

# AN INTRODUCTION TO INDUSTRIAL ADMINISTRATION

JOHN LEE, C.B.E.  
M.A., M.COM.

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# AN INTRODUCTION TO INDUSTRIAL ADMINISTRATION

BY

**JOHN LEE**

C.B.E., M.A., M.COM.SC.

AUTHOR OF "INDUSTRIAL ORGANIZATION," "MANAGEMENT"  
"PLAIN ECONOMICS," "THE PRINCIPLES OF INDUSTRIAL  
WELFARE," "CHRISTIAN SOCIAL DUTY," ETC.



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TO  
FREDERICK B. PALMER  
MY FRIEND

## PREFACE

THIS book introduces the reader to the new science of Industrial Administration. Attention has been directed to this science largely by evidences of industrial unrest. That unrest, it is the author's claim, like other forms of discontent, is an evidence rather of the beginning of betterment in mutual relationships than of despair; in itself it is an encouragement. It is the author's view that it is to be met by calm and fearless enquiry, and not by sentiment or benevolence, though he would contend that the aim of the calm and fearless enquiry must be more justice and more frankness and more trust. Yet the book has been written from the point of view of an introductory exposition and not from the point of view of any particular propaganda. In any state of industrial ownership whatever, there must ~~be~~ direction and planning and costing and distribution. No system of production can recklessly neglect the lessons which we have learned from long experience with industrial production. Nor can we overlook the value of the somewhat changed focus of to-day, wherein the human element becomes the factor of greatest importance. The student will have his own outlook, and he is to be encouraged to have that outlook. All that this little book attempts is to suggest some other outlooks which the student may care to correlate with his own. For this is a science which is not to be learned from books. The resultant experience of men in industry may be stated in a book, and even then it is unhappily only a very imperfect statement. Direct contact with industrial conditions is the only school, and all that I propose to do is to help the student to benefit intelligently and without prejudice from his direct and personal contact, and to inspire him, if I am so fortunate,

with aims and ideals in his day-by-day task. A portion of the eleventh chapter has already appeared in the Report of the Industrial Welfare Conference at Oxford in September, 1924. It is included in this book by the kindness of the Industrial Welfare Society.

JOHN LEE.

*August, 1925.*

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# An Introduction to Industrial Administration

## CHAPTER I

### THE PRESUMPTIONS OF THE SCIENCE

THE science of Industrial Administration is comparatively new. It is only in recent years that students have attempted to discover and to correlate the underlying principles. Perhaps it might be more accurate to say that it is the recognition of Industrial Administration as a science which is new. There must always have been something of the nature of recognized practice. Even in the earliest days of organized industry, arrangements must have been made, of some sort or another, to provide for the allotment of work, to consider the appropriate remunerations for that work, to obtain raw material for the operations of the industry, and to arrange for the sale of the finished product. So far as appeared necessary at the time there was some method of administration, someone had to be chosen for the task of leadership, someone had to be responsible for the balancing of the varied costs and the search for what were loosely called "profits." But at this time no one dreamed of suggesting that there was, or that there could be, a science of Industrial Administration. Personal management, largely coincident with personal ownership, claimed to rule by that special instinct which we comprehensively call "ability." They were men largely born to the business, the sons of their fathers, entering upon management with a tradition and an atmosphere. They were dominant and authoritative, and their domination and authority were not readily questioned; if such a question had been raised the ample reply that the business was

their own was readily forthcoming and as readily accepted. Moreover, under the conditions of the times, this arrangement worked exceedingly well. England was the workshop of the world. Industry was expanding, and the world-wide demand for the products of industry was expanding. What was needed was to keep the industry going as peaceably as possible. The captain of industry, at that time, chose his own methods of attaining this end. His prime characteristic was to resent any interference, whether from factory laws or from trade unions. The rules upon which he governed the industry were his own rules, the product of his sense of responsibility and dignity. He was monarchic, almost absolutely monarchic. He had to see changes coming which would limit his domination and present all manner of conflicting forces. He had to pass through a metamorphosis not very different in character from the change from absolute kingship to constitutional kingship.

It is probable that much of the criticism of the conduct of industry in the past has been less than just. We have been led to imagine a happy population suddenly degraded by a dramatic change which we call the Industrial Revolution. Professor Ussher, in his book on industrial history, does something to correct this view. "The great transformation of industry that became noticeable in England towards the close of the eighteenth century was characterized by Blanqui in 1837 as the Industrial Revolution, with the intention of attributing to it an importance co-ordinate with the French Revolution. 'Industrial conditions,' says Blanqui, 'were more profoundly transformed than at any time since the beginnings of social life' . . . The movement was not sudden and violent; the inventions were an effect no less than a cause, and the enumeration of the inventions omits characteristically the most revolutionary of the textile inventions—Crompton's mule . . . Even the factory was not new. The experiments of the Tudor period in England and of the reign of Louis XIV in France had not been successful in any large sense, but

they showed that there was disposition to organize industry in that manner . . . The great achievements of the Industrial Revolution were made possible by several generations of patient endeavour in the metal industries, and this portion of the story of the movements has been least adequately treated in the general accounts." Similarly, in dealing with the conditions of the workers, other factors are overlooked, such as the desperate distress in the agricultural districts, the difficulty in the mobility of the population largely due to the legislation of the time. It is not necessary to whitewash the employers, but it is only fair to say that they had to face great difficulties, so complex as to defy terse statement. There were evils and shocking evils in industry, but they were not solely assignable to the cause as it is commonly stated. Throughout the ages, industry has been an evolving method of the allotment of work in production. We have to face to-day what seems to be a change, but it is not a sudden change brought about by the war or by anything else. It is one more stage in the process of evolution. It is of its essence a change in the function of employing.

It is this change which has brought the science of industrial administration into recognition. Moreover, it is a complex change, made up of many different elements. The change in ownership is one of the principal elements. We shall discuss later on the difference between the old proprietor and the new director. It suffices for present purposes to point out that the main argument which was used by the old proprietor, that he could do what he liked with his own, could not be used by the director. The director and the management both have their representative character. The director represents those who own, the shareholders. As we shall see, it is not invariably the case that the interests of directors and shareholders coincide, even when the director has a considerable holding, but as a broad statement it is correct to say that the director represents what the railway companies aptly call "the

proprietors." The management represents the company as an entity, neither the proprietor, nor the workers, nor the consumer, but the company. It is its responsibility, primarily, to keep the company going. It may not be the director's responsibility, at any given moment, to keep the company going and it might be to the interest of the shareholder, but hardly to the interest of the worker, that at any particular moment the company should cease to exist. We can see, therefore, how this development brought with it the idea of a science of industrial administration. For in their structure one industry was akin to another in a way which was inconceivable under the management of a proprietor. Comparisons began to be made. Experiences began to be recounted and examined and right and wrong action came to be defined not ethically—though even in this respect there are signs of a development—but in respect of their success in carrying out the complex functions of management.

Meantime, two developments arose which also had their influence. One affected capital and the other affected labour. The one was the diffusion of ownership and the diffusion of different types of ownership. Thus we have the large body of investors who are always ready for a "good thing." Their definition of a "good thing" varies. In some cases it refers to a permanent investment, in other cases it refers to a quick purchase and sale and realization of profit. Then there are those whose emphasis is upon security and who care little for the range of authority—a limited range, no doubt—of the ordinary shareholder, and prefer to hold a debenture or a preference share. At the other end are those confident persons who prefer a founder's share with its risk and its possibility of high returns. The management of an industry to-day requires a comprehensive vision of this complexity of ownership with its varying expectations and its complex psychology. At the other end there is the increasing articulation of the demands of labour, its greater organization within the

general structure of industry, its power over the various industries which come within its range, its cohesion and its determination. Management has to consider this aspect, also, to know the history of the forces which are included under the heading of labour, to see their ideals and to be able to show in what respects those ideals are unrealizable. It may be under the latest developments of Whitley or Works Committees that management will need to fulfil its responsibilities with a closer vision of labour, and it may have to discover some co-operative basis of which the pioneer captains of industry could have had not the faintest idea.

Yet, though these factors have been of the utmost importance in drawing attention to the possibility of a science of industrial administration, it is probable that there is another factor which is of still greater importance. I pointed out that the earlier organization of industry in England had the advantage of continually expanding markets. We must not say that that advantage has disappeared, but we must say that expanding markets are not so easily obtained. A very acute French observer, in a book on "Post-war Britain," has analysed British industry with minute care. M. Andre Siegfried had some title to speak, for he is a well-known Professor of Economics in France, and has shown himself to be an admirer of English methods. This is what he says on the particular point before us: "During the nineteenth century, when everything contributed to their success, the British became accustomed to succeeding without much effort and they were spoiled by it. They believed that they could maintain their position for ever by a moderate amount of work and quite ordinary technical skill. Since then the industrial centre of gravity has been partially transplanted and the world has revolted against the leadership of Europe. As a result, Britain is anxiously wondering whether she was imprudent in building up her excessive industrial superstructure, for there is no gainsaying that the new development of the world does not appear to justify it." We can

sum up the argument by saying that the change in the method of providing capital, the development of the counter-authority of labour, and above all the social development of industrial advance throughout the world, have all been factors in turning men's minds to the study of industrial administration.

Further, it is to be remembered that the newer development of industries in other countries gives them a positive advantage at this moment. They can learn by the experiences of the pioneers. They can begin with less initial waste. They have no older financial proprietorship combined with management out of which they must grow. Curiously enough, and it is not all on one side of the balance—in the main they have less labour cohesion and certainly in the organization of labour less complete potentialities of conflict. So, while we have a tradition—and the fact is undeniable—that with “a moderate amount of work and quite ordinary technical skill,” we can win through, we have also discovered that the science of industrial administration which co-ordinates the work and the technical skill in industry has attracted what we may call the newer industrial countries. They were beginning what was obviously a stern rivalry. In particular, Germany faced this rivalry with a determination to throw into the scale not merely technical skill, but also the complete study of the science of government and direction, with the financial and even psychological factors involved, covering a range indeed which is wider than any definition of the science laid down by thinkers in England or in the United States. Later in the day the students of industry in France have faced the problems, probably going even farther than their German rivals in the study of the various human problems involved.

Thus we may come to a statement of the presumptions of the science of industrial administration. First and foremost, it sets out to discover sound economic methods and those are not necessarily the cheapest methods. In fact

they are rarely the cheapest methods. It will consider the best financing, the best methods of direction and planning, the best methods of obtaining raw product, the best methods of encouraging the workers both to work and to contribute from their experience, the best method of marketing and of securing sensitiveness to the public demand. In the second place, it will put before it the clear statement that the world is growing up, that there is no resting on past achievement, that there is an inevitable struggle and that to win in the struggle calls for the most careful study of practice with a long vision of economy. Thus the science of administration will be, of necessity, a comparative study. It is far from being a dogmatic series of doctrine—and it is to be hoped that it will never be so crystallized. It is no one man's possession, nor is it the possession of any one country. It seeks principles by means of constant comparison, but it can never be a secret thing, held as a weapon of offence against trade rivals. Possibly, it will have its national aspect, for, after all, there is a patriotism in industry, a legitimate and worthy patriotism, but that is because of its purpose and because it can best fulfil the needs of the world by remembering what we may call its national setting. It does not propose to teach men to be skilled managers of industry by bidding them read a book, but just as medical men include anatomy in their studies, so there is an anatomy of industry for the industrial practitioner to study, and in particular there is a comparative anatomy from which valuable lessons are to be learned.

The structure of industry seems to have grown haphazard. We have to take it as we find it. But as we proceed we shall discover that it contains bones and sinew which have been placed there deliberately, or which, at least, have been encouraged to develop in their particular place. It is a structure which begins with simple ownership and the direct employment by that ownership of the necessary labour. The simple ownership developed into a complex ownership. There was the partner who retired and still

retained his interest in the success of the industry, an "interest" which had a double meaning. Then there was the private company with its liabilities and its interests. Then there came the limited liability company with its interest and its liability legally confined within definite limits. On the side of employment there was the earlier principle of obtaining workers by a remuneration on the subsistence level, with the development of organized labour seeking a better standard of remuneration and becoming ultimately the corporate bargaining of to-day. Then the factory laws laid down minima in respect of the conditions of work. The structure grows more complex as we examine the Truck Acts with their restraint upon payments in kind, the finer distinction between labour as governed by different trade union principles, the evolution of compensation acts, and insurances against sickness and unemployment. Within the industries themselves, there was the process of machinery, the substitution of detailed and highly specialized processes for more varied avocations, the need for planning and authoritative direction whereby the functions of labour came to be the study of the management, and successful management came to be the organization in one grand whole of many processes. This development has been continuous. It reaches its height in so-called scientific management, in mass production, in the standardization of product. Thus we may see in a historical outline how a science of industrial administration has come to be of the utmost importance. It looks all round these various developments. It sees them as factors in the increasing complexity of industrial structures. It wishes to understand the various results, financial and psychological, on the worker and on the industry at large, of the adoption of methods which seem to be justified by the apparent cheapness of the product.

It may be that it will not view the results quite so complacently. It may be that in respect of movements which attracted general approval it will discover elements



which tend to reveal defects. Some of the movements seem to indicate, for example, the substitution of the machine for the handicraft of man, with a consequent cheapening of the residual labour. On the other hand, the resultant labour may be more highly skilled, or at least the general level may be more skilled. Also it may prove to be the case that the result has not been the cheapening of labour but the emphasis on the principle of high wages. Similarly, too, there may be two developments in management, one in the direction of a knowledge of machines rather than of men, taking the human element for granted, while the other may be the more complex and subtle development of recognizing that the residual labour, as I have called it, necessitates a closer understanding of the human unit, and this again may be emphasized by newer corporate demands as labour organizations become more forceful and more cognizant of their force.

We shall not find, therefore, that the science of industrial administration is simple or that its results are uniform. Again and again we shall be led to conclusions which seem to be contradictory and our choice of conclusion will depend upon many circumstances. But this does not rob the science of its value. Rather it leads us to a more close study of the factors which we know as operative and to an anxious discovery of other factors of which we were unaware. If we are to call it a science we must be restless and impatient lest our knowledge of the operative factors should be incomplete, and so we may lay down as a primary principle a grave hesitation in dogmatizing. For it is a new study. Labour has not yet passed from its old desire for work as a sort of privilege, and ownership and direction have not yet passed from the old autocracy, sometimes a benevolent autocracy. We have no reason to assume that we have come to the end of the development of complexity. Already a new complexity is before us in the growth of Works Councils with their vague responsibility and authority, cutting across the responsibility and authority both

of the management on the one hand and the organized worker on the other. Nothing is permanent or final in industrial structure. We may be impatient with those who would pass all ownership and management into the hands of the State, but at least we shall do well to remember that they do pay a tribute to development, and that the wisest opposition to their plans is to refrain from regarding the present stage as static. The change in the structure in the past fifty years is an earnest of further change, and a science of industrial administration which is worthy of the name will have its conjectures as to the possibility of change in a direction totally different from that which is frequently laid down as inevitable.

Yet, in studying the structure as it is, we must regard the big bones of it as being the main skeleton. There is capital as a beginning. No theorizing will enable us to dispense with the idea that there is some ownership, be it of those responsible for management, or those responsible for managership partly with others who entrust to the management their responsible ownership, or purely of these others with directly disinterested management, or of the State or municipality which, after all, is merely more widely spread ownership. Then there is labour, which may not be totally distinguishable from ownership, which may obtain remuneration other than the direct remuneration for labour, possibly in the shape of sharing what are usually called profits. Profits themselves may be a complex idea, including interest and wages of management, and that residue which is left after payments for interest or rents of various kinds, and remunerations for effort. Then there is direction generally, the leadership in the general aim of the industry, inclusive of planning and designing and the purchase of raw product, the salesmanship of the finished article from the point of view of the industry which may not be the finished article from the point of view of the ultimate consumer. It is not likely that this outline of industry as it stands will be affected by immediate

changes. The dissemination of electric power may work a revolution in processes, especially in the segregation of what are now unit industries, and this may become a far-reaching change if some system of distribution by so-called wireless should prove to be practicable. The science of industrial administration must take facts as it finds them. It will include scientific research, but that research must be solidly based and it must have an aim rather immediately practicable. In the process of taking facts as it finds them the science will attempt to build up a study of all the factors, while being open-minded to the results of discovery. Of its essence it will be economic, it will seek the elimination of waste.

But that economy will be very different from the search for the invariably cheapest. It may be that the element of duration, of ultimate cheapness rather than immediately attractive cheapness, will be the feature to which the science in the immediate future more particularly will point, just as it may discover aspects of the economy of high wages to which the traditions of the nineteenth century have blinded us.

In this safeguarded way, it will not be a humbled science. Its data is changing, but not swiftly, and if it regards the data as changing, it will not on that account be futile, for it will seek to discover a correlation between the facts which will be readily adaptable to changes in what we may call the proposition of the facts. For example, there is a sense of disquiet with what we may call the preponderance of the factor of capital in the sum total of control. That disquiet is evident not only from the side of those who make a passion of the condemnation of capital. It is evident also from the investing point of view, for those who wish to invest in industrial securities desire to be assured of security. There are apprehensions lest the interests of direction should not coincide with the interests of proprietors. Suggestions have been made for certain legislation as regards company law in the direction of

ensuring that capital value, as represented by the sum total upon which interest is paid, shall bear some relation to actual value of the property, in the widest sense of the word property as inclusive of assets other than visible or tangible assets. But it is evident that such a consideration is not limited in its scope to mere capital. It affects the wages of management and the rewards of labour. It affects that aspect of the safeguarding of the continuance of the industry which is associated with reserve funds and the like. The same applies to labour and its remuneration. In those cases where definite shares of profits accrue to labour it is evident that there must be some correlation between the sum to be distributed to the holders of capital and the sum distributed to labour. It may be, as in the case of the Coal Mines Act, that there will be a basic division of the rewards of labour as between a fundamental minimum and a superstructure parallel in some way to the general profits. Thus we reach the conclusion that the popular conception of capital and labour as being severed and separated in their financial interest is not in accord with the developments as we see them in process. A curious confirmation of this contention may be found in the writings of certain German Socialists of the evolutionist type. Karl Kautsky roundly condemns any idea of industry under Socialism being judged by any means other than its success or otherwise in producing revenue over cost, for he points out that the alternative is universal subsidy. Similarly, Otto Bauer says in his work on *The Way to Socialism*: "It goes without saying that a portion of the annual net profit will have to be employed to extend and perfect the productive apparatus of the branch of industry. The rest of the profit will be divided between the State on the one hand, and the workers, employees, and officials who are engaged in the branch of industry on the other hand." There is nothing of the "Down with the capitalist system" in this. On the contrary it accepts, as a criterion of success, the very criterion of industry to-day.

The science of industrial administration will recognize this fact at the outset. More than that, it will recognize that no matter what changes may come in the structure of industry, there will be and must be a development of what I choose to call the "interlocking" of interest as between the two sides. It is true that in practice there is an inertia in respect of the general recognition of this fact. Not readily do we surrender the idea that the possession of capital gives with it the right of unquestioned control over labour. At any rate, the conflicts of the past have so far aroused us from this inertia that we have come almost tremblingly to feel that the situations have been reversed and that labour, through its organizations, has become dominant. A science of industrial administration protests against either domination. It seeks organization, the recognition of function, the dovetailing rather than the separation both of responsibilities and of privileges. Having this as its aim, it is not to be discouraged because the fulfilment of that aim seems to be so distant. It must always be remembered that as a science it is very young, and that it has to take the place of what may best be described as an authority *de facto* rather than *de jure*. The translation of might into right is never easy. The balancing of interests with the recognition of the interests of others and above them both the recognition of the interests of the body corporate are one and all formidably difficult to achieve when the dust of conflict still hovers about us. Yet that must be the aim of the science. It attempts to put legitimate interests in their legitimate place and to hold them to that place, and it can only do this if it becomes recognized at every point that there may be a call for self-surrender. The long vision may be a painful vision. It is so in every science and it will be so in industrial administration.

But to say this is not to claim that as the science stands to-day it has a positive content. There is room for different opinions even on subjects which are fundamental. Let us look, for example, at so-called scientific management. The

claim is that by means of research and study, time-motions, and organized human actions, we can improve the output enormously. The science of industrial administration is interested. It can see three results, the cheapening of the product and the higher reward both to capital and labour. But then, it finds that there are those who bring evidence that scientific management is at the cost of the worker, his health, his intelligence, his pride in his job, and they quote the saying that the intellectual make-up of the ox or ass is the best in these circumstances. Again, the science of industrial administration is interested. The three conclusions which it seems to have reached may not be sound in the long run. So it sets out to gather further data, and the consequence is that the first crude conception of scientific management falls into the background. It is not totally disproved, nor are the methods totally abandoned. What happens is that the students of the science of industrial administration set out to see the legitimate limits within which some approach to scientific management can best operate. These limits will come to be examined later. What is necessary to point out in this place is that the process of industrial administration is long and wide, and that it takes more and more aspects into consideration as it proceeds. It has learned from a lively, if short, experience that the tendency to reach hasty results is its chiefest peril.

Nevertheless, it does aim at success and at financial success, using both these words with long vision. It is true that the emphasis on service which has been laid in recent years is morally of great value, but it is materially also of great value. "Service not profits" may include a false dichotomy and the true aim may be such service as will justify profits. A sort of sentimental conception of "service" as itself a justification for an industry needs to be regarded suspiciously. If it means service in the sense of persuading mankind to avail itself of that service it may be that mankind will ask why persuasion should be needed, for humanity is ready to recognize the privileges which it

gains from true service. Nor are the providers of "service" quite the best judges of its value to the world. "Profits" may be a crude criticism which carries with it a suggestion of exploitation, but in the last resort it is difficult to find any other criterion for the world's desire for a particular service. It seems to be a hard saying, but just as varying rates of interest indicate the productive value and the security of capital, so profits are the indication of the productive value of an industry. There may be excessive "profits" in any particular instance, and these excessive "profits" may include high rewards of management and high rates of wages, but they could not exist unless the public chose to give them, save in the case of monopolies, and in the case of monopolies there seems to be a rôle for the State. But the science of industrial administration has much to say on this point. It may have to point out that, taking the long vision, here may be a case of killing the goose with the golden eggs, and that even a monopoly needs to be administered wisely. It may have to point out that saturation point is more likely to be reached by a narrowing of the consumption-demand, and it may have to repeat the very valuable proverb that small profits mean quick returns.

At any rate, we have here an outline of the territory which it will cover. It may find some fundamental principles to guide us in respect of all these aspects of a complex corporate relationship. For, be it remembered, every industry potentially touches the whole of mankind. Even if it only produces part of a complete product, a screw or a doorknob, it is difficult to say where those articles will go or in what sphere of life they will find themselves. In truth, as time goes on, the element of time itself is more and more important. The final consumption use of everything which industry produces is a long way off in time, and it may be a long way off in space, too, for the world tends more and more to be an economic unit. Thus, the science of industrial administration has, for its basis, the

production of links in a long chain of causation, and its basic presumption is that this long chain of causation actually does bind place with place and mankind with mankind from generation to generation. Hence it follows that every item of waste is not merely waste now and on the spot; it may be waste at the Antipodes and waste in the next generation. It follows, too, that organization by conflict is bound to be limited to the here and now, to the forgetfulness of the wider reaches both of space and of time. So that each industry does not and cannot live for itself. The science of industrial administration is not a matter of secret cunning whereby one industry may get ahead of competition. Rather is it the discovery of principles whereby all industries may apply their practice to the touchstone of the science and benefit thereby to the benefit of the whole world of the interchange of goods. Neither does it point especially to large scale organization or to State organization, but it does point to the recognition of each individual industry as being an effective part of a grand whole, no matter how apparently small it may be. It may go even farther and have words of warning in respect of the aggregation of smaller industries, lest by that means we lose intensive direction for a shadow of extensive direction. So we shall keep these presumptions well in mind while we study, as we must study, the different aspects of the science separately. In fact, they are not separate. In our consideration they must be viewed separately, but it is always with the consciousness and sometimes with the reminder that we are touching a science of which it must be said that it must be a completed whole or it is of no avail.



## CHAPTER II

### CAPITAL

WE must, therefore, regard capital as the basis of industrial administration. A certain amount of sentiment enters to make this conception of capital a little unpopular. It is regarded as placing things superior to man, as making the material dominant over the spiritual. But to do that is to forget what capital really is and to focus our minds on a vision of an imaginary capitalist. Capital is that which is held from consumption for the purpose of providing in a more efficient way for future consumption. It is not necessary at the moment to claim any particular virtue for those who withhold it from consumption. The idea of abstinence as a moral excellence has probably been over-emphasized. Undoubtedly, it is true that this withholding has been largely possible only by means of the uneven distribution of wealth. Mr. Henderson in his book, *Supply and Demand*, gives an interesting illustration of this: "It was because many men in England were rich enough to save that our railways were built, and the resources of new continents were opened up. But England, a century or even half a century ago, was not really a rich community. And if the national income in those days had been distributed more evenly among the people, can we doubt that they would have spent a far larger proportion of it on immediate needs? Can we doubt that they would have been right to do so?" It is sufficient for our purpose at the moment to point out that "we in the twentieth century owe much of the material wealth that we enjoy to the fact that over the last century men saved as largely as they did." The point is that this provision of capital and provision of more and more capital is the link between vast dependencies of men upon men and dependencies of one generation upon another.

To what extent, let us ask, are our daily wants being supplied by the men "long since dead and forgotten who built our railways, or sunk our coal mines, or engaged in any of a great variety of tasks"? More than that, to what extent has the vast organization which capital has built up been of avail to supply man's newer wants? The railway and the coal mine rendered the motor-car possible, for it was that basic organization which made the newer industry possible. Thus, though an "abstainer" in the past century might conceivably have visualized the railway as a means of transport, as a means of leading to the mobility of man and the mobility of goods, he could hardly have realized the amazing changes in productivity which it would render possible. Indeed, it is to be said of all industrial production to-day that it cannot see its end. The steel producer of 1900 would hardly have dreamed of it being used for wireless masts. So when we make bricks or steel girders or electrical machines, we have no idea to what capital use for further production they may be put, in what distant countries or in what distant generation. We need this vision of capital. We have so emphasized the money-representation of capital and its ownership and its change of ownership that we have tended to overlook its permanent or quasi-permanent or continuing function. It is, as I have claimed, the basis of industrial production though, paradoxically, it is also the ultimate structure. Every product of industry becomes capital in some sense, even when it is consumed, but that which is consumed, using the word rather widely, for further production is true capital, and those who surrender what we may call personal consumption in favour of productive capital are the providers of capital; and the simple fact is not to be denied even if we reach the conclusion that it was rendered very easy for them to do so by the fact that wealth was so inequally distributed. There is reason for the blunt statement that a perfect distribution of wealth would mean no residue whatever for capital purposes, and it is certainly true that governments, and even large companies,

find it difficult to suggest to their supporters that sums should be held in reserve for further capital purposes.

Thus it has happened that the provision of capital has really come from abstinence, but it has been abstinence on the part of two classes, the class which we may call the historic owning class and the class which arose during the industrial expansion of the middle of last century, a class which gained wealth rapidly and in general saw no means of spending it on the grand scale. The greater dissemination of investment came later, and in connection with it there is a very interesting question. In England, and in later years in the United States, the tendency has been for investments to be split up into small amounts to permit an appeal to the wide public, including the working classes. This has been criticized on the ground that the small investor is at a disadvantage in comparison with the "professional financier." As Professor Pigou points out, the professional financier is an expert who is able to obtain sounder knowledge and to make better forecasts, and also he is able to spread his investments and to reduce chance to narrower limits. He is able, moreover, to distinguish between more or less trustworthy information and the rumours which are given currency with a particular purpose. This is frankly recognized in Germany, where the "flotation of new companies on the basis of extremely low nominal value is forbidden by law" purely in the interest of the smaller investor. It is a sort of governmental protection of the investor and it must lead to investment through banks or other agencies. "Big German banks," says Professor Pigou, "retain a staff of technical experts to investigate and report upon any industrial ventures that may be proposed . . . and constitute themselves a financial general staff to industry." He quotes a German writer who points out that the great joint stock English banks "have abstained in a *direct* way from flotations and the underwriting business, as well as from bourse speculation."

On the other hand, the English system of direct flotation, backed by underwriters, has the advantage of tending towards the encouragement of investment in industry by the working classes and certainly by the lower middle classes. In fact, the issue of shares in small amounts is now being adopted in the United States. There can be no doubt that if the distribution of capital as a means of toning down the distinction between capital on the one hand and labour on the other is to be encouraged it will look upon small shares with favour. But it may seek some aggregation of small shares through security trusts. The direct investment of savings in the particular industries which employ the worker does seem to have the disadvantage of asking him to take a double risk, though this again has been toned down by the practice of offering advances to workers at a lower interest than the shares will bring to enable them to buy shares on credit. All these are possibilities of development, as are co-partnership shares and shares allotted to associations of workers under the French law of 1917, and such institutions as the labour banks in the United States. These tendencies seem to emphasize permanent rather than speculative investment, though we must not be in a hurry in summarily condemning the speculative investment. There is something to be said for the spirit of adventure which suggests to investors that they should take a plunge in order to gain by the rise in the price of shares which may follow a sudden success. In the past there have been apparently hopeless ventures in which only the most daring have sufficient courage to invest, and much of the advance of the industrial epoch has been due to such instances of courage. Nevertheless, on the whole the tendency to permanent investment as shown in various ways, whether through security trusts, or the credit purchase of shares, or co-partnership bonds, or the French system of association, are in the main a healthier manifestation.

Mr. Henderson has shown (*Supply and Demand*) that

in the waiting-time for the fulfilment of the purposes of capital there are two aspects. There is the construction of the factories and machinery "which ordinarily spring to our mind at the mention of the word capital." That involves waiting-time, but they are durable things which must be consumed to some extent in order to be productive, though this aspect of their consumption takes a still longer time. This two-fold waiting-time is the first aspect of capital and it is "to supply the waiting involved in the consumption of such durable goods that a typical joint-stock company issues shares for public subscription." Then there is the second aspect. The factory is complete. It is ready to begin operations. The arrangements have been made for the purchase of the raw material. There is waiting while the production is in process until the marketing is complete, and until the necessary credit has elapsed. For this second aspect advances are obtained from the banks. The first aspect is the function of fixed capital. The second aspect is the function of circulating capital. It is not always the case that they are so clearly distinguished. An eminent firm of drapers in London in their annual report announced that their new building was to be financed by the banks. It may be that there is a drift in this direction, though we are far from the German system, where the banks are the fount of investment capital. It is evident, too, that in respect of capital in what we have called the first aspect there is an overlap. It may be that some of the cost is put to revenue, for, even in the actual work of building there may be members of the company's establishment whose salaries or wages are not part of the contract, and it is difficult to separate the charges due to capital. Similarly, in respect of modern methods of establishing goodwill, which of necessity attaches itself to capital, this may fall within the functions of a permanent body, publicity men, or salesmen, or what the American electric companies found so useful in the form of "Development Associations," and cannot readily

be assigned to capital. In the main, however, it cannot be said in England that there is an under charge to capital. There are many who hold the view that industry in England is over-capitalized. They point to the capital of the railways as being £64,000 per mile in England and less than a quarter of it in Germany and the United States, though there are other factors to be taken into account, primarily the value of land. Nevertheless, it is indisputably true that in England there have been demands for compensation and other burdens on capital which have inflated the figure.

There is evidence in many directions of over-capitalization. Mr. Arthur Pugh, of the Iron and Steel Trades Federation, told the Committee on Industry that "the new construction which had taken place had largely affected the finances of the companies concerned, and in addition, during the boom period 1919-20, there had been numerous changes in organization involving the purchase of share capital or of entire businesses generally at very high prices. In certain cases, also, firms had found it possible to revalue their undertakings and nominally to increase their capital by the creation of bonus shares. The consequence of all this was that at the present time the industry was over-capitalized, from which position relief was necessary to place the industry on a fair competitive basis, both in the world and in the home markets." We find from a terse paragraph in *The Times* further evidence in the same direction—

"An illustration of the fact that huge sums were taken out of the industry by the recapitalization was furnished during an inquiry into the failure of a big spinning concern to meet certain of its liabilities, when it was stated that one financier cleared £108,000 out of the refloating in less than a week. In another case, a financier took out of a concern £35,000 for nothing more than the organization of the transfer. Much larger sums went in the way of profit to the other moneyed men who were behind the deal, and the concern to-day stands in a hopeless position. It is computed that one group of

financiers who work in a very big way cleared nearly £30,000,000 during the 'boom.' "

It is one of the problems of the immediate future to adjust the capital sums to their proper proportion. Mr. Alexander Hurd, a strong defender of the capital system, made it a boast that £61,000,000 was lost annually in unsuccessful flotation, a figure which is obtained from Webb's statistics. It does prove the readiness of capital for venture, but it proves too much. It shows that the investor needs some protection, and we need not be surprised that in other countries he is protected. Moreover, it proves that with such a heavy loss the reward for capital must be exceedingly attractive if the flow of capital is to continue. One need not surrender his belief in the private ownership of capital to see these defects and to recognize that the present system does lend itself to the exploitation of the unwary by the unscrupulous. Mr. Delisle Burns gives a list of the Commissions which have considered the defects in Company Law in 1895, 1905, and in 1918, and the Law Society in 1924 drew attention to them. Yet there is a strong sentiment against any systematized check on free private investment. The function of the primary investor has come to be differentiated from the secondary investor. The first takes risks, and the secondary investor, when the risks have become modified, takes his place. Suggestions that banks or corporations or centralized capital funds should operate are regarded coldly. And yet it must be the case that by trusting to these natural causes for the differentiation between investments we are adopting a clumsy as well as a costly process. We are asking the public to trust to prominent names for their guidance and we are not using scientific knowledge for the enlightenment of the public. Experience is a hard school, but in respect of finance it is also a costly school.

