you by your Governments, and you have erected a grand scientific monument which bears irrefutable testimony to your intelligence, and at the same time, to your zeal and devotion in the cause of humanity.

“ Having been elected by you to direct your difficult labors, you made my task less difficult and more easy by giving me your valuable assistance and powerful support.

“ I shall always have a lively recollection of the pleasant hours devoted to study in common with you, for several months, and I shall always retain a sympathetic and affectionate feeling for the illustrious assembly over which I have had the honor of presiding.

“ As we are on the eve of separating and of taking leave of each other, allow me to hope, Gentlemen, that you share my feelings, and, that it is not without regret, that you leave the Ottoman soil.”

His Grace Monseigneur Brunoni in the name of the Conference assured His Excellency Salih Effendi that, in the exercise of his delicate duties, both as President of the Conference as well as first Delegate to the Sublime-Porte, he had won the sympathy and esteem of all his colleagues.

M. Fauvel added that the Conference wished the Sublime-Porte to be informed that His Excellency Salih Effendi had fully justified the confidence placed in him, and that he had won the profound esteem of all his colleagues.

The International Sanitary Conference having accomplished its task then broke up, whilst expressing at the same time the hope that its labors would produce good results.

The meeting dispersed at 4 P. M.

SALIH,

President of the Sanitary Conference.

BARON DE COLLONGUE,
DR. NARANZI, } *Secretaries.*

INTERNATIONAL SANITARY CONFERENCE.

(ANNEXATION TO MINUTE NO. 44.)

Précis.

Of the conclusions adopted by the Conference in answer to its programme,

Preceded by a Prologue,

Submitted by a Commission composed as follows:—

Count de Lallemand, *President*; Don A. M. Segovia, Count de Noidans, Doctors Bartoletti, Goodeve, Fauvel, and Monlau, *Members*.

The International Sanitary Conference, on the eve of dissolving itself, deems it its duty, before concluding its labors, to append a document which should set forth the spirit with which it was animated, and which should give men in authority and of science, as well as the public in general, a means of acquiring a thorough knowledge of the resolutions adopted by it.

The Conference, which was inaugurated on the 13th day of February of this year by His Highness A'ali Pacha, has ever remained faithful to the spirit which presided at its convocation, and which that Minister defined in a friendly speech, as the spirit of science and of philanthropy. To assist science, and, through her, to serve the interests of humanity and of the public health in general, has been the sole and constant aim of the Conference. As soon as it had met under the presidency of His Excellency Salih Effendi, first Delegate from Turkey, and after having settled the mode of voting and the order of the debates, the Conference had to proceed at once to the discussion of an urgent proposition brought forward by two of its members, the Delegates for France, which had in view to preclude, from this very year, the chance of a new importation of Asiatic cholera into Europe by Egypt. It could not put aside with indifference the thought, that at the very time it was consulting on future and perhaps remote means of preservation, cholera might be making a fresh irruption on the shores of the Mediterranean in the wake of the pilgrims returning from Mecca. The Conference, therefore, took the proposition which had been laid before it into consideration, and after a debate which was carried on through four sittings, it was adopted by a majority of 17 votes against 8. (*Vide* minutes Nos. 3, 4, 5 and 6). At the same time, the Conference confided to a Committee the duty of drawing up a programme of its labors.

This Committee handed in its report on the 8th September at the seventh meeting, and the Conference adopted, with the exception of a few additions and transpositions which were deemed necessary, the programme of studies which was laid before it, together with its division into four groups of questions. The fourth, which hardly deserves that name, consists in one single question which is answered by the

present document, and refers to what form to give to the resolutions about to be adopted by the assembly.

The Conference refers to the annexed table for the abstract of the conclusions adopted in answer to the questions in the programme, and confines itself to recording here the judgment which it has formed on the result of its labors.

As to what concerns the first portion of its studies, namely, that which comprises the origin, endemic character, transmissibility and propagation of cholera, the Conference does not pretend to have solved all the problems on these difficult and important points; but it feels satisfied that it has not overlooked any one of them, also, that it has not propounded any rash conclusions, and lastly, that it has clearly indicated what are the necessary steps to be taken hereafter.

With regard to the second portion of its labors, the Conference feels more confident. It is of opinion that if the measures which it recommends are not even entirely and completely carried out, which it can hardly look for, but merely the principal and essential parts of them, the end it had in view will have been attained; that is to say, that the chances of the importation and of the propagation of Asiatic cholera will be reduced to a minimum.

The Conference being confident of the result, in submitting its work to the approval of the Governments who convoked it, implores their powerful support for the same work, which is theirs likewise. Having carefully avoided all matters of a political nature, as it was bound to do, the Conference confidently hopes that no other interests but those of the public health will be brought to bear against a perfect understanding being established between them, which is most desirable with a view to mutual preservation. It, therefore, with profound respect for the Governments, their knowledge and their philanthropical intentions, invites them to come to an understanding, as a measure of forethought, for the safety of nations.

PRECIS OF THE CONCLUSIONS.

FIRST GROUP OF QUESTIONS.

Origin and genesis of Cholera, its endemic and epidemic character in India.

Conclusions.

Asiatic Cholera, that which has repeatedly overrun the world, takes its origin in India where it sprang from, and where it exists in an endemic form.

Adopted unanimously. Minute No. 14, page 4.

The Conference considers that it is clearly shown that invading Asiatic cholera has never developed itself spontaneously, and has

never been observed in an endemic form, in any of the countries just enumerated, viz., Europe, &c., (secondary foci which are more or less tenacious are not comprised among these,) and that it has always been imported into these countries. With regard to those bordering on India, whilst admitting that it is improbable that cholera exists in them in an endemic form, yet the Conference does not consider itself authorised to come to any decided conclusion on that point.

Adopted by 19 votes against 2. Minute No. 16, page 11.

The Conference, without completely setting aside the possibility of cholera becoming acclimatized in our countries, still considers it as unlikely.

Adopted unanimously. Minute No. 16, page 11.

Asiatic cholera does not appear to spring from a primitive focus in the Hedjaz, but it seems to have been regularly imported into it up to the present time.

Adopted by 19 votes; none against. MM. Dickson, Goodeve and Monlau abstained from voting.

Minute No. 17, page 9.

With regard to the endemic character of cholera in India, the Conference can only reply, that there are certain localities in India, chiefly comprised in the valley of the Ganges, where cholera exists in an endemic form, without its being possible to particularise them, or to assert that they alone possess the privilege of giving birth to this malady.