Yet it is the case that there has been an evolution, and to consider that evolution brings us to the study of different

types of capital investment. We may begin by stating that, in the Companies Acts from 1862-1907, the memorandum of association of a limited liability company is required to state the total amount of capital and the sums into which that total is to be divided. The general tendency, in England, has been throughout to lower the value of individual shares, and this tendency has been imitated in recent years in the United States. It is parallel with the tendency to appeal directly to the public. Further, there has been a tendency in England to provide for those investors who seek security rather than a speculative dividend, and this has been effected by means of "preference shares." Sometimes these preference shares merely include preference in the dividend, and they are also "cumulative," whereby the dividend is to be made up out of successive years' profits if in any year the profits have been insufficient, but in some cases it is also arranged that they have priority in respect of capital distribution in case of unsuccess or termination. It came to be a practice not to include the idea of preference shares in the original memorandum, since the articles, drawn up afterwards, can more readily be charged. Obviously, this opened the way to a danger of being misleading, and in 1907 legislation dealt with the rights of preferential shareholders. It seems, at first blush, to be a satisfactory arrangement for the vendors to retain the ordinary shares and to offer to the public cumulative preference shares. It secures their continued interest in the enterprise and gives the public security in offering the prior claim to a cumulative dividend. But, human nature being what it is, there are many instances where preferential shareholders, under these conditions, show some irritation when the dividends on the retained ordinary shares are out of proportion with their dividends. They forget rather readily that the good return on the ordinary shares is the basis of their own security. Thus the preference shares assume a sort of midway position



between ordinary risks and debentures, which can best be described as loans on mortgage. Nevertheless, there have been cases where purchasers of preference shares, and even of debentures, have found themselves handed over to a corporation of which they had never heard and the value of their apparent security drop to nothing. The courts exercise a restraint over the powers of a company to reduce its capital and even to reorganize its capital, and there is a special protection for preference shareholders in that they must agree by a large majority to the change. There are other subtle differences as a result of the Companies Clauses Acts and the Companies Acts, whereby preference shareholders are distinguished as regards their rights to cumulative dividends. We may sum up the general process of evolution by saying that the two aspects of investment have each received attention. The venturesome investor has his opportunity on many occasions to take considerable risks and to make considerable profits. He also has his opportunity to make a more secure investment. In the former case he buys probably "for a flutter," and though this may seem to be reprehensible yet it has an influence on the progress of industry. The second class, however, is the salt of the earth, and it is not a matter for surprise that it is in this direction that hope of progress in the more equal distribution of wealth is found. It may encourage the small investor, though, on the other hand, corporate saving through banks or through some such device as a Central Capital Fund might be even more encouraging. If the controversial enthusiasts on both sides, those who see nothing but evil in the capital system and those who see nothing but good, would only lay aside prejudice and faithfully consider in what way some of the undeniable evils which at present accompany direct investment could be remedied, much of the controversy might cease. For it is a fact that as matters stand the small investor is at such a disadvantage compared with the large and

skilled investor, especially in respect of information, that power does seem cumulatively to get into fewer hands. There is no reason why some steps should not be taken to remedy this and to base capital-possession as widely as other forms of privilege and of responsibility. As it stands to-day, shareholders are too much outside the confidence of the directors, and there is a danger of the "company" becoming an entity apart from those who make up the company. It is curious that we should hear so much of the "democratic control of industry," as meaning not democratic control but workers' control, when shareholders are becoming mere holders of scrip who know little of the aims and intentions of the company of which they are a part.

It would be helpful if only we could lay down a principle as to the amount of capital which ought to be invested in any particular enterprise. There have been efforts in this direction in the United States and they have resulted from the legislation against combinations. They have attempted to base the estimate of legitimate capital upon the "actual cash value" of the whole enterprise, and as a rule they have taken the replacement value of the actual plant together with a certain sum for the day-by-day running of the plant. There is good reason to believe that in practice such a method of estimate is too severe. It seems to take for granted that the period of waiting between raw material and product is to be covered by some type of loan other than invested capital. Probably this is actually the case in most instances, but that does not justify us in so rigid a definition as to exclude it in all cases. The view at the other extreme is of earning value, which includes the cost of obtaining goodwill and even the cost of promotions of issues and also the already inflated capital of separate industries which have been bought out, and as by the process of buying out the net product—or products—have increased in value, possibly to the verge of monopoly value, a *prima facie* case can be made out.

Nevertheless, it is true that over-capitalization is one of the dangers of the hour, but in these days of "psychology" and "atmosphere" we could hardly go so far as to bring the capital down to the narrowest justification in respect of the physical property. Probably the Income Tax Commissioners in England are as severe a judicial body in this matter of capital as any we are likely to have, and in actual practice they do not insist on so positive or material a measurement. It is significant that there is a movement in the direction of reducing income-tax on sums placed to reserve on condition that those sums are expended on new plant or on some development of the business. The alternative shows a recognition of a wider conception of capital.

The difficulties are summed up by Professor Pigou. "Clearly," he says, "we cannot interpret it (the capital) as the market value of the concern, because, the market value of a business being simply the present value of its anticipated earnings, these earnings *must* yield the ordinary rate of interest on it, allowing for the particular risks involved, whatever sum they amount to. Indeed, if we were to take existing market value as our basis, since this depends on what people believe that the system of rate regulation will be, we should come perilously near to circular reasoning." Hence, he decides that capital, for the purpose of fixing rates—and this is the most important matter from the public point of view—is something quite different from capital for other purposes. It must take some cognizance of invested money, and if this includes "commission paid to a promoter for accomplishing a fusion, the advantage of which is expected to consist in the power to exact monopoly charges from the public, this commission ought not, it would seem, to be counted, except in so far as the fusion has also brought about increased productive efficiency." This is not easy to determine and cases are quoted where the cost of promotion has amounted to 20 or 40 per cent of stock issued. So we seem likely to

have to include sums other than the original cost of the plant and the original establishment of goodwill. "Parliamentary costs, the purchase of patent rights or the upholding of a connection by advertisement, together with such later expenditure, in excess of the repairs and renewals required to keep the original capital intact, as has not been taken out again in earnings, allowance being made for the different dates of the various investments." Thus our estimate of capital will lie between two extreme points. It will not be the nominal capital since there may have been all sorts of watering, bonus shares, or grant of stock as purchased price. Nor will it be at the other extreme. It cannot be a valuation of the whole industry as it stands.

Hence, we cannot go much farther than the plan which Professor Pigou describes as "usual." It is the cost of reproduction of the plant, or a direct physical valuation of the plant, plus some more or less arbitrary allowance for costs of promotion, investments to build up goodwill, patent rights, and so on. All this has been said largely by way of caution, and with a recognition of many other difficulties. It may be necessary in the future to take legislative cognizance of the legitimate amount to be considered as capital, and when that is done some method may be devised to allow for the factors in industrial enterprise which lie outside the material properties. All that can be said at the moment is that the consideration of what is or is not legitimately to be regarded as the capital of any industry in being is an exceedingly complex question, and that before the student rushes to the acceptance of any terse definition he will be well advised to make allowances for other factors. It may be that it is not without moral benefit to us all that non-visible factors in industry cut across the merely material considerations. Indeed, the very difficulties in definition point to a moral right. Thus, Mr. Delisle Burns says: "Shares in an enterprise, which are business capital, represent not so much actual machinery or raw material as rights to draw profit upon the basis

of the accepted or imagined credit of that enterprise." Thus this shareholding goes beyond merely physical ownership, and it includes some recognition of the faith of the body of consumers.

We can find this central problem, the difference between the strict capital in the older sense as representing the physical plant and the credit capital as representing intangible property, variously regarded in recent statements. Mr. L. Urwick at one of the Industrial Conferences balanced this difference in an interesting way as between debentures and preference shares on the one hand and "common stock" on the other hand. His remarks are a convenient summary of the point which we have been considering: "The usual view of capital still current is that it represents in terms of cash the actual equipment used in any given business. Since the investment in this equipment represents the free discretion of the investor, he should retain the complete control in the application and management of that equipment. With our former typical employer this was substantially the case. But with the extension of the use of credit instruments and corporation finance there has been a considerable shift of emphasis. In the first place, there has been a steady growth in the proportion of debenture and preference capital carried by most businesses which have operated for a long period as joint-stock companies. This proportion of capital in a large number of cases covers the full value of the tangible assets. It carries no share in control. The control vests in the holders of the common stock, and the common stock increasingly represents the intangible assets of the concern, its goodwill in the widest sense. This development is inevitable, since credit power is a competitive weapon, and the whole pressure of a competitive system drives each enterprise to develop its command of credit to the utmost that the situation will bear. Capital as a controlling factor in industry tends less and less to have any direct connection with the value of the industrial equipment, and more and

more to become a calculation as to the potential future earnings of the concern. The ultimate control vests increasingly in absentee owners, business men who exercise a discretionary power over a sufficient proportion of the common stock." We may be content with leaving it at this, for the evidence is sufficient to show that the problem of capital is by no means so simple as may be supposed. Also it is clear that these aspects of the problem will arise in any system of ownership, public or private, for costing will be needed as a test, and costing needs the estimation of capital and the estimation of capital needs some recognition of intangible assets.

Capital is the link between one generation and another. To-day the railways are the backbone of our industrial operations, yet, as Mr. Henderson says, they were built when England was not a rich country. "The men, long since dead and forgotten, who built our railways, or sunk our coal mines, or engaged in any of a great variety of tasks, are still contributing to the satisfaction of our daily wants. The expression is not altogether fanciful, for, had it not been reasonable to expect that those labours would be of use to us to-day, many of them in all probability would never have been undertaken. It was to meet our present wants, and even our future wants, that many men toiled on monotonous tasks, ten, twenty, thirty years ago. And yet, of course, we should deceive ourselves if we supposed that this was the motive of these men, that our welfare was the centre of their heart's desire. We in our turn dedicate to the future, and often to a distant future, an immense portion of our energies. Let any reader who doubts this study the statistics of the occupations of the people, and reflect on how long a period must elapse before the labours of this trade or that can fulfil their ultimate functions." If we look forward with this in our minds we shall get a new and possibly an inspiring vision of the capital system. Similarly, we shall understand how difficult it would be for any State corporate system to provide

capital in the same way. Posterity has little attractions for us directly. We object to taxation intended to help posterity. In any corporate way saving for capital would be a real saving, a real and a general sacrifice. Under the individual system, it may be the case that much is saved without sacrifice, that it is often out of excess that the saving is made rather than out of "abstinence," as the economists call it. This is a vulnerable point in the system as viewed ethically, but nevertheless it is the case that much saving is really by abstinence, that the financial classes, as they have been called, do not provide that portion of the total sum which they did provide even fifty years ago. The irony is that the function of industry as we see it is immediate profit, but that the true function of industry as we do not see it is the provision of a link in the continuous chain of production and consumption, and that link will often be a more or less permanent—when viewed from the present moment—organism which will go on providing for future needs. When the railways were made in India it was hoped by faithful Christians that they would put an end to Hindu pilgrimages, but some of us have seen Hindu pilgrimages by train at special fares and under special arrangements. We build, but we cannot see what it is that we are building. Sometimes we hear it suggested that the organism of productive machinery has gone far enough, and that it would take ten worlds to consume all that could be produced. New methods of distributing power, new inventions of cunning machinery, may seem to establish this suspicion on firmer ground. Yet we cannot cry halt. New demands will arise, and new adaptations of what seem to be old products will be discovered. There is no likelihood of the expansion of the needs of mankind coming to an end. The Hertzian waves, when they were first discovered, may not have seemed to have a bearing on this subject, but thousands and thousands of workpeople to-day are making wireless instruments. It is well that it should be so. If the needs of mankind knew

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no expansion, there might be too much saving, too great a desire for investment; and though some economists suggest that saving would be more and not less from a fall in the rate of interest, such a development would not be helpful to the small investor. So, balancing these tendencies as we must, there is every reason to believe that generation will go on serving generation as it has done in the past, and every step which is taken to make that service more secure, and the reward more distributed, will emphasize that wonderful chain of continuous service which is none the less effectual because we do not place it in the forefront of our personal aims.



## CHAPTER III

### THE EXPANSION OF INDUSTRY

If we are to regard an industry as an organism it must grow. That is to say that growth is a symptom of life. We cannot accept a static theory and regard the individual industry as being perfectly adapted in size and in function to the place which it is to hold in industry as a whole. Similarly, we must beware of looking upon competition as a characteristic of industrial enterprise which we can lay aside as though it were outworn raiment. Competition is an element in growth. The plants and the trees are in competition for the nurture of the soil. A good gardener will regulate that competition. He will strive to check it lest it become an agent which is mutually destructive to the contending plants. But he will not remove it. Indeed, he may even use it and determine to replenish the soil in due course when competition has done its work. In industry we must devote research and thought to the effort to balance the competitions, just as the gardener does. We are out for a battle with waste. That is our task on this earth. It is what industrial production has to do. Day by day experience shows us ways in which we can improve our methods of production, economize our use of raw material, introduce the production of by-products, organize the methods of sale. All those factors enter, and deliberately to refuse to entertain them is to accept certain waste and thus to betray the process of industry, to surrender the long struggle against Nature. It will be said in reply that this process means the adoption of trusts and combines, the search for a monopoly, the exploiting of the consumer and the exploiting of the worker by means of mass production and the like. It is undeniably true that evils do lurk in the way of this process. Railway trains mean

accidents, and coal mines mean death and danger. Nevertheless, you cannot prevent rapidity of transit on this account and the hardest critic has not proposed the closing of coal mines. So our task is to consider the process, as a process. It is inconceivable that there is an alternative. Industry has been described as a juggernaut, but how to provide for the vast and increasing populations of the world without that juggernaut has not been suggested. So we may not be surprised that the tendency is towards the larger and larger unit of industry. Nor is it certain that a reaction will come from the wider distribution of electric power. There may be a segregation of parts and at the same time a reaction against the urbanism which has characterized industry, but there are no signs of smaller unit industries. In fact, the increased study of organization and of means whereby central direction may work is both a factor in this development and a symptom of that development.

We may summarize the factors which are leading towards the expansion of unit industries. In the first place there is the fact that by means of organization on the grand scale a specialized distribution of the manufacture of parts may be adopted. Obviously the combination of a number of factories must lead, sooner or later, to the distribution of function. Research and planning can be carried much farther and the natural advantages of each of the combined units can be used to the full. One of the notable cases was that of hoop and bar iron. Obviously, if both were produced in one factory, the rollers had to be changed from time to time. Even in the matter of different sizes of the product there is an advantage from arranging that one size shall always be produced at one factory. In the second place a co-ordination of management has resulted. We shall come to discuss the detail of the organization of management, but at the moment it should be pointed out that it is frequently the case that managers have a special capacity in one direction and that by combination it is

possible to functionalize management, distributing the skill as between business management, technical management, and personal management. In fact, it was in attempts at combination that this possibility was discovered. In the third place, there is the purchase of raw material by one central body, instead of by several, the combination of sales and indeed the inclusion of the sales of various articles under one organization, and the combination of planning whereby processes are saved and the possibility of research on the grander scale. In the fourth place, there is the undoubted fact that the greater security of fulfilling orders attracts customers as also does the standardization of the product. Subsidiary factors are the power to extend credit and thereby to find new markets, the greater bargaining power with transport and other auxiliaries.

All these combine to make the process of unification almost inevitable. There is something to be said on the other hand. It is not the case that inventions are made necessarily by the research departments on the grander scale. Humbler plants have made the most valuable discoveries and this particular conquest is not to the strong or the wealthy. Also it is a fact that the spirit of loyalty does seem to peter out with these vast organizations and that the functionalization of management, for example, is not always as effective in the process as on paper it promises to be. The old traditions grip the hearts of men and certain temperaments do not welcome the change from complete management to one-third management. Similarly, there is sometimes a psychological loss with the workers. Even with more efficient planning, with better machines, with wider organization, it has been found in many instances that the individual enthusiasm under the less apparently efficient conditions more than made up the difference. Also, in spite of the advantage on the side of the consumer of always being able to have his order filled, there is a disadvantage. The combination is unpopular. It has too frequently been the case that the economic

process of combination has been hastened by measures on the part of the capitalists which have alarmed the public, and this has had its influence upon the consumer. Apart from such exploitations of capital, the dismissal of men whose services have been rendered unnecessary—especially salesmen and commercial travellers, in close touch with the purchasers—has caused a definite reaction. Making full allowance for these factors, which may be said to resist the tendency, it is to be admitted that their resistance has not been very effective. The fact that such combinations have been carried out to the immense profit of the promoters has given a shock to the public, and has kept from the public very largely the benefit of the combination. Still, the tendency to combination in itself has come to be recognized, and the fact that as a rule the combinations pay higher wages to workpeople has been in their favour with certain sections of the community. We need not deal in detail with the contention that this development leads to State ownership. It is an irony that the very expansion of capital which has characterized this development has become a stumbling-block to State ownership, for the State is left with the uncomfortable alternative of purchase at an inflated price or of damaging the innocent stock-holders. It must act without notice or it will give the opportunity to let plant get worn and old-fashioned. As time goes on the theory of expropriation becomes weaker and socialists are never weary of declaring their intention of giving "full compensation." Thus the State seizure of giant trusts is only likely to be a State indemnification of capitalistic expansion and the public conscience would revolt against it.

There are several ways in which this process has been evident. First, there is the ordinary combination, whereby industries previously in competition have fused themselves voluntarily. Of course, in a sense it always is voluntary, but in some cases the freedom of will has been a little modified by the severity of the competition. Second, there is the "Trust." It takes different forms, but it is usually

a body of trustees formed out of all the companies which is able to direct the policy of all the companies. The title of the stock in some cases is held by the original owners who pass to the trustees an irrevocable power of attorney (*Encyclopædia Britannica*, Article "Trusts"), enabling them to do what they like with the vote. A later form consisted in the establishment of a new company to purchase all the shares of the rival companies and then to dissolve the rival companies, and this succeeded in evading certain legislation which had assaulted the earlier form of trust. A third form has set out actually to purchase a controlling interest in each of the companies and to control the companies as one unit through this ownership.

In all the forms they have been the object of suspicion, and especially in the United States. In Europe they have been regarded with less hostility, largely because they have taken an apparently milder form, though in the end, from the point of view of the consumer, it amounts to much the same thing. In Germany the "Kartel" is merely an arrangement between independent companies which retain their independence, though in effect its influence is much more serious than this simple statement would convey. It has been very largely of the "vertical" order, that is combinations with industries which supply working material, but it has also its "horizontal" aspect. It seems to be the case that the consumer has gained the benefit to a larger extent than elsewhere and that he has been singularly complacent in regarding the development as inevitable. In England the form is rather of the "pool" type, with its arrangement of profits, though there are actual Trusts, in the strictest sense of the word, and there have been public suspicions of the alleged over-capitalization. In France the law is definitely hostile to such combinations, and the general method adopted is to arrange what is in effect a scheme of prices with a maximum and minimum, and, in consequence, the combination has been accentuated rather at the selling end. In respect of

production, no control is admitted publicly beyond a certain limitation of output in a few industries. Apparently, so far as can be ascertained from French industrial authorities, the economy in combined and organized selling is so manifest that there is not likely to be a public outcry, but that organization for production, and particularly organization of capital whereby individual industries would be merged, and (probably) the total capital largely increased, would be met with definite hostility.

These, in outline, are the developments. The question now to be considered is the question of monopoly. A monopoly is a dangerous power and when it follows fierce competition, and generally it follows exceedingly fierce competition, the temptation to seize the opportunity to make unfair profits out of the consumer is not readily resisted. Accordingly, there is a suspicion of monopolies and governments have been called upon to control them, though this control has proved to be very difficult. Professor Pigou, in Chapter XX of *The Economics of Welfare*, deals with this phase of the subject in great detail, but for the purpose of a study of industrial administration we may confine our consideration to bold outlines. Professor Clark, indeed, is quoted in saying that: "A nearly ideal condition would be that in which, in every department of industry, there should be one great corporation, working without friction and with enormous economy, and compelled to give to the public the full benefit of that economy." This overlooks several features of the monopolistic control of industry, the lack of incentive, once the monopoly is achieved, to cheaper production, the failure to use "the scrap heap," the use of power rather than ability and sometimes the use of power unscrupulously, such as the boycott or differential rates or bribery, the desire for monopoly itself as a criterion of size rather than the size which produces the maximum efficiency. Governments have attempted to check this tendency by means which have generally been evaded, and in many cases rather discreditably

evaded. The control of prices by government or the control of profits is faced with enormous difficulties, not least the cost of establishing a machine of such a size as to be almost of the same size as that which directs all the monopolies. Also there have been suggestions that the function of government in respect of this tendency should be to be ready to establish government-owned industries in rivalry, with such precise capital and revenue and cost accounting as to enable a just price of the product to be reached, the argument being that the threat would suffice. The United States Government has actually dissolved monopolies into their constituent parts and legislated against directors being responsible for more than one industry, a process which has encouraged ingenuity in finding ways of escape. What seems to be clear is that the past tendency towards combination has been of benefit to production, has encouraged skill in business management, has improved the distribution and the methods of appeal to potential consumers and that when it has reached the pitch of monopoly these advantages have been lost or, at any rate, that public opinion has reached the conclusion that the disadvantage of the power conferred by monopoly outweighs any advantages of economical administration.

The irony of capital comes back again. It is probable that to achieve a monopoly the expenditure of capital has gone far beyond any limits which could be laid down by the considerations which have been stated and that a rival, having public opinion behind him, could make some progress with proportionately small capital over which to distribute his profits. No doubt it would be a struggle, but it would be a healthy struggle if, as is likely, the monopoly had expanded beyond the maximum efficiency. It is true that there is an obstacle in the way in the secrecy of the costing of the monopoly, and especially where it manufactures different products, some of them of the nature of by-products. But experts have a way of making a shrewd guess at these costings, and it is probable that the

development of a science of industrial administration may remove some of the secrecy. The next stage, therefore, may be the penalization by such competition of any industry which, in search of monopoly powers, passes beyond the stage of maximum efficiency. It may be that the search for an opening may direct itself to the application of newer methods to the assault on monopoly, and that the fear of such a development may react on monopolies and keep them alert at every point so that the three parties, the stockholder, the worker, and the consumer, may get the benefit. In this sense Professor Clark may prove to be justified and a unit administration for a whole industry may become, what it is not now, the unit of maximum efficiency, always provided that there is potential rivalry.

That day is not yet, but the lesson for students of administration is obvious. It is that we should study this problem of expansion of industry always from the point of view of seeking maximum efficiency. That may mean monopoly, but it will not be monopoly which has seized an advantageous position, but monopoly which is impregnable from assault because of its efficiency. And that efficiency is not static. It is fluid. It must contain some method of revealing day-by-day inefficiencies. It must lay more and more stress on perfecting itself. That is the next task of the science which we are discussing. In the meantime we have to be content with some government oversight where there are monopolies, and it is not too much to say that by their methods some monopolies have asked for it. The government oversight may lead to evasions, but it is building up a criterion of maximum efficiency. It is educating public opinion, and it is clearing the air as to a criterion of prices, whether they should be based on the cost of production or on the service they render to the consumer or on a combination of both. It may be that with a clearer conception of the maximum efficiency, with greater publicity in respect of costings, the government oversight can safely be put rather in the background,



taking negative rather than positive forms, as Professor Pigou describes them, whether by the introduction of parallel disabilities, the threat of State competition, the threat of expropriation on compulsory terms, or a mere system of licensing under conditions. The reaction which we have seen in our day against Government operation of industry does not mean the expectation of widespread competition, for such expectation is futile and the whole development of industrial organization is against it. Nor, on the other hand, does it mean the complete surrender of the possibility of governmental operation where the security of the public demands it. Even in the United States, commissions of inquiry into differential railway rates have boldly proposed government ownership as a remedy, though the feeling against government ownership is exceedingly strong. Manifestly, therefore, from the point of view of industrial administration we are seeking justification for privately-owned enterprise not on any a priori grounds, not out of traditional or sentimental preference, but on the grounds that it is the most efficient, and it is equally clear that this efficiency increases with some expansion, whether vertically or horizontally. We must admit the reasonableness of public apprehensions of monopoly power, and at the present time must be content to have those apprehensions articulated by means of legislation or government administrative oversight. But our aim must be such an efficiency of industry itself as to render the public suspicions baseless and, in consequence, the government oversight of no avail. The fierce resentment of any form of government oversight fans the flame of suspicion. "The law is a terror to evil-doers" should be the watchword of those who see a development of combination to be the inevitable result of a desire for more complete organization, and they should be prepared to recognize that monopoly is so dangerous a power to put in the hands of corporations that the community is bound to seek some safeguard. The placing of obstacles in the

way of combination and the fostering of competition are not likely to be final safeguards.

Mr. J. D. Whelpley, an American student of economic conditions in Europe, in his work *Reconstruction*, includes a passage which is an epic of the expansion of industry in that it shows how vast American industries have developed in Europe and how they faced the cataclysm brought about by the war. "One of the powerful influences exerted in reorganizing trade in Europe and elsewhere has been the work of the big industrial enterprises of the world. This is especially true of American foreign trade. Before the war the backbone and ribs of American effort abroad was the work done by the big industrial combinations which are popularly termed "trusts." Their selling organizations covered the world with a network of lines of communication the focal points of which were the agencies in each country. They furnished the framework upon which the great foreign trade of the United States in manufactured goods was built up. From ten to thirty per cent of the business of these big American concerns was in foreign countries, and they blazed the trails along which the smaller American concerns carried their goods to foreign markets. Some of them owned steamship lines, controlled post facilities, held valuable foreign concessions, and all of them possessed vastly complex selling and distributing organizations representing years of constructive work and the expenditure of millions of dollars. Some of them owned factories in foreign countries and controlled subsidiary companies organized under the laws of the land in which they were doing business. The relations of some of these American companies to foreign governments were matters of the utmost importance, and they were often treated with more consideration abroad than they were at home because of a fuller recognition of their power for good in the development of industry in the country in which they were operating. No single manufacturer or group of manufacturers could have built up the foreign business

enjoyed by these American corporations for the reason of the enormous amount of capital it was necessary to employ, the closely knit character of the organization required, and the need for a central authority with absolute power to make immediate decisions in matters in which the entire policy of the concern was involved or perhaps the expenditure of many millions of dollars. When the war came . . . men of authority representing these American concerns and familiar with European conditions were immediately sent abroad to make an estimate of the situation and to arrange affairs to the best possible advantage. These men travelled day and night, through marching armies, across closely guarded frontiers, sparing no expense or hardship to themselves to visit the outposts of American trade, ascertain conditions, make such arrangements as were possible and estimate the power and ability of the men in charge locally to hold their own in the company's interest. Governments had to be interviewed, banking arrangements had to be made, and in fact their journeys represented in their results far more than has ever been accomplished by official diplomatic missions; for a thousand different interests were involved, human as well as industrial and financial, and the supreme need was for courage, clear vision, quick decision, and practical knowledge. That this work was well done was apparent immediately the guns ceased firing, for as the smoke cleared away and order came out of confusion, it was apparent that the backbone and ribs of American trade were practically intact."

We have not necessarily to study American conditions to realize the factors which make for combination of industries or for the expansion of unit industries. It has been revealed recently that separately owned coal mines might be able, as a single unit, to be efficient on the whole, in the matter of profits, where as separate entities they are only able to struggle along. It has been shown, for example, that if a certain group, producing coal of different qualities, could be worked under one direction, they might use the

poorer coal for their own purposes. "It is a pity," says a writer on this subject, "in order to bolster up a false individualism, which has long ceased to be an individualism, except in sentiment at a particular stage, by using coal for which there is a real demand when poorer coal would fulfil the purpose." It has also been pointed out that long distances from the workings to the pit-mouth might be reduced by re-grouping with a certain number of pit-shafts to serve areas underground now divided amongst different ownerships. It is this which lies behind much of the contention for nationalization, and it certainly seems to give a basic argument for working in districts rather than in the capricious units which miscellaneous ownership has brought about. This instance is sufficient to show that the popular conception of expansion, that it is not based on any economic motive, that it is due rather to some Napoleonism of would-be dominion, is something short of the truth. Indeed, if we read Mr. D. J. Williams' illuminating book on *Capitalist Combination in the Coal Industry* we shall find studies both of the vertical and the horizontal types of combination, and the reasons for those combinations. All that is being contended in this chapter is that there is an inherent tendency towards the expansion of industry and that the student of industrial administration must take this tendency into account. It is the problem of problems of our time, for it brings with it the possibility of exploitation, and the means for dealing with that exploitation, as we have seen, are not manifest. Nevertheless, the science of industrial administration, seeking the ideal of maximum efficiency, cannot lay down the fundamental basis that capricious small units, or even larger units, are necessarily efficient. It can lay down the truth that expansion seems to be inevitable, but it must condition that statement with a claim for the recognition of efficiency, and especially of efficiency in direction, which is not always given the weight which it deserves, either by those who are urging expansions and combinations or by those who oppose them.

## CHAPTER IV

### THE ORGANIZATION OF AN INDUSTRY

WE may begin a study of the current organization of an industry with the directors. The evolution of the board of directors is direct and simple. It has come down from the period of ownership. In joint stock management, certain legal responsibilities are attached to the directors, especially in respect of the statements which they make in appealing to the investing public. But it is also to be noticed that in the process of evolution there is a valuable function for the directors in the process of transfer from private ownership. They are an evidence to the investing public of a continuance of the same administrative management in those cases where a private business has been sold, so to speak, to the public and the ultimate control remains, in the main, in the same hands. It is sometimes said that the board of directors is a committee representative of the shareholders, but this definition does not go far enough. They are rather more than representative, they are administrative. Their loyalty is to the industry as a whole, as an entity, rather than to the shareholders. They may themselves be shareholders, and criticism has been directed against the possibility of their interests being different from those of their fellow shareholders. Thus, Professor Hadley, in his *Economics*, suggests that there is a danger of directors making a "temporary profit out of their management, either in the form of large salaries or of lucrative personal contracts," and he says that "the most serious among all the evils under which American business suffers is the lack of clear understanding as to directors' responsibility." Mr. Delisle Burns, in *Industry and Civilization*, quotes the case of Messrs. Brunner Mond in 1920, when the directors decided to put aside a sum of money, which might have

been dividends, for the support of research. The case went to law and was decided in the directors' favour, but it does not prove that the interests of the shareholders and directors were at variance. Rather, it proves that in the minds of the directors, with much better opportunities of forming a sound judgment, this expenditure was in the shareholders' interest. A remedy which has been suggested is that all investment should be at a fixed rate of interest so that the shareholders' responsibility for management might be entirely removed, a process which looks like cutting instead of untying the Gordian knot. No doubt there are various margins of directors' responsibilities which differ in different cases, and it is equally true that there have been cases where the directors' personal interests have differed from those of the capital owners as a body, cases indeed where directors' fees have continued to be paid (as also have the wages of the workers) though the industry itself has failed to pay a dividend, and even cases where these fees have been increased and no dividend has been paid. But, looking at industry as a whole, the standard of loyalty and honour has not fallen and there is a professional ideal which is likely to be raised as investment becomes more widespread and public opinion becomes more alert. Nor can we allege general bad faith on the part of directors in respect of combinations of industry. We have seen that there are often sound reasons for these combinations, and in many cases directors know more of possible future trouble and, on the other hand, of future advantage than the shareholders and the moment which they choose for an act of combination may not, and in most cases does not, mean an act of treachery.

Nevertheless, it is to be admitted that it is on this point that much of the hostility to the capital system finds its justification. There have been unfortunate cases where honourable men have found themselves in difficulty by holding various directorates not having precisely the same interests. It is only too likely, also, that suspicions are

aroused by a type of director who is not likely to make an administrative contribution. We must emphasize the administrative responsibility of the directors. It may be that they do not need technical knowledge, that their function is essentially that of high finance and that they can do valuable work in applying the business man's common sense to the technical skill of the management. But, as time goes on, this is proved to be insufficient. Even administrative management, separate and distinct as it is from executive management, is called upon nowadays to be more directly involved in the technique of the business and the development of functionalized directors, whose duty and responsibility it is to watch particular aspects of the executive work from the point of view of the directorate, is an evolution which seems to be desirable. It certainly keeps the board of directors from being a merely ornamental committee and each of the directors on the board will make a much more vital contribution to the enlightenment of the board if he himself has gained enlightenment in some aspect of the general work of manufacture or distribution. There have been other attempts to modify the merely financial responsibility. In some cases the directors themselves in their individual capacity are executive managers so that the chairman becomes the chief executive. In other cases all the executive interests of the board are focused in one of the directors who becomes a managing director. "Certainly," says Mr. Sheldon, in his *Philosophy of Management*, "a committee of management may fulfil a useful purpose, but only as advisory to the head of the administration, and as a representative body for the proper adjustment of those works activities which concern more than one function. A committee can criticize and can approve, but it cannot of itself construct. What is most needed at the top of every organization is a single mind which can devote itself wholly to the regulation of inter-functional activities, to the moulding of the form of the organization, and to the business of thinking

constructively." Thus we can think of a board of directors in their unity as being the high administrative body, representative of the shareholders in respect of financial and controlling authority, using their administrative powers through a single manager or managing director, but each of them undertaking the specialized cognizance of one aspect of the whole industrial enterprise, not performing that function executively, but correlating the executive performance with the general administrative outlook of the board of directors. Such a conception of the duties and responsibilities of directors would do something to remove many misunderstandings which have had a far more evil influence than is generally supposed.

The management must be expert. That may seem to be a trite remark, but there is a danger even in expertness. Of recent years an idea has grown steadily that management should be expert in management, but that for the particular needs of the industry it should depend upon specialized technicians. Thus it would be argued that if a manager is or claims to be a technical expert in the industry which he is managing, he will probably have too narrow a vision and will not be able to correlate the various proposals made by his technicians. He may come to be a partisan in the controversies which arise in the discussion of technical procedure, and he may become the worst of all types of partisan in preferring the methods to which he himself was accustomed. Thus, it is the fact that there is a reaction to-day against the "through the mill" doctrine of the Victorian epoch. It is quite likely that this arises from a feeling that in the process of the management of industries there has been too little readiness to change, and in the search for the causes of this inertia one of them—and a potent cause—has been found to lie in the insistence not only that the manager shall be a skilled technician, but that he should have been trained either in the industry itself or in one of a similar character. It is not necessary to reach a conclusion on this question, but it can be



suggested that it is essential that the management should have a sufficiently wide knowledge or wide experience to be able to put its technical skill in proper proportions in the total scheme of management, and to be receptive to proposals and suggestions put forward by technicians who may be subordinate. Put a little differently, it is essential that the aspect of control which is essential to management shall not presume to be continued control of technical study and research. It is well, too, that the manager should realize that there is, or soon will be, a science of management, not necessarily dominant over the technical management, but so important as a correlating medium as to demand his first attention.

There can be no doubt that the tradition of English industry is to overwork the management. This is the outstanding difference between the English and the American methods. In this respect, also, modern management in Germany is far ahead of the British, and more attention is being given to this aspect of management in France than with us. The English manager is given all sorts of varied responsibilities; he is expected to carry out purchases and sales and to be personally intimate with all the processes. If he delegates he is looked upon with suspicion. He is not given time to think, and yet he is expected to be the dominant technical authority. There is arising a school of thought on this subject and its object is to seek some method of organization which will secure the executive authority of the manager, provide him with proper delegation, and give him the opportunity to be the leader of thought in the industry. There is already a vast literature on the subject and it is excellently summarized in Mr. Oliver Sheldon's *The Philosophy of Management*. Three methods are proposed as substitutes for the present system. That present system is described by Mr. Sheldon as the "departmental" system. It is the obvious method, when anything gets too big, of sub-dividing it. We add sub-managers to the manager's office and we give each of

them a section of the industry much as we might divide an orange. It is undoubtedly true that with this system there is waste. In each department there are processes and methods which are found in other departments, and it is frequently the case that sub-managers develop processes on lines altogether different from the way the same processes are developed by another sub-manager. Clearly, therefore, some close co-ordination is needed when the departmental system is adopted.

Mr. Sheldon describes (1) the functional system, (2) the staff and line system, (3) the committee system. We may follow his example and regard the committee system as auxiliary to the others. In fact there is much to be said, in England, for reaching a general composite view, using the departmental system as the basis with functional and staff and line and committee methods to check its dangers. At once we are met with a cry of alarm. The departmental system looks, on the face of it, to be inexpensive. Everybody is manifestly working. The sub-manager is in close touch with all that is done. It brings us back (say its votaries) to the merits of the small industry. But, if we go into the question more minutely, we shall find that the appearance of everybody working is deceptive, that some of them are doing work which has already been done in another department, that not only the merits but the plain demerits of the small industry have been retained and even emphasized. Probably, too, we shall find with the departmental system that there is only departmental planning—if there is any planning at all—and that the separated technicians in their day-by-day work are handicapped by their closeness to the particular executive work for which they are supplying the technical advice and even that their research is confused with executive work. The functional system would divide the industry on the basis of function. It would correlate the industry frankly as a large industry. It would regard the difference in function as marking the true distinction and the difference in historic

process as being altogether subordinate. The staff and line system makes an emphasis upon administrative thought as distinguished from executive action. It would have a "staff" whose functions were to think out and study, and this "staff" would be closely correlated, for purpose of this thought and study, with the executive. To introduce either of these systems after the departmental system has become established means so vast a change that even if their merits were undoubted (which is by no means certain if we mean the merits of functional organization or of staff and line organization as separately installed) the difficulty of introducing them would be almost insuperable.

There is something to be said for a basic departmental system correlated by a functional system to include some of the features of the staff and line system. It is not necessary to carry this suggestion into fine detail at the moment, for the differences between industries and even the differences in the size and arrangement of buildings would make a hypothetical application of the scheme to be of little value. In considering the application of these modifications of the departmental system, we can ask some questions at the outset. Is the manager overloaded? Can he be given assistance to the best effect on the management or on the technical side of his responsibilities? Can that assistance best be given by taking some function for executive and technical study so that it could be performed in a co-ordinated way throughout all the departments of the industry? Is the industry training its men for future direction, in management or in technical work, and in such a way as to cater for the advance of science in application to the industry or in adapting improved methods to processes which are essentially the same throughout the industry? By means of direct questions of this kind it can be ascertained to what extent an organized control can be discovered which on the one hand will keep the manager in full authority, and on the other hand will use in the process of delegation either functional or staff and line or

a combination of them, and will always have in mind the need for training men for the future. Such a vision of industry will recognize that it is an organism, growing and changing, and that organisms with which it is in rivalry or in association are also growing and changing. We are too prone in English industry to take the position as static and to regard a change as a disaster. The outstanding merit of the newer methods is that they provide for constant study of the day-by-day processes. It seems to be possible to include this advantage without so vast an overhaul of the industrial machine as to run very real risks. Accordingly, I think we should approach the question from the angle of adaptation rather than of drastic change. One further thing is to be said. It seems, from practicable experience, that in no case should a manager have more than five representatives of divisions of the industry in touch with him, whether those divisions are what we may call territorial or functional or technical. If there is a greater direct sub-division two risks are run. The manager will not be able to retain a living responsibility over them all, on the one hand, and on the other hand he will find his contact with each becoming less close or intensive. This fact seems to give good reason for hesitation in adopting a complete functional system even if otherwise it were practicable, for the functional system if it is to be effective probably calls for more actual divisions than the departmental system.

There is general agreement that the fundamental difficulty to be faced at present lies with the foreman. He is the immediate executive authority. It is here that we find the most serious confusion between technique and management. Dr. C. S. Myers in his evidence before the Committee on Industry emphasized this fact. He pointed out that as matters are to-day, foremen know much more about the machines than about the management of men. Their knowledge of machines is gained empirically. They become "good workmen" and for this reason they are chosen to

be foremen. Immediately they are given a totally different function, the management of men, and the immediate and intimate management of men, which is even more difficult than the more or less distant management of men from the point of view of the manager. It falls on the foreman to make up in his personal relationship with the workers for that irony of industrial development to which frequent reference has been made in recent writings, the lack of personal touch. Nor is it the case that his empirical technical knowledge is of much avail. As we shall see later on, planning and designing and costing now are done scientifically and as part of control, probably functional or staff control. Hence it is that the foreman, who used to be a sort of immediate planner or designer, has lost these functions and his true function of leader of men has not been the subject of organized training. Mr. F. W. Taylor proposed carrying his theories of functional control to the extent of functionalizing the foreman, and I cannot but feel myself by the side of Mr. Charles Renold when he roundly declared that the British workman would not stand eight bosses. It seems clear that for immediate executive direction the workman, British or otherwise, looks to one person. That one person is to him the incarnation of the industry, the firm, the company. It seems as if those who wished to introduce a new spirit into British industry needed first of all to consider the foreman and to work out some scheme whereby he might be given a wider outlook before control was put into his hands. It is a fact that constant intimacy with a certain type of machine leads the mind to the attitude that the world revolves round that machine. We hear a good deal of the effect of monotony on the worker, and we shall come to consider it in due course, but apart from monotony there is the evil of such an interest in particularized machines leading to a false perspective of the machines in general and of man in relation to machines. Thus it is that the question of the choice and the training of foremen has

wide ramifications. More labour unrest than is generally supposed has been brought about not so much by the personality of foremen as by the fact that their training, or rather their experience, has been precisely of the worst kind for helping them to understand the psychology of the worker. The very fact that they are chosen for their expertness in machines often gives them, possibly unconsciously, a quasi-contempt for those they leave behind who are admittedly less expert. For this reason there are some industries where there is an absolute rule never to promote a foreman in his own department, and though this seems to sacrifice some expertness in technique on the whole it is more likely to secure better leadership of men.

In any organization there is a difficulty with the technician. There are two types of technology, what we may call the pure and the applied technology. The study of pure technology must be functionalized, and the problem is to keep this pure study in touch with executive work so that the executive workers may be able to make their contribution. In respect of applied technology, it is obvious that experience is and must be a greater factor. It is undeniable that between those who perform executive functions and the expert in applied technology, whose function it is to say in what way executive functions are to be performed, there is a deep-seated hostility. This hostility is one of the fundamental difficulties in the way of enlightened direction of industry. Granted that the management can obtain the best of all knowledge on applied technology, how is it to bring the practice of it into being? The older hands sneer at it and implant in the minds of the younger hands a scorn of the theorist, as they call him. The tradition of the journeyman who knows his job better than all the bosses is a tradition which has deep roots since before the days of the industrial revolution. Workers are combined in trade unions with a solidarity which is not without its value even from the administrative point of view, but as workers they are almost as individual as ever.

It may be that newer methods of training will do something to meet this difficulty. It may be that the transfer of chosen men to assist practically in the study of the applied technology may achieve something to break down the prejudice. It may be that the future of industry lies in such a vast development of sub-divided functions—a development which does not seem to be alluring—that all we can do in the transition stage is to be patient until the day comes when the authoritative study of applied technology will do away with the individual skill of which the worker is so obstinately proud and the value of which, as apart from applied technology, he may be apt to overrate. On the side of the worker is a suspicion, not generally articulated, that his empirical skill is the bulwark against the development of mass methods. He imagines (not altogether erroneously) that the fostering of applied technology is in the direction of further mechanising of his work, and every change in method which is suggested to him seems to be part of this nefarious scheme. It is not sufficient to sweep this aside as a vulgar prejudice. The issue is much more complicated. If the work of the world does need this greater subdivision of human labour, we ought to think out the position in such a way as to make it possible to achieve it without being at the cost of the worker himself. Of course, it can be said that the process is inevitable: I believe that it is. Nevertheless, man's work consists in ameliorating the inevitable.

This may serve as a salutary warning against trusting too much to mere organization. We might have a perfect organization, open to new thought, receptive to new methods, anxious to carry with it the interests of all, shareholders and workers and management. Yet, by its very process, it might breed deep underlying resentments. The perfect organization must needs have its frank and patent imperfections in order that human effort may be demanded, in order, let us say, that there may be a place for sacrifice. After all, industry is a human organism and machines, to

whatever extent they are used, are only the instruments of that human organism. We might construct a veritable horror of tyranny by striving for mere efficiency. This warning is especially needed in respect of the technical side, above all in respect of applied technology. Time and motion studies are most valuable aids, for example, to the progress of industrial production on the one hand and to the protection of the individual worker on the other hand. But no one can deny that in the hands of a mere technician they are perils. An organization is conceivable where the applied technologist would be dominant, where the results of his studies would be accepted without question, and the standards which he set down as a result of those studies would promptly be imposed. Such instances are known, and it is no apology for them to say that they are of benefit—financially or otherwise—to the worker. That worker sees them as imposed upon him and that is the trouble. He begins by regarding himself as being on one side of an immense conflict, and it is hard for him to believe that good to him can come from the other side. Hence, I would urge that the enlightenment of the foreman must be part of the organization, and that the study of applied technology should always be correlated with the empirical knowledge of the foreman. In fact, it would seem that a functional study of work and the best means of doing that work is based on incomplete data, unless it has the weight of the day-by-day experience of a group of foremen behind it. If this could be done, we might face the real difficulty of industry, which lies in the fact that the worker sees every development of scientific process as a move in a game which is hostile to him.

One would certainly like to see the foremen taking up a position of leadership in a much wider sense than in the past. Various suggestions have been made to this end, mostly with a view to giving foremen-elect some opportunity of coming into touch with humanizing studies. Special direct methods of training foremen for their



technical work will be dealt with in the chapter on Training. At this point we are concerned with their training in the leadership of men. It does happen sometimes that those who have been leaders of trade union branches become foremen, and excellent foremen, but it is difficult to see how this could be systematized in industry as it exists at present, though a system of workers' representation in the unit industry could be imagined where it would be practicable. Where it has been attempted is where Works Councils are most successful, and it may be that the next stage is to develop a more contributory aspect of trade unionism to this end. In some cases, an attempt has been made to provide for the election of foremen by the workers, and in other cases the workers have been given a negative veto. The nearest I have found to a successful system is in an ironworks where, in the choice of foremen, an attempt is made to give credit for leadership or tact or kindness together with firmness in handling men. What is certain is that the old expectation of a strength which comes near to brutality no longer makes its appearance. The idea of leaving the hard work of discipline (in the earlier industrial sense of the word) to the foreman is as much a blunder as it is a crime. To be leader of a group of workers by showing them what loyalty and enthusiasm and a sense of duty demand is a totally different thing. The organization of an industry can hardly be a success where its vital points of contact with the workers do not convey the spirit of the organization. A good body of foremen, skilled technically, able to lead and to inspire, and having corporate meetings for the purpose of discussing and correlating their aims, should be the first and basic feature of a well considered organization.

## CHAPTER V

### TRAINING

IN our study of the methods of training for industrial service we shall come face to face with a problem which we shall meet several times in the course of our analysis. It is the question to what extent the State should undertake responsibilities which conceivably might have been attached to individual industries. Of recent years, the State, by undertaking education and particularly technical education, has provided, at any rate, the basis of training for industrial service. In some cases, it is rather more than the basis, and the actual methods of doing the work have been included within the compass of technical education. An old problem arises at this point. To what extent should actual training be given in association with the performance of work, or, on the other hand, to what extent is there a fundamental basis which can be taught in schools as a communal rather than a strictly industrial enterprise? To that problem as yet there is no answer. It presents itself at every grade of industrial work. Many a captain of industry is perplexed by it in respect of his own sons. There is the first question of the advantage of general knowledge. No one would dispute this advantage, yet it is not easy for a captain of industry to decide in particular cases. He would wish to send his son to the university. He would wish his successor in the supreme management of the industry to have the advantage of a wide culture and the training of faculties which that wide culture would afford. On the other hand, he is one of those as described by Professor Marshall, who wishes his son to have actual experience in every section of the industry. He wishes him to "go through the workshops" and he finds that if he sends him to the university it must be at some sacrifice

of actual experience in the most impressionable years of the boy's life. There are tendencies to-day which seem to indicate a lowering of the estimated value of this practical experience and education at the universities is coming more into favour. The reasons are not clear cut. Social practice is one of them and the peculiar position in English respect which is held by the universities. But there are points to be made on the other hand. If English industry is to expand, it must be by a closer knowledge, not of foreign languages only, but of the temperaments and inclinations and preferences—and prejudices, too—of the nations which we expect to be customers. The scholarships which have been founded by the Cutlers' Company for study and residence abroad clearly have this in mind, and they may indicate the direction of a solution.

If this is the position on the more exalted grade, how much more is it the position lower down. We are apt to forget that the men who are to be trained for industry cannot afford to lose years of their life at the age of young manhood. If we could give our future foremen, for example, some insight into the liberal arts it might enable them to overcome the lack of balance to which Dr. Myers referred in his evidence before the Committee on Industry whereby their knowledge is rather of machines than of men. The whole process of our technical schools seems to emphasize this, and the classes which are crowded in thousands of technical institutes and colleges throughout the kingdom undoubtedly contain a vast majority who aspire to be foremen. Those who win scholarships at the university do not intend, for the most part, to follow an industrial life, unless they are able to enter it at the higher stage of administration. Those who attend Workers' Educational Classes or Tutorial classes or Ruskin College, or the Labour Central College seem to be destined in one form or another to be labour leaders. It is a curious irony that for the constructive work of directing industrial operations men are not being so well equipped in the sense of intellectual training as

for the work of leadership in criticism. There is place for leadership in criticism, and it is to the advantage of industry that these leaders should be as widely-equipped as possible. Nevertheless, it does give one pause on reading some of the recent writings of labour leaders to find it stated quite so frankly that the direct object of the liberal education to which they aspired—and which very remarkably they attained—was to get away from actual work in industry. The note of rejoicing on having achieved this end sounds a little unpleasant. Industry has failed in holding its best men in a remarkable degree when the aspirations which accompany education are to get away from industry. Put a little differently, I should have liked to see the labour leader finding his ambition in extending the scope of leadership within the industry. This is not a new point. Some years ago there was an idea of training cotton operatives in a liberal education, and some of them were awarded scholarships at Balliol College, with the somewhat uncomfortable condition that they should go back to the mill and permeate their fellows. The motive is easy to understand, but one can realize that men who found at Balliol that they had qualifications for another kind of calling were bound to regard the condition as oppressive.

It is here that we may refer to a difficult sub-question. It is often said against education, and especially against that type of education which we may call "liberal," that it unsettles men for work in industry and, in short, that it breeds discontent. Undoubtedly, there is truth in this, and when we admit the element of truth we shall do well to ask why an educated man should be discontented with industry and particularly whether there is anything inherently wrong with industry which justifies this discontent. No one would question the necessity of raising the standard of education generally and of giving men and women some opportunity of developing themselves so as to get more out of life, both in respect of their calling and of their leisure. Yet it does happen that these men and women,

whose vision has been widened, find that work in industry is oppressive, and they are ready to accept callings where the prospects and the conditions, so far as one can see from outside, are less attractive. The truth would seem to be that industry has surrounded itself with an unhappy tradition. It has not got away from the nineteenth century atmosphere. Men did rise in the nineteenth century, but the historian does not altogether commend the manner in which they rose in industry, and the historian has very definite opinions of their attitude to their fellows after they had risen. It will be an odd irony if all the care and thought and study which have been given to technical education only succeed in emphasizing this unhappy aspect. On the other hand, it is true that certain minds do find fullness of opportunity for exercise in the continued study of this technological aspect. Admitting this to the full and admitting with equal readiness that there has been a steady advance of intelligent appreciation of the scientific or technological aspects on the part of the workers who, in increasing numbers, attend classes at the institutes or colleges, yet there is a question for searching enquiry whether there would not have been more cohesion, a higher professional spirit, a more ready desire to make the best of the present system to which we are heirs, had there been some sounder appreciation of the humanities, in one sense or another, as part of the process of training.

It is not difficult to show why apprenticeship has broken down. Professor Marshall saw some opportunity for a revised kind of apprenticeship, and we are told on every hand that "the only method of restoring a high standard of skill is by apprenticeship." But apprenticeship belongs to smaller industries; all through history it has been associated with family life; and it requires some courage in the face of industry as it is to-day on the giant scale, to think of the ambitious apprentice who married his master's daughter, and to put that down as the romance of industry. Not only has the size of industry outgrown

the system, but the population has outgrown it, and the very process of sub-division of work has led to another conception of training. There are highly skilled trades where the handicraft idea prevails, and they are short of skilled workers, and the discredit is put to the trade unions, but a fair-minded survey of this aspect of the case will bring to mind the fact that in respect of these there is a widespread apprehension. The community which sees motor cars built by sub-division of labour is not likely to believe that any skilled trade is permanently immune from this assault. But, going even deeper into the matter, there is a suspicion that the apprentice system itself is out of touch with the tendencies of the age. One sees schools and colleges for medicine, for law, for engineering, for accountancy, and though the education may be followed by some kind of definite attachment to actual operations in life, the broad conclusion is reached that for industrial training this process of attachment to operations cannot be an all-sufficing preparation. Further, this matter of apprenticeship is inextricably mixed to-day with the right to practise the calling. The trade unions quite naturally regard this aspect as being of prime importance. They assert that there have been cases where work has been degraded by the use of apprentices in undue numbers. In an attempt to assault this aspect, whether consciously or not, they have assaulted apprenticeship itself. If there had been a more scientific organization of apprenticeship, it is conceivable that we might have found a happy mean—as is found in the professions—or a happy combination of the intellectual or basic training with the practical training. It might possibly have been brought about in some such way as apprentices to accountancy are encouraged to master the intellectual foundations during their period of apprenticeship. As it stood, however, it was too frequently a rival to any other system of technical training. Towards the end of the nineteenth century there was a clear tendency on the part of artisans, who themselves had been trained

by the process of apprenticeship, to sneer at the whole body of technical instruction. That attitude is rapidly passing away. No one would now say that the employer to-day can "bind himself to see that the apprentice is thoroughly taught in the workshop all the subdivisions of one great division of his trade, instead of letting him learn only one of these subdivisions, as too often happens now. The apprentices' training would then often be as broad as if he had been taught the whole of the trade as it existed a few generations ago, and it might be supplemented by a theoretical knowledge of all branches of the trade, acquired in a technical school." That would be Professor Marshall's new method of apprenticeship, but, as time goes on, it is less and less practicable. What is needed, apparently, is some definite and co-ordinated training within the industry, to follow definite teaching in the related sciences.

Apparently, therefore, there will need to be some type of general training, for which the community will be responsible, and afterwards some type of particularized training for which the industry will be responsible. It is precisely in this way that the evolution is proceeding, but the remarkable fact is that there are astonishing differences. In some districts the local technical education goes a long way on the journey towards full particularized training. In these districts it is an invariable fact that both the employers and the trade unions are in full sympathy with the development, and cases can be cited where representatives of both sides may be found sitting together on the same committee. In theory, one would venture to suggest that it is unfortunate that any share of the responsibility of training the workers for to-morrow should be borne by the community. There is a realm of general or fundamental science and technology which surely could be set apart as proper to communal action. Some industries clearly have accepted this view. They require from their "students in training" either that they have suitable certificates from the local technological institute, or that they are in process of acquiring

such certificates. In one highly-organized industry of my acquaintance the management carefully marks off certain portions of the technical education which is given communally, as impinging upon their rights. "We demand as our duty and our privilege to train our men as we want them trained. We object emphatically to the community coming in on this aspect of our work. We want our own divisions of digital skill, to suit our own planning. It is all the better that we should be able to impose this upon the community's basis of general technical knowledge, for that basis will give cohesion and general and mutual interest where we find it difficult to give it." The Bristol experiment, quoted by Professor Marshall, is not only interesting in itself, but is constantly quoted both in America and Germany as an inspiring example. It is an old system, and was introduced by Professor Marshall himself. It involves spending the six winter months in learning science at college, and the six summer months as articulated pupils in large workshops. "It has practical difficulties which can be overcome only by the cordial and generous cooperation of the heads of large firms with the college authorities." Other systems are being tried, some of them with different periods; some even divide the day. What is notable in Germany and in England is that the heads of those industries who have developed to the highest extent their own system of training are those also who are most definitely in favour of the accompaniment of college education. Perhaps in America the most striking feature, as revealed in discussions in the authoritative journals, is a kind of yearning for something even more widely inclusive in respect of liberal education to accompany the precise training.

We can proceed best at this point by a brief study of the singular institution which has been established at Charleroi, under the title "The Université de Travail." It is the most advanced scheme known to me for the communal training of industrial workers. They are



admitted at the early age of 13. They are taught completely the work for which they are intended, and the whole of the education is based upon actual work at benches, and with tools. It comes as near to real production as it could well do. The university is supported communally by a tax, but private donations are given generously. Successful students are guaranteed posts, and those who achieve distinction are guaranteed posts at preferential remuneration. In short, the whole of industrial training is carried out in this way, and it is claimed for it that it checks a student from the inflation of imagining that he is acquiring the only way in which certain work ought to be done; it encourages comparative study, and the students learn with a real perspective. What is even more interesting is the fact that each student is expected to learn foreign languages, chiefly in order that he may be able to read technical and professional articles in other languages, but care is taken to include a study of the literature and in this way it is claimed that the students become something more than mere technicians. Another striking feature is the attempt to encourage workmen from industries to share, in some sense, in the common life of the college, so that it may not seem that the tuition is apart from day-by-day work. The feature of which the heads of the institution are most proud is the correlation which has been achieved between the heads of industries, the workers generally, the lecturing and laboratory staff, and the pupils. "We can only undertake the whole training for industry if all the industries tell us what training they require. We propose to be the experts who will provide them with their needs." There can be no doubt of the success of the Hainault experiment. There is every reason to doubt whether the future training for industry will thus be communally developed.

We may pass to what I would regard as a characteristically English system. It was described in a paper which was read at an Industrial Conference at Balliol College,

Oxford, by Mr. A. P. M. Fleming, C.B.E., and Miss E. E. Wilson. It dealt with the responsibilities of the management towards the new entrant; and it gave in detail the method of training at the Metropolitan Vickers Works. "In the majority of industrial concerns the methods of selection and training are unscientific. In the past this has been largely due to the relative cheapness of labour, but the increasing cost of labour, and the decreasing number of working hours have directed the attention of many people towards this problem. In America, where labour costs are high, the methods of selection are becoming increasingly specialized. In this country the selection and training are done usually by immediately trying out the worker on the job that is vacant, after only a cursory preliminary consideration of previous experience and fitness in other respects. Alternately, a preliminary trial period of working under fairly close supervision is given. . . Economically, the soundest plan for an industrial organization of any size is to arrange for the appropriate selection and training of juvenile workers, and to fill almost the whole of the personnel vacancies by promotion from the junior ranks. In this case the problems of selection and training are greater than with adults, because of the difficulty of discovering at so early an age what are the latent characteristics and bent of the young person, a knowledge of which is required in order to gauge accurately the nature of the work from which he will obtain most satisfaction for himself and render most service to the community. . . . From the outset the interest of the entrant in the direction of promotion should be developed, and the possibilities that are open for promotion clearly indicated, as well as the methods by which the worker can equip himself for upward mobility. In this direction those firms who have provided works schools in connection with their training schemes have the best means of discovering the young employee who will profit by promotion. Unfortunately, outside the few prominent firms who have

thoroughly developed training schemes for their skilled workers, there is room for vast improvement, and in the case of semi-skilled and unskilled workers comparatively little in the way of training has been done by industry as a whole, except in factories where these classes of workers predominate, and attention has to be given to keeping them interested in their work." The characteristic points may be summarized. Training is the responsibility of the management; it must involve scrupulously careful selection at the outset; it must include the whole body of workers, and must be in association with the industry, and under the control of an expert department. A little later on these writers emphasize the danger of narrowness, and lay great stress upon teaching the new entrant the inter-working of the various parts of the whole organization. Thus, they meet what are the two future problems, the development from unskilled labour to semi-skilled, and the recognition of corporate as compared with the individual skill of the past. For the new condition of industry both these aspects are of importance in the consideration of training.

What seems to emerge is that the management of industry should identify itself much more closely with the local education machinery, whether in the form of university or technical classes or continuation schools. The influence will need to have two aspects. One aspect will be to encourage the various authorities to go forward. The other aspect will almost be restraining, for it will discourage the communal teaching of the specialized or particularized application of technical education to industry and of the work which I have described as calling for corporate skill. But it can only adopt this restraining tendency if it is assumed that the local industries themselves are accepting the responsibility and taking definite steps to fulfil that responsibility. Such a vision might benefit both the educational schemes and the further schemes within the industries. The educational schemes might then include vocational tests. It is true that psychological or

neurological tests are regarded with suspicion by industry at large. Sometimes it seems that claims are made for them which cannot be justified. At best they will largely be eliminatory, but will be of exceeding value on that account. It is true that there is a certain type of square peg in the round hole which gains in moral discipline from its uncomfortable position. But vocational study cannot possibly eliminate what I may call the milder cases of unfitness. It ought to be a matter of prime importance to industry to be able to see its way to an elimination of the more flagrant—from the psychologist's point of view—cases of unfitness for a particular calling. If we could make our systems of technical education basic, and only basic, and if, with equal educational knowledge, we could attach to each industry its superstructure upon that basis, with lectures, and laboratory practice, and wide-ranged indications of the perspective in the final product of the work which is being taught, we might discover a method of training which would not merely give us better craftsmen for the new conditions, but better men for the new conditions. It can only be done by the frankest interchange between industry and educational authority, the frankest generosity on both sides to discover, and then to recognize, the two realms of training for which each is best fitted.

Then there is the question of changes in method. It is an irony, but there is a danger of very complete training producing inertia to further improvements. Here, again, is a reason why the actual application of technical skill should be taught in close association with daily practice. One of the dangers even of a well-equipped technical school is of finding itself with obsolete plant. After all, in the individual industry the spirit of competition—including international competition—is likely to keep industries alert to all possible means of improved operation. The signs are that this will be more evident in the future, and also that there will be more changes, for two influences are at work, one in the direction of a more restless search for

improved methods, and parallel with it, a decreased respect for the past. Here, again, we may see another reason for doubting the suitability to new conditions of the apprentice system. It meant, as it said, "learning a trade." The trade which it learned was a finished thing. The apprentice was not merely slow to learn new things or to adapt his knowledge to new conditions. His very training fostered a sternly conservative outlook. The new training will presuppose the possibility of new tools, new machines, new planning systems, and it will include a foundation for adaptability to such changes. They could not form part of a communal system of education for many years, since individual industries must try them, and they can only be tried on a proper scale when a number of the workers have acquired the new art or the new knowledge. Thus, we have a second reason for drawing a clear line between the type of training which should be given in the industries themselves, and that basic education, comparatively in its essentials unchanging, which will be given by the communal authority. They will need to be carefully correlated, but there is no reason for any confusion as regards the appropriate territory for each.

In conclusion, this seems to be a suitable place for a reference to scientific management from the point of view of general industrial administration. After all, it is a system of super-training based on the principle, as Professor Pigou says, "of handing over the task of planning methods to trained experts and then explaining to the workmen in elaborate detail what it is they have to do, including even the pauses and rest periods that they should take between successive operations and movements." It is probable that the system has fewer votaries to-day than it had a few years ago. A government report has pointed out that boxers and cricketers and rowing men are taught every detail of such muscular action, and yet "in the industrial world the value of teaching operatives how to earn their livelihood is hardly yet recognized." This statement contains a

fallacy. We are asked in industry to do something more than make an industrial agent; we are asked to provide that that agent shall make a contribution, and his own contribution. In much of what has been said of recent years on monotony in work, it is forgotten that there is no absolute monotony. If there were a machine would soon be invented to do it. The duller work requires some human contribution if it is to be done by a human being. The girl who stamps pill-boxes throws out the badly made box. Once this is admitted, it follows that there is no one best way "of doing a thing independently of the psychological and physical qualities of the individual doing it." True training recognizes this fact. Not only will it leave room for future changes in method, but it will leave room for changes of method by individuals. The central feature of scientific management is precisely that which true training will strive to avoid. In short, it is a precious aim to all industrial training which is worth having to strive to give some play to individual motives and to individual difference. Thus, the distinction between the Taylorian theory of scientific management and training, as I am attempting to outline it, is that under the Taylorian system the object is the product, while under the system of industrial training the object is the producer. There is all the difference in the world between the two objectives. It is no mere sentimental or humanistic utterance to say that the best product finally can only come from the best producer, and that industry fails of its central purpose if it seems to narrow or debase humankind for the sake of the material thing which humankind is to make for the service of humankind.

There is this to be remembered. Scientific management is a recognition by the unit industry of the responsibility of training, and of the value of training. We seem to have overlooked a wide difference which marks modern industry from earlier industry in respect of method. The theory of the apprentice and the journeyman was that the worker

acquired individually a certain skill, and that with that skill he went out into the world and bargained as best he could. The early individualists recognized this fact and upon it they based their expectations that there would be a competition for skilled services, just as there was competition for the supply of goods. What has happened is that the acquisition of skill has come to be something which is specialized to a particular industry, which is acquired in that industry, and which holds the worker to that industry. Scientific management, what else may be said for it, has recognized this fact. There can be little doubt that the reduction of the "turnover"—that is the change from one employment to another—which has followed the newer methods in the United States, is an indication of a deeper change than we have realized. For the United States was the home of individualized skill as a basis for bargaining. Mobility became a habit as well as a general practice. Men got to like change, and it was in respect of this problem that Mr. Ford found himself forced to think out new methods. For it happened that with plans and systems peculiar to particularized industries, the "turnover" meant an enormous waste, since the men had to have some training in their new occupation. It is a curious fact that side by side with this development of more continuous occupation and consequent closer identity with one industry, there is the development of handling the unemployed as a national unit. It would seem to have been possible with better training, less change of employment, more direct and intimate connection with one industry, to have devised some system of surplus labour for emergencies or for seasonal expansion, readily applicable to each industry. To this end it would seem that a bi-functional system might have been of considerable assistance, something on the pattern of the Antwerp docks system, whereby the temporarily unemployed could find employment at agricultural pursuits or, more accurately, at auxiliary agricultural pursuits. It is mentioned in this place not so

much to suggest a change as to point out that it sometimes happens that social tendencies lack correlation. Of one thing we may be certain. In future no industry will trust to a common fund of skill for its workers, even for its temporary workers. There will be training all along the line, and this training will be adapted to entrants rather late in life, and also to the end of making the industry readily adaptable to new systems, new machines with, possibly, new products, and new methods. We can see, therefore, how important training becomes and how carefully it must be thought out if it is to give its full return.