Adopted unanimously. Minute No. 17, page 9.

With regard to the causes of the endemic nature of cholera, the Conference replies that it does not know the special conditions under the influence of which cholera has its birth in India and exists there in certain localities in an endemic form.

Adopted unanimously. Minute No. 17, page 9.

With regard to the causes which combine to develop and propagate epidemics of cholera in India, the Conference is of opinion that pilgrimages are, in India, the most powerful of all the agents which combine to develop and propagate epidemics of cholera.

Adopted unanimously. Minute No. 17, page 10.

SECOND GROUP OF QUESTIONS.

Transmissibility and propagation of Cholera.

1st.—Proofs of the transmissibility deduced from the march of epidemics of cholera.

Conclusion.

Do not all the facts adduced from first to last clearly show that cholera is propagated by man with a rapidity which has become greater in proportion as his own facilities of migration have become

greater and more rapid? The Conference without any hesitation replies that such is the case.

Adopted unanimously, with the exception of M. Monlau who abstained from voting. Minute No. 18, page 7.

2nd.—Proofs deduced from facts establishing the propagation of cholera by importation.

3rd.—Proofs deduced from the progress of epidemics of cholera in infected localities.

4th.—Proofs deduced from the efficacy of certain preventive measures.

The portion of the text relating to these proofs was adopted by 21 votes. MM. Segovia, Monlau, Malkom, Sawas and Gomez, abstained from voting. Minute No. 18, page 8.

General conclusion of the Chapter.

The Conference is of opinion that the transmissibility of Asiatic cholera is an undeniable fact, proved by facts which do not admit of any other interpretation.

Adopted unanimously. Minute No. 18, page 8.

With regard to the propagation of cholera by means of the atmosphere, the Conference replies, that not a single fact has been adduced as yet to show that cholera may be propagated to a distant spot by the agency of the atmosphere alone, under any conditions whatsoever; and, moreover, that it is an established rule, without one single exception, that no epidemic of cholera has ever spread from one spot to another in less time than it would take man to reach it too.

Adopted unanimously. Minute No. 18, page 8.

In what way is the importation of cholera effected, and what are the agents of transmission?

Man attacked with cholera is, in his own person, the chief propagating agent of this malady, and one single cholera patient can originate the development of an epidemic.

Adopted unanimously. Minute No. 18, page 8.

The Conference has come to the conclusion, that certain facts tend to prove that one single individual (the more so if there are several) coming from an infected place, and suffering from diarrhoea, will suffice to give rise to the development of an epidemic of cholera, or, in other words, that the so-called premonitory diarrhoea can transmit cholera.

Adopted unanimously, with the exception of M. Millingen. Minute No. 18, page 9.

Conclusion.

In nearly every case, the period of incubation, that is to say, the time which elapses between the moment that an individual has contracted the cholera poison and the commencement of the

premonitory diarrhoea or confirmed cholera, never exceeds a few days. All the facts brought forward of a longer incubation refer to cases which are by no means conclusive, either because the premonitory diarrhoea was included in the period of incubation, or because contamination may have taken place after the departure from the infected spot.

Adopted by a majority of 20 votes against 1, that of Salem Bey MM. Millingen, Malkom Khan and Sawas abstained from voting. Minute No. 18, page 10.

With regard to the question whether cholera can be imported and be transmitted by living animals, the Conference replies as follows:—There is no known fact to show that cholera has ever been transmitted by living animals; it is proper notwithstanding to consider them, in certain cases, as of objects capable of doing so.

The first portion of this conclusion was adopted unanimously; the second by 16 votes against 8; 3 abstained from voting. Minute No. 18, pages 14 and 15.

In answer to the question whether cholera can be imported and be transmitted by means of wearing apparel, rags, &c., the Conference replies, that cholera can be transmitted by means of clothes in wear coming from an infected place, and especially by those which have been made use of by people suffering from cholera; and that there are facts to prove that the malady can be transmitted to a distant place by means of these same clothes when kept packed up and not exposed to the action of fresh air.

Adopted by 21 votes against 2, (MM. Dickson and Stenersen); 2 did not vote (MM. Keun and Lenz). Minute No. 19, page 9.

With regard to the influence of deserts, the Conference, depending on facts demonstrated by experience, is of opinion, that large deserts are a very efficacious barrier against the propagation of cholera, and it admits that there is no case on record to show that cholera has ever been imported into Egypt or Syria, across the desert, by caravans coming from Mecca.

Adopted by 22 votes. MM. Polak, Monlau and Maccas abstained from voting. Minute No. 20, page 13.

On the influence of assemblages.

The Conference replies in a general way, that all assemblages of men, in which cholera makes its appearance, offer favorable conditions for the rapid spread of the malady, and also for the outbreak of a violent epidemic, should the assemblage be laboring under bad hygienic conditions. That, in such a case, the rapidity with which the disease spreads itself is in proportion to the concentration of the assembled mass, whilst the violence of the epidemic is, under similar circumstances, greater in proportion as the individuals forming the whole mass have been less under the influence of cholera, or have remained uninfected; that is to say, in other words that

individuals who have been already under the influence of a cholera focus have the advantage of a sort of comparative and temporary immunity which counterbalances the grievous effects of crowding. Lastly, that the more rapidly an assembled mass disperses itself, the sooner will the epidemic disappear, unless new healthy arrivals should come and furnish fresh food for the malady, and thus keep it alive.

Adopted by 20 votes. MM. Segovia and Monlau abstained from voting. Minute No. 20, page 15.

With regard to goods, the Conference, whilst certifying unanimously to the absence of proof in support of the transmission of cholera by means of goods, admits, (by a majority of 16 votes against 5 and 3 who did not vote) that they are capable of doing so under certain conditions.

In summing up what has been said in the preceding paragraphs, the Conference, till more precise information can be obtained, is of opinion that it would be right to consider as suspicious everything coming from a cholera focus, unless fulfilling certain specified conditions.

Adopted by 14 votes; 10 did not vote. Minute No 19, pages 12 and 13.

With regard to the corpses of persons affected with cholera, the Conference replies: that although it is not shown by conclusive facts that the corpses of persons affected with cholera can transmit it, yet it is right to look upon them as dangerous.

Adopted by 22 votes. M. Sawas did not vote. Minute No 20, page 5.

On the influence of means of communication.