## CHAPTER VI

### RESEARCH, COSTING AND PLANNING

THERE is a real distinction between scientific research as it is carried on by scientific bodies and the universities, and as it is carried on by large industries. That distinction is usually described as the difference between pure science and applied science, but it is as well to realize from the outset that it is a blurred distinction. In the United States it is quite customary for large industries, having the applications of science clearly in mind, yet to devote very considerable sums to research in pure science, both in respect of material and of the processes of handling material. It has not happened in this any more than in other cases that the battle is to the strong, and it does not always follow that the larger the sum spent, the more has been discovered. What does seem to happen is that the more receptive are the minds of the directors of the industry to the discoveries which have been made, and the more bold they are in experiment in practice, the better have been the results. Somehow, in England, there still lurks a sense of shame in respect of the discovery of cheaper materials, for example. There is a good side to the idea that material of the best should be used, but it does not follow that the material which was originally used is essentially the best. The prejudice against research in England is not a prejudice against science or even a prejudice against the applications of science. Rather, it is a prejudice against the appearance of using science either to cheapen or to simplify or to facilitate an industrial process. It is a subtle antagonism which enters largely at the administrative stage. Sometimes it is called conservatism, but this is not quite the right word. More probably it is a kind of pride in achievement which endures too long.

It is remarkable how little is known in England of the work which goes on in the middle territory between pure and applied science or, more exactly, between pure science and administrative direction. The report of the Committee for Scientific and Industrial Research gives full data of help which has been given to research in the British Photographic Research Association, the woollen and worsted industries, the British Cotton Industry Research Association, the British Scientific Instrument Research Association, the British Boot, Shoe and Allied Trades Research Association, the linen trade, and the cocoa, chocolate and confectionery trade. In all these cases grants are conditional on the industries gradually themselves undertaking the work, and it is clear from the report that a full and well co-ordinated scheme is in process of development. The width of its range will be evident from the list which I have given. Clearly, then, there is work for research in industry as to the direct and immediate application in production of discoveries which may be made. Admittedly, there is a danger of a gap. The work of these associations is admirable, but there is a little risk of individual industries falling a little apart from it. I put a question the other day to the head of one of the industries involved in this research work and he gave me a significant reply. "Somehow," he said, "we have not quite got beyond the competitive stage. We like to develop our own discoveries largely because we feel that other people do not know them." Common research for industry at large in respect of the fundamentals of the industrial product is obviously a healthier method.

An instance comes readily to hand in the researches which were made conjointly at the Royal College of Science in Dublin and at the Hecla Steel Works in Sheffield. I cannot do better than quote the account of these researches from the *Irish Statesman*—

"Among other scientific discoveries that have been of great commercial value to electrical engineering—though not to

the discoverer himself—may be mentioned the researches on over 100 iron alloys, which were conducted by Professor (now Sir William) Barrett, and Mr. (now Professor) Brown, in the Royal College of Science, and published in the Transactions of the Royal Dublin Society, between the years 1900-1905. These alloys were made by Sir Robert Hadfield, at his extensive Hecla Steel Works in Sheffield, and he asked Sir William Barrett to investigate their physical properties, a laborious work which took some five or six years. Concerning these researches, the President of the Physical Society of London, at the meetings held last year in celebration of the Jubilee of that Society, remarked as follows: 'I should like to speak a few words, as I did yesterday, of the oldest Fellow and co-Founder of our Society, Sir William Barrett. Sir William, whom we are so glad to see here to-night, is eighty years of age. I said yesterday, that owing to the work of Sir William Barrett, of Mr. Brown, and of Sir Robert Hadfield, on the iron-silicon and iron-aluminium alloys, a material called *stalloy* was produced; and that a competent authority in the United States has estimated that the saving during the past twenty years in the United States alone is equal to half the cost of the Panama Canal. The saving in this country has been correspondingly great, according to the size of our electrical industry.' The President of the Physical Society underestimated the commercial value of this alloy. In a recently published article, Mr. Yensen, head of the Research Department of the Westinghouse Laboratory in the United States—who has special knowledge of the whole subject—remarks as follows: 'The total saving already effected in the world by this material (that is the silicon-iron alloy, called *stalloy*) in reducing energy losses and other advantages, amounts to no less than 240 million dollars, or about 80 million pounds sterling, and he adds that it was nearly enough to build the Panama Canal.' "

This is an instance of an economy through joint pure and applied research which almost takes the breath away, and there can be little doubt that there is ample opportunity in many directions for similarly bold investigations.

Yet there is work in individual industries to be done, and that work will take the form of investigating the possibility of an application to the processes of production of the results of fundamental research. In other words, it will be a co-ordinated effort to make sure that the gap

to which an allusion has been made has really been filled. It means additional expense, and it will be remembered that a word of warning has already been given as regards unnecessary fear of increasing overhead expenses. A department which is entrusted with the task, day by day, of seeking to apply new discoveries to actual production will probably prove to be a sound investment. It need not of necessity rest at that. It can be associated with planning, and it can use detailed costing as its basis of operations. It needs a particular type of mind at the head of it. The exact position as being advisory to and helpful to the management must be clearly realized. It must exercise a strong self-control lest it drift from the legitimate suggestion of improvements, both in process and in method, to being censorious and fault-finding. It must beware of the greatest of all dangers, the sense of self-importance, whereby suggestions from the actual industry are undervalued. It needs a primary respect for the actual work, and that primary respect is not always characteristic of research departments, and especially of new research departments. There is a curious imitativeness in British industry to which one cannot find a parallel in German or French industry, and which is significantly absent in American industry. In other words, there is a "general" method, often a wasteful method, which is accepted as a normal in industry generally, without being looked at afresh in particular industries, and always with a view to the emphasizing of the individuality of that industry. True research and planning on the basis of that research will find that there are many ways of doing things, many methods of using material to the best purpose, many adaptations and modifications which can be introduced to facilitate production or to improve the product or to achieve economies in power or resources.

We can find an illustration of this point in a description of the adoption of these methods in French industry. It is quoted by Mr. Whelpley in the book which I have already

quoted, and is from the pen of Mr. J. R. Cahill, Commercial Counsellor, the British Embassy, Paris: "Apart from the prosperous dynamic state of the French economy, it may be noted that it has increased in a permanent fashion its industrial capacity, which is now far superior from the material and technical standpoints to that of 1914. The natural resources have been increased by the acquisition of Alsatian ores, potash, and oil. Manufacturing power has been increased by the acquisition of highly developed and varied textile and engineering industries in Alsace, but far more through two main currents of expansion—namely, the wholesale reconstruction of nearly the entire range of textile industries, of coal and iron mines, metallurgical and engineering works, glass and chemical works, and so forth in the devastated areas, and the movement and transplantation of industry from these regions initiated during the war, which led to the employment of old or the establishment of new factories in the Lyons, Grenoble, Bordeaux, Rouen, and other localities throughout France. Moreover, as in certain other countries, employers tended to devote a considerable portion of war profits to the extension and improvement of works. As a consequence, French manufacturing industry as a whole has modernized and newly equipped its undertakings on a large scale. As regards the consolidation of the great industries, and the consequent better preparation for international competition, the movement has made further progress." Possibly, to most of us, that is a surprising record, but it calls for serious consideration. The French magnates received their stimulus from the Germans, but they have carried on research and planning to an astonishing extent, and in crystallizing the results into operative fact they have shown courage and faith, and there can be little doubt that the courage and the faith have been amply rewarded.

Mr. Edward A. Filene, in his book *The Way Out*, makes a plea for admitting workers into confidence in respect of the aims and successes of industry. "Every time we give

workmen a look-in upon the inner problems of business, we give them a sense of the difficulties of management which they can never appreciate as long as they are mere 'hands' in the business. The net result, as a score of practical experiments have demonstrated, is that the criticisms made by the workmen tend to become less and less negative and more and more constructive. As long as we—employers and employees—work in the dark, we shall fight in the open. The better we know each other the better we shall understand each other, the less we shall be tempted to call each other barons and bolsheviks respectively. Every instrument and policy of common counsel and common action that we can devise, consistent with the continuing success of the business, is a step in the direction of less friction and less waste, a step in the direction of sounder business. I suggest that we experiment with business democracy, but that we experiment wisely and carefully, refusing to give any mere theory its head, testing each step by its results, asking at every turn—does it work? Of course, adequate time must be allowed for the test. I believe that any business man who does not so experiment, during the next few years, will be a bad business man, a short-sighted business man, a business man who will be less and less able to meet the competition of the business men who do experiment courageously but carefully with the democratization of business. Such a business man will be handicapped because he will have more friction in his business, and he will be unable to attract the best type of workmen, who will prefer employment with the business men whose honest experimentation breeds confidence." It may seem to some of us to be curious that experimentation with democracy in industry should be urged upon us, when many writers are urging that it has failed in politics. But if it has failed in politics (I do not assume that it has failed there) it is because it has not insisted upon enlightenment step by step with the increase of power. If democracy is to be encouraged to

take responsibility in industry it must begin by seeking enlightenment. In my opinion, this enlightenment can best be given by means of a system of costing, which would be valuable both for the administration of the industry, and for the purpose of taking the workers into confidence as to the cost of the various operations. It will be time enough to consider the graver questions when we have secured an enlightened responsibility whereby the costings will be the basis of mutual action on both sides of the old conflict. At any rate we can go thus far with Mr. Filene. In some cases costing can be made a portion of the basis of remuneration, as in the Mond Nickel Co., where one aspect of profit-sharing is the addition to wages for each improvement which is effected on the basis of the costing.

A number of books now deal with the principles of costing. Some of them propose a most elaborate system, and the influence of these books has been rather to damp any enthusiasm which might have been awakened for costing systems. Some stimulus was given to costing by the procedure during the war, when Government departments adopted costing plus percentage profits as a basis of contracts. The stimulus now seems to be coming rather from the trade union side, and there are definite evidences in coal-mining, shipbuilding, engineering, and in the cotton trade, of a jointly-agreed costing system becoming the basis of understanding as between employer and employed. We can say, therefore, that there are three results which might be expected from a costing system. First, there is the administrative confidence which is gained that the different processes are economically carried out, or that failures to achieve economy are in the way of being brought to light. Second, there is the sounder relationship which is brought about between prices and productive cost. Third, there is the opportunity which is afforded of taking the representatives of the workers into full confidence, and of showing them the costs at different stages and, indeed, of estimating those costs by methods to which they are

party. These are the three prime results, as they may be called, but I am not at all certain if the one I mention last is not first in importance. Costing can be done now and then, in moments of capricious zeal, if we so wish, but it is of little value unless it is part of what I will call the machinery of administration. The management which has such a machinery at its disposal, constantly estimating costs, constantly bringing them to light, and progressively determined to discover wastes and weak spots in organization, will have time for thought, and for policy. It will not be the overworked management to which we have become so accustomed in England that it has come almost to be a disadvantage to a manager to have his departments so organized as to reveal weak spots to him. Without having a littered desk it is difficult to get directors to believe that the manager is doing anything at all. The old suspicion takes a long time to die down, as does the old expectation that a manager must be an omniscient individual, capable at a glance of seeing defects, and more than capable of visiting those defects on a subordinate. What is wanted is something much more a part of systematic control, something much less likely to be a censorious criticism, something which will make the manager a focusing-point or a pivot rather than a fussy tyrant. A costing system is no magical means to this end, but the very search for a suitable costing system is a valuable help on the road.

At first let it be said that no industry can adopt a final and complete costing system at one stroke. There is no such thing. It is and it must be a process of evolution towards a system. It will probably be wise to have a small beginning such, for example, as a simple departmental division between production and selling. That great bugbear, overhead charges, can probably be handled with reasonable confidence as between these two headings. Buildings and power and administrative supervision can readily be allotted between them. Then the appetite is whetted for proceeding, and the central principles are



beginning to manifest themselves. It is true to say at the outset that each industry needs its own system. It is very valuable that the works on the subject should be studied, and in some of the advanced American studies one gets flashes of light on aspects of costing, where we are apt to go wrong, such as the allotment (or non-allotment) of overhead charges to by-products. But all this should be regarded as enlightenment. The fashioning of the scheme should begin by actual trial with some more or less simple and clear-cut division such as I have shown above. Those who are in the habit of asking "what use is it?" will probably get their answer in the division of costs as between these two primary and clear-cut divisions of the total work. It is safe to say that they will learn enough from such a primary division to enable a further step to be made. At any rate, it will become increasingly clear that competition, based upon careful costing, is much more likely to lead to safe results than blind competition.

At once let it be said that even under the best conditions costing can only be approximate, though in the process of studying its results the approximation will steadily be brought nearer to the actual. Further, it should be pointed out that there are charges which are often called "costs," which must be regarded rather as debits from profits than as an actual element in the production, while for costing purposes a somewhat severe interpretation of capital will be necessary, and some of the writers on the subject press for a strict exclusion of capital unrepresented<sup>1</sup> by actual assets of a tangible kind, though, as we have seen, in modern practice this is clearly too severe. Obviously, the prime costs will be divided between the material and the labour to be expended upon that material. This may seem to be simple, but even "material" has its complications, as may be seen when we take into account the oil, cotton waste, and other articles which are necessary for the maintenance of the machinery, but do not take an actual part in the completed product. It is here that we get the first

inking of the true problem. There is a contribution to production which may be described as a general contribution and which cannot be separated under the different processes. Sometimes it is called an "indirect" charge; sometimes it is called an "overhead" charge. The distribution of this charge is the real problem in costing.

I shall follow Mr. Newman's admirable study, and for the chief reason that it is clear and well-balanced. He describes the overhead charges as being "the expense essential to the production of manufactured goods, but of so general a nature that none of it can be charged to the direct cost of any particular product." Then he proceeds to describe various methods by which this charge is distributed. First, there is the percentage method, by which a flat rate, based upon the total expenditure for overhead in relation to the direct charges, is added. It must be true that such a flat rate addition cannot always correspond to the actual benefit received by the product at various stages, and this, as Mr. Oliver Sheldon points out, should be the true aim. For example, if work is done, say outside fitting or placing the product *in situ*, it must be wrong to add a percentage to this work which would include the buildings or the power, since the outside work does not use the buildings or the power. A second method is the "direct labour" method, which certainly is a step forward towards actuality, and divides the overhead charges in the proportion of the cost of the direct labour. Here we find the difficulty arises in respect of the varying costs of labour. A third system treats the labour as hours rather than as cost, and though this is usually agreed to be a closer estimate than the cost, yet it does include aberrations, since there is a wide difference in the effectivity of man-hours, and a further and closer classification is needed. A fourth system is that of "machine-hours," which manifestly is a better criterion as regards power and buildings. Mr. Newman's division of the "overhead" charges is (a) Building expense, (b) power expense, (c) plant maintenance, (d) plant

depreciation, (e) miscellaneous supplies, (f) indirect labour, (g) management and supervision, (h) tools, (i) factory offices and organization, (j) factory stores. "There are some businesses," he says, "in which the adoption of the machine-hour method is the only course open in order to secure anything like accurate results. In the printing trade, for instance, where machines vary so greatly in type, the machine-hour method has, for some considerable time, been adopted almost universally. Before deciding, however, which method is most suitable in any particular case, the manufacturer should carefully consider the conditions of his factory, and decide whether these conditions admit of fairly clear departmentalization or not." I may add to this that if he takes each heading as shown above, he may apply different methods to some of the items included under the headings from those which he applies to others, and in doing so he can use the criterion to which I have alluded, that he is seeking an allotment in the proportion of the services rendered to the particular process by the overhead function included under the heading. We may quote Mr. Newman's summary: "With the aid of mechanical devices, it is possible now to achieve at relatively small cost what was considered a few years ago to be practically impossible. Much depends upon method in the collection of costing details. Where the methods are efficient, the production of costs will be secured with relatively little outlay, and their usefulness in the administration of business will far outweigh the expenditure incurred to this end."

Mr. Wardropper, at one of the Industrial Conferences in Oxford in 1922, gave an excellent summary of the criteria of costing systems. It is especially valuable in the elementary virtue of common sense. He divides his summary into three headings, but the reader will notice that there are sub-divisions, such, for example, as the relationship between the costing and the technical and commercial management.

(1) It is evident that costs should be accurate. What is not so evident is that they should possess the degree of accuracy most advantageous in the particular business. Common sense must in every case define reasonable and serviceable accuracy.

(2) The primary purpose of business is the earning of profits; and in the final analysis, the value of all information to the business man *per se* can be gauged from the standpoint of the relation between its cost to produce and its direct or indirect effect on the making or safeguarding of profits. The costing department must be a revenue-producing department rather than an expense department. It must provide information which will guide the administrator in the elimination of those things which reduce his profits. It should tell him not only what his costs have been, but also what they should have been, and where the excess cost lies. This last point hints at the fact that the affinity of the costing man is with the technical and commercial rather than with the purely financial management. In the modern costing department accountancy and management meet, and costing may be defined as applied finance in business management.

(3) The system should not be too elaborate to be workable; and yet it must reflect the actual occurrences in the factory. Many businesses are suffering from a veritable surfeit of information, especially that kind of information consisting of a mass of figures or data, in which the few vital grains are lost in a load of chaff. The value of information—like that of food—is limited to the extent to which it can be digested.

There are many complexities, and all we are considering at the moment is the general value of costing as a portion of industrial administration. It will now be fairly clear where planning comes in. It is the application to practice of research and costing. It takes up the threads when the facts are known. It has many aspects. Primarily, it must deal with the raw material, taking from the results of research and the data of costing anything which can be suggested as to the more economic provision and use of that raw material. Thus, I am with Mr. Wardropper that the primary contact is between costing and the technical or commercial management, but I can see occasions where the purely financial management may enter, for it may be necessary in order to attain the end indicated by research

and costing to incur a considerable initial outlay. Planning has to consider the quality, not as a general level, but as suited to the particular product which is intended, and in all the work of planning the product and the disposal of the product must always be in mind. It bridges all the processes of time. It considers the equipment of the factory in its schemes, prevents breaks in the continuity of running the machines, distributes the power fairly and to secure the best result, governs speeds according to the demands, sees that wear and tear is no more than necessary, watches the designs to check undue charges, and holds the balance between a standardization which is too strict and a freedom of design which is wasteful; in short, it correlates every process in the industry to a common end of efficiency. It will seek what the Americans call "significant reports" at different stages to ensure that the planning is carried out. It will never regard the planning as final, though sometimes it will remember that a sabbath rest from changes of practice is desirable, and that the best plans need a habit of fulfilling them, and that the continuance of this habit may be better than a change which might seem to introduce a positive improvement. In short, the planning department will need to watch itself. In industry the "office" has come in for as much hatred as any other department. In the 'seventies it was regarded by workers as the haven of those who wore "collars and cuffs," and it reaped its own ignominy, which has continued to this day. At that time the worker, skilled and unskilled, felt that he had been left stranded while education had done something for another class. If that were the case when the "office" was responsible only for wages and for goods bought and delivered, how much more danger is there of exciting the same feelings when the "office" plans all the work, when it is the head of the organization, when it must criticize the whole of the work of the industry, including its own. Mr. Renold rightly put on the executives of scientific management much of the blame for the hatred which it

evoked in the minds of the workers. " Their conception of industry was entirely mechanical. Their organizations were ingenious structures of men, machines, and routines. Each of these had its place in their buildings, but like steel, brick and cement, though differing in their qualities, all alike were simply building materials, inanimate and obedient to the hand of the builder."

Perhaps some of the best planning, based on research of the widest and rather elaborated costing, is to be found in Germany. There are many indications of what has happened there, the wholesale scrapping of machinery, the rebuilding of factories, the use of new chemical constituents. I have given two quotations from Mr. Whelpley's book, but I cannot refrain from quoting from his description of German industry as it is to-day. " A representative of the American steel industry visited Germany towards the end of 1924 to investigate the state of that industry. As a result of his visit he formed some conclusions which will come as a surprise to those who have believed that the iron and steel industry of the United States represented the last word in modern equipment. He reported that in the Ruhr he found that new ideas and new methods had taken the place of what was accepted as orthodox in the United States and Great Britain, and that German equipment was far in advance of anything then found in the United States. He predicted that American scientists and engineers would be in Germany in large numbers in 1925 for the purpose of securing information whereby American plants could be brought up to the German standard. He also gave it as his opinion that, while America might be able to reach this standard, the iron and steel industry of Great Britain would never regain its former pre-eminence owing to the great cost of production brought about through high wages, increased cost of fuel, and the use of now obsolete methods and plants. It is such things as these that will make it possible for Germans to regain their credit in foreign countries, and thus be able to borrow

without delay the capital necessary for them to bring German industrial activity back to normal and probably beyond."

But a word of warning is needed, and one of the reasons of the success in Germany has been that this particular warning has been heeded. Whether we like it or not, we must go forward with industry, and we must use all the knowledge we can gain for that onward progress. But planning must include a recognition of the human side; it must learn from the blunders of its first sponsors. Here is the problem of problems. We wish to carry out efficiency in the manufacture and distribution of our products; we wish also to carry out efficiency in our handling of the men and women in industry. Both aims must be before us. It is just at this point that the personality of the manager will tell. He will insist upon research and costing and planning as I have described them. He knows that the old management, which claimed to be so omniscient as to need none of these helps, was so flurried and harried that there was no central line of thought, and everybody was harassed and worn by the efforts of the management to direct them. He has his machine to help him, to provide him with data, to bring "significant reports" to his knowledge, to show him how this and that process is too costly, and where it might be improved. He knows the dangers of this process of study, the dangers which arise from its very detachment. So he himself takes care to balance the planning as from the human side. He regards that as his prime responsibility. He knows that no sliding scale, no costing scheme, no scientific research can do this. It must be done by an instinct and not by a plan. It must be done by one man, for there is an incarnation in industry as in religion. Here, therefore, management will retain its individuality. In this spirit it will use all that science has brought to it. So that it is not true to say that the new management is a mechanical system with completely delegated powers. It is true to say, however, that with all

its delegation, all its use of scientific data, its use of functional responsibility and of specialized knowledge, there is one sphere which remains its very own. So long as that is the case we have not succeeded in dehumanizing industry. In the very fact that at the top of the pyramid of responsibility is one who regards the humanizing aspect as his central purpose, we have offered the best safeguard in our power for a process, which seems to be inevitable, of substituting the machine for the man. There is, indeed, a real place for that safeguard. It may be that the process is so swift and so inevitable that it is beyond human skill to check its influence on humankind. As will be seen later I do not accept that view, but for the present I am content to argue that the prime responsibility of the manager at the head of the industry should be the guardianship of the human side of industry.



## CHAPTER VII

### LABOUR

THE science of industrial administration has to face the problem of labour, and it must face that problem in a scientific and unprejudiced spirit. It is not concerned, as a science, with problems which have associated themselves with labour organization. Whether the development of labour association has or has not been wise in its adoption of political methods is not an issue which in itself concerns the administration of industry, though the administrator not only must be aware of it, but must understand its origin, and attempt to estimate the importance of the movement upon organization within the industry. For it is organization within the industry which is his prime concern. Difficulties within the industry have been accentuated by organization, which spreads beyond the industry, both on the side of labour and on the side of the employer. These difficulties are the more acute because there is no real valuation of labour. Even in the broadest distinction between skilled and unskilled the lines have become blurred. The evolution of machinery in its demand for specialized human labour has introduced what we are apt to call semi-skilled employment, or more accurately employment which is skilled in a particular sense. In another direction, the lines have become blurred. The State and the municipalities and the public boards have come to be large employers of skill which is particularized to their needs. They must be something of the nature of the model employer; and it has come about that there are constant suggestions that there is over-payment in these sections of employment, which are called "unsheltered," by reason of the fact that they are not subjected to competition in respect of the product. Thus, while the theory is that in industrial

management labour is purchased on the basis of its value, in fact, it has come to be purchased on a much wider basis. The idea that something more than the commodity which we call "labour" is purchased is now accepted. Men and women give not merely the hour-by-hour work of their hands, but something of their life-career, something of themselves. The State bids industry recognize this fact by demanding a contribution towards health and unemployment insurance, and by laying down categorically that the employer is responsible for compensation to the employee who receives injury in his service. Not only is there the insistence of the State, but a moral sense of responsibility has grown up which calls for an acceptance of responsibility for welfare in matters lying outside, though possibly on the fringe of the daily labour.

Thus it is by no means easy to state a definition of the relationship within industry between management and worker. We may come nearer to it if we take a few visions from history, and attempt by elimination to discover some conditioning factors of that relationship. Here is a picture from Mr. Maurice Marston's book on Edwin Chadwick. "The first factories, which had been run by water power, were usually situated near running streams in remote districts in the North of England, and had been worked by pauper children sent up from London and the South of England. These children were working fourteen hours a day for six days a week. They were being treated worse than slaves. They often began work at six years of age. At thirteen they were deformed for life. They were beaten by the overlookers if they went to sleep at their work. During their fourteen hours labour they were allowed one hour for rest and refreshment, during which time they were expected to clean the machinery. Often they lived considerable distances from their work. This necessitated their getting up and being dressed at three o'clock in the morning, and it would be eleven o'clock before, after having their food, they could be got to bed. They would fall

asleep with food in their mouths. They would have to be carried, or helped to the mill, too tired to walk themselves. Their wages were three shillings a week, with sevenpence-halfpenny overtime when the mill was working long hours, and the owners expected them to lay out part of their wages under the "trust" system. The children were forced to work these overtime hours or else be dismissed from the factory. When they were injured or incapacitated the wages were stopped at once; indeed, if the accident occurred in the early part of the day, the wages were stopped at half or quarter day as the case might be." It is just as well to quote this long paragraph, for there is no disputing its truth. The economic law which it was thought was being observed by this treatment would be defended by no one to-day. We can eliminate it from an attempt to find a theory of industrial relationship. However much men may differ, as they do differ, in respect of a theory of industrial relationship, at least no one will suggest that labour is a commodity to be purchased at subsistence level, or that the availability of labour at a price was a sufficient justification for purchasing at that price.

This theory of purchasing at the most advantageous price was quite consistent with early trade unionism. What the early trade unionism set out to do was to raise that price by sheer force, by combination, but it did not deny the validity of the theory. The discussion was rather whether the employer's position, on the one hand, of offering that precious thing the opportunity for labour, was to be met by a refusal to offer labour in return for the opportunity except at a price. The politics of the time did not attempt to controvert the theory. It did attempt by the force of law to prevent the combination. Indeed, in the year 1852 there was a significant tendency on the part of the trade unions in a constructive direction, whereby the funds of the trade unions might be used to establish rival industries. Here are some remarkable quotations from resolutions

which were passed at that time by the Amalgamated Society of Engineers: "That in the opinion of this meeting hostile resistance of labour against capital is not calculated to enhance the condition of the labourer. We therefore advise that all our future operations should be directed in promoting the system of self-employment in associative workshops, as the best means of effectually regulating the conditions of labour, and that this resolution be submitted to our next delegate meeting." This, be it remembered, was the greatest union of skilled workers in the country. It had issued appeals for "workshops belonging to the workers—workshops where the profits shall cheer and not oppress labour; where tyranny cannot post an abominable declaration on the gates; where the opportunity of working is secured without the sacrifice of all that makes work dignified and honourable." It is not unfair to say that at this moment this is not the theory of industrial relationship held by labour. True, the idea has been suggested from the other camp. Mr. Hichens suggested the purchase of a railway by trade union funds. Other schemes have been hinted at. Just as the employer's point of view has changed from that of the regard for an economic law, so labour's point of view has changed from the idea of self-employment.

This is not said controversially. We are trying to discover a reasonable theory of industrial relationship to guide us. There are ample explanations of the breakdown of the idea of co-operative production. The trade unions took a momentous step, but many influences exercised their weight. There was the tendency towards more and more costly machinery; there was the fear of even greater developments both of power and of machines; there were sad cases where the leaders in co-operative production had been guilty of misapplying funds; there was the influence of the rising school of collectivists, who had no hopes of any ownership of capital other than State ownership. Nevertheless, it would be unfair to say that trade unionism

from that day to, say, 1906 had taken up hostility to the ownership of capital. There was the old and the new unionism. They were definitely at issue. Unskilled workers were rapidly being organized, and perhaps more was done for the general conception of combination among workers, skilled and unskilled, by the great strikes from 1886 to 1889, of dockers, and gas workers, and general labourers, than by any other single factor. The student will probably find at this stage the beginning of the "class hostility" which has been the basis of many of the problems in industry to-day. The general tendency towards the fusion of unions followed, and in 1899 the General Federation of Trade Unions came into being with a definite policy of pooling funds in industrial struggles. It is at this point that the organization of labour as against capital on the national scale appears. There were suggestions of direct action on the grand scale. There were inflammatory assaults on the possessing classes. Quite definitely the theory of industrial relationship was evolving into an hostility which was something more than a conflict for a better share of the results. It was a destructive hostility which set out to bring the whole fabric down. With such an attitude manifestly there could not be a clear definition of industrial relationship. The Taff Vale decision seemed to put the trade unions out of court as a force in demanding better remuneration, since it meant that a trade union was liable for heavy damages for "picketing and besetting" workmen. "There never was," says Dr. Shadwell in his book on *The Socialist Movement*, "a more disastrous triumph for the victors. Thus do certain employers provide their enemies with ammunition, and lay up trouble for everybody, but especially for themselves." So there came the Trade Disputes Act, which modified in 1906 the law of conspiracy as regards trade disputes. It was a legalization of the process of conflict which marks one more turning-point in the story. Probably it did more to modify the trade union disposition towards the capital structure

than is usually thought. Still, it left the administration of industry perplexed and worried. What we call "corporate bargaining" has resulted, though it is a cover for hostility and cannot be regarded as an industrial relationship with which men of goodwill can be satisfied.

It was in 1911 that the step was taken which put organized labour in what may be called a true and recognized function within the States. The National Insurance Act of 1911, in its twofold aspect of Health Insurance and Unemployment Insurance, had an immense influence upon trade unionism, largely by the establishment of approved societies. In order to be able to undertake the function of administering the benefit trade union approved societies were established in considerable numbers. Similarly, the Trade Boards Act of 1909, and the Corn Production Act of 1909, with its Agricultural Wages Boards, brought another type of worker into the spirit if not the machinery of trade unionism. Thus we can see two currents taking the associated worker away from the conception of his industry as the primary pivot of his associate life. The tendency of the State to undertake these safeguards against the ills of industrial life on the one hand, and the tendency of the trade unions themselves to be corporate bodies on the national scale, and to operate on the national plane, both introduced difficulties in the administration of the unit industry. This was accentuated by the war. The fact that labour trouble was bound to interfere with the national safety or success in the great struggle had a stupendous influence. Moreover, "the Government itself," as Mrs. Cole says, "had contributed to raise the status of the trade unions during the war, offering them a semi-partnership on many industrial questions, and both the Government and the larger employers found that they preferred on the whole to negotiate with organized than with unorganized bodies of workmen." Prominent representatives of organized labour took their place on central committees in London. Members of the Government had to face

questions of wages and of recognition. So it was that the activities expanded, but they expanded in a way which left the unit industry subject to arrangements which seemed to be imposed upon it, and even in respect of district or local action the powers which were left to branches were very varied in their scope. All this had the undercurrent on the labour side of a desire for nationalization, not always expressed, and perhaps not always clearly held, but certainly regarded as an inspiration of the workers by those who were called upon to administer industry, and it did not make for that frank mutual confidence in the unit administration which is essential.

It is necessary to understand this somewhat complex and devious movement if we are to look upon the changes in industrial relationship with that sympathy for the worker which is essential. No one now wishes to argue against the organization of the workers. Corporate bargaining is regarded as a definite advantage to the employer inasmuch as it is corporate. But a sure instinct suggested to the thoughtful employer whose conscience was alert that this tendency towards organization on the grand scale was reducing his workers to the level of being mere pawns in vast industrial movements. The Whitley Report marked a change, as did the shop stewards' movement. The sense of association in an individual industry clamoured for recognition. Moreover, the demand for some democratic articulation in daily work became all the stronger as the worker seemed to his own mind to lose every other articulation. It has been said that the Whitley Report was too rigid in its proposals, and that it would have been better had it encouraged National Councils of more varying types, and certainly Works Councils of different types. This is a just criticism, though it overlooks the circumstances under which the report was issued. It seemed early in 1918 as if we were to have a serious change in the whole position, as if the Works Councils, in close touch with District Councils, would become the predominant organism

for dealing with the control of industry on its human side, and on the other hand as if the change in the constitution of the political labour party would put the centralized work at headquarters into the parliamentary mould, so that the House of Commons would become the industrial as well as the political parliament. A great industrial council held in February, 1919, did propose a "National Industrial Council" to be a parliament of industry, though, curiously enough, the proposal was never carried out. Yet it can be said quite justly that the influence of the Works Councils, which have been established in many industries, has been the healthy influence of doing something to put into proper perspective the relationship within unit industries. The District Councils, to be subsidiary to National Councils in each industry, have not been established save in rare instances.