The Conference is of opinion that means of communication by sea are naturally the most dangerous; that they transmit cholera to distant places with more certainty than any others; that after them come railroads, who have it in their power to transmit the malady to places at a great distance, in a very short space of time.

Adopted unanimously. Minute No. 20, page 5.

With regard to ships, the Conference is of opinion, that the violence of epidemic of cholera on board ships crowded with men is, in general, in proportion to the crowding, and that it becomes greater likewise, should these men happen not to move out of a cholera focus in which they have remained for some time; that the spread of epidemics of cholera on crowded ships is usually rapid. Lastly, the Conference adds that the danger of importation by ships, and that of giving rise to a serious epidemic do not depend entirely on the violence or even the

existence of certified cases of cholera on board a ship during its passage.

Adopted by 19 votes ; none against. M. Maccas abstained from voting. Minute No. 20, page 18.

With regard to lazarettos, the Conference is of opinion that the crowding of individuals coming from a place infected with cholera, in a lazaretto does not cause any great spread of the malady amongst those undergoing quarantine, but that such an assemblage is nevertheless very dangerous for the neighbourhood, as it is likely to favor the propagation of cholera.

Adopted by 15 votes ; none against. M. Monlau abstained from voting. The other members were absent. Minute No. 20, page 20.

Regarding large assemblages of men, the Conference is of opinion, that large assemblages of men (armies, fairs, pilgrimages,) are the surest agents of the propagation of cholera ; that they become immense epidemic foci which, whether they march in the same way as an army, or whether they scatter themselves over the country like fairs and pilgrimages, are sure to import the malady into the countries through which they pass ; that these assemblages, after having been subjected, usually in a very rapid manner, to the influence of cholera, become less sensitive to its influence, and that it even disappears very rapidly from amidst them, unless fresh arrivals should come to keep the malady in existence.

Adopted unanimously (22 votes.) Minute No. 21, page 6.

With regard to the influence of dissemination, the Conference is of opinion, that the dissemination of an assemblage, if effected in time, may render an epidemic of cholera which has just appeared in the midst of it less violent, and may even prevent it from spreading ; but that this dissemination, on the contrary, would give rise to the danger of propagation, should it be effected in the midst of still uninfected countries.

Adopted unanimously (22 votes.) Minute No. 21, page 9.

With regard to the part performed by the pilgrimage to Mecca, the Conference is of opinion that the part performed by the pilgrimage to Mecca as propagating agent of cholera in connexion with the countries bordering on Europe (the only ones concerning which we have any positive information) has been, that of importing this malady into Egypt twice, with an interval of 34 years, during the hot season.

Adopted unanimously (22 votes.) Minute No. 21, page 9.

On the influence of hygienic conditions.

In conclusion the Conference admits, that the hygienic conditions and the other conditions which in general predispose a popula-

tion to contract cholera, and which consequently favor the intensity of epidemics are: want with all its consequences, the accumulation of individuals, their sickly condition, the hot season, want of air, the exhalations of a porous soil impregnated with organic matter, especially if this matter proceeds from choleraic dejecta. Further, the Conference is of opinion that, as it appears to be demonstrated by experience that the dejecta of people suffering from cholera contain the generating principle of cholera, it cannot err in admitting that drains, water-closets, and the contaminated water of towns, may become the propagating agents of the malady. The Conference adds that it is demonstrated by certain facts that the soil of a place, when once impregnated with choleraic *detritus*, has been known to preserve for a considerable time the property of evolving the principle of the malady and of thus keeping up an epidemic, or even of re-kindling it when it was extinguished.

Adopted unanimously (19 votes.) Minute No. 21, page 14.

On immunity with regard to Cholera.

In conclusion, the immunity enjoyed by certain places, in other words, the resistance, either permanent or temporary, general or partial, offered by certain places to the development of cholera within their limits, is a fact which does not do away with transmissibility, but which indicates that certain local conditions, not yet all recognized, form an obstacle to the development of the malady.

In the same way the immunity, more or less entire, or more less lasting, enjoyed by most people placed in the centre of a focus of cholera, and which shows the individual resistance to the toxic principle, is a circumstance we ought by no means to overlook.

With regard to epidemic development, immunity is the corrective of transmissibility, and with regard to prophylaxy, it points out certain measures which conduce to keep the ravages of the malady within bounds.

Adopted by a majority of 21 votes against 1, M. Sawas. MM. Monlau, Maccas and Stenersen abstained from voting. Minute No. 22, page 15.

Deductions relating to the attributes of the generating principle of Cholera.

To sum up, the opinion of the Conference is that, in the present state of science, nothing but hypotheses on the nature of the generating principle of cholera can be given. We only know that it springs from certain countries in India, and that it remains there permanently; that this principle regenerates itself in man, and accompanies him in his travels; that it can thus be propagated to a distance, from land to land, by successive regenerations, but without ever reproducing itself spontaneously outside of man himself.

Adopted unanimously (25 votes), with the exception of Dr. Goodeve, who abstained from voting. Minute No. 22, page 15.

With regard to the vehicles of the generating principle of cholera, the Conference is of opinion, that the circumambient air is the principal vehicle of the generating agent of cholera, but the transmission of the malady by the atmosphere is, in the immense majority of cases, limited to a certain distance very close to the focus of emission. With regard to the facts cited as to the transport by means of the atmosphere to a distance of one or several miles, they are not sufficiently conclusive.

Adopted by a majority of 24 votes; none against. M. Sawas abstained from voting. Dr. Goodeve voted under reserve relating to the distance. Minute No. 22, page 16.

According to the opinion of the Conference, water and certain ingesta may also serve as vehicles to the introduction into the organisation of the generating principle of cholera.

That being admitted, it necessarily follows that the duets through which the toxic agent penetrates into the system, are principally the respiratory duets and very probably, too, the digestive duets. With regard to penetration through the skin, no fact can be adduced in support.

Adopted unanimously. Minute No. 22, page 17.

With regard to the principal receptacles of the choleraic germ, the Conference is of opinion that the matter contained in choleraic dejecta being without any doubt the principal receptacle of the morbid agent, it follows that everything that is contaminated with these dejecta becomes also a receptacle from which the generating principle of cholera can evolve itself, under the influence of favorable conditions. It follows, again, that the reproduction of the choleraic germ is effected very likely in the digestive duets alone, perhaps, and not in any of the others in the system.

Adopted unanimously (26 votes.) Minute No. 22, page 17.