Comparisons have been made between the Whitley Works Councils and the many varieties which have been established in the United States, and the somewhat inelastic legally established system in Germany. The English system is encouraged but not enjoined by law. The great variety in the United States extend from the elaborate imitation of parliamentary systems to the simplest Works Committee, always remembering that there are cases in the United States where it is said that the entire management has been handed over to the workers. The German system seems to have two clear differences from the English. There are compulsory arrangements for the production of balance sheets, and there is an infraction of the sacredness of discipline in respect of dismissal where the Works Council can insist, not on reinstatement, but on compensation based on the length of service, where dismissal is held to be unjustified. There are a few cases of Discipline Committees in England, but it does not seem that they are very successful; at any rate, in operation they present special difficulties in England, and it does not seem to be likely that administrators will generally



delegate that responsibility which to them is realized as their ultimate control. Nevertheless, there are several instances of successful Discipline Committees. The following is a description of the arrangements at Messrs. Cadbury's, and those who are most intimate with them declare that they are successful—

“ Another point calling for comment is the tendency, seen in this outline of its work, for the Council to share with management certain branches of factory administration which have hitherto been regarded in industry as duties and functions of management only. For example, the making and revision of works rules, the arrangements for establishing a 44 hours week, and the participation in the arrangement of wages systems. The establishment of Discipline Tribunals on which workers are represented is another instance of this trend. On the men's side a Discipline Tribunal, consisting of three management and three workers' representatives, deals with cases of theft, pilfering, misconduct, and breaches of works rules. Those making the various charges as well as the delinquents themselves are interviewed, the latter having full opportunity of clearing themselves, and the punishment is determined by the Tribunal, which has the power to suspend, to put on probation, or to *recommend* dismissal. A minor tribunal deals with such breaches of discipline as smoking in the works and certain first offences. A Junior Discipline Tribunal, consisting of two management representatives and two youths, deals with minor cases of misdemeanour among the boys. A scheme has been approved whereby the Shop Committees have a voice in the disciplinary arrangements in the various departments. The Women's Discipline Tribunal consists of two directors and two workers, one a council member and one other worker from the department concerned (there being a regular discipline representative in each department). The Women's Tribunal meets monthly, and, as in the case of the men's, every opportunity for defence is given the misdemeanant. The tribunals are regarded with confidence by the workers, who feel that through them they will get justice. The matter of late time has been taken up by the Shop Committees. All late time is entered on sheets which are presented by the foreman or forewoman at the Shop Committee meeting. The Committee's remarks are submitted to the Rules and Discipline Committee. This sharing in the instrument of factory discipline and in the making of rules has the effect

of bringing the workers as a whole to recognize the necessity of good discipline in the interest of all parties."

On the whole, it is fair to say that the English system allows for growth. It has brought about, in many instances, a healthier atmosphere; it has changed the perspective of the worker by giving him a more wholesome respect for control, whereby control has been strengthened and not weakened, as many people expected, though it has become more enlightened. The worker holds in better balance his responsibilities to the industry where he is employed, and his responsibilities to the craft or industrial union of which he is a member. It gives the employer a means of explaining policy, of stating his reasons for this or that action which, apart from those reasons, might give rise to suspicion. It gives the worker the chance not only to complain, but to suggest and to feel that he is a living part of a living organism. The councils have failed in some cases, but not in any considerable proportion. They have succeeded in a far higher proportion than anyone expected, and the best result of all is where they have devised, out of closer mutual confidence, a machinery for co-partnership or for profit-sharing, which is based on a far healthier foundation than the kindly benevolence of the employer, for it is frequently the case, sad as it is to say it, that benevolence from employer to workers is commonly the occasion of the bitterest suspicion. It is well that we should learn from Mr. H. G. Jenkins, whose experience at Messrs. Hans Renold, where there has been a most successful Works Council, is of exceptional value. He utters a word of warning as to the first step to be taken: "I think the right way to initiate a workshop committee is to call the workers together, and ask them to elect from their number a representative committee, to whom the whole organization and general policy of the management should be explained before any further step is taken. That, I think, will enable us to go ahead much faster than if we simply present the workers with a cut and dried constitution for a committee." This

is of all the more importance as the Works Council in question led to the establishment of an admirable profit-sharing system.

It does seem as if we have here the cue to the administration of labour in the future. There is more than appears on the surface in Mr. Jenkins' claim that the Works Councils exist to interpret the management to the workers and the workers to the management. There is no thought of undermining for a moment the vast organization of the trade unions, for it is to be remembered that there are, on the other hand, vast organizations of employers. But it is right so to administer an industry as to emphasize the mutual relationship within that industry, while carefully keeping in vision the true loyalty to the greater organizations. After all, there is, or should be, something of the family in day-by-day intimate association, and membership of the family does not destroy other associations. It is to be remembered that settlements of problems are much more likely to be made in this narrower arena than on the national plane. A case is to hand. The question of the work of builders in bad weather was settled in one industry between the employer and the worker at an insignificant outlay of a few coppers per week per worker. Eminent architects wrote to *The Times* to draw attention to the fact, with a view to the encouragement of other employers. It is not too much to say that such a settlement could never have been reached on the national scale. The intimacy of the closer relationship was the factor which made for success. It is just in order that this intimacy may be used to the best purpose that the emphasis is to be laid on the unit industry. Arbitration and conciliation, and also the industrial courts have their place, but it is with a sad heart that the administrator recognizes that matters have gone so far as to need the outsider, however skilled and eminent. It is significant that mutual studies of industrial conditions, of costs and productivity, are now in process in some of the key industries. It is some

such spirit which needs to be fostered, for it is likely to be far more effective than sloppy kindness. It is the true personal touch, after all, for it is the personal touch which promises mutuality of effort.

The progress of this development may have wide ramifications. It has been suggested that there should be some type of contracting-out, both from State and from trade union enterprises, on the part of individual industries, which go beyond the responsibilities laid down by the State or by the trade union. Of course, it has its difficulties, especially on the trade union side, for it would be rather much to ask of a trade union to surrender the membership of those who were in the most fortunate circumstances. It might not necessitate a total surrender, however, and means might be found whereby the workers, whose conditions were above the limits nationally demanded, might be given autonomy in respect of their relationship to their employer. Some such suggestion was made at an International Conference in London in March, 1924, when Mr. Lesser, the President of the National Federation of Employees' Approved Societies, urged the direct acceptance of responsibility for unemployment. He quoted a speech made at the Bradford Dyers' Association: "It is our belief that, given the willing support of our workmen, and a continuance of the thorough and helpful co-operation of the trade unions which we have had in past schemes, we could furnish benefits largely in excess of those provided under the Act, and that we could provide for under-employment, without seeking any aid from the Government, if, by allowing 'contracting-out,' they would release us—workman and employer—from contributions to the State fund." Mr. Lesser from the workers' side quoted this with approval and summed up as follows: "Under the present system, the worker becomes the care of an institution run for the State, and from that moment both workman and employer cease to have any interest in each other." No administrator of an industry can view such a development

complacently, but if the ideal held up for admiration at the Bradford Dyers' Association is to be reached, there will need to be a modification of the suspicion of the well-intentioned employer. Even the payment of wages beyond the trade union level is looked upon as being a deep plot to subvert trade unionism, and all the schemes of co-partnership and of profit-sharing are viewed with disfavour, and not always without good cause, let it be said. If greater freedom in the unit industry to strive for better conditions is to be a desideratum, as I think it is, two clear needs are obvious. Trade unionism will need on its side to banish the suspicion that it is out for destroying something which it regards as the present system. The other need is that in intensifying local cohesion within the unit industry, the employer or the management generally will need to go much further in recognizing trade unionism as a potential organism for much greater contribution to the direction of the unit industry. This means patience and scrupulous frankness. It means the full intention to take into confidence those who have been chosen to represent the workers. It means a self-denying ordinance against mere cleverness or cunning. It does not mean weakness or timidity, but it does mean long vision, and it does mean a stern determination that there shall be cohesive co-operation, which not only is capable of rejoicing over profits and of justly distributing them, but is capable also of facing losses. After all that is the acid test.

## CHAPTER VIII

### WAGES

AN attempt at a philosophy of wages is not concerned with the amount of wages, but with the method by which the wages are reckoned. It is probably not true at the present time that anyone holds the theory of the "subsistence" level. It is true that there are demands for a scientific calculation of the true minimum wage, but the minimum, as so conceived, is very different from the "subsistence" level. Even so there are objections to such an estimation. It is a dangerous figure. It might come to be a standard and there may be some safeguard for the worker in the variety of standards of wages. That explains why workers in so-called "unsheltered" industries look rather coldly upon feverish agitations which are set afoot as regards the alleged unjustly high wages in "sheltered" industries. They know that a reduction in the "sheltered" industries—even if the allegations were true—would not benefit them. They know, too, that the standard in the "sheltered" callings has its value to the workers in "unsheltered" industries if only as a standard. It has been urged that there is a "driving down of wages to starvation level, and the increasing of hours so as to absorb all chance of leisure, in every European country, not in order that more may be produced, but in an insane competition to reduce production costs, which will at the same time destroy the market for goods and increase the number of the unemployed in every industrial country." This is probably too sweeping a conclusion from tendencies which are in evidence. There is so clear a knowledge to-day of the fact that the steady lowering of wages and the increase in hours do not reduce the cost of production, that it is hard to believe that it is a general description of industrial intention. On

the other hand, there is a real desire for goodwill, and goodwill needs some evidence in actuality. What seems to be needed is some clearer revelation of production costs so that the truth may be known, and some far more definite balancing between the labour legislations of the competing countries for which the conference at Washington was believed to have prepared us. The industrial administrator, who regards his position with its two-fold responsibility, will not readily believe that there is real progress in a general tendency to the subsistence level of wages. He must seek something of the nature of equal terms. "There are five or six firms," says Mr. Philip Kerr, "in the United States selling excellent cars at from £60 to £100 apiece, yet paying unskilled wages of from 20s. to 25s. a day. That is largely because the strategic planning by capital is more enterprising." It may not be possible to take sudden action to restore the balance, but the idea of a balance, by which alone true co-operation can come, should be before the minds of those to whom is given the administration of an industry. At any rate, American experience is rapidly proving to us that there is a method, if we choose to try it, which may enable wages to be raised beyond their present level, but if that method is pursued it calls for a new attitude on the part of labour.

So we shall be on safe ground if we say that in the main there is anxiety, not so much to reduce wages as to obtain for wages paid a proper return in output. It is this which is the crux of the position and it is this which lies at the root of the various discussions of the principle of wages. In fact, in a wholesome desire to see wages generally increased, and with that increase to see an encouraging improvement in work done, and also to see a relationship between employer and worker which will tend to be a permanent relationship, becoming intensively mutual, we see the whole aim of industrial administration which is worth the name. It does not seek to destroy or to undermine trade unionism, for it realizes that its work must be done

in full accord and co-operation with trade unionism, but it does seek an end—an ultimate end, perhaps—which will fulfil the ends of trade unionism.

So we begin by discussing time-wage. It has a halo of its own. It is said to be the only moral method and it has come to be regarded as in some way superior, from the point of view of ethical responsibility, to any other method. Several factors seem to have combined to bring about this result. The reflex action of the enviable salary position is one of them, for social imitation has exercised its influence. The idea of being employed in the sense of having continuity of employment is another influence, though, if this is examined carefully, it will be seen that it has had a very reprehensible origin, nothing higher indeed than the slave trade. The earliest industrial conditions were those of time-wage, and no whitewashing can remove their horrors. It is to be remembered that time-wage has administrative advantages. It is easy to reckon. It gives the worker a sort of guarantee that while there is work there is a certain level of pay. Also, in respect of fine individual work, or work which is spent upon valuable raw material, it has advantages which are obvious. Similarly, where work cannot be standardized or where there is no homogeneity or continuity in the processes or where there are idle gaps necessitated by prompt attention to varying demands, then time-wage is inevitable. But the halo must be torn off ruthlessly. Jevons said long ago: "In every works there are a thousand opportunities where the workman can either benefit or injure the establishment, and, could he really be made to feel his interests identical with those of his employers, there can be no doubt that the profits of the trade could be greatly increased in many cases." Trust human nature as we will, encourage it by all the means at our disposal, psychological, honorific, the distant reward of promotion and the like, time-wage is a heavy burden upon personal enthusiasm. It is one of the causes of that irksome type of discipline which has to drive. It



is one of the causes, curiously enough, of the accentuated sense of monotony in work, and this is proved by the fact that time-wage is most successful where there is intrinsic interest in the day-by-day task, such as the civil servant or the municipal servant who handles "case" after "case," each with its own variety. But time-wage is most irksome to the good worker. He wants to do better. His fingers itch to do better. We need not question at this point whether or not he is slowed down by his trade organization. He knows that a mediocre standard will bring to him his wages, which in their turn are to him at a mediocre standard. He has not even the annual "rise" of his clerical brother to look forward to. Industry chains men and women to a time-wage which is bad for industry, bad for the characters of the workers, bad for the status in respect of skill of the calling, and then it coolly appropriates the honour of being humane. Let me not be misunderstood. There is a sphere for time-wage. Outside these limits we shall do well, in every interest, to explore the possibility of a wider range of differentiated payment.

But, says the student, how is it the trade unions are so strongly opposed to any change from time-wage? Of course, trade unions are bound to be opposed to a change when it is perfectly clear that it will be to the general disadvantage. A large employer in London with a factory where piece wages ought to be paid showed me his scheme for making the change. It was a foolish scheme. Even on an optimistic reckoning only one-third of his workers would receive as good a remuneration as under time-wage. Piece-wages, if they are calculated with any common sense, and human nature being what it is, should improve the remuneration except for a small minority. But we have the evidence of Mr. G. D. H. Cole, in his admirable article in the *Encyclopaedia Britannica*, that trade unions are not necessarily opposed to piece-wages. "In the past, trade unions have usually favoured, or at least not opposed 'payment by results' in those industries in which a

standard of measurement can be found of such a character as to ensure that, under normal conditions, a given amount of effort expended will result in a given amount of output, and therefore of earnings under the system. On the other hand, the unions have generally been opposed to the introduction of 'payment by results' in those industries in which no such standard can be laid down, as well as in other cases where it has been contended that 'speeding up,' consequent upon the inducement offered for higher output, would have the effect of impairing the quality of the work done (e.g. building). Where 'payment by results' has been accepted in industries of this latter type, a struggle has often followed over the question whether the right of the organized workers to bargain collectively over the fixing of piecework prices or 'basic times' shall or shall not be recognized." That, I think, puts the attitude fairly and justly and enables us to study piece-work without the initial sense of moral degradation in so doing.

Piece-work is simply payment, not for each unit of work, but for each unit of production. It presupposes a uniform rate of payment for each unit of production, and while it meditates a difference between worker and worker it does not meditate a very wide difference. Put in another way, it suggests that the same amount of work by different persons, generally skilled persons, will result in the same amount of production or approximately the same amount of production. It meditates also a reasonable similarity in respect of the quality of the work, for minute inspection adds heavily to the cost. Thus, it has the advantage at the outset of simplifying the costing, while it encourages effort, and expanding effort reacts on personal interest. It meditates, in addition, that the process is fairly clean-cut, free from necessary preparation or other preliminaries, and it also meditates that in respect of the raw material all the workers start from an even line, that is, there must be no advantage in respect of favourable material, leaving the less favourable to others. Within these limits piece-work

has definite advantages, but it is always correlated with time-work, that is to say, it is not usual to permit the earnings of the average man by either method to differ widely. Those advantages may be summarized and certain modifications of them may be indicated. It will reduce the cost of supervision and simplify the method of costing, but it will add to the cost of planning and necessitate constant re-planning. It will probably increase the general average of remuneration, and particularly so in the case of the very skilled worker, but it will rob the class of workers of a definite class-standard. It will interest the worker in the methods of planning, especially what may be called the more detailed methods, for even a small change such as bringing the raw material (I use this term for the material at the stage of the process in question which may be well on the way to the finished product) just a little farther on the road may be of moment.

At once it is to be observed that there is just this truth in the moral argument which I have mentioned. The piece-worker does seem to be only flimsily associated with the industry in comparison with the time-worker. He sells his labour as a commodity in small and definite units. It may be that some arrangement grows up as a consequence of this defect, such as a general minimum based upon a time-measurement. Thus, in cases where there is a stoppage of power, or a shortage of material, it has come to be a practice to pay two-thirds of the time rate to piece-workers compulsorily idle. Again, there are questions of association, such as local benefits, sports, canteen, and the like, which do make up in a sort of way for the apparently casual nature of the bond between the worker and the industry. But the real difficulty lies in the matter of the fundamental rate. The charge is constantly levied against the system that when employers find that the individual remuneration is too high the rate is ruthlessly cut. There are such cases, and they are indefensible, but in the majority of instances what has happened is a change in the machinery

or in the organization which has rendered a change in the unit-payment perfectly just. In fact, piece-payment demands a constant supervision of this kind, and it is manifest that it ought to be made by a joint representative body, and that it ought to be guided by the fundamental principle that some of the advantage of the improvement ought to accrue both to the industry at large and to the individual worker. If this is secured there seems to be no reason why piece-work should not be more general, but it should always be conditioned by some general time-minimum which will secure the worker against failures which are beyond his power to remedy. The reason for the prejudice against piece-work is that the cutting of rates has seemed to be unjustified, and this is because there is insufficient interchange of opinion and enlightenment as between management and workers. There needs to be a generous recognition of the fact that under piece-wages, when a worker increases his output, that increase is much more in fact than the apparent increase, for he uses the machinery and light and heat less than the slower worker. Thus we reach two conclusions. Piece-wages demand close correlation between management and workers, frank discussion, and a conception of mutuality, and a basic bond such as I have indicated; when this is achieved, the unit rate should always be ready for fresh adjustment, and every adjustment should aim at giving some proportion of the benefit both to the worker and the management. It is to be remembered, by the way, that there are far more labour disputes with the time system than with the piece system. It is evident that the piece-wages system may allure the management to bolder efforts. If it is successful, it reveals wonderful vistas of further success, and it is one of the ironies of the management of industry that more harm has been done by pressing a success beyond its legitimate bounds than by any other action. When it is evident that certain workers can give a particularly high output, it is a great temptation to strive to extend this to other workers. It

is this which lies at the root of the bonus premium system. It is a piece-work system of its essence, but it is translated into time-values so that there is an average time for a standard task. Then a bonus system is devised for all those who do the work in less than the standard time, but of course they are not permitted to work a different number of hours per day. This system is said to have its origin in the modern over-elaborated methods of costing, which are always itching to reduce the cost, and which regard ordinary piece-wage as tending (as they do tend) to crystallizing the unit-cost. There are two systems which have come into the limelight of industrial discussions, the Halsey system and the Rowan system. The former pays for the half of the saved time, thus dividing the spoils, as it were, but it is very different from sharing the advantage of an improvement in machinery or organization, since it is sharing the result of the workers' efforts. The Rowan system is more complicated, but it gives a constantly diminishing fraction of the saving. It can hardly be contended that this is just. It is seductive to the brilliant worker, but must always leave the sting that it does not give him the proportionate benefit of his increased skill or increased effort. The deduction which I would draw from the results of these devices is that industrial management will be well advised not to try to press any piece-work scheme beyond the limits of ordinary differences between worker and worker, and that it should be exquisitely sensitive to carry the full enthusiasm of the worker with every allotment of *differentia* as between the results of piece-wages to one worker and another worker.

So far we have considered attempts to make wages representative of personal skill or effort, but there have been various attempts to make wages both a reward and an incentive to what may be called collective effort. It cannot be said that these efforts have succeeded sufficiently to establish a philosophy. The general result of corporate effort is so dependent upon skill in management, in the

purchase of raw material, and in the sale of the finished product, that the worker soon realizes that his personal effort is so small a factor as to be negligible, and once he makes this valuation it is hardly possible to encourage special effort. In theory, the arrangement in the coal trade seems to indicate a perfect combination of a static basic wage with a proportionate interest in profits. In theory, also, it does not seem to lack generosity. For each district standard wages and standard profits (aggregating 17 per cent of the cost of the standard wage) were set up by a very complicated calculation. Every month there is a readjustment. After costs other than wages have been deducted the residue is divided between profits and wages in the proportion of 17 to 83. "The coal industry," says Professor Pigou, "is, perhaps, better adapted for this kind of arrangement than the majority of other industries would be." It does not appear, however, to have succeeded, and some recent studies of the subject seem to indicate that what is wrong with the arrangement is that it is too heavily weighted in respect of variation. The establishment of the proportion 17 to 83 was followed by heavy depression, and critics now say that too high a proportion of the wages is dependent upon profits, and that in the day of booming trade the result would be unduly favourable, while in a day of depressed trade it is unduly unfavourable. Hence it is said that the proportion dependable upon profits should not vary more than 50 per cent of the cumulative sum divisible between profits and wages. It would thus presume a limit in the variations. This brings to the foreground the necessity for a static wage whether we ally it with piece-wages or profit-wages. At the same time it is to be remembered that the sorry history of profit-sharing, in which there have been as many failures as successes, is probably due to the fact that the proportion due from profits is too small and in many cases is an insignificant factor. In truth profit-sharing, as it has been evolved, still stands in the realm of employers' benevolence, a

thoroughly dangerous realm. Mr. Taylor, of Batley, the sponsor of one of the best schemes, described at the Cambridge Industrial Conference his method of having two types of share certificates, one type carrying a proportion of profits only, the other carrying the status of a shareholder, that status only being conferred after a certain number of years' holding of the minor certificate.

It is here that the true problem lies. All that has been said about the democratizing of industry really comes in practice to this—to what extent can we provide that workers are really a part of industry, not merely sellers of their labour to industry? We may smile with kindly good humour born of the recollection of what happened in Italy upon such a claim as that "the workers should take possession of industry." Similarly, the description of schemes which come to us from America showing that industries have been "handed over" to workers will leave us cold when we remember that in nearly all the cases the same management has been retained. But we shall do well to consider if industrial management has not something to learn from these wild claims. Looked at from this new angle the payment of merely time-wage will seem to be the least enlightened method of all, and the softening down of this method by systems of benevolent welfare and guardianship may indicate a sense of responsibility which may come near to the tyranny of an exaggerated sense of responsibility. Hence I am sure that we must aim at a real system of co-partnership. It would be foolish idealism to dream at the moment of a scheme whereby we could distribute real shareholders' powers, but at the same time some real and living method of shareholding must be our aim, and there is no reason to regard the workers as necessarily unfitted to be shareholders. The ordinary benevolent co-partnership whereby a kind of share certificate is given by the company, on certain conditions of service or of behaviour, and is not transferable, and even not retainable after leaving the service of the

company, may have some advantages in the direction of arousing interest and of sharing some portion of profits, but it is not a constructive effort towards a true solution. The use of reserve funds as loans to workers for the purchase of shares seems to be more promising. It has progressed quietly in England and a little less quietly in the United States. It is open to the criticism that it gives the holder a double risk, the risk of losing his employment and his holding, and it is the recognition of this double risk which has led to the establishment of labour banks and labour investment trusts in America to hold shares in different industrial organizations. But it is just as well to examine this so-called double risk. It is quite possible that the success of the industry, that is its permanent and continuing success, may be helped by such a method of holding, so that one risk really helps to neutralize the other, that is, the interest of the worker will prevent the failure of the industry. More than that, as we have already seen, the tendency to the expansion of industry and, therefore, to its solidification will be helped by conserving the interest of the workers in this way. Again, the alleged double risk has the counter advantage that the worker can leave the particular industry, should he be tempted to do so, and he can retain or not retain, at his own will, the shares which he holds, for at such a moment he will find the beneficial function of the Stock Exchange as a clearing-house of industrial shares ready to his command. Still, the success of labour banks in the United States points to a preference for joint holdings, and the Brotherhood of Locomotive Engineers spreads its holding of £5,000,000 over all sorts of industries and even includes agricultural enterprise.

We can thus see a possible line of evolution. With piecewages as its basis, conditioned by certain time-minima, with frank and honest and regularized discussion of the rates, with equally frank discussion of changes in machinery or organization which may affect those rates, with an intelligent and mutually-recognized system for share



investment such as will attract living and real interest in the prosperity of the undertaking, so that suggestions not only will be made but will be invited and examined by an organization which is part of the very structure of the industry, we can see a possible way of meeting a demand which has some basis in reason. But it will also be well to remember that neither capital holders nor managers nor workers will be ready for such a development, or for the initial stages of such a development, until there has been a definite softening of the present rigidity of relationship. So I would prefer to put it that true industrial administration in respect of wages will so act as to be putting its face towards an ultimate structure having the characteristic features I have indicated, and that it will not too hastily adopt forms which have been adopted elsewhere or seek a common form. We shall be much more likely to see progress from rich variety in bold experimentation.

For this reason, too, I think we should deprecate the legalization of any of these features, whether Works Councils, or co-partnership, or profit-sharing. In Germany at the present moment some of the leading thinkers on industrial questions are giving articulation to a doubt whether the Government establishment of Works Councils could not now be modified. The Act which was passed in France in 1917 providing for a corporate holding of shares by the workers in association has not been altogether a success. Indeed, there are other reasons for hoping that the next development may be purely voluntary and clearly mutual. The expansion of industries into trusts and combines, whether vertical or horizontal, is having a considerable influence in spreading experience, as one may put it, with these bolder measures. It has been noticed that there is rarely a case of a combine where one of the constituent parts has not offered a contribution on this aspect of management. Where such a contribution has been offered the readiness to imitate it has been remarkable. It is not without advantage that these vast movements

have to be made without occasioning the antagonism of the workers and that this has brought with it a very special sensitiveness on the subject on the part of those who are responsible for carrying such arrangements through. It is evident, too, in the cases of what have been called the "lesser combines," where small industries have been grouped together for their mutual protection against a large combine which seemed to be aiming at monopoly. In these cases, of course, it is possible to take some risks, especially when it happens, as it has happened, that the constituent part which is to be imitated is by no means the least efficient or least successful of the group. In fact, it seems to be the case in the majority of instances that it is the industry which has led by efficient management (including, as it must do, efficient labour management) which is the pivot of the movement towards expansion. Consequently, I would deprecate legislation on this point, because I think intelligent foresight, frank recognition of human needs, and a study of the conditions of efficient industry are bringing it about. It is notable that it is the smaller firms, at the moment, which are most anxious as to fresh factory legislation. This fact must not be stated without real sympathy, for it has become exceedingly difficult to maintain a small industry except in cases of a highly-specialized product. On the other hand, the small industry has its advantages, and some of the instances of model management in this country are in respect of small industries where an enthusiastic manager (in one or two cases an owner) is not too proud to get off his individualistic pedestal and apply principles which call upon him to organize his own mind as a beginning. Mr. Ford has had a number of different influences on industry and it would be ludicrous to suggest the idea of Factory Laws to him. It may be that the criterion of real success in an individual industry is to discover to what extent it goes beyond the Factory Laws, for what has come to be almost an invariable fact is that those industries which have been run with

courage in this respect have proved that the courage was the best of investments.

It is convenient to refer to hours of labour as being closely associated with the question of remuneration. It is very puzzling to us how reluctantly the Victorian age viewed the question of reducing the hours of labour. Mr. Meredith's explanation, in his *Economic History*, is very significant: "It was thought, and, as events showed, thought rightly, that the legislation proposed, though technically its application might be restricted to children, young persons, and women, must, in practice, react upon the employment of adults, since in many cases the commercial working of the mills could not be carried on with adult male labour alone, even for a few hours at a time. The agitation thus presented itself as involving a limitation by the State of the right of the adult male to work as long as he chose, and as such was to many thinkers objectionable." It was a complex question, for it included the immediate loss of wages by the reduction of hours, and the theory that output would be maintained in spite of the reduction was not generally accepted. But one curious fact has followed the process of legislation. We have come to regard eight hours a day as sacrosanct; more than that we have come to interpret it as meaning an even eight hours daily. If we could face this question in the light of local research, it might be that we could find some allocation of hours which would be still more efficient, for we ought to take the cost of the running of the plant into consideration. Lord Leverhulme was moving in this direction with his three-shift system, the salient feature of which was a shorter evening shift. We have not tested the possibility of industry until we face this question. I know a manufacturer now who has had special studies made which reveal that with even less than eight hours a day and with alternative daily morning and evening shifts he could pay higher wages. Then again there is the question of overtime, which is, of course, the easiest resource of

all in the hour of need and which is also a subtle temptation to the worker. There is a real difficulty here, for a rigid limitation of the power to work overtime might damage an industry very seriously on a particular occasion. On the other hand, there is the indisputable fact that too frequently the agitation for shorter hours has resulted, not in shorter hours, but in more overtime.

It is important to realize also that research into the psychological and physiological results of prolonged hours has not yet given us very definite information. There is a disturbing factor in the comparison, to which Professor Pigou alludes, that whenever any experimentation in shorter hours is carried on the best workmen are attracted to that establishment. We must not forget the deduction that this, in itself, proves the attractiveness of shorter hours, and we must not be misled by considerations of leisure which is said to be misspent. Let anyone study the roads leading out of London when the Bank Holiday crowds pass in throngs, and he will notice a definite improvement in the spending of leisure and that this improvement includes a welcome development of family cohesion in pleasure-seeking. In 1916 there was a big investigation of munition workers, and it revealed that for "very heavy work" the maximum output was found with a week of 56 hours. That experiment included the best workers acting under the stimulus of patriotic sentiment, so that 48 hours in ordinary cases may be regarded as fairly proved. Several of the points we have considered under other headings have a bearing here, for if we can succeed in establishing a permanent or continuous relationship between employer and worker we shall emphasize the responsibility which will fall on the management for injury done by long hours, and it is the management and not the worker who is to shoulder this responsibility, for the worker may be quite ready to damage his health for the sake, say, of better education for his children and it would be difficult to deny that this would have ethical value. German

experience with the eight hours' law is not encouraging, and there were many cases where the workers served another employer after finishing the legal day with one employer, and many more cases where they worked privately at remunerative work. In fact, it seems to be likely that in the future we can put more faith in the developing sense of public opinion. The instance of Saturday afternoon is remarkable. It is not legally enacted, save in so far as the Shop Hours Act establishes it indirectly, but it is so generally recognized as desirable that every industrial administrator knows that it is the most coveted of all relaxations.

Hence it seems that here is a case for fuller investigation in the mutual way already described, but with especially full enlightenment from medical and psychological authorities. "Man goeth forth to his work and to his labour until the evening" has an astonishing grip on industry. It is manifestly an arrangement specially suited to agriculture, from whence it came. There may be reasons why Lord Leverhulme's proposal will not succeed, or other proposals for longer hours on one day than another day, or arrangements for the shutting down of power and plant on certain days, but the idea of a general social understanding that evenings are to be free is not a good reason. In respect of sport, gardening, study, and hobby work of a hundred kinds it is untrue. It applies to the theatre, the cinema, the game of cards, and to broadcasting, but to regard our industrial population as spending each evening and every evening in such delights is surely to undervalue their initiation. Moreover, it is very costly in respect of plant and machinery. Even varied hours for meals might effect economies. Moreover, it may be the case that monotony of work is as much monotony of hours as of work itself, and it might be possible to provide some variety of hours with some variety of work, including some reasonable variety in the length of hours. We have some distance yet to go in receptivity of mind before such

questions can be discussed with freedom from prejudice either by management or by workers. All sorts of heritages have become crystallized forms into which our minds get fixed. The one argument in this chapter which I would use as a sort of summary is that our industrial process of change has been too much of the nature of tinkering with principles and too little of bold questioning whether those principles, in truth, are as solidly based as we suppose. I am confident that if we set out to examine our conventional procedure from this angle we might discover, both in respect of wages and of hours that there remain many possible schemes which might be adapted with advantage to the needs of particular industries and to the needs of the workers themselves.

We may discover, too, some allotment of work as between men and women other than the traditional method of finding that women are cheaper. In a sense we may say that with careful planning and the modern methods of distributing labour, and with a careful consideration of psychological and physiological factors, we may discover that realm of work which women can do with especial skill. Certain kinds of routine work do appeal to women, for it is certain that women have more intellectual and spiritual resources than men. With such a use of planning there is sound reason for paying women differentially, not differentially directly on the ground of sex, but differentially on the ground that differential planning might possibly provide for the special contribution of the sexes. Moreover, even with the most careful planning, the idea of making women, as a sex, the lower stratum of the industrial structure, the "hewers of wood and drawers of water" will not serve in a complex industrial scheme. There should be some vista of control or direction for women so that they will take a living part in the living organism of industry. We must lay aside the old theory of the merely temporary employment of women pending marriage. The administration of industry calls for a much wider conception

of women in industry. We can best realize this from a summary statement in Mr. Whelpley's *Reconstruction*. "There are to-day in Europe at least twenty-five million women who will not be given an opportunity to get married. For every thousand men there are about eleven hundred and eleven women, taking the whole of Europe under review. Before the War there were 38 more women than men to every thousand of male population. This condition varies greatly in the different countries. In Russia, before the War, there was an excess of women amounting to four per cent. To-day there are over thirty per cent more women than men in that country. In Great Britain there were about a million more women than men before the War and to-day there are nearly two millions. There is also a large surplus of women in Germany, Austria, France, Italy and Jugo-Slavia. Those countries which were neutral during the War present a marked contrast for, while before the War there were more women than men in Denmark, Norway, Sweden, Switzerland, and Holland, this condition has changed rapidly during the past few years and there is now almost a balance of the two sexes in the population."

This quotation gives us not only the British but the international aspect. It is clear that British industries have to face the problems, and they are difficult problems, associated with the employment of women for a life-career. The temporary employment, pending marriage, has its own problems and it is true to say that they have not been fully considered. But if foreign competitors are able to use women throughout the working careers of the women, and probably with a less real sense of moral duty to women and certainly with less organization on the part of the women, the whole position is changed. It comes back to planning again, the careful research and costing and planning of the whole work in such a way as to discover what can be allotted to women and what, on the other hand, can be retained for men, each with its expectation of higher efficiency. It includes all sorts of aspects: fatigue, digital

skill, endurance, adaptability for advancement, and it brings a complex study to the planning section for which a special equipment is needed. It is a portion of the aspect of industrial administration in respect of wages and hours and work, which, as yet, has not been given the consideration which it deserves, owing largely to the fact that woman labour has been taken for granted as cheap and readily available. It needs to be emphasized that no labour, whether of man or of woman, is really or finally cheap, until its potentialities have been made the subject of definite and careful study. Here I must make a reference to such studies as those of the National Institute of Industrial Psychology and the Industrial Fatigue Research Board. If we are to conduct our industrial administration as honest men we shall seek to know the price which the workers have paid for their wages. It is true that there is a two-fold prejudice against this research, both on the side of the employers and on the side of the workers. The former often regard it as an academic fad, not really related to administration; the latter regard it as a means of increasing output much on the level of the driving of the past. Both of these conceptions are erroneous. To arrive at the truth in respect of fatigue is to go some way to finding a remedy for unnecessary fatigue; to discover the best rest periods; to study conditions such as lighting and the placing of machines so as to consider the worker—all these have in them the elements of sane administration. Too much may be claimed for the methods, but such a book as Dr. Sargant Florence's great study shows us the value of many of the results. "It cannot be too strongly emphasized," says Mr. W. Graham, "that in the sphere of industrial psychology there is even now the basis of widespread industrial improvement, already warmly recognized by many employers' organizations and trade unions." When one realizes that in the field of industry at large many of the arrangements have happened by chance and have been adopted by that line of least resisting thought



which takes the easiest course, we can see sound reasons *a priori* for a fresh study by experts of the human actions involved.

Hitherto, I have dealt with the unit worker. I have not considered him as skilled or unskilled, largely because I think the distinction is changing and a general body of workers is arising which is not individually skilled, in the old sense, and certainly cannot be described as unskilled, but which rather should be described as corporately-skilled. But a school of thought urges that we should regard the family as the true unit. In a sense we have done that in our considerations, for we have included in the worker's responsibility the idea of a "typical" family of husband, wife and three children. It is argued that this is a fallacy and that the best way is to pay differentially according to the size of the family, using a fund provided by industry at large for the payments for wives and children. This system has been a great success in limited districts in France, largely because it is regarded as a patriotic action to have children and a patriotic *motif* to encourage others to have children, and thus the strong motive of patriotism enters. Also, a deeply religious current has its influence. In Germany there have been experiments with the same system, and viewed from the nearer perspective we get varying accounts. In Government service in Canada certain war bonuses were paid on this basis, but it gave dissatisfaction and has been given up. In Holland it is being tried in certain sections of Government service. But it is in France that the system has made most progress and it is said that it now includes more than half the wage earners. The subject is very controversial. It does seem to be strange that in England the new hand, just ready to begin work, receives the full man's wage—including the so-called "typical" family. There is reason to believe that the influence of this system is an encouragement to early and to what are almost improvident marriages, and that it fails in providing means for expansion of life

later. So that there does seem to be some reason in paying on a bachelor basis and adding from the pool for the responsibilities which are consequent upon marriage. On the other hand, there is the fact that the bachelor, who prefers other joys to the joys of matrimony—a choice to which he has a perfect right, and indeed a choice which self-devotion to a study, to the support of parents, to the following of an art, may make equally worthy with marriage—is mulcted for the support of other men's wives and children. Again, there is a danger in going so far away from the worth of labour. That must be the fundamental, after all. If a man's reward is proportionate in some way to his skill or his effort we may draw the best out of him and indeed the most precious best of all is when he works hard for his loved ones. "Though sorely burdened, sorely tasked, The only wage love ever asked, A wife's sweet welcome home at night, A child's sweet smile by candlelight." It is the prime danger of doctrines of wages such as this, that across the most beautiful of emotions it brings the will of the State or the act of a corporate fund. So, it does not seem likely that the industrial administrator will be face to face with adapting his methods of payment to any scheme of family allowance. He will recognize the fact that in the remuneration which he pays, and which he considers in the scales of worth, there is also to be regarded the human needs and that among these human needs is the possibility of decent marriage. Beyond this in the particularized encouragement of marriage and of children it is unsafe for industry to go. If patriotism or religion has other demands to make they are for the statesman or the religious teacher to enounce, and not for the administrator of industry.

## CHAPTER IX

### STANDARDIZATION

THE process of standardization affects every aspect of industry. It is the result of constant examination of method from all sorts of different angles. It has been applied to the machinery which directs the organization, to office records, to the keeping of accounts, to the machinery of correspondence, to the details of typing, and to the methods of preparing letters for dispatch. It has been directed to the product and to parts of the product, to the human action involved in labour and to the machines to which human action is applied. It has not been a development which has been satisfied with mere standardization as such, the reduction of variety to fewer types. Rather it has been a development which has used standardization as a means to the end of arresting waste; waste of material, waste of time, waste of energy, waste of what we may call the indirectness of direction. It has had its critics and sceptics as we shall see. They have urged, in sum, that standardization may become crystallization, and present a stubborn front to future change. They have urged that to attempt to standardize at a stage in which the evolution of method is still in process always runs the risk either of a fresh change when further improvements have been discovered or of being in a position to prevent advantage being taken of those further improvements. This attitude is one of the evidences of a timidity which has been a disastrous characteristic of British industry. It is the same attitude which stands in the way of the scrapping of machines. It is a Micawber attitude, so confident of something turning up that it fails to take advantage of that which has already turned up and sometimes fails altogether to notice it.

The various devices which help in the administration of an industry are themselves being standardized. The various filing systems for correspondence merit careful study, not that they differ much in themselves, but that the little differences do mean that one or another is specially applicable to particular needs. Counting machines, too, are available, of various types, but not every industry can put the more elaborate machines to full use. Machines which address envelopes or record lists of names on wages sheets are of different value according to the needs, the changes week by week, for example. Methods of paying wages have been studied also and time may be saved and accuracy conserved by all the methods, though some of them are specially suitable to industries where payment has to be made to men or women on leaving their day's work. It may be that some day we shall find it possible to introduce block payments into local banks, and this development has been brought into effect in some instances. All this must not be regarded merely in terms of saving labour. Attention has been too much focused on this aspect. The saving of labour is important, but the saving of time is the truest criterion. Heads of departments need to be in a position, at a moment's notice, to obtain files of correspondence, put in proper sequence, drawings, costings, records of production and studies of raw material. Much has been said about the "clear desk." It does not necessarily mean efficiency. It may mean merely a fad, and is as foolish as most fads. If it means that the owner of the desk recognizes that an organization can hold records better than he can, that his "clear desk" indicates a clear mind, that the organization is ample to provide him with the data he needs just at the moment when he needs it, something has been achieved. For, in that case, it means not only delegation, but delegation to a real legatee. The focusing point at the head of an industry or of a department of an industry is more likely to be efficient if it is a true focusing-point of forces which operate through

him and meet in his mind. It is no use making modern devices into a form into which the head tries to fit himself. That comes near to another kind of tyranny. It is of every use if it is the organized machine upon which he operates and which contains other subordinate machines upon which his subordinates operate. "A card index is a deadly thing unless it is kept with scrupulous accuracy," writes an American efficiency engineer. It is a wise warning. We have to do something much more than substitute typing for handwriting, loose leaves for the great books of the past, house telephones and carrier systems for messengers, and card indexes for complete initial reference. We have to ensure that we are getting the fullest mental recompense for these devices. It has now become commonplace to agree to the standardization of parts. Screws and hinges, for example, have long been subject to this tendency. It has affected the greater products, too, in a way which is not generally recognized, for the interchange of study has been one of the most remarkable tendencies of the large-scale production which must expand if it is to live. The standardization of the product is another matter, and, frankly, it is debatable. It may seem to be nonsensical that there should be so many kinds of brass bedsteads, differing but little in their shape and that in fine detail. It is true, of course, that design does enter and that no one would wish to check the valuation of art or the scope of individual taste. But it may be rejoined that individual taste need not apply to every article with which we are surrounded. One might tolerate an uniformity in wheelbarrows when uniformity in wardrobes would simply be irritating. Yet it is to be pointed out that there is ample scope for taste, say, in house-furnishing without demanding small differences in design. The Chippendale period offered less opportunity in other ways of showing individual taste than we have to-day. A beautiful chair is a beautiful chair and no one will deny its beauty, but industry, being organization as we have seen, has to think of the possibility

of supplying beautiful chairs not to a section of the world which can afford and revel in the beauties of handicraft, but to a vast human-kind who are condemned to ugliness because it is assumed that the work of man with machines must be ugly. Let anyone compare the oleograph on the walls of a Victorian household with the pictures which are chosen to-day and he will be surprised. "The art and beauty of the world lie outside mass production," says a writer in *The Times Literary Supplement*. Is that not because we have assumed that the art and beauty of the world are for a minority who appreciate art and beauty, and that we transpose this assumption into the contention that the minority must emphasize its minority in order to prove its cultivated taste. Mass production is only mass production; it is only making on the grand scale. It does not necessarily mean ugliness or cheapness in design. It means thought and planning in process.

So we come to consider mass production in relation to the progress of industry and in relation to the welfare of the worker. At once we are faced by the fact that it is only the vision of a tendency at a certain stage. There has been the mass production of pins since the days of Adam Smith. Every improvement in industrial process; every saving in the use of raw material by planning or otherwise; every discovery in chemistry or in research whereby a material more readily available could be substituted for a material commonly used—and surely there is no stigma in such a discovery, for the gifts of nature applied to fresh purposes are part of man's continuing conquest; every saving in man's toil, whether arduous or apparently simple—one and all mean something in the direction of mass production. It means carrying human co-operation a little farther on the road and there must be a discipline in human co-operation. It is open to critics to suggest that the unit worker, in a segregated way, should produce a finished article in order to obtain full spiritual satisfaction for his work, but those who say this

have not fully realized what it is they contend. Is he to produce a steel bridge, or a locomotive, or a motor-car, or a sewing machine, or a watch, or a lead pencil, or a piece of soap? Manifestly, he can do none of these things. The doctrine applies, if it applies at all, to primitive needs where the minimum aid is obtained from machines. It applies to a horseshoe (after the iron is produced), to a pair of boots (granted the leather, and the eyelets, and the thread for the stitching and the nails for the heels). So we see that the contention falls to the ground. Satisfaction is to be obtained in the sense of partaking in a common enterprise, in fulfilling a portion of the completed task, in knowing that the work is dovetailed, and in knowing into what it is dovetailed. It may be a finer satisfaction than the individualistic satisfaction of the completed task and it would be the finer satisfaction were it not for the fact that the sorry history of industry has driven into the worker the idea that the machine is the proud thing and he is the slave of it. In truth, he is the master of the machine, no matter how humble his task. He is the co-operative agent, the spiritual link between the dead things which machines really are. His is the hand which guides it, and no matter how cunning the machine it is a sorry thing without this guiding hand. The vast and minute co-operation to which mass production brings us is something essentially different from the use of machines to cheapen men's and women's labour. Rather it is that which correlates and co-ordinates such labour which is to be revered as being impossible to machines. Just as we have to get away from the idea that the use of machines is to produce a common and vulgar article, contemptible because of the vast numbers in which the article is produced, so we have to get away from the idea that the machinist is a pathetic remnant of human work which is despicable as being merely an adjunct to the work of machines.

When we come to consider the welfare of the worker

separately we have to face a real problem. It has been stated that there has been mass production since the days of Adam Smith. That is true, but it is not all the truth, for the emphasis then was on the division of labour, whereas the emphasis in modern mass production is not so much on the division of labour as an end in itself but on the division of labour and the division of the processes of labour and the division of the details made by each section of the machine so that articles are so produced in the mass that there is a reduction in their variety. The distinction is a real distinction since it goes on to the consumer. The division of labour as understood a century ago did not presume to dictate to the consumer. There were small processes in the making of the pin, but there was no lack of variety in pins and in the Victorian epoch there was a curious punctiliousness in respect of the proper size of a pin for a particular purpose. For the sake of mass production several sacrifices must be made, and not least of them is the sacrifice on the part of the consumer of a scope for an individual taste which may have amounted in the past to whimsicality. It is not easy to balance this as between loss and gain. On the one hand, it may mean a wider range of distribution of the mass-product. On the other hand, it may mean a lowered sense of individual appreciation of the mass-product. After all, human nature is proud of its separateness. It likes that which is not generally possessed. It emphasizes a theory of value in many things which is actually based upon distinction in possession. It is true that in the past century this has gradually come to be evidenced in the natural thing and not in the gift of nature upon which human labour has been expended. The pearl and the diamond attract appraisal which is not given to the umbrella or the motor-car, and oddly enough in respect of the thing which is largely the result of human labour more and more emphasis is laid upon fine distinctions. Thus it is true to say that in their attitude to the consumer the producers lose their identity. Be their work never so



artistic it is not looked upon as personally artistic work. The commonplace criticism of large-scale production to the effect that the worker is unknown to the employer does not seize the whole disadvantage, for the fact that the worker has no realized identity to the consumer is an even graver fact.

On the other hand, the worker has his sense of partaking in the product, and he has the further sense of realizing that his product is multiplied. It is true that scientific management, in its earlier forms, attempted to standardize his functions, his use of the shovel or of the trowel with which he laid the mortar. Probably, one of the reasons why the point of view was changed and the study directed primarily to the machine and secondarily to the man in association with the machine was that it came to be evident that with a standardized process no worker really was standard. A mean or an average is a poor thing with which to judge human achievements and the fallacy became evident. Studies of fatigue, of motions, of rest-periods came to recognize their own limitations and when they recognized their limitations they became of more value. In proper hands, as in the Industrial Fatigue Research Board, or the National Institute of Industrial Psychology, they approach the unit-worker, not as a unit-worker only, but as a human being. For example, industrial monotony came to be studied as a factor which might be a deadening influence on production or output, but that was because it was first recognized that it was conceivable that it might be a deadening thing on mankind. It was by no means proved to be a deadening influence. On the contrary, by probing more deeply, it was found that there are frequently intellectual or spiritual resources, even of what we may suppose are a modest kind (and they are difficult indeed to estimate, for there is vivid imagination where we are not always disposed to credit its existence). If mass production in its effect on the worker is studied with the central purpose of discovering what its ill results really are and

in what way those ill results can be remedied or balanced, those ill results will not be what the casual observer expects to find. For example, there is often confusion between minute work and monotonous work, yet the craftsman-watchmaker had by no means a monotonous task. Here is a quotation from an interesting article in the *Hibbert Journal* from the pen of a mass-producer—

“ Monotony and drabness are the prevailing features of the factory-worker's life. Day after day he is awakened by his alarm clock or, as I often was, by the thumping on the partition wall of a friendly next-door neighbour. He hurries out in the grey dawn in response to the factory hooter. Once inside, high-speed production compels him to keep all his attention fixed on his work, because if he allows his mind to wander for a moment he finds he cannot maintain the pace demanded. Interesting work may absorb attention, but repetition work cannot be interesting. It is only tolerable if one can think of something else. To concentrate on petty tasks means a high state of nervous tension all the time. A reaction is bound to come if the brain is not dulled. Lurid and sentimental films, melodrama, ragtime dancing, anything which has colour, romance, sensuousness, passion, or excitement is demanded. The emotional side of revolutionary propaganda is taken up by many whose lives are hard and bare. They construct a mental image of a beautiful society which eliminates all the evils of the struggling world they know. Out of insecurity and sordidness comes a burning idealism which compensates them for all they miss in actual life. This visionary commonwealth is more in the nature of the satisfaction of an emotional need than a rational well-thought-out plan for the future. All practical proposals to bridge the gulf between the system that is, and the system they desire, are distasteful, for these would destroy their dream and so cut off their way of escape.”

Granted the subtlety of reasoning in this paragraph there are a few points on the other side to be brought to mind. There is the fact that by means of organized production man has been saved much of the brutish heavy work, and it is certainly the case to-day that the average worker is not physically so worn out as he was, at a comparatively early age. Indeed, one of the problems arises

from the fact that men remain at work to so advanced an age as to make it seem that it is one of the factors in unemployment. Second, there is the fact that it cannot be said that with well-organized production the employers are indifferent to the worker or to his point of view. Third, there is the doubt whether all attention is focused on work as suggested by the writer, or whether, on the other hand, the evil is not that there is insufficient attention. It is not at all clear that monotonous work is as fatiguing as that work which passes to and fro between routine and deliberate. Yet even when we have made out this case, when we have recognized what we may call the inevitability of the process, there are factors which must be taken into account by the thoughtful administrator. He must begin by looking at these facts from the point of view of the whole career of the worker. What is to happen to the worker at 50? Is there something in the American slogan "Too old at forty" which applies especially to modern production? It is above all things necessary to be open-minded and to encourage further research and psychological study. For example, I know an industry where it was discovered, to everyone's surprise, that men and women of 50 could attain a certain type of rather minute digital skill for a particular machine. Previously it had been said that no one over 25 could or should learn that machine. It is true the training took longer in the case of these older men and women, but when it was worked out the increased time was only ten per cent and it was amply balanced by the greater experience of these workers when they came to their new tasks. It may be that we shall find other surprises, if only we do not take the easiest line for granted. I can imagine benefits arising from a method of change periodically from one highly specialized task to another. Even if there is a little apparent inefficiency at the time of the change, we may be fully recouped in two ways. We may get continued freshness in the performance of routine tasks in a way which, as yet, we have

not attained; on the other hand, by some such means we might afford to be more rigorous in carrying out our methods. It is a curious fact that even enthusiasts for mass-production make allowances for human inertia in a way which their logic does not include, and the instinct which produces this hesitation is indisputably sound. If they could envisage a change from one specialized task to another after a space of time—two years, I have found, to be a suitable period—they might not find their cold logic and their warm emotions at issue. Dr. Maciver in his great work *Community* brings us back to sanity on this subject. "It is just the mechanical necessities of life which can be taken over by the machine. It is routine, monotonous repetition, of which alone the machine is capable. In so far as the machine takes over these tasks, persons are liberated from them. Machines, as mere means, can take the place of persons as mere means, and allow the persons to become ends as well. It may be answered that the technical worker is tied down by the nature of the machine to an exceedingly monotonous service of it, and this is true in many cases. But the more monotonous and mechanical the task becomes, the greater the possibility that a further development of machinery will transfer that task itself to the machine. Further, the persons who perform the most mechanical services are those who would otherwise have been driven, in vastly greater numbers, relative to the size of the community, to perform the labour which the machine performs instead. . . . We can never escape the whole of this unloved burden of work which brings no joy to the worker, but if social wisdom and mechanical ingenuity increase together, we may well look forward to the progressive deliverance of an ever-greater majority." We need this healthy reminder lest we forget from what a possible thralldom machinery has delivered us.

Thus, the standardization of product, of partial product, of process, of human act in process, may be regarded as an

evidence of the evolution of industry. It is sometimes described as the last stage, but that is too venturesome. We do not know what products may yet be produced or demanded nor in what way they might become substitutes for products which to-day we regard as separate from classification. Further, there is reason to believe that in respect of the standardization of human acts we are a little less disposed to rigour than was formerly the case. Time and motion studies are getting deeper in their psychology, and they are revealing possibilities of a range of freedom within which the individual preference may be exercised without forfeiting the general advantage of a standard. It is well stated by Mr. C. G. Renold in his article in the *Encyclopædia Britannica*: "There can be no doubt that much of the resentment of labour has been aroused by the personal and mental attitude of the Scientific Management experts and the staffs they created in the works which they reorganized, rather than by the fundamental ideas of their system. . . . This cast of mind inevitably bred bitter antagonism in labour, and by the year 1921 there was already distinct evidence of a change on the part of the most advanced organizers, both in America and England. It was significant of this change that Taylor's scheme of functional foremanship had come to be regarded as mistaken even by many of his closest followers. . . . There was an increasing tendency, too, to concentrate study and standardization on the inanimate side of industry, on machines, tools and equipment, on materials and their treatment, on handling methods and appliances, on labour-saving devices, rather than on speeding up and regulating the motions of the worker. It may be that there is so much to do on the inanimate side of this research that we shall be satisfied to trust a little more to the worker's individuality."

But, though we say this it must not be thought that there is any suggestion that the process of standardization, as such, can ultimately be checked or thwarted. Those who tell us that it is time we cried "Halt!" had better also

tell us of what use it is to cry "Halt!" Those who take one of the thousand middle courses are undoubtedly well-intentioned and their case is that mechanical evolution may be too swift for the adaptation of the human species to the changes. Still, when they make adjustments of their organization to "provide interest in the work" they probably do more harm than good, for there is definite evidence that artificial interest put in as an administrative act never really exercises the judgment but only worries and frets. Nor is it wise to try and provide in the leisure hours for that which is lacking in mental demand in the work hours. It is true that it is probably in this direction that the remedy will be found, but it must be remembered that industrially we are passing out of an epoch which meant such a concentration on thought and on physical work as to leave little energy for leisure, and that the power to make the best leisure must be cultivated largely by the subject himself, and that the suspicion of the efforts of employers in this direction was a factor which had to be faced. In a day of a higher level of education it may well prove to be the case that contributions to culture and to knowledge will be made from quarters whence, to-day, we do not expect them and that life-workers in mental fields would be glad to do routine mechanical work rather than "brain-work" as we have come to call it. In sum, the administrator will do well, as we saw at the beginning, to regard himself as standing at a moment of time in respect of standardization. In a sense it is true that posterity will get the bulk of the benefit, but it is also true that there is benefit here and now, for it is an arrest of waste—waste of human thought and planning, of the gifts of nature, of the work of human limb. We must go on with it. And where we find from our experience that we can do this or that to ease the burden on mankind or, where we can, to seek new light upon aspects which had come to be generally regarded as exhausted of their content of human interest, we shall do well to be prepared to undertake the tasks.

Face to face with the immense possibilities of standardization as we see them to-day, indicating what is nothing less in the end than the whole world organized for the well-being of man, the administrator will do his work humbly and yet proudly, for he will see his part both in space and in time in the vast enterprise.

## CHAPTER X

### SALESMANSHIP

SALESMANSHIP is the presentation of the finished product to the consumer with a view to encourage him to buy. All this is much more complex than it seems to be on the surface. The finished product is not necessarily finished in respect of final consumption. It is finished from the point of view of the particular industry, and from the point of view of the immediate purchaser from that industry. Nor is the consumer quite so simple a conception as might be supposed. The question "Who is my neighbour?" has its analogy in "Who is the consumer?" In the case of the partially-finished product referred to above, the consumer, from the point of view of the industry, is the next industry which takes up the process, but the final consumer is the true consumer for which each industry in the chain is attempting to cater. Similarly, in respect of the intermediate purchasers of the finished article, using the word "finished" with its ordinary meaning, there must be some process of salesmanship. The largest of wholesale houses needs some persuasion to stock a new article with a view to distribution in the next stage. It is fair to say that in the field of industry at large, while it is the immediate consumer to whom the goods are presented who must be primarily considered, there is a tendency towards more and more intimate consideration of the final consumer. There is a swifter influence upon primary production than was formerly the case, though in respect of the development of mass production the influence may be comparatively disregarded and preference laid upon the common denominator of production on the grand scale. In fact, there has arisen a system of research, closely allied with salesmanship, which does not really sell or strive to sell, but which brings back information in respect of the public demand, which



is carefully considered as part of the administration of the industry. It is interesting to notice that just as salesmanship becomes more sensitive, and therefore more effectual, there is a stronger demand for closer costing. Stress was laid on this at the conference, this year, of the Institute of Cost and Works Accountants. One of the papers contained this paragraph: "The existence of price rings in this and other countries, having for their main object the maintenance of extortionate prices, had aroused in the public mind a very natural feeling of indignation and resentment, which, however, might extend to cases where there was no such justification, where the comparison and co-ordination of selling prices in no way constituted a menace to public interests, and where the only aim was to provide a fair living wage to the worker, a moderate profit to the manufacturer, and a reliable commodity to the consumer. It could not be too clearly understood that uneconomic prices were, in the long run, as bad for the public as monopoly prices. A manufacturer who consistently sold at cut prices must recoup himself by charging unnecessarily high prices for other goods, or else in the long run he must go under. The practice of eliminating the ruinous competition by control of selling prices by mutual agreement was becoming so common that the cost accountant was bound to consider his position and to adjust, if necessary to reorganize, his general arrangements in response to changed conditions." It is not quite certain if it is to be implied from this statement that for purposes of general salesmanship each produced article is to be costed on its own basis. Certainly it does imply that the sale of particular articles under cost or at cost to attract other sales is to be more narrowly limited the more exact is the system of costing. Nevertheless, there may be circumstances in which certain charges would be incurred whether or not certain articles are produced and on this ground it may be in accord with sound costing to adjust these charges in such a way as to use them for purposes of attracting

sales or of advertising. In the case of tenders there can be little doubt that scrupulous attention to the actual costing is of the utmost importance and that there is loss to everyone from a departure. Any attempt to meet the demand on the part of labour for precise costs must include in the answer a definite arrangement not to undercut prices merely to get an order. To do without "profit" on a particular occasion in order to keep works going or to continue employment is a different matter, for that may be included under the system of costing. Hence we can safely say that salesmanship in every sphere, from the tender for a large piece of work to the efforts of the American itinerant from house to house, will increasingly be based upon actual estimates of cost and that any step which is taken beyond this will be taken with the full knowledge of what it entails.

To divide this last process of industry as between salesmanship and advertising may seem to be a purely fictitious division, since advertising in one form or another must be a portion of salesmanship. Yet it is convenient to make the division and to consider separately the direct appeal to a purchaser—whether the final consumer or not—and the general or public appeal through one or other of the resources of civilization built up to that end. Direct salesmanship in this country is, as one may say, rather more within industry than it is in the United States. The commercial traveller in England passes from town to town and visits the retailer. It cannot be said that he has been trained for his task, but it can be said that by dint of his ready wits and of his adaptability he has come to be astonishingly efficient. That leaves untouched the question whether he would be more efficient with training. Certainly there are evidences of misgiving on the subject. A brilliant speaker at one of the recent industrial conferences described the process of sending out a traveller. He was given his pack of samples; a district was mapped out for him; perhaps he was allowed to make one round with

an experienced traveller, but that was merely to introduce him to the clients on the round. On the face of it the system does not seem to be quite scientific. On the other hand, we do not seem inclined to follow the example of the American industry which has employed University graduates having a special knowledge of psychology and has used them for the purpose of studying the weak points in various potential purchasers. But, between the two there does seem to be room for specialized study. We are reminded that one of the factors in bringing about trusts and combines was the cost of salesmanship and in one famous case the combination of all the direct sales in the hands of one set of "drummers" lowered the cost of the commodity by one-half. It was a striking instance of the cost of the independent commercial traveller. It cannot be said that, in England, there are many signs of a development in the other direction, though there are cases, having a little timidity of their own, in which a firm has agreed to its travellers carrying samples of a totally different product. In some cases this has been done by "winking," though the blind eye knows quite well that it gains by so doing, since the chances are that the basic remuneration of the traveller can be reduced. There is little evidence, however, of a real combination to this end. A proposal has been made that this direct representation should be formally separated and undertaken, not by direct employes, but by an agency, much as one gets newspaper cuttings or orders advertisement through an agency. It is not difficult to see why this has been viewed with initial disfavour, for it does seem at the outset to give great power to the agent in discriminating as between the goods which he is to recommend. On the other hand, it is just this power which always is given to an agent, and naturally he will discriminate, if there is to be discrimination, in favour of the article which it pays him to favour, so that the system is not altogether a remedy for the waste in the older system. It is safe to say that there are few

cases of direct representation which do not invite examination and careful costing. It is not enough to trust to commissions on sales. All sorts of considerations enter, and probably, in particular, the fact that the route has become exhausted, the visits too regular, and that too much emphasis has been laid on the characteristically English supposition that the buyers prefer to deal with the same representative. A change might mean a freshening-up, and I confess to a weakness for a certain American industry which took off all its travellers and sent round a special expert simply to talk to the clients and not to attempt to sell anything at all. He came back full of information, and, as a result, some of the products were entirely changed. It has to be said, I think, that if English industry listened to the "travellers" it would be all to the good. The "travellers" are not trained to be bi-functional, to go out and sell and also to go out and learn what it is that they should sell. But by happy instinct, in far more cases than is supposed, they have acquired the bi-functional capacities.

Direct sales to what we may call the public by expert itinerant salesman are not viewed with great favour in England, but the system is rapidly developing in the United States. It may be that the retail system in England, which is steadily tending in the direction of the multiple or the "chain" shops is a counter development. Still, the outstanding fact is that these house-to-house salesmen are trained with the greatest care. They are taught a certain amount of applied psychology which is described in their syllabus as "How to Approach the Subject" and various warnings are given to them as to the conditions of home life which render it unwise on particular occasions to press a sale. The results are said to be on such a scale as to take one's breath away. An instance was quoted by a popular American journal in which an industry was enabled to double its plant by means of a venture in this direction. The salesmen take samples only, as a rule, and they take orders which are filled from the factory. Instances

are given where there has been overselling and the following quotations from articles in the *Saturday Evening Post* are to the point—

“During the past twenty-five years business has been studied in the United States on a scale never known before. Our great universities have established business-research departments. There are national and local credit associations for the purpose of scientizing the giving of credit to the end that commercial failures shall be less frequent. There are two thousand trade associations and other thousands of chambers of commerce, luncheon clubs, city clubs, better-business bureaus—all engaged in the study of scientific business methods. With all these agencies at work it would be reasonable to suppose failures should decrease. But during the past twenty-five years the number of commercial failures has steadily increased. More failures occurred in 1924 than in 1899.

“Practically all the men of large affairs whom I interviewed spoke of the overselling mentioned by the New York banker, and alluded to it as one of the prominent causes of many present-day failures. One man who is connected with a number of manufacturing interests put it into the following words:—

“During the war and the boom period directly after, a great many manufacturers in my community were encouraged to enlarge their plants, in some cases to two and three times their former capacity. In many cases when normal times returned there was not enough business to keep the enlarged plants going profitably. Then was the time for such a manufacturer to face the fact that he had made a mistake. If, for instance, he happened to be a manufacturer of finger-nail polishers and had equipped his factory to turn out a million finger-nail polishers a day, whereas there was a legitimate demand for only half that number, the part of wisdom would have been to scrap his extra equipment, pocket his loss, and go back to producing half a million a day. But too often the tendency has been for him to try to cover up his mistake by hectic efforts to force the public to buy his million-a-day production whether or not there is a legitimate demand. He hires more salesmen; puts on intensive selling campaigns; urges his dealers to sell nail polishers on the instalment plan; organizes propaganda to convince the public that nail polishers and social success are synonymous. His selling costs more

than eat up his profits, but he keeps blindly on, hoping some-time to crowd out his competitors and thus have a market for his million-a-day. Eventually he will get to the end of his rope, for an artificially stimulated market has its limits, even in the United States.' ”

In a similar vein we find that devices are in use by retailers which we should not regard favourably in England, such as the use of the telephone on a grand scale to call up subscribers in order to draw their attention to special sales on particular days. It is very difficult to estimate the results of such methods, for it may be that the special sale of a particular article at what may be a psychological moment for the consumer does bring a permanent client. Also, it must be remembered that department-stores are providing a new link with their clients, a link which may best be described as social, and, consequently, in order that that link may operate and continue to operate, somewhat unusual efforts are justified at the outset. Yet there is considerable anxiety at the development of credit sales by means of itinerant salesmen.

The *Hardware Retailer* in protesting against this development says: “ This expensive, wasteful system of mortgaging the prospective earnings of the consumer is developing into a race between various industries to see which can get the biggest share of his future purchasing power. The practice not only tends to double the cost of retail selling, but strikes at the very moral fibre of the nation by discounting the need of restraint, or self-denial. It does violence to all the teachings of thrift, and it is our belief that only the thrifty nation is the happy progressive one.” Nevertheless, it does seem as if the idea of credit were gradually extending, as if the expansion of sales would include it as one of its features. When the purchasers become more accustomed to it and more alive to its dangers there is little doubt that the unhappy features which have become so obvious will be less marked. After all, there is no reason why the principle of “ credit,”

carefully safeguarded, which lies behind operations on the grander scale should not equally facilitate the interchange of commodities at other levels.

Salesmanship is not the mere cajoling of a purchaser, but the building up of a vast structure of salesmanship. It is the task of the immediate future. It demands a technical knowledge which will not only be able to explain the product but will be able to demonstrate its adaptability to circumstances somewhat different from those primarily in view. It will demand a far greater linguistic skill, than, as yet, has characterized Englishmen, for, though it is true that the use of English is extending and is preferred by Japan and China even to French for international purposes, yet the true salesman must go more than half-way to meet his clients.

If our American brethren encourage the study of the "subject" from various points of view, how much more should he be studied when he is of another race! The salesman of the future will need to understand national habits, to see, without prejudice, various national characteristics, to understand preferences in respect of life and all that surrounds life, to have a thorough knowledge of the industrial processes of the other country, what it can and what it cannot or what it does not produce. There is a wealth of matter for this study. There are Consular reports; there are reports of the Department of Overseas Trade; there is that new science, Economic Geography, which is knocking at the door of industrial administration. The old idea of a salesman spending a couple of years at this exacting task as a sort of interlude in his industrial or commercial career is rapidly coming to be ludicrous. It is a task for a real expert.