With regard to the duration of the morbid activity of the germ out of the system, the Conference replies that the study of facts shows that the generating principle of cholera rapidly loses its morbid activity in the open air, and that it is generally the case; but that in certain cases when confined, this activity may be prolonged to an indefinite time.

Adopted unanimously (25 votes.) Minute No. 22, page 17.

With regard to the duration of choleraic diarrhœa, the Conference declares that from observations made we learn that the duration of choleraic diarrhœa, called premonitory,—which ought not to be confounded with all the other diarrhœas which exist during a cholera season,—does not exceed a few days.

The facts adduced being exceptional do not prove that the cases of diarrhoea which exceed that time are either cholera or capable of transmitting the malady, when the individual attacked has been withdrawn from all chances of contamination.

Adopted by 15 votes against 4, MM. Monlau, Millingen, Gomez and Mühlig. MM. Vernoni, Keun and Sawas abstained from voting. MM. de Lallemand and Maccas voted with a reserve regarding the second portion of the conclusion.

REPORT ON THE MARCH AND MODE OF PROPAGATION OF CHOLERA IN 1865.

Conclusions adopted by the Conference.

From the facts observed in 1865, we learn *1st*, that the propagation of cholera is brought about by the migrations of man, whatever means of locomotion he may employ to effect them; *2nd*, that propagation is all the more to be dreaded in proportion as the means of locomotion are more rapid and more multiplied; *3rd*, that under similar circumstances, a large infected mass or one single individual may propagate cholera to a great distance.

THIRD GROUP OF QUESTIONS.

I.

MEASURES OF HYGIENE.

Conclusions.

The Conference replies as follows:—We do not know of any direct means to extinguish endemic foci of cholera, but we may hope to succeed in doing so by carrying out a series of measures together, the foremost of which will be measures of hygiene.

Adopted unanimously. Minute No. 24, page 11.

With regard to naval hygiene, the Conference thinks that the following steps ought to be taken:—

1st.—To open to competition, and to award prizes to the authors of discoveries or of improvements which might bring about at once any favorable change whatever in the sanitation of ships, in the improvement of the hygienic conditions of their crews, or in the welfare of the passengers.

2nd.—To publish a manual of naval hygiene for the guidance of the mercantile navy of each country. All captains and masters of vessels should be bound to carry out the chief instructions as laid down in this manual.

3rd.—To encourage by means of bounties and rewards those ship-owners, captains or masters of vessels who have made themselves conspicuous for the proper maintenance of their ships and of their crews.

Adopted unanimously. MM. Millingen, Testa, Mühlig and Salem Bey abstained from voting. Minute No. 29, page 4.

According to the opinion of the Conference during the cholera season especially, we ought to seek to avoid the inconveniences and dangers arising from bad anchoring ground, from badly selected drinking-water and stores, from crowding, from the sanitary condition of the men on board, from the condition of the wearing apparel, from the quality of the goods, from the want of separation of the sick, from the want of ventilation in the ship and of the airing of wearing apparel, and especially from the want of cleanliness in the water closets.

Adopted unanimously. Minute No. 29, page 4.

The Conference is of opinion that the sanitation of harbors, the prohibition to empty the sewers of the town into them, periodical dredging, and an efficient sanitary police kept up within them, are all measures of hygiene of the greatest importance, with a view to preservation from all transmissible maladies in general and from cholera in particular.

Adopted unanimously. Minute No. 25, page 8.

According to the Conference, the sanitation of towns is a preventive measure of the highest importance in order to offer a proper resistance to cholera and to lessen its effects.

The sanitation of towns should depend principally on the carrying out of certain measures together, with a view to preserving the purity of the air, to supplying the towns with plenty of good water, and to preventing the infection of the soil by means of organic matter.

Disinfection on the spot, and the immediate removal of all excrementary matter, are measures of hygiene of the greatest importance, especially in times of cholera.

Adopted unanimously. Minute No. 25, page 11.

According to the Conference, the proper organisation of public assistance,—general preventive visits, or, in their stead, medical inspections of the houses attacked,—immediate succour given to persons attacked with cholera, the publication of the popular instructions, the encouragement arising from the confidence in the promptitude and the extent of the succours given, from the publication of the real state of the epidemic, as well as from the opening of special hospitals and of temporary houses of refuge to give shelter to the families of the poor who are sick, are all of them very efficacious measures of hygiene

and of administration in order to check the propagation of cholera, and to render it less virulent in the places that have been attacked.

Adopted unanimously. Minute No. 26, page 20.

According to the Conference, the temporary interruption of communications with infected places, provided it is complete, is the surest preventive against the transmission of cholera. The timely removal and the methodical dispersion of moveable masses of men (caravans, bodies of troops, &c.) are very efficacious measures of hygiene to prevent cholera from breaking out among them, as well as to prevent it from spreading and to diminish its violence. Timely emigration and well-regulated dispersion, may produce the same favorable results in stationary masses of men (places, public offices.)

Adopted unanimously. Minute No. 27, page 4.

The Conference is of opinion that disinfection applied to cholera, according to a rational method and with perseverance, becomes a powerful auxiliary:

1st.—To diminish the power of receiving of a locality threatened with cholera.

2nd.—To destroy the germ of the malady imported into a locality; and

3rd.—To limit, under certain favorable conditions, the spread of the epidemic.

Adopted unanimously. Minute No. 28, page 10.

II.

MEASURES TO BE ADOPTED IN THE EAST IN ORDER TO PREVENT FRESH OUT-BREAKS OF CHOLERA IN EUROPE.

PRELIMINARY QUESTIONS.

Conclusions.

The Conference is of opinion that restrictive measures, known before-hand, and properly applied, are much less prejudicial to commerce and to international communications than the panic which strikes industry and commercial transactions immediately after an outbreak of cholera.

Adopted by 20 votes; none voted against. MM. Goodeve, Keun and Millingen abstained from voting. Minute No. 30, page 8.

The Conference is of opinion that the closer the quarantine and other prophylactic measures against cholera are applied to the original

focus of the malady the less troublesome in proportion will they prove, and their capability to preserve Europe (supposing them to be properly applied) will be the more depended upon.

Adopted unanimously. Minute No. 30, page 17.

MEASURES IN INDIA.

Conclusions.

The Conference does not think it impossible to succeed in extinguishing invading cholera in India, and it believes at all events that its epidemic development there can be limited. With this double purpose in view, the Conference recognizes the necessity of prolonged study in order to determine the special causes which produce and maintain the endemic character of cholera, as well as the relations existing between this endemic nature and the epidemic explosions, whilst carrying out at the same time the hygienic improvements already begun. With regard to the particular details, this study should embrace, the Conference refers to what has been said above on this subject.