Advertising is the method of popular appeal. Of recent years it has developed enormously and we need hardly be surprised at the fact that it has come in for considerable criticism. It is alleged that it ruins the countryside, that the amenities of the town are spoiled. On the other hand,

while admitting the strength of the case against it on aesthetic grounds, the fact that it has disseminated works of art is in its favour. Dr. Lyttleton attacked it on economic grounds (*Hibbert Journal*, April, 1925), and it is to be admitted that much of it seems to be wasteful. When the total cost is summed at £175,000,000 it seems to be an appalling sum. There is here again something to be said on the other hand. Advertising has helped to bring to men's mind the fact that certain articles do add to their comfort or their health. It may have done it in a way which seems to be wasteful, but the fact remains that it has rendered vast sales possible, and to a very considerable extent has rendered vast production possible. It is not the cause of mass production, as has been said, but it is the announcer of mass production and has brought the mass product home. Nevertheless, there are instances of advertising which need to be looked at rather cautiously before indulging in wholesale condemnation. The American Telegraph and Telephone Company used it extensively as a means of defence against criticism when its service was impaired during the War and the same course was adopted by the Southern Railway on a recent occasion. Further, there is a tendency now to a type of advertising which draws the attention of the public to the product itself and not to a particular type of the product made by a separate company. Electric power for domestic lighting in the United States; telephones in England; radio apparatus in England, have all been advertised by a joint movement of manufacturers. Even if we grant that there is much waste in competitive advertising, for example, in the devastating conflict as between shaving soaps, the fact remains that there is growing up a generic type of advertising which is on a totally different level. Even as regards the proprietary articles, such as shaving soaps, it may be the case that advertising is a stimulus towards keeping up and even advancing the quality. If it is repugnant to one's dignity to shout one's virtues, it would be far



more repugnant if one did not strive to possess the virtues. There may be a fallacy in the suggestion that professional men do not advertise their services. That fallacy may lie in the fact that when we want a medical man or a barrister we realize the fact. There is no necessity for an advancing demand as in the case of industry. On the contrary, the doctor and the barrister strive to end the need, by curing the malady or by obtaining a verdict. The suggestion that industry is rather vulgarized by advertising, overlooks the vital distinction that industry can only live by an advancing demand. Certainly, we can repudiate the charge made in Mr. Penty and Mr. Wright's book on *Agriculture and the Unemployed*, where it is said that: "All this wastage has to be paid for. It is added to the cost of the articles we have to buy. The attempts of the advertising world to explain this away are ridiculous, and deceive nobody but themselves. Advertising people have become so accustomed to telling lies that one lie, more or less, does not matter to them. They have lost altogether any idea of what truth really is." To this it can be said that in so far as advertising has increased the demand it has probably reduced the cost by more than the cost of advertising and that the strong language about truth in advertising is best met by reminding the authors of the success of advertising. It has not grown to its present prodigious extent on an utterly false foundation.

Finally, on the question of dignity, Sir Henry Hadow, at the Conference of Universities of Great Britain and Ireland, made a defence of advertising which went straight to the point. Our educational methods, he said, were not sufficiently known, appreciated, or understood. If anybody said "Well, that is advertisement, and we are too proud to advertise," it was a stately and dignified resolve which was about fifty years out of date. Any institution that had something of value for the world was doing wrong in withholding knowledge of it from the world.

"The chief function of advertising," says the article

"Advertising" in the *Encyclopaedia Britannica* "is the saving of time. Information, whether as to merchandise or controversial or public issues, can be placed before great numbers of the population almost over-night. Public education on any subject can be effected in days or weeks, where years were required by old-fashioned methods of canvassing. For this reason it has been possible to build up entire new industries on advertised products within a short period." The best test of this is to conceive of an article which we all find helpful in life and imagine ourselves trusting to the slow process of individual recommendation. The slow return which would accrue to the invested capital would damp the ardour of the boldest. It is perfectly true that it has obtained a power in our complex world which is far beyond the mere notification which is its function. It has become an end, and not a means, and it has developed into a separate industry, which, in turn, makes its own demand. But to say this does not concede the point that advertising can be stopped, without stopping much more than advertising. The very books which denounce advertising in the most strenuous language themselves are advertised, and were it not so it would be to little purpose to write the books. But there is far too much follow the leader in modern advertising; far too much of the attempt to out-sensation a sensation. It is a problem which has yet to be faced by industry, for it has followed methods of publicity which have not been thought out for its particular purpose. The expansions, both extensive and intensive, which are needed for the progress of industry; for that progress of mankind which will follow a sane use of the gifts which research and invention may bring, need some method of apprising the public which may not necessarily be lights in Piccadilly or balloons on Epsom Downs. Nevertheless, a frank publicity and an honest salesmanship are required, and it may be that we shall be able to meet this need by means of which at the moment we only see glimmerings.

It is not necessarily the case that mass production with wide publicity forces consumption into particular channels. It does seem, on the face of it, to be true that as Mr. Delisle Burns says: "The moral defect of the industrial era is that there was no taste or choice to express. Consumers were not fulfilling their function in society. They had nothing to offer in directing production, for they had lost the capacity for enjoyment in the art of life. This is what William Morris meant by saying that what was bad was not that we had not gone far enough, but that we had gone in the wrong direction. Civilization had lost that very ability which alone distinguishes it from barbarism. As Lowes Dickinson, in his *Letters of a Chinaman* has put it: 'Machinery of every kind you can make and use to perfection, but you cannot build a house or write a poem. Still less can you worship or aspire.'" It is open to discussion if this is fair of society as a whole. It is probably true that to certain separate classes, those which may be distinguished as having cultivated tastes and the opportunity of gratifying those tastes, the tendency towards advertisement and mass production is an offence. But if we consider the millions who are gradually creeping up in the matter of taste, who are learning that there is a healthy and an unhealthy music by their listening to wireless broadcasting; who find the mass production of pictures bringing worthier pictures for their walls; whose clothing is notably better than it was—if we measure this by the large multiplier which is involved, we shall find that there is reason to hesitate before subscribing to the opinion that "the art of the consumer is dead." The fact is that the consumer has reacted on the producer, not in the sense that he has been able to exercise the fine choice of the aesthete, but in the sense that mass production itself has had to consider consumers' taste and again and again it has blundered. It may be, too, that it is not altogether of social value that there should be over-expression of individual taste. If it is analysed it has in it an element

of revolt against the social organism, a desire to be separate, and because of separateness, to be superior. The progress of mankind may depend upon its martyrs, but assuredly it does not of necessity depend upon those who in the march forward contend that all the rest are out of step. The administration of industry needs the warning which comes from the critics, but in listening to the warning and in safeguarding its process it will not need to overthrow organized industry altogether, which is what would happen if the individual consumer is to let what he imagines to be his taste and choice to run riot. The administrator will remember, too, that these criticisms come at a stage when the adaptation of industry to mass production on the grander scale and the use of advertisement in connection with that adaptation have not yet found their proper place. It is a transition stage and possibly rather a slow transition stage. It may be discovered that mass production can include conceptions of expert taste in a way which will be more directly educational to the consumer. The consumer may realize a thing of beauty in the product itself, just as he has come to realize a thing of beauty in the advertisement of the product. We have many prejudices to shed, and among them the prejudice that the machine-made thing is necessarily ugly and based upon a design which sets out either to save material or to save productive labour, and sacrifices everything to that end. A bolder and wiser sense of economy may lead us in this as in many other ways—Mr. Ford's method of remuneration, for example—to understand that the true economy is the economy of balance on the result, the amount of pleasure or satisfaction which is given for a certain expenditure. Viewed from this angle there are infinite possibilities for mass production, and advertisement becomes merely the herald of those possibilities.

## CHAPTER XI

### THE PURPOSE OF INDUSTRY

It is useful to go back to the dictionary to find our foundations. We use the word "Industry" with a highly-specialized meaning, and often with a kind of sense of distinction from other occupations, such as agriculture. "Habitual diligence in any employment or pursuit, either bodily or mental" is a healthy basic definition which the dictionary gives us, and "Human exertion of any kind employed for the creation of value" is a closer reference to the use of the word "Industry" which is usually in our minds. The wide inclusiveness of both definitions is the outstanding characteristic and we may find a common definition for both aspects if we say that industry includes the sense of human diligence in the creation of value. Hence we find that the first purpose of industry is to use human effort to a direct end and that its direct end is the service of mankind, since that is the paramount value which is created by human effort. So this two-fold aspect of the meaning brings into the foreground the twin facts that industry is creating things for man and also that man is being improved by the things which are being created. There is a third aspect which underlies both of these two aspects and that is that man, in the process of creating value, is also being disciplined and improved. It is true that this third aspect is just as much overlooked in the process of industry as in the purport of the definition. So if we are to make our conception of the purpose of industry really worthy of mankind, as the agent of industry, we shall need to put this disciplinary aspect of the process of industry in the foreground. It is obvious that we are dealing with human work in its corporate aspect. A man may be diligent as an individual, but it is significant that to be truly industrious he needs some co-operation with

others. The simplest task is not an isolated task. Someone toiled to invent the pen with which I am writing, or the spade with which I shall dig my garden. He is not visibly present, but his work is by my side as I write or as I dig. So it may be said that there is some organization even when we seem to be working in isolation. We cannot work entirely by ourselves; certainly, we cannot work entirely for ourselves. Conscious altruism possibly may not enter at this point. All that need be said is that it is inconceivable, even in what may appear to be the simplest tasks, that from first to last the man himself could possibly limit the effect or the influence of his operations, in respect of material, or tools, or product, to himself.

Thus, organization is a matter of degree, the more or the less. We talk of the industrial revolution as if it meant that up to a certain moment of time there were a certain number of isolated individuals on this earth, and then steam was invented and a chaotic assembly of individuals suddenly became an organization with specialized tasks for each human unit. Dr. Maciver has compared the worker in the Greek galley with a modern engine-driver. The slave at the oar could not love his galley, but the engine-driver may have some feelings of direct respect, even of affection, for the giant which obeys the turn of his wrist. So we may say that the process of life is the process of organization. It may use new powers as history proceeds, now the winds, now the waters, now steam, now electricity. But that does not alter the foundation fact, which is that the human race finds some natural force which is able to do some of the work of mankind and that it tries to use this force to the best purpose. It happens that such is the tendency for the human mind to focus itself upon certain powers of nature which happen to be most in evidence that the utility of other powers is apt to be undervalued. We forgot canals when railways came; we forgot steam when electricity came. We do not seem to realize that there may be a function for a windmill even with a

widespread supply of electric power. The true use of the forces of nature may be warped by a false sense of progress even as it has been warped by a false and static conservatism. 'Organization, as such, is not an emphasis upon progress to the neglect of the past. On the contrary it is an attempt to use all forces to the best purpose.' Even apart from the forces which are used there is an unfortunate conception of the idea of organization which always seems to be in search of something new, in science, in psychology, in method. It is this restlessness, so to speak, of modern tendencies in organization which gives rise to a prejudice. The human mind needs its sabbatic rest from change. It needs, moreover, its opportunity to be soaked in its atmosphere ; it needs the habitude by which functions become automatic, and, therefore, natural.

In the process of organization which a functionalized industry needs we have built up a vast machine for the purpose of co-ordinating the work of human beings. That machine has been built up by sacrifice. It is manifestly capable of production on a scale of which, as yet, we have not dreamed. The process of the development of industry specializes its parts and they pass from crude competition into a recognition of particularized progress. Thus we live on the machine which has been handed down to us, but more than that in the process of living on the machine we add to its capacity. We invent and adapt ; we simplify and we reorganize, and the machine which we shall pass on to the next generation is the more efficient and the more capable of further efficiency. That means that it is the more capable of production and it is only of value to the human race if advantage is taken of that greater production on the one hand, and, on the other hand, if the greater production is worthy of that greater advantage being taken. We may take it that in the process of time the less worthy production will be eliminated. With all the faults of civilization it does find a type of cheapness "not worth having at any price" ; it does find that there is a lack of

economy in the rubbish which wears out in a short space of time just as there is in the too durable article which cannot be superseded. So, in this rather wide middle territory there will be, and there must be, a growth of demand. It will be an extensive and an intensive growth. New consumers will arise and present consumers will widen their demand and industry must be ready to meet this double growth. But it is by no means independent of man's expansion. It is not merely a multiplication of material things. It is a multiplication of material things as evidence of expansion of life. It is very easy to pass a summary criticism on these evidences of expansion of life and to show that they are evidences, not of expansion so much as of increased elaborateness of life, which is a different thing. If we consider what the world would be with a stern simplicity of life, with the fewest possible needs, we shall realize to what an extent we depend upon expansion in respect of material goods to provide the basis for true expansion. We may examine every industrial product from this angle and find that it gives some hope for the future. The steel girders for a railway bridge may indicate a possibility of greater mobility which is only appreciated when we remember that a hundred years ago men and women were doomed to continue their existence for the most part in one locality. The safety razor and the carpet sweeper, the bicycle and the motor-car, the alarm clock and the gramophone, all may be said to have a bearing on expansion of life. The cynic may say that life was more pleasant without these aids, but his use of the word "pleasant" needs examination. We are beginning to question the assumption that industry has degraded human beings. For example, Professor Bowden's description of society towards the end of the eighteenth century includes this salutary warning: "Historical veracity demands the blotting out of the idyllic pictures that have been painted of working-class conditions in agriculture and the older industries preceding the great economic change ;



it necessitates a modification of the judgment that the status of the workers in the new industrial centres was inherently, inevitably inferior." Life in that day may have been more pleasant for those who could divide their lives and pass the unpleasantness to others, or who could provide the ends of these means, so to speak, the music, the mobility, the leisure, for themselves. But we are dealing with mankind in the mass, with the greater division among that mankind of the leisure, of the delights which fill that leisure, of the reliefs which render that leisure beneficial. We are considering some sense of the "pleasantness" of life which passes beyond a particular social level. It is an irony that a class conflict has been pressed in the very years that the expansion in the use of the gifts of industry has most notably passed beyond the bounds of class distinction.

It may be said that this does not seem to have a bearing on the administration of industry. The reply is that industry cannot be administered without some vision of its ultimate purpose. Nor is it discouraged by the fact that its ultimate purpose does not always seem to be in process of being fulfilled. A striking article in the *Atlantic Monthly* deals with the problem which enters at this point—

"A civilization that creates a leisure which it cannot rationally use may well be in greater danger of destruction than one that has no leisure at all. A civilization that bores its beneficiaries is perhaps even worse than one that overworks its slaves. A world fit for democracy is a far easier aim than a world fitted for leisure. Democracy can stand the test of war. Whether it can stand the test of uninspired leisure and survive is quite another matter. At least we should begin to recognize the problem and the necessity for its solution. Why do we not see that what is returning to us is slavery in a new form? The vital defect of slavery was not only what it did to the slaves but also what it did to their masters. History tells us of the softening and disintegrating influence upon civilizations having their work done, not by applied energy of their freemen, but by slaves who obeyed the masters'

bidding, leaving the masters to vice and the luxuries of a degenerating idleness. The slaves suffered, to be sure; but they destroyed their masters; for the civilization of their masters perished as a tree that rots from within. The danger of the new slavery is almost wholly to the masters, and in 'masters' we include classes that in no previous era considered themselves masters in any sense; some of them are, in fact, inclined to call themselves to-day wage slaves. Even the most ideal redistribution of wealth and of leisure under social justice will not and cannot change the essential quality of this danger in any particular. The iron men who work for us, the slaves mustered in increasing numbers to do our work, are no longer flesh and blood. In the old South not much over 10 per cent of the population were slave-owners. We are all slave-owners to-day, and the slave-traders of our time are not akin to the pitiless people who once filled our South with black bondage. They are industrial engineers, electrical experts, chemists, and men of wisdom in the sciences.

"Our slavery comes not from the darkness but from the light, and the new slavery is called 'progress.' The old escape, moreover, is not open to us. These slaves we will never set free. For better or for worse they will serve us as long as our civilization lasts. We have no intention of returning to the life of toil from which they have released us. The genius of the magic lamp will for ever work for the hands that hold it. There is no way out but by meeting the remorseless test of the lamp, by proving that we can live in a slave world without succumbing to those insidiously enervating influences which have destroyed all the slave-made states of the past. The great problem before us to-day is to create a civilization that does not degenerate under leisure. This can be done only by setting in operation forces making for a culture that recognizes, as no civilization since the fall of Rome has been required to do, that leisure is and must be a means and not an end; that its true value is measured by what we do with it—by whether it lifts us or lowers us in the great world of intangibles, the world not of material but of spiritual values."

This criticism makes too clear a distinction as between interest in work and interest in leisure. There is something to be regretted, from the point of view of the administrator, in so regarding work that the development of the worker is to be relegated to his leisure. Recreation

may be over-emphasized as the relief from the tedium of work. Rather it is to be regarded as the opportunity for cultivating balance, so that perfect recreation would train mind where mind is not sufficiently exercised in work, or it would train body where body is not sufficiently exercised. The tendency to encourage physical exercises is perfectly consistent with the tendency to rob industrial work of its heavier labour, for it transfers labour to the individual will and that makes all the difference. There has been too great a tendency on the part of the administration of labour to disregard the importance of leisure in respect of balance, though the welfare movement, to which a reference will be made later, has done much to check the tendency. The main point at the moment is that in the administration of industry it is a direct duty so to consider the worker as to give him as much opportunity as possible for development. One fact was brought to attention at a recent conference in London and was generally confirmed. It was that suggestions from the workers are not generally acceptable and that industry was conducted on the assumption that the worker had nothing to suggest. This is indicative of an attitude which has cost the administration of industry very dear, for it has driven into the ranks of leaders of labour, with an unnecessarily hostile attitude to the administration, those workers who have felt that they were thinkers and could make some constructive suggestion. It is not possible to lay down particular rules. We are dealing with a subtle matter of "attitude." If the purpose of industry, as we suggest, is the cultivation of mankind, we cannot allow that cultivation to be at the price of the degradation of the worker. So the administrator will look at his own industry and see in what way an attitude of thoughtfulness for mental and spiritual development might succeed in giving room for growth. This is not the spoon-feeding of a certain type of benevolent employer. It looks to the worker himself to "come to his own aid," but it has a kindly interest in that effort

and it seeks the removal of any obstacle which may unduly stand in the way. It will always be ready to see those qualities which make for leadership, and will remember, in striving to use them, that it is putting the human capacities to the best avail in the interest of everyone concerned with the industry. It is true that there has been "an increasing mechanization of industrial processes, which, destroying the craftsman's interest in the actual doing of his work and subjecting him to monotonous attendance on a machine, sours his temper and transfers his dislike of the machine to its owner and his representatives." Thus the *New Statesman* offers us an explanation of disputes about apparent trifles. But it is an argument which cuts two ways. The souring of temper is not an ultimate fact which is to be accepted as part of the inevitabilities. It is an obstacle which has to be overcome and the function of the administrator is to check any tendency in himself to this "souring" and to strive to help others to check it in themselves. The question is, therefore, in what way the personal conduct of an industry may be so undertaken as to be firm, clear of vision, and yet exquisitely sensitive to the evils which seem to follow from the "mechanization." It may be that we have not changed our psychological outlook towards the change which "mechanization" has brought about and that we are acting towards the worker as if he were still a craftsman with a task which absorbed his interest and filled his life. It is significant that the protest against "not filling his life" should come from quarters where one would expect to find some appreciation of the fact that daily work left a margin for other motives to operate. Mr. H. E. Tanner, at one of the industrial conferences, with a wide experience of management, thus summed up a thoughtful manager's attitude: "One very difficult problem is that of reducing monotonous occupations to a minimum. All repetition processes continued year in, year out, would seem to be harmful. I am told that I am wrong<sup>T</sup> in thinking certain occupations monotonous, and

soul-destroying, and that the thoughts of the workers are miles and miles away from what they are doing, and that the girl whom one thought particularly bored with her work was probably thinking of her partner at the dance the night before! I hope she was! Nevertheless, I cannot believe that it conduces to the highest development of human personality for a man or woman to be constantly engaged in some trivial process during the whole of his or her working life." Yet it is the case that we have to face this problem. We cannot remove the "trivial processes," nor can we check the tendency towards "trivial processes." So I think our outlook will be not so much that of "reducing monotonous occupations to a minimum" as of striving to make them as little irksome, as little worrying, as we can.

It seems strange to say that we know exceedingly little of human nature, and the management of industry is, too often, a demonstration of that ignorance. Science has revealed all sorts of mysteries to us, or more accurately it has revealed to us all sorts of mysteries in part. There is a new psychology which has made wonderful discoveries in the realm of the human mind. It has shown to us the working of the sub-conscious mind; it has been able, by means of psycho-analysis, to show the links of cause and effect in mental operations, many of which were unknown to us; it has almost succeeded in putting into positive form the basis of primary instincts, the self-regarding instinct, the sex instinct, the herd instinct, which really give the initial stimuli to our actions. But so many other factors enter, subtleties of imitation and suggestion, strangely deep hereditary instincts and emotions, that there are wide differences of opinion among psychologists as to the range of operation of these primary instincts. It is curious, too, that it is only of very recent years that we are beginning to realize that economic motives are much less potent than we had imagined. "Economic motives," says Professor Osburn, "are commonly disguised through

the operation of such unconscious mechanisms as displacement, symbolism, projection, compensation, and rationalization." We may translate that into less technical language by saying that if only we were able to make a thorough investigation of human motive we should find that the economic motive was not nearly so paramount as we have imagined. It is not true, for example, that labour unrest is invariably dissatisfaction with wages and material conditions. Mr. Louis Brandeis in the American Federal Commission on Industrial Relations has a striking passage on this point. "Unrest, in my mind, never can be removed, and, fortunately, never can be removed, by mere improvement of the physical and material condition of the working man. If it were we should run great risk of improving their material condition and reducing their manhood." We have so materialized the relationships in industry that we suppose that there is nothing but a cash nexus, and we have forced the workers in industry to articulate their aspirations in terms of cash. It is true that we have paid our price for this elementary blunder. In truth we have not allowed for human nature. Every novel we read pays tribute to the amazing complexity, to the play of subtle motive upon motive, to the strange confusions between emotions, to men and women who hopelessly misunderstand each other and themselves, to pride which masks itself as humility, to passions which no reasoning can control or direct, to strange distortions of self for the purpose of "playing to a gallery." Though in the reading of novels to-day our chief delight is to gain some insight into the complexity of human nature, yet in our dealings with men and women in the mass we jump to the conclusion that they are to be handled and led with crude simplicity.

We are accustomed to take it for granted that human nature is unchanging. We lay stress upon the fact that again and again primeval instincts break out, just as there were evidences during the War of early combative instincts seizing the hearts of men and women, and of their calm

judgment being warped by such instincts. But there is ample evidence not only that human nature has changed, but that it is rapidly changing, and that in the past few years it has changed unmistakably and almost fundamentally. The most striking comparison is that between industrial life twenty years ago and industrial life to-day. The pessimist will not have it so, but the truth is that there has been an incredible improvement in the character of the workers in industry. The miasma of immorality which spread over factory life has been changed. There is a healthier and a sweeter life, more regard for fellowship and communal life, a sounder appreciation of leisure and amusement. Some will say that in the past twenty years there has been a development of discontent, that those were happy days in the Victorian epoch (if there were such days) when the worker toiled with sullen quietude, and there was what is usually miscalled discipline. To that I reply that there is a difference between discontent and the articulation of discontent; that it is healthier that men and women should be able to say what they feel, and not be driven to be what President Wilson called "the dumb peoples," but with all the articulation of discontent there is more cheerfulness of character and that, though it seems to be a paradox, the very articulation of discontent is a sign of social betterment. Now this does not mean that things are easier for those who would lead industry. As time goes on and the complexity of what I will call group human nature develops, it is harder and harder to guide and to control. Our officers in France had a far subtler and more exquisitely fine task of leadership than he who led the Amalekites against the children of Israel. The government of domestic service to-day meets more psychological difficulties than the government of a Crown Colony in our grandmother's day. Nevertheless, it has its greater potentialities of recompense. The Greek idea that humanity is divided into two classes, one to serve the other, suffered from the grave disadvantage that it ran counter to human

nature, which rather calls for the theory that in some sense we all serve each other, and that in the development of this mutuality of service we react upon human nature itself, and that those who are the leaders, the aristocrats, the redeemers, each come "as one that serveth."

There is another aspect to this conception of human nature as constantly changing. We read of a murder, and we say that, after all, human nature is just as it always was. We forget that in our days of extreme and almost excessive publicity the singular and isolated crime is dragged into the light of day. Just as Sir Henry Maine says in his *Ancient Law*: "It is the confidence reposed and deserved by the many which affords facilities for the bad faith of the few, so that if colossal examples of dishonesty occur, there is no surer conclusion than that scrupulous honesty is displayed in the average of the transactions which, in the particular case, have supplied the delinquent with his opportunity." Just so the world was horrified by the actions of the Germans, because it had come to expect very different action. Just so the murders which horrify us do so in the degree of their unexpectedness. "To review the history of the past two hundred years," says Mr. Vowles in his book, *Under New Management*, "is sufficient to indicate that we have entered on new phases of association which are destined to modify the soul, mind, instincts, and habits of man so profoundly as to render futile any attempts at comparison with previous epochs. Man is being at once delocalized in body and mind, and at the same time linked up to his fellows throughout the world, by means of endless inventions and new contrivances. These things must be having an incalculable effect on human mentality, and consequently on the future course of human action." In fact, it is probably the case that trade unionism is rather an effect than a cause. It is rather a result of a psychological development whereby the individual finds himself of less and less account. He becomes merged in his species. The general character of human



nature changes to meet the new conditions. We sigh for the days of the great man, for the Gladstone and the Napoleon of the past, while we forget that in the group-mind, as we have it to-day, each of us is a more really component part, bearing his own influence, than the individual of past ages.

That is why the human element in industry is of more and more importance. It has been well said that there is no lack of men with technical skill to lead industries, but that there is an amazing lack of men with what Professor James calls "the profound depth of personality" who are capable of leading their fellows. The essential difficulties are evident if you compare the management of, say, omnibus drivers with the management of a factory where all the workers are assembled together, where they have a group-mind resulting from their organization and their association together, where their emotions and volitions act and react upon each other, where imitation and suggestion have full play. How can a manager, be he ever so able and insightful, influence the minds of employes whom he never sees? He can issue instructions, but at once we know that mere intellectual domination by the transference of articulated ideas is of little avail. Very little of our lives is governed by reason. "A man convinced against his will is of the same opinion still." How are we to get at will, or at the emotions and instinctive inclinations, or at the prejudices and dislikes and strange deep antipathies? There was a curious example in the coal strike. It was discovered that the districts went back to work in the inverse ratio of the number of accidents which had occurred in recent years. Yet the men had no clear knowledge of those accidents. The events lay in their sub-conscious minds; they had spread through the psychology of the men a sort of inertia to return to work. Careful analysis will often find similar secret and unrecognized causes. The truth is that there is a primary condition and the nearest word for it is harmony. Here it is described in technical

language: "In regard to every individual member of a group or compact majority, we can speak of the will of such members as general, meaning by that not that they all aim at a universal object, nor that there is a general will, as distinct from a number of wills, but merely that there is sufficient community of ideas and ideals to influence the specific acts of will of the individuals concerned, to induce them to take common action, or to arrive at joint decision." I have given this definition from Professor Ginsberg, but I must add to it a summary view in Professor Macdougall's words: "The capacity for collective life of an organized group, whose organization is imposed upon it and wholly maintained by an external authority, is but little superior to that of a simple crowd. Such a group will differ from the simple crowd chiefly in exhibiting greater control of its impulses and a greater continuity of direction of its activities, but these qualities are due to the external compelling power and are not truly the expression of its collective mental life." No one can say to-day that the characteristic of the control of industry is the "external compelling power" so that what has happened is that a collective mental life has grown up, largely independent of the external compelling power, and that in a consideration of discipline and freedom in industry this is the striking fact with which we have to reckon. We have spent many centuries trying to mould human nature by the external compelling power; now we must face the problem of permitting it to develop and of guiding the development and of leaving external compulsion as a weapon in reserve, less and less to be used, if we guide the intelligent development rightly.

Now collective mental life is compounded of various elements. There are emotions, pride, loyalty, love of production on the one hand and love of ease on the other; there are intellectual affinities and tendencies; there are instincts of self-love, sex-love, mutual kinships and groupings; there are suggestions and suggestibilities. Let no

one think that he is likely to be able to control an industry by psychological means. He may have strong psychic gifts and the power of hetero-suggestion, but he will do wisely to keep such gifts and powers within check. They are no more to be used than the bullying of the last century. They are as futile in the end as the whip of the Egyptian slave-driver and just as readily they produce reactions. But the psychological qualities will be used precisely in the opposite direction. That is to say there is a psychic sensitiveness to discords which the leader of an industry will do well to cultivate. If it is a fact, as Karl Marx said, that one hundred men in a well-organized industry have a surplus product over one hundred men working separately, then it is certainly true that one hundred men working with some psychic harmony have a vastly surplus productive value over one hundred men working dissonantly. It may be that the cause of the disharmony can be discovered; it may be, too, that the responsible cause of the disharmony is on the employer's side. But half the battle is won by the early discovery of the disharmony. For that means that the complexity of the human nature is recognized. Human nature cannot do without safety valves. Whatever psychology may or may not have taught us we have learned the evils of repression. There are grievances day by day, and it is all for good that they should be articulated. The head of an industry who complains that his time is wasted in listening to frittering grievances has not learned the sense of proportion. There is no small grievance which by repression cannot be forced into being a mighty grievance. There is no grievance, large or small, which should not be met by frank discussion, without prejudice, and with a recognition of all the factors in the case, the deep instincts, the historic repressions, the fractiousness of nerves, the incompatibilities of tempers. There is no peaceful paradise for any industry which is active and alert, but there are possibilities of mutual accord which we have fallen far short of reaching. Only what

has to be remembered is that with the complexity of human nature as it is to-day in a highly organized community we must not expect the placid inarticulate toil of the Greek galleys. Indeed, it is almost the truth to say that mutuality and frankness need a certain amount of friction if they are to grip. The sensitive manager will not act as an infallible superman. He will always be anxious and eager to learn, and whenever he articulates a refusal it must be definite and reasoned, with such a recognition of the other factors of emotion and of instinct involved as may do something, if not to carry conviction, at least to carry the sense of justice. This fact of disharmony may be illustrated by a consideration of the method of praise as compared with the method of blame. Our readiness to find fault and to pass censure is based on outworn conceptions of penalty and punishment. Such praise will be carefully discriminating. It will be transparently sincere. It will appeal to psychological harmony in a way very different from the method of blame, with constant irritating fault-finding, the influence of which is almost always centrifugal. If we are to cultivate some sense of the harmonics of human relationship it must be by basing those harmonics upon what we may call a dominant note.

This highly developed and complex human nature is not uniform in its action. Indeed, it is just as well to remember that our sense organisms are not uniform. Dr. Bosanquet quotes a very remarkable instance of the aberrations of some trained observers some years ago in describing a lady's dress at a function in London. *The Times* said that it was gold brocade; the *Daily News* that it was a "sumptuous white silk dress"; the *Standard* said that "the Empress wore something which we trust that it is not vulgar to call light mauve"; the *Daily Chronicle* said: "To us it seemed almost a sea-green, and yet there was now a cream and now an ivory sheen to it." Now those were trained observers, employed day by day in such judgments. If you employed them all, which of them would you punish

for inaccuracy? Now all industrial functions call for some judgment, and if judgment can go so wrong in an elementary matter like colour, how shall it be right in the judgment of subtleties of character, for example, or in the judgment of the dependability of others? It is true, of course, that methods of training have been improved, that under the influence of American theories for the most part we have improved digital skill and reduced unnecessary movement and the like, but even so the strange aberrations of the mental forces have to be considered and there is many a problem which is yet unsolved. This opens up the way for a consideration of the attitude which it is wisest to adopt towards the individual malcontent. In the earlier days of the industrial revolution attempts were made to single out the individual malcontent for repressive treatment. He was "victimized," as the saying is, on the ground that the spirit of the malcontent was dangerously infective, and so it happened that by making him a martyr, much was done to strengthen his position, and instances are far from rare where he became a leader of his fellows. In fact much of the strength of the rapid development of trade unionism as a force hostile to the employers was due to the martyrdom, so to speak, of the occasional malcontent, or the man who was imagined to be a malcontent. In these matters, if we act sanely, we shall find that there is an essential doctrine of the democratic majority being right and well-balanced, but that depends upon frankness, and openness, and trust. The individual malcontent can only be cured by the frank attempt to give his ill-content as slender a basis as possible. His fellows will judge, and if we act in such a way as to make it clear that he is being helped to a better balanced judgment, that his ill-content is not being fostered by petty persecutions, we may rest assured that the native goodwill of the majority will tell. In any case we must not be initially afraid of the malcontent, and the old method of treatment arose from fear. Many men become poisoned in spirit by disappointed hopes, by

troubles in the domestic circle, by a sense of lack of harmony with their surroundings which above all is the seed-ground of the most difficult discontent. We shall do well to take as wide a view of such cases as we can. They are not finally judged in a summary sentence; there are all sorts of complications and it is a matter for pride if our methods do succeed in healing psychological wounds. These remarks are directed merely to discontent of the chronic and unreasoning type. A definite evil influence, which is tricky, deceptive, subversive of authority, needs different handling and it is only in the rarest cases that the risk should be taken of meeting it by the goodwill of the majority. After all, there is sometimes a need for amputation of the psychological diseased limb of the body corporate as there is for amputation of the physically diseased limb of the human body. Only the difference in the two cases must be made perfectly clear. Discontent is not necessarily unhealthy. There is a large, a liberal discontent, as William Watson says, and intelligent administration in tackling discontent will never regard the so-called strong measures of the past as being wise or edifying. The responsibility all the time is for the building up of the characters of men and women. A successful industry which has no concern for the characters of those who spend the best of their living hours in its service has only a crude materialistic aim and is a traitor to human nature. We shall not realize the content of the successful management of industry until we hold in balance the economic as well as the psychological factors. It is generally admitted to-day that an industry must not succeed at the cost of the physical welfare of the workers. We shall have to go much farther and to lay down that side by side with economic prosperity there must be psychological progress, the steady development of human character towards greater mutuality of edification and that this psychological progress in turn will react upon the economic progress.