Adopted unanimously. Minute No. 30, page 19.

Regarding Indian pilgrimages, the Conference thinks that in order to oppose the influence of Indian pilgrimages on the development of cholera, it would be necessary to take the following steps:—

1st.—To endeavour to reduce the number of pilgrims by compelling them, if possible, before starting, to furnish themselves with a pass which should only be given to those who could prove that they were possessed of sufficient means to supply their wants during the voyage.

2nd.—To establish at all the places of pilgrimage a Sanitary Police, capable of carrying out all the measures of hygiene already in force and completed according to the dictates of the experience already acquired.

3rd.—In the event of cholera breaking out amongst the pilgrims, to delay the return of the contaminated mass,—provided that such a measure can be carried out—until after the complete cessation of the epidemic in the mass, and after a general disinfection.

Adopted unanimously, with the exception of Dr. Goodeve with regard to the 1st conclusion. Minute No. 31, page 6.

In the opinion of the Conference, it is of the utmost importance to try and prevent the exportation of cholera by sea from India.

To effect this purpose, the Regulations published in 1858, under the title of Native Passengers' Act, would prove one of the surest means if they were applied without any distinction to all flags in all countries, and if they were completed with regard to sanitary precautions. Moreover, all ships leaving a port in India, should be furnished with a

bill of health delivered by the sanitary authorities appointed for that purpose, and who would at the same time have to see that the Regulations relating to the embarkation of pilgrims were properly carried out. In addition, the Conference deems it necessary to ascertain, whether, in the event of an epidemic appearing in any place in India, it would be possible either to forbid, to postpone, or to prevent the embarkation of the pilgrims at that particular place; and lastly, whether, by following the example of the Dutch Government with regard to its Indian possessions, the Government of British India could not possibly compel every Mussulman pilgrim to prove that he was possessed of sufficient means to meet the expenses of his journey and to support his family during his absence.

Adopted unanimously. M. Goodeve reserved his opinion with regard to certain portions of the text. Minute No. 31, page 11.

MEASURES TO BE ADOPTED IN THE INTERMEDIATE COUNTRIES BETWEEN INDIA AND EUROPE.

A.—Measures against the importation of Cholera from India by Sea.

1st.—The expediency of having a sanitary establishment at the entrance of the Red Sea.

Admitted by all, with the exception of Dr. Goodeve. Minute No. 31, page 14.

2nd.—What should be the nature of this establishment? The Conference thinks that an international character should be a *sine qua non* condition of this establishment. The Governments interested in it would have to fix the nature and degree of assistance each country should afford. It might be taken for granted, for example, that either the Port or the Egyptian Government would assume the direction of this establishment, but only under the control and with the assistance of Europe.

Adopted by 15 votes against 3, *viz.*, MM. Goodeve, Dickson and Bykow. MM. Keun and Millingen abstained from voting. Minute No. 32, page 10.

3rd.—Under what circumstances, how and by whom would these measures be applied?

The Conference is of opinion that these measures should be carried out in accordance with an international act which should specify the cases, and by a Commission under the control of the Governments interested in it.

Adopted by 17 votes against 2, *viz.*, MM. Goodeve and Dickson. Minute No. 32, page 13.

Question of the Pilgrimage to Mecca.

1st.—Organization of the sanitary service on the shores of the Red Sea.

The Conference is of opinion that the sanitary service it is proposed to organise on the borders of the Red Sea, besides an international lazaretto, together with an enforced stoppage at the Straits of Bab-el-Mandeb, should comprise in addition :

1st.—Stations for sanitary physicians, as follows :—Three on the Coast of Africa, at Koséir, Sonakin, and Massowah ; and two for the present, on the Coast of Arabia, the principal one at Jeddah, and the other at Yambo.

2nd.—Two lazarettos: one at El-Wedge, which should be devoted exclusively to the pilgrims; and the other at Tor, to the ordinary arrivals attacked with cholera.

3rd.—A board of health, sitting at Suez, assisted by an International Commission which would settle all questions relating to the sanitary service in the Red Sea.

The two first conclusions were adopted by 14 votes. MM. Goodeve and Dickson voted with a reserve, regarding the place named Tor. At the following sitting several absent members adopted these conclusions :—

The third conclusion was adopted by 18 votes against 4, *viz.*, MM. Goodeve, Dickson, Keun and Bykow. MM. Millingen, Malkom and Salih Effendi abstained from voting.

Minutes No. 32, page 15, and No. 33, page 4.

2nd.—Rules for the departure and precautions relating to the embarkation of the pilgrims.

Adopted unanimously, with the exception of a few remarks by MM. Goodeve and Dickson, Minute No. 33, pages 5 and 6.

3rd.—Measures of hygiene to be carried out at the places of pilgrimage.

Adopted unanimously. Minute No. 33, page 6.

4th.—Can any measures be carried out in the Hedjaz against the importation of cholera by sea or by land? The Conference does not depend in the least on whatever quarantine measures may be carried out in the Hedjaz against the importation of cholera among the pilgrims.

Adopted unanimously. Minute No. 33, page 6.

5th.—Measures to be adopted against the arrivals from the Hedjaz, should cholera break out there during the pilgrimage.

The Conference is of opinion that in the event of cholera appearing in the Hedjaz during the time of the pilgrimage, it would be

prudent to interrupt temporarily, that is to say, during the epidemic, all communication by sea between the ports of Arabia and the coast of Egypt.

The proper application of this measure supposes the existence of a sanitary service organised on the shores of the Red Sea, such as the one proposed above; and moreover, the presence of a body of troops sufficiently strong, both to maintain order among the pilgrims and to furnish the Naval Police. With regard to the latter point, it would be very desirable that the Governments interested should come to an understanding in order to ensure the proper execution of the measures prescribed.

Should this be done, the Conference thinks that the measures could be carried out in the following manner, with such modification as the International Commission sitting at Suez, might deem proper, in order to facilitate their application:—

1st.—In the event of cholera appearing among the pilgrims, the sanitary physicians of the Hedjaz should inform the local authorities of the fact, and likewise the vessels of war stationed at Jeddah and Yambo.

2nd.—On receipt of the declaration made by the above-mentioned physicians, the authorities should make it known to the pilgrims that those who wished to embark for Egypt would be obliged, before getting there, to perform quarantine at El-Wedge, and they should inform them too at the same time that they were at liberty to go by the land-route if they chose.

3rd.—The embarkation should take place, under the superintendence of the sanitary authorities according to their established rules, and in whatever ports they may fix upon.

4th.—The vessels of war should give their assistance to ensure the proper observance of the rules laid down; they should perform the duties of naval police, and they should keep as strict a watch as possible in order to prevent any unauthorised departures.

5th.—On receipt of the intelligence that cholera is raging among the pilgrims, the Egyptian authorities should close all the ports of Egypt to all arrivals from the coast of Arabia, and they should send back all ships arriving from there, to some place on the coast of Arabia, either El-Wedge, or elsewhere, where they might undergo quarantine according to the rules laid down.

6th.—The pilgrims taken to El-Wedge, should be kept there in quarantine, and should not be allowed to start for Egypt until fifteen full days after the disappearance of cholera from among them and after disinfection of their clothes and luggage. On leaving El-Wedge the ships conveying them, those bound for Suez, should be obliged to touch at Tor where they should be placed under observation for 24 hours, and be medically inspected with a view to ascertaining the sanitary condition they are in. A clean bill of health and the

permission to proceed on their voyage should only be given to the ships until such time as the sanitary condition on board is reported to be devoid of danger.

7th.—With regard to the caravan from Egypt, it should stop as before at its usual halting-place near to El-Wedge; it should be medically inspected there, and it should not receive permission to proceed on its journey until clear of cholera for fifteen days.

8th.—With regard to the pilgrims proceeding to India or to other countries beyond the Red Sea, they should be allowed to embark to proceed homewards, but only in conformity with the rules laid down by the sanitary authorities of the port of embarkation.

9th.—Communications by sea between the Hedjaz and Egypt should not be re-established for at least fifteen days after the disappearance of every trace of cholera, which should be officially reported by the authorities of Jeddah. But even then, the ships having on board pilgrims bound to Suez, should be always compelled to touch at Tor, and to remain there for 24 hours for the purpose of being medically inspected as mentioned above. The sanitary authorities at Suez should send back to Tor, any ships not having conformed to this rule.

10th.—*A proper scale of the penalties incurred, for each breach of the prescribed rules, should be published by the International Commission. The English Regulations (Native Passengers' Act) would form an excellent model for that purpose.*

All the above conclusions were adopted unanimously, with the exception of a few objections made by MM. Goodeve and Dickson, M. Gomez voted for a quarantine of ten days only.

Minute No. 33, page 8.

In the event of an epidemic of cholera appearing in Egypt by way of the Red Sea, whilst Europe and Turkey are still uninfected, would it not be best to interrupt for the time being, all communications by sea from Egypt with the entire basin of the Mediterranean?

The Conference replied in the affirmative, by 13 votes against 3, viz., MM. Goodeve, Dickson and Salem Bey; 4 members abstained from voting.

Minute No. 33, page 15.

B.—Measures against the importation of Cholera from India into Europe by land.

Measures in Persia: organisation of a sanitary service, precautions against pilgrimages, the transport of corpses, &c.

The measures recommended in the Report were adopted unanimously. Mirza Malkon Khan and M. Sawas voted under reserve.

Minute No. 34, page 14.

Measures on the Tarco-Persian frontier.

The measures recommended in the Report were adopted by 15 votes; none against. MM, Malkom, Sawas, Keun, Millingen, Gomez and Stenersen abstained from voting.

Minute No. 35, page 7.

Measures against the importation of Cholera by way of Bokhara and the steppes of Tartary.

The text of the Report with a few alterations was adopted unanimously.

Minute No. 35, page 8.

Measures on the Russo-Persian frontier.

The text of the Report was adopted unanimously.

Minute No. 35, page 8.

The summary of the Report was adopted unanimously by the Conference.

Minute No. 35, page 8.

QUARANTINE MEASURES.
III.**APPLICABLE TO ARRIVALS SUFFERING FROM CHOLERA.***General review of the question of restrictive measures.**Conclusions.*

With regard to the restrictive measures employed up to the present time against cholera, the Conference is of opinion that the experience acquired from this first period of quarantine is not of any positive value.

Adopted by 18 votes against 2, viz., MM. Testa and Mühlig, MM. Sotto, Monlau, and Keun abstained from voting.

Minute No. 37, page 12.

The Conference concludes, however, from the facts mentioned in the Report, that it is undeniable that quarantines established on a rational basis in conformity with the progress of science, may form an efficient barrier against the invasions of cholera.

Adopted unanimously. Minute No. 37, page 13.

The basis of the prophylactic system should, in the opinion of the Conference, be as follows:—

Ist.—To counteract the germs of the malady in their primitive foci, before they have time to disseminate and reproduce themselves outside of them.

2nd.—To establish quarantines according to the present recognised principles of the transmissibility of cholera and of its mode of propagation.

Adopted unanimously. -Dr. Goodeve voted under reserve. Minute No. 38, page 12.

SANITARY CORDONS, ISOLATION, INTERRUPTION AND RESTRICTION OF COMMUNICATIONS.

Conclusions.

The Conference is of opinion that sanitary cordons, when established in thickly populated countries, produce an uncertain and often a dangerous result; that, on the contrary, when established in thinly populated and confined countries, such as those of Asia, they may be of the greatest use against the propagation of the malady.

Adopted unanimously, with the exception of Dr. Goodeve who abstained from voting. Minute No. 38, page 17.

The Conference is of opinion: 1st, that isolation, wherever it can be applied to the first cases denoting the outbreak of an epidemic, is a measure of prudence which no country should neglect for its own safety; 2nd, that the isolation of a locality attacked by cholera is all the more feasible and useful when the population of the country is scattered, and the closer to the starting point of the epidemic the isolation is enforced; 3rd, that the isolation of the initial foci is the principal prophylactic measure against the invasions of cholera.

Adopted unanimously. Minute No. 39, page 5.

The Conference thinks that interruption is the best way of isolating choleraic foci; that, consequently, it ought to be resorted to every time that circumstances allow of its being strictly enforced; but that this measure, which is only applicable to confined places, becomes impracticable and useless once the epidemic has spread to any great distance.

Adopted by a majority of 19 votes against 2, viz., MM. Goodeve and Dickson. MM. de Lallemand, Fauvel, and Mühlrig voted for the conclusion under reserve. Minute No 39, page 7.

The Conference is of opinion that it would be necessary: 1st, to restrict the emigration within the limits of the infected town; 2nd, to regulate by a law the number of persons each vessel should carry, in proportion to its tonnage; 3rd, to adopt certain necessary precautions with these persons and their baggage, such as medical inspections, purification of their old rags, and clothes, &c.

Adopted unanimously, with the exception of M. Millingen who did not vote. Minute No. 39, page 9.

QUESTION OF LAZARETTOS.

Conclusions.

With regard to the establishment of quarantines the Conference proposes—

1st.—That quarantines should be established as often as possible, in uninhabited islands, and, if there are no islands, in isolated places, several miles distant from towns, villages and other inhabited places. The air in the places chosen should be healthy; the soil rocky; water plentiful, the anchorage easy, safe and roomy.

2nd.—That the buildings forming part of the quarantine establishment should be constructed according to the plan given in article 7 of the present Report, in such a manner as to ensure the complete separation of the different classes of persons undergoing quarantine, according to the place they have come from and the date of their arrival. That the cholera hospital, the quarantine quarters, the wash-houses, store-houses and sheds, the dwellings of the staff of the establishment, &c. &c., should be completely isolated. That the space between these different buildings, which cannot be fixed beforehand; should be as recommended in paragraph 13 of the Report.

3rd.—That necessaries should be established according to the system of moveable sinks charged with disinfectants; that sewers and cesspools should be done away with; that the dejecta should be thrown into pits dug in the ground, and covered over with quick-lime, clay or the dust of vegetable coal.

4th.—That each lazaretto should have two landing-stages,—one for the people who are infected, and the other for those who are not; a health-office, lodgings for the superintendents, a guard-house, a bed and furniture store, a provision store, and an hotel.

Adopted unanimously. M. Monlau voted for the 3rd conclusion under reserve. Minute No 41, page 10.

5th.—That the parlours in lazarettos should be suppressed for visitors, and no visits to those undergoing quarantine should be allowed, only in exceptional cases and by special permission of the sanitary authorities; that, however, persons might receive permission to enter the lazaretto and remain in it altogether, provided they submitted to the same system of quarantine measures as the persons with whom they may have had communication.

The first portion of this conclusion was adopted by 10 votes against 9, *viz.*, MM. Dickson, Vernoni, Bosi, Keun, Sawas, Mühlig,

Stenersen Hübsch and Bartoletti. The second portion was adopted unanimously, with the exception of 2, *viz.*, M. Mühlig, who voted against, and M. Stenersen who abstained from voting.

Minute No. 41, pages 12 and 13.

6th.—That the quarantine establishments should be under the direction of physicians, of whom there ought to be at least three in each lazaretto, and who should be told off as follows: one to the hospital, another to the people in quarantine, and the third to the harbour-service and to the outside of the lazaretto.

7th.—That the number of the lazarettos for the rigorous quarantine should be in proportion to the amount of naval traffic and to the extent of sea-coast of each separate State; but that there should be minor stations for the arrivals subjected to a quarantine of observation.

8th.—That in very urgent cases, temporary lazarettos, camps, or floating lazarettos, according to the nature of each place should be established.

Adopted unanimously. Minute No. 41, page 13.

9th.—Whilst admitting, under certain circumstances, the expediency of establishing international lazarettos under the direction and control of mixed Boards, the Conference thinks that the opening of establishments of this kind cannot be generally recommended.

Adopted by 9 votes against 8, *viz.*, MM. Goodeve, Dickson, Keun, Sawas, Bykow, Stenersen, Salih Effendi and Bartoletti. M. Monlau did not vote. Minute No. 41, page 14.

SYSTEM OF QUARANTINES AND DISINFECTION.

Conclusions.

With regard to the quarantine of observation and the rigorous quarantine, the Conference is of opinion that the difference between these two systems is that the quarantine of observation is a period of trial, and of survey merely, whilst the rigorous quarantine consists in landing at the lazaretto together with disinfection, and comprises besides all the measures applicable to arrivals suffering from cholera.

Adopted by 21 votes. MM. Maccas and Pelikan voted for the conclusion under a reserve. MM. Sotto, Segovia and Monlau abstained from voting. Minute No. 42, page 17.

The Conference is of opinion: 1st, that the rigorous quarantine applicable to persons coming from an infected place should be fixed, as a general rule, at ten full days, and that this quarantine should commence, for these persons, from the moment they have entered the lazaretto. That if, during this quarantine, cases of cholera or of choleraic diarrhœa should occur amongst these persons, the healthy ones, after having been separated from the sick, should be made to begin again their quarantine

of ten full days; 2nd, that the persons ill of diarrhœa should be considered as suspicious; that they should be kept apart from the persons in good health, and likewise from those suffering from cholera; and that they should not receive pratique at the end of their appointed quarantine, till after the receipt of the medical report certifying to the non-choleraic nature of the diarrhœa.

Adopted by 17 votes; none against. Four members agreed to it conditionally.

MM. Pelikan and Millingen wished the quarantine to be extended to 15 days, and MM. Keun and Millingen to 19. Minute No. 42, page 26.

The Conference is of opinion: 1st, that the ships supposed to be contaminated should be subjected to the rigorous quarantine fixed at ten full days from the date of arrival; that a difference should be made between the ships on board of which cholera or choleraic diarrhœa has appeared, and those on board of which no choleraic cases have occurred during the passage: in the first case, all the rigorous measures such as isolation and infection should be applied; in the second case, the ships should not be required to discharge any goods not subject to purification, and should only be subjected to general measures of hygiene without any regular disinfection. 3rd, that crowded ships and those on board of which a severe epidemic of cholera has appeared, should be subjected to extraordinary measures, which should consist in more complete isolation, in disinfection by means of the most perfect agents, and in the extension and the doubling, according to the nature of the case of the period of quarantine. 4th, that the quarantine of those ships whose passage has exceeded fifteen or twenty days, without having had any cases of cholera on board, should be reduced to five days, and to twenty-four hours when it has exceeded thirty days; in both cases all goods, clothes and parts of the ship capable of retaining cholera should be disinfected, but these ships need not entirely discharge their cargo.

Adopted unanimously, with the exception of Dr. Goodeve who abstained from voting. M. Pelikan voted under reserve with regard to the first conclusion. Minute No. 43, page 7.

With regard to those ships which carry a commissioned medical officer and which have been subjected during the passage to measures of hygiene and of disinfection, the Conference has expressed the following opinion:—Ships under fœul bills of health that have fulfilled all the conditions specified in the body of the present article, should be allowed to count the days of the passage as days of quarantine to the extent of nine days. On arriving at a port, they should be subjected to a quarantine of observation so arranged as to complete the regulated quarantine of ten days. As, however, the passages of ships are not all equally long, and as they may vary from one to nine days

and more, the Conference has established the following scale to be followed as a rule in the application of the proposed measures:—

After 24 hours' passage 9 days' quarantine of observation.

„	2 days	„	8	„	„	„
„	3	„	7	„	„	„
„	4	„	6	„	„	„
„	5	„	5	„	„	„
„	6	„	4	„	„	„
„	7	„	3	„	„	„
„	8	„	2	„	„	„
„	9	„	24 hours	„	„	„

All ships that have made a passage of over nine days should be subjected to a quarantine of observation of at least twenty-four hours.

Adopted by 12 votes against 9, and 5 who abstained from voting.

Against:—MM. Vetsera, Sotto, Monlau, Kalergi, Maccas, Bosi, Keun, Millingen, and Pelikan.

MM. Dumreicher, Salvatori, de Soveral, Testa and Mühlig abstained from voting. Minute No. 43, page 9.

The Conference is of opinion that the quarantine of observation may be purged on board of the ships, and sometimes the rigorous quarantine, too, in case of stress of weather; but under all circumstances, the sanitary authorities should be careful to avoid crowding and should keep a strict watch over the health of the persons undergoing quarantine.

Adopted unanimously, with the exception of M. Dumreicher who abstained from voting. M. Dickson voted under reserve. Minute No. 43, pages 9 and 10.

The Conference proposes to establish a quarantine of eight full days for all arrivals by land, with the exception of pilgrims and bodies of troops who should be subjected to a severer quarantine. Let it be understood, however, that if the arrivals come from a focus only two or three days' march distant, the quarantine of ten full days should be enforced.

Adopted by 15 votes; five members abstained from voting, *viz.*, MM. Dumreicher, Goodeve, Dickson, Maccas, and Bosi. Minute No. 43, page 11.

QUESTION OF DISINFECTION.

Conclusions.

According to the opinion of the Conference, disinfection consists in the employment of various agents adapted to render healthy all places and objects contaminated with the choleraic gerin. These agents are air, water, fire in certain cases, and likewise the chemical ingredients recommended by science and which have been enumerated in the report on measures of hygiene.

Disinfection is applicable : 1st, to ships coming from infected places and on board of which either a severe epidemic of cholera or isolated cases of this malady, or only simple cases of choleraic diarrhoea may have appeared.

2nd.—To old clothes and the wearing apparel of persons suffering from cholera and of those undergoing rigorous quarantine either in the lazaretto or on board of the ships.

3rd.—To goods supposed to be contaminated, such as drills, rags, hides, leather, feathers and other animal remains; and likewise to wool and other unpacked goods coming from an infected place or from a ship requiring disinfection. Letters and despatches should be enclosed in boxes and should be disinfected by the evolution of chlorine without being opened. As for goods in general, coming from manufactories, and well packed, they are considered as uncontaminated, and, consequently, do not require disinfection.

4th.—Lastly, to living animals, by means of airing and by immersion in water, when the sanitary authorities consider it necessary.

Adopted unanimously, with the exception of Dr. Goodeve, who abstained from voting.

MM. Dumreicher, Maccas, Bykow and Millingen voted under certain reserves. Minute No. 43, pages 12 and 13.

BILLS OF HEALTH AND THE BETTER ADJUSTMENT OF THE SANITARY CODE.

Conclusions.

The Conference is of opinion that the name of "suspicious" bill of health should be set aside, and those of "clean" and "foul" bill of health should be kept; the first showing the absence of cholera, and the latter recording its presence and the extent of its ravages.

Adopted unanimously. Minute No. 43, page 14.

The Conference would like to see the word "sporadic" expunged from the bills of health, in which, as the case may be, the existence of Asiatic cholera or of cholera nostras need only be mentioned.

Adopted unanimously. Minute No. 43, page 14.

The Conference is of opinion that the bill of health should make mention of the existence of Asiatic cholera from the very first case attesting to its existence, to the last one marking the end of the epidemic; that the sanitary authorities should not admit to free pratique arrivals from a place where there has been an epidemic till fifteen days after the date of its complete disappearance.

Adopted unanimously. Minute No. 43, page 14.

The Conference thinks that it is absolutely necessary as a guarantee for the public health that a ship should only have one bill of health delivered to it by the sanitary authorities of the port of departure; that it is equally necessary that this bill of health should not be changed till the

arrival of the ship at its final destination; and consequently, that the sanitary authorities should merely sign the bill of health without replacing it by a new one till the return voyage.

Adopted unanimously, with the exception of M. Dumreicher who abstained from voting. Minute No. 43, page 14.

The Conference is of opinion that the better adjustment of the Sanitary Code is an act of the highest importance in times of cholera; concealment and false declarations render the best combined restrictive system perfectly ineffective, and, besides, compromise the public health. These offences should, therefore, be most severely punished by the laws of every country.

With this object in view, the Conference expresses the hope that, the Ottoman Government will publish, with as little delay as possible, a penal code against every breach of the Sanitary Regulations.

Adopted unanimously. M. Dumreicher abstained from voting. Minute No. 43, page 14.

This Précis of the conclusions of the International Sanitary Conference was adopted and signed by the Delegates, at the sitting of the 26th September 1866:

Albin Vetsera.
Dr. Sotto.
Count de Noidans.
A. J. de Dumreicher.
A. M. Segovia.
R. Monlau.
Kalergi.
A. de Lallemand.
Fauvel.
Edward Goodeve.
E. D. Dickson.
Richard J. Keun.
Julius Millinger.
Mirza Malkom Khan.
Sawas.
E. Pinto de Soveral.

G. A. Maccais.
Alex. Vernoni.
J. Bosi.
G. Salvatori.
P. Brunoni, Archbishop.
Delegate from the Holy See.
J. Spadaro.
Baron de Testa.
Mühlig.
Pelikan.
Bykow.
A. Stenersen.
Baron Hübsch.
Salih Effendi.
Bartoletti.
Dr. Salem Bey.

Constantinople, 26th September 1866.

Seen and certified.

SALIH,
President of the Sanitary Conference.

BARON DE COLLONGUE, }
DR. NARANZI, } *Secretaries.*