The same considerations apply to rules and regulations.

It is often overlooked that the regulations deal with the regular, the normal, and that they recognize the existence of irregularities or non-regularities and abnormalities. Thus, in drawing up rules and regulations we should carefully refrain from making them repressive, hard moulds into which human nature is to be forced. They should be guiding lines upon which human nature may expand, normal expectations from the normal person who understands his task and its aim. Hence a punishment for breaking regulations should be based on the consideration of various aspects of the offence, if it was culpable ignorance, defiance, contempt of leadership, or if it was merely an attempt to work by an unauthorized but not necessarily a culpable method, an exercise of discretion in itself, as an exercise, rather to be encouraged, or as sometimes happens, if it was a revelation of the imperfection of the regulation itself. Regulations, like clothing, can be a misfit, and it is no use torturing the limb to fit the clothing. We need to remember Mr. Laski's words: "There is a sense in which the vastest problem by which we are faced is the very scale of the life we are attempting to live. Its bigness tends to obscure the merits of real freedom." Regulations are for the purpose of co-ordinating this bigness with the sacredness of individuality and there lies the immense responsibility of the man who issues regulations.

So far as regards freedom. Now we come to discipline, having laid what I hope I may call the psychological foundation. It is undoubtedly true that in modern industry discipline seems to be at a low ebb. We hear all sorts of stories of management which is unable to exercise its will over those whom it controls. I venture to think that this is due to reaction against the discipline of mere force. We need a clear view of what discipline means and of what it intends, of what punishment means and of what punishment intends. Now, in the first place, the exercise of discipline must be to help men to be what they should

be. It must not be an assertion of that force. Those who exercise it must do so tremblingly and responsibly, but not in the least weakly or timidly. They must ask themselves the grave question: "Am I acting merely assertively, merely to assert that I am boss, or am I acting, at any pain to myself, in the interests of character?" They must strive to use punishment as a helpful lever rather than as an act of vengeance. It is akin to the determinist theory of punishment, which is that punishment is a factor in the cultivation of character, a weight in the scale. Now if this is clearly understood we shall have nothing to do with mere sentimentalism or bland forgiveness. We shall be stern, but our sternness will be carefully consistent. Its kindness will be not sloppiness but far sight. It will draw fine distinctions between self-will and momentary aberrations, between psychological revolts and deliberate disloyalties, and it will always aim at the emphasis on the corporate sense, or, in other words, on the cultivation of a general standard of approval which will steadily be rising.

So its first essential will be clarity, clarity of instruction and clarity of evidence. It will pass beyond the law in its tenderness to the non-proven. It must not be capricious or malignant. If there is this clarity then punishment for deliberate wrong-doing is a definite duty. In the interests of character it is necessary. A threat must be carefully uttered and invariably fulfilled. If a man is threatened with dismissal on the repetition of a certain offence, it is irrelevant for him to say that he has a sick child. In the interests of the characters of all he must be dismissed. But the threat must be carefully conveyed, in writing, if at all possible, and on all occasions the accused must be given a full opportunity of defence. Discipline in this sense is educative; it is bringing forth the best we can get out of the man. That is the aim. It is one factor in the attempt to raise the moral-corporate standard. It must command general assent, or it is worthless in its moral



appeal. So there will be no place for whispering or for secret evidence. The basis of the punishment must be the facts of the case itself, fairly and openly stated. "This man," said a foreman, "is a bad lot." "That," said the manager, "does not prove that he broke the guiding rod." Bad lots have to be handled not on general but on particular judgments. If these points are observed the infliction of punishment should be rare. When it is not rare there is something wrong. It is no use deciding to punish suddenly after a period of laxity. That way lies disaster. The solemn duty of caring for character lies heavily on us day by day and every day. As I have said, there is praise, and it is much too sparingly used; and there is appreciation, which falls short of praise, but, nevertheless, can be manifested in all sorts of ways. But the offence must be an offence, not only against the management but against the corporate sense of honour. That is not easy to emphasize, but the effort should be to emphasize it. Why discipline is at a low ebb is because it is too often regarded as the management's effort against the men, whereas it is the management's efforts on behalf of the men against their subtlest temptations. For this reason alone we must be very lenient with first offences. It is so easy to turn what are really the overflowings of youthful spirits into malevolent channels.

Then there is the question who is to inflict punishment. On no account should the duty be laid upon immediate supervision. The perspective is wrong; it is too near. On the other hand, there is a danger in restriction to too high authority, for here again the perspective may be wrong. There are cases which must come to high authority, for the gravest punishments must only be inflicted after a most careful consideration of all the factors. Yet in the main there is a middle course, such as the delegation to workshop managers, which is generally effective, subject to appeal. I do not believe in machinery, committees, and the like, to secure common assent to a standard of

pride and honour. I know they have been adopted, but I know too many cases where they have robbed the management, not of power, but of the moral responsibility of power. I know some cases in which representative small committees have advised on questions of principle in punishment but not on actual instances, and they have been most valuable. The Coal Mines Amendment Act includes a Court of Appeal of which I have some doubts since it goes beyond individual industries. After all, the new conception of management is more nearly paternal—as it is in France—than it is dominant. The constitutionalism is a constitutionalism not of mechanism, but of conscience. There are stages in responsibility where men respond to light punishments, and even to forgiveness, but they are comparatively early stages. Recurrent offences amounting to defiance must be visited else the evil spirit spreads like the plague. There may be a case for something like joint control in industry, but I am sure that there is no case for joint control in discipline. Under even the most radical of republics there must be a judiciary, and in industry we must not dethrone the judiciary. Yet, having its powers and responsibilities in reserve, it will be alert to see in what way stubborn wills can be bended, poisoned minds can be cleansed, deep-lying hatreds and misunderstandings be banished. All this belongs to the realm of spiritual responsibility. But when it is found that all the arts of influence, suggestion, direction are exhausted, as they will be in some instances, the blow must be allowed to fall, and once the decision is made no *ad misericordiam* appeal must be allowed to be effective. It is true that we must not victimize the representation, but there is another important truth, and that is that the ill-conditioned or discontented representative should not be permitted to poison the human relationship and shelter behind the bulwark of victimization. I yield to none in my respect for trade unionism and the place which it has occupied in modern industry. That place in industry to-day is difficult to define, and it

seems to be changing. But it is just as wrong for an individual to hide from discipline behind trade unionism as it is for another individual to regard trade union membership as being in itself an offence against discipline. These things need to be said at a time when we run the risk of allowing by default the legitimate organization of men for their protection to be the prop of a vested interest in discontent. Whatever the future of the organization of workers may be it will need the cleansed and cheerful characters of its members as its most precious asset.

So discipline and freedom are akin. Industry is a trial ground for character of management and workers alike. Often the conditions are disadvantageous for the trial: often it seems that the forces are arranged solidly against the trial. But we must persevere. We cannot allow a degradation of human character to be the result of our association together. We are making finer things than the finest engines, for we are making men and women, oftentimes out of material which has been degraded by the long process of industrial association. Nevertheless, there lies the duty. If there is a plague spot to be cleansed it must be cleansed, for the risk of contamination is deadly. But it must be cleansed in the spirit which is encouraging the good in men to be dominant. They will be swift and keen to resent haste and anger and failure to appreciate untoward circumstances, and over-keenness to penalize momentary aberrations. But in time they will understand that the duty has been exquisitely painful to those who have to perform it, and that only at the stimulus of caring for honour and good name and loyalty has the duty been undertaken. We have grounds for hope that this conception of discipline will win its way. We have learned it from the long and beautiful story of English law. An industrial patriotism will arise in time which will be able to measure it in the true scales of worth. There may be failures and disappointments, but so high and holy a task must pay that price. And in the end it will win, for it is based on

the precious belief that the heart of man responds to love, and that the chastening of the loving hand will bring about in good time the fusion of discipline and freedom.

The Welfare Movement has done much to this end. It has given a number of thoughtful men and women an opportunity of studying workers of all grades with special reference to their conditions of work, their leisure, their general development. It has had the disadvantage in many cases of being a little separate from the actual control of the work and in other cases it has tended rather in the direction of separating industry from industry in social work and of doing good for the workers rather than encouraging them to seek their own good. Making full admissions under these heads and realizing that its very separateness has reacted upon certain types of management in the direction of creating something approaching hostility between management of the work and the furtherance of welfare, yet it has laid a foundation for a fullness of consideration of the worker which was not found in the industry of the past. It is not too much to say that it has achieved a notable success in clarifying the true purpose of industry. I regard it, therefore, as a valuable transition stage and particularly in the cultivation of a true expertness in control and direction. The proceedings of the Conferences are full of interest—and inspiration—to all who are seeking light on industrial administration and it is especially notable that the sense of responsibility has gradually manifested itself over the earlier conceptions of mere kindness. That transition stage will evolve, I think, not only in healing the separateness, but in bringing into the fullness of light the necessity for including the functions of welfare within the scope of management generally. That will not only put it on a worthier level but it will make the purpose of industry more definite as regards the width of scope to which I devote this chapter. In other words, the welfare supervisors are building up a new conception of management. The experience through which they are passing,

after their admirable training, is showing industry at large that in a distribution of functions in management there is a place for staff direction as there is for plant direction, for sales, for the purchase of raw material, and that this function of staff or personal management may find a special place in respect of the trade unionism of the future which may possibly emphasize a local distinctiveness as compared with the exclusively broad and national features of the past. It is in this direction, I think, that Works Committees of all kinds will ultimately tend. If there is specialization in the management of plant there will also be specialization in the management of men and women and "presidency of executive," which is the latest development in executive management, will become associated just as much with its immediate subordinate functional management of staff as with the immediate subordinate functional management of machines. It will then be made perfectly clear that the purpose of industry is not to regard humankind as another kind of raw material merely to a material end:

It is not my view that there should be precipitate action to divert the welfare supervision in this direction. There is room for development in the adoption of Welfare supervision before a change of the type which I have indicated should be attempted. But it is desirable, I think, that with a view to a clearer vision of the purpose of industry, as I have tried to define it, and the place of that purpose in the general process of civilization, closer touch should be maintained between the management of industry generally and the welfare supervision. That, in itself, might be a safeguard against what I fear must be regarded as carrying welfare supervision beyond the present capacity for response. At the stage when the workers feel that much is done for them there is apt to be special irritation. The fundamental blunder of looking to gratitude as a motive is more frequent in industry than is generally supposed. It may be that the assignment of the sole blame to

management for evils in industry which are only too evident has been overdone. On the other hand, to say that the workers may be deficient at the moment in the capacity for co-operation in welfare supervision is only a recognition of the fact that industrial history until very recent years has not included the conception that the workers could make a contribution of value either to the conduct of industry at large or to welfare work in particular. It has been a sad irony that their efforts have been directed to seeking for themselves a status which it is lamentable to say that industry has not provided, so that we have come to regard them as being, which essentially they are not, the possessors of a vested interest in discontent. Much prejudice has to be overcome, and it is not all on one side of the issue, but if, in the fullness of time, we can use welfare supervision as the basis of a structure of goodwill and co-operation, the industry of the future will owe a debt to welfare supervision which it will be glad generously to acknowledge.

## CHAPTER XII

### THE FUTURE OF INDUSTRY

NATURALLY enough, the greatest hopes in respect of the future of industry are centred at the moment in the distribution of electric power. The May issue of the *Annals of the Academy of Political and Social Science of Philadelphia* is a sweeping survey of the position throughout the world, and the special report on giant-power, furnished by a Commission to the Commonwealth of Pennsylvania is a remarkable document which outlines a complete scheme, both for industry and for agriculture, and sets out authoritatively to unify the various supplies and to control the distribution. The Shannon scheme in Ireland is another far-reaching plan, and the Punjab scheme in India and a big plan for Texas are almost overwhelming in their implications. In all these schemes the benefits to agriculture are included and we read visions of Irish labourers' cottages, with electric light and power, which will be nothing less than a social revolution. Hints are given to us of possibilities in distribution, especially by so-called wireless, which take one's breath away. Such schemes must involve the State control of power. The discussions in the House of Commons have made it clear that this is not the same as State ownership, for a regularization of various sources of supply so as to prevent varieties of quality in power or in cost are assuredly needed. Nor need such schemes be an interference with the direction of industry. To provide power as a fundamental of industrial processes need not affect the direction of the industry. It must be cheaper power; it must be more readily available at different points, and these two facts may have a bearing upon the old questions of the combinations of plant in one assembly of buildings, the localization of industries and the housing of the workers. In Germany, in particular, it has

affected the transport both of raw material and of the finished product and has enabled sub-sections of industries to be separated without the grave addition to transport charges which hitherto has been an obstacle. It affects the localization of industries in many ways and, when the possibilities come to be realized, in far more ways than we can see at the moment.

In point of fact, speaking generally, it is probably in respect of the relation to the State that changes in industrial management will come. I urge that this is not interference in management. It is not "interference" to supply power more available and more cheaply. It is not "interference" to provide pensions to which the industries are partly contributory at ages when industry itself would have the burden of providing the pensions. Nor is it "interference" to arrange health and unemployment insurance on similar contributory lines. It is perfectly legitimate to say that one would have liked a system whereby industries might have provided these "succours," and, let it be remembered, that they can, and in many cases they do, provide auxiliary helps. But we have to reckon with the fact that the State has taken up this responsibility and also that no credit is due to industrial management as a whole for having allowed this to be the only alternative.

There may seem to be something nearer to "interference" in the history of the Factory Laws. These are best summarized in Sir Edward Troup's book on the Home Office. To the well-conducted enterprise, Factory Laws are neither affront nor interference. Here again we may admit that the management of industry in the past has been largely at fault, though fresh research seems to be proving that the case against the management is not quite so black as it has been painted. Yet the newer conception of management looks to be far ahead of the law and in the recognition of moral responsibility the regulations for industry laid down by the State are coming to be regarded as a minimum. Sir Edward Troup's description shows that



intelligent management of industries has nothing to fear from factory or other legislation.

" In 1874 the employment of children under ten was prohibited and the half-time system extended to the age of fourteen, and then there came an exhaustive inquiry by a Royal Commission which led to the passing by Sir Richard Cross of the Consolidating Act of 1878. In 1891, as a result of an agreement reached by the Berlin International Labour Conference of the previous year, the age of child labour was raised to eleven, and, after some further advances made in that year, and by Mr. Asquith in 1895, an important amending and consolidating Act was passed by Mr. Ritchie in 1901 which constitutes the basis of the existing factory law. This Act applies to all factories and workshops, and some of its provisions, including the inspection clauses, extend also to home work, and to laundries, docks, buildings in course of erection, and the railway sidings of factories. It provides generally for sanitation and ventilation, for safety, for the reporting and investigation of accidents and industrial diseases, for the regulation of hours, holidays, overtime and night work, and for the fitness of young persons for employment. It contains also special provisions for tenement factories, for humid textile factories, for bakehouses, and for certain dangerous or unhealthy processes. Other dangerous and unhealthy processes it left to be dealt with after inquiry by the Home Office, conferring on the Home Secretary power to certify ' any manufacture, machinery, plant, process or description of manual labour ' to be dangerous or injurious, and thereupon to make ' such regulations as appear to him to be reasonably practicable and to meet the necessities of the case. ' The Act of 1901 is thus not only a general code for all factories and workshops, but the source of many special codes, settled carefully and usually by agreement, to meet the condition of dangerous or unhealthy employments.

" There is, however, no finality in factory legislation, and the Act of 1901 has already been amended in detail by nearly a dozen subsequent acts. Its education provisions have been superseded by later acts which have raised the age of employment to fourteen and thus ended the old half-time system. In 1907 new provisions for laundries were enacted, and the workrooms of charitable institutions were brought within the law. In 1916 the Home Secretary was empowered to make welfare orders, and in 1920 two important acts were passed

to give effect to the agreements reached in 1919 by the Washington Conference of the International Labour Organization of the League of Nations (in which the Home Office representatives took a leading part) on the subjects of lead processes and the employment of women, young persons and children. Thus the time has arrived for a further consolidation of the Factory Acts, and the Home Office has ready for Parliament a Bill which not only consolidates but strengthens and greatly simplifies the law.

“ The members of the staff carry on the regular inspection of all places within the acts, enforce the provisions of the acts and regulations by personal conference, warning, and, if necessary, prosecution (the Inspectors themselves prosecute, rarely requiring legal assistance), advise occupiers and managers as to safety and health requirements, report on accidents, attend inquests, keep registers of the various classes of factories and workshops, and carry out all the ordinary routine duties of the department. The superintending inspectors, in addition to organizing the work of their staff and taking a share in inspection, keep in touch with the associations of employers and with workmen's unions and often have to preside over conferences called to concert the best means of carrying out the statutory requirements or to prepare the way for, or to bring into operation, new regulations. The whole system is under the control of the Chief Inspector and his three deputies who, being stationed in the Home Office, are in constant touch with the Industrial Division and the heads of the Department.

“ Apart from his general responsibility for the works of the Factory Inspectorate, the Home Secretary has numerous specific duties under the Factory Acts which are carried out by the Industrial Division acting in concert with the Chief Inspector. These include the appointment of inspectors from candidates recommended by a Selection Board and tested by competitive examination, the approval of promotions in the staff recommended by the Chief Inspector, and the issue of instructions for the several classes of inspectors and for certifying surgeons. He has also important powers of a legislative character. Of these the most important is that already mentioned, the making of regulations for dangerous trades. These are based on the practical experience of inspectors and the technical knowledge of experts and are settled after consultation with employers and workmen and after full consideration of all objections. The codes so established cover some thirty

industries and processes which are dangerous either from the risk of poisoning or of disease or from the special risk of accident, including, for instance, various lead processes, wool-sorting, ship-building, electricity generating stations and chemical works. The Home Secretary also makes 'special orders' under some thirty-three sections or sub-sections of the Act—some of them granting exceptions like those allowing night work in certain cases; others imposing new conditions as in the cleaning and preserving of fruit; and others extending the operation of certain provisions of the Act, as for instance the 'particulars section' which requires piece workers in textile trades to be supplied in writing with the particulars on which their wages depend, a section which has been extended to thirty other industries. Regulations and Special Orders have to be laid before Parliament and could be disallowed by a vote of either House—but that has never happened. There are a number of other matters to be determined by the Home Secretary by orders which do not come before Parliament; the most important of these are the Welfare Orders, under the Act of 1916, some fifteen of which have been made, requiring the provision of such things as drinking water, mess-rooms, washing accommodation, protective clothing, first aid appliances and ambulances."

This is a wide range of State ultimate control but there is no reason to expect that in this country there will be any considerable development of what I would call true intervention of the State in industry. Those aspects of State action which I have described are the laying of wide foundations for industry rather than actual intervention. They are of the nature, at most, of limiting conditions. True intervention would be found in some such action as compulsory arbitration in wages or in some other disputed issue, and it is not too much to say that there is strong opposition in England to any such development. Efforts have been made, as far back as 1872, to introduce such an intervention just as there are recurrent efforts to legislate for the compulsory introduction of Works Councils or of profit-sharing. In some cases there have been attempts at a middle course whereby industries might voluntarily establish arbitration boards which would, on agreement,

possess compulsory powers. Another intermediate arrangement is to claim that where a given section of an industry agrees to a settlement, this shall be enforced upon the remainder, probably a small minority, so as to prevent unfair competition. It seems to be likely, from many indications, that this type of intervention will be more favourably regarded in the future and that it will prove to be a State recognition of mutual bargaining with special force behind that recognition. It has been included in several Acts of Parliament in recent years. More drastic provisions are made by various types of colonial legislation such as the Canadian Industrial Disputes Investigation Act of 1907. The title of this Act shows its purport, which is to ensure delay in any overt act of conflict until an official inquiry has been made, so that it is an organization of public opinion before the conflict. Here again there is a vague feeling in England that something might be done in this direction and it is notable that the demand has been made with the more insistence by newspapers when it has been difficult, on any particular occasion, to estimate on which side the general weight of public opinion will be thrown. Part II of the Industrial Court Act of 1919 goes somewhat in this direction. In Australia there is a publicly-appointed Board and the terms which it decides are legally binding. In New South Wales and Western Australia there is a money fine for infraction. Professor Pigou's admirable summary adds that the claim of those who support these laws "is not that these laws can create a 'country without strikes,' but that, by invoking a pressure more direct and potent than that of unorganized opinion, upon which alone the Canadian law in the last resort relies, they can render stoppages of work less frequent than they would otherwise be. . . . Public opinion may, no doubt, change, and, at a future time, welcome what it now rejects, but at present, whatever may be thought of its abstract merits, compulsory arbitration in the United Kingdom is not practical politics in any department of industry." At the same time,

as is indicated above, there is good reason to believe that some legislative step may be taken, in the case of disputes, to give the public an unbiased statement of the pros and the cons, and the student of industrial administration will do well to make allowance for some such development. Nevertheless it is true to say that the better the industry is administered the less ground there is to fear public opinion. The freedom within the law will still remain, and the wise administrator will treasure that freedom.

The future of trade unionism is difficult to conjecture, but it may be useful to indicate some tendencies. "The growth of the trade union movement," said Mr. L. Urwick, at one of the Oxford Conferences, "and its assumption of national responsibilities in many trades has brought about what may almost be described as a new range of relationships between the industrial unit and those who work in it. Where a works employs representatives of many varying national unions the manager, before taking any important action in relation to the labour force has to consider a whole range of interests and inter-related or warring authorities."

One of the greatest difficulties in individual administration enters at this point and management is tempted to play off one of the sections against the other. It is a temptation which must be resisted, and it often happens that the management itself is the welding force. In several directions, since the beginning of the shop stewards' movement, there has been an emphasis upon mutual understanding between this inter-related representation of the workers in an unit industry, and the Works' Councils have been a factor in bringing it about, and it is evident that in time this must have some influence upon the national aspect of trade unionism, even if it does not go so far as some thinkers expect in changing the national aspect into a federal aspect of a trade unionism which finds its true cohesion in the shop. It is affected by the tendency to trusts and combines. But it is also affected by the

change in the nature of employment itself. Hard things have been said of the old individualism, but it is often forgotten that it did mean that the worker would have his skill and experience to offer the world. That was what John Bright expected. The workman was to be a free agent, offering his services to those who would pay the best price. Now we find him tending to be the permanent employe of an industry and trusting to that industry to give him a career and possibly some chance of advancement in that career. The whole tendency of health, unemployment and the later types of industrial assurance has been to emphasize this development. There is still room for the thinker who believes that it has all been a mistake, that it would have been better if there had been an advance in the worth of the workman enabling him to be a free agent and encouraging him in thrift. It is healthy to observe the discussion and to learn from it, but it does not seem to be within the bounds of possibility that there will be a change. Much of wages now goes in contributory payments which may remove the element of fear from the worker, but do seem to narrow his freedom, and we need not be surprised at the statement from the worker's side that the removal of the element of fear in this way may be at the cost of something which is closely allied to the old subsistence level of wages. However, we are compelled to recognize that this development may go farther and that the employer's responsibilities will be narrowed rather than widened while the responsibility of the State will be widened. It may then appear that the administration of industries will find itself bound to focus its attention upon the worker at his work and organize that work with more care for the efficiency of the organization as a whole, seeing that it is freed from certain moral responsibilities which have been accepted by the vast bulk of employers. It is not only on the employing side that this is felt. In respect of the discussion of labour problems in engineering there was a protest from the labour side against over-emphasis

on national arrangements. The matter was raised editorially in the monthly journal of the Amalgamated Engineering Union. "It would appear (the article says) that, irrespective of how busy certain sections of the industry may be, no matter how well able to grant an increase in wages to those employed in that section, it is not to be done because the whole of the industry is not at the same time in a flourishing condition. This is an impossible position for us; it is rarely indeed that all sections of the engineering industry are busy at one and the same time. Therefore, the employers' attitude would mean that the weakest section of the industry must be the standard upon which wage rates are based. We cannot accept that proposition, and if the present method of negotiation proves that we are unable to obtain a rate of wages commensurate with the skill demanded from our men, then we have no alternative but to scrap the existing procedure and adopt other methods." It is clear that this points to some arrangement for district or sectional settlements, possibly to settlements in unit industries. At least, it encourages us in the belief that in some such direction will be found the future development of industrial relations.

Then there is the possibility of a more scientific relationship as between one industry and another, even between industries not closely associated in respect of product. A very remarkable plea for a fresh study of this question has been made by the Industrial Institute. It sets out by considering that most difficult problem, the problem of periodic depressions in trade. It is true, it admits, that fluctuations in trade have tended to be less violent in the past thirty years and that this has been largely due to the development of communications whereby price-levels have been approximated, and to the adoption of the gold standard by the principal industrial countries which has made for monetary stability. Then it comes to the basic issue which is that the direction of the flow of investment seems to be what is needed since "our national annual savings should be,

theoretically, sufficient, so far as the necessary increase of our capital is concerned, to employ the present annual increase of our population." It is a momentous change in the point of view. Previously it has been argued that varying rates of interest, including, as they must, a varying estimate of values in respect of security and of interest-return, were sufficient to rule the flow of investment capital. So that we trusted the play of economic forces and the question which now arises is whether this has not come to be, under modern complex conditions, a foolish and short-sighted trust. We may quote some of the paragraphs of this remarkable paper—

"The special circumstances, however, of the time, have forced responsible authorities to depart somewhat from this attitude of mind, and from the practice based on it. Experiments have been made. Of recent months, so it is understood, the authorities of the Treasury and of the Bank of England have suggested that in directing the flow of investment consideration should be given to the special problem of unemployment, with a view to the development of such industries as can add, quickly, to employment.

"The Committee responsible for advising as to the supply of credit under the Trade Facilities Act is understood to concentrate, in large measure, on the support of industries immediately productive of employment, especially on those which do not appeal immediately to private enterprise. The amount of capital influenced by this Advisory Committee is only a small proportion of the volume of new capital available for investment, but it would seem that operations of that order may produce results out of all proportion to the amount of capital so employed.

"The question is, can this practice, based on a principle which has now the sanction of experience, be applied to a somewhat different though related end? Is it possible that in addition to, or instead of, devoting a small percentage of our available national resources to the development of certain industries on the ground that they can, immediately, employ labour, notwithstanding the fact that investment in them is not immediately attractive to the private investor, a corresponding amount, under similar expert advice, might be invested in industries which though not immediately attractive



to the private investor might yet correct a certain lack of balance in industrial development which arises from unco-ordinated activities, and produce results in regularity of employment much more than proportionate to the sum thus invested ?

"The Institute already embraces many members of high responsibility and varied experience. Is it not possible that it might, with advantage, accept as a principle, which would co-ordinate all detailed inquiries, including those suggested, and which might guide a special research, the idea that the fundamental essential of industrial development is that it should, as far as possible, be associated with regularity of employment for our people ? And might not a special committee of the institute be set up to consider and report on any of those contemporary tendencies in industry which appear to tend towards orderly, co-ordinated effort as distinguished from unco-ordinated, unlimited competition ? Illustrations of such co-ordination as we have in mind are to be seen, among other tendencies, in the gradual merging of smaller unco-ordinated organizations into larger combinations, whether of bankers, manufacturers, distributors, or workpeople.

"It is apparent that such developments, in themselves, may tend towards national stability and efficiency, although it is equally apparent that they are open to objection from various points of view, as, for instance, in the loss of a certain measure of individual responsibility which they involve.

"Inquiries into the possibilities of co-ordinated action as between manufacturers and distributors should yield valuable results. Such inquiries would raise, among other questions, the possibility of the control of trade fluctuations by financial control of the price level. The study of such problems is in its infancy. It needs to be taken up and pursued systematically from many angles, by those vitally interested in the day-to-day working of the industrial system.

"Experience has shown that in certain directions the practice of letting things alone tends to confusion. The disorderly growth of our industrial towns is a case in point. Everyone can see, to-day, that the town planning movement is giving good results, and if such an Act could have been put into operation, say, in 1780, rather than in 1909, our modern towns would be much better than they are. Is this not something comparable with the orderly development of industry, the study of the possibilities of which we advocate as desirable and possible ?

" In pursuing inquiries of this sort it will probably be found that it is not possible to confine attention to the industrial development of these islands. We have specially intimate relations with many peoples scattered over the world throughout the Britains overseas. It might be found possible to associate in such inquiries men of special knowledge of the industrial conditions of the Dominions. It would be necessary, also, to take into consideration the problems arising out of our trade with the rest of the world."

A similar scheme on a grand scale is being devised by the greater German industries and out of it there are hopes of a pact with the French industries. In this case, the idea is to distribute percentages of production among various unit industries, providing a common authority to investigate and to direct production as a whole. Certain German technical journals even foreshadow a general international allotment whereby there would be co-ordinated production on the largest scale, so devised as to use to the best purpose any natural advantages of particular countries.

These are sweeping suggestions, even if at the moment they restrict themselves to inquiry alone. Just as we have been taught that "no man lives to himself," so it is becoming evident that no industry lives to itself. Further, it is realized that it is quite consistent with the retention of individual ownership in industry that there should be a national, and even wider than a national, perspective in looking at the results of industry in respect of public welfare, and that industries may come to be correlated to public need and use in some such way as may lead to stability. The danger must not be overlooked. A stability which crystallizes methods of production may be a menace to progress. Such an inquiry as that which is suggested will put the consideration of this danger in the foreground. Nevertheless it will look to some completer control or direction of industry at large, whether by the direction of investment or the "control" of monetary standards, as will place the constituent elements in such a relation with

each other as to ensure the functioning of the organization as a whole to the best ends.

The future of industry will find some means to bridge the old conflict as between agriculture and industry. It is an old conflict in the sense that it was characteristic of the industrial advance at its peak. Professor Meredith reminds us that the Factory Laws came from an agitation which was "in part carried on as a war of revenge by the landed interest against the manufacturers." The unloveliness of industrial districts is one of the by-products of this old conflict and men are beginning to wonder if this unloveliness need have been brought about. "Perhaps," says Mr. Mess in his *Studies in the Christian Gospel for Society*, "a more serious indictment against modern industry is that it is a destroyer of beauty in a way that industry never was until a hundred and fifty years ago. Industrial districts are for the most part hideous districts." It is well to have these criticisms. It is well, too, that we should be reminded that there is something wrong when those who are the owners and governors of industry fly away, like the swallows, to the south, and reside far from where their money has been made. It is not a new characteristic. Bournemouth itself is an evidence of it. Breakfast trains from Manchester to the seaside are pleasant aids to life for certain commercial and financial magnates, but it is not revolutionary to wish that the captains could remain more closely associated with their men. And there is yet another argument. It is to be found in Mr. Wright and Mr. Penty's little book on *Agriculture and the Unemployed*, where it is shown that without intensive culture or any abnormal device, England could produce far more of the food she requires than she does at present. They quote significant figures from a lecture of Mr. Harold Faber, the agricultural attaché to the Danish Legation. "In the normal period 1909-1913, taking 100 acres of cultivated land as a unit, Denmark produced 32 tons of corn as compared with 16 tons in Great Britain . . . ;

48 tons of milk as against 17½ tons ; and 168 tons of roots against 94 tons." Ideas of bi-functional employment partly on land and partly in industry have been regarded with good-humoured disdain, though there is the experience of the allotments, with all the disadvantages of scant leisure, on the other hand. Mr. Ford's "six months on the farm and six months in the factory" has not been taken seriously. We may find, however, that there is something in the suggestion, a something which will need adjustment to various conditions, perhaps to a shorter shift in the factories. At any rate, the student of industrial administration cannot neglect this aspect of what there is good reason to believe is one of the developments of the future.

In a recent letter, Lord Shaftesbury quoted Mr. Ford, "usually considered the apostle of the latest methods of mass production," as saying—

"The belief that an industrial country has to concentrate its industries is not, in my opinion, well founded. That is only a stage of industrial development. . . . Industry will decentralize. . . . A great city is really a helpless mass. Everything it uses is carried to it. It lives off the shelves of the stores. The city cannot feed, clothe, warm, or house itself. . . . And, finally, the overhead expense of living or doing business in the great cities is becoming so large as to be unbearable."

Then Lord Shaftesbury goes on to claim that there is far more "industry" in rural districts than we have supposed. It is true that this industry is, as we should expect, closely allied with agriculture, but the fact that it so persists is a feature of the complex life of to-day which cannot be ignored. Lord Shaftesbury proceeds—

"The country is not at present such an industrial desert as many townsmen tend to think, though the progressive depletion of village craftsmen is serious enough. In 1921, there were in England and Wales 3,340,000 occupied people in rural districts, or some 2,340,000 apart from those engaged in agriculture. Of small country businesses there were over 11,000 smithies, 4,700 wheelwrights' shops, 3,100 master

saddlers, 13,000 carpenters' shops, about 4,000 cabinet makers. These represent only a small proportion of the total population ; but they are important in our country life, not only because many of them are essential to agriculture, but also because they form on the whole a skilled, independent and self-respecting class of men working for themselves, intermediate between rural employers and their labourers. It appears to us a short-sighted view to forecast their eventual extinction. For example, the blacksmiths and wheelwrights need not necessarily die out because horses and horse-vehicles are used much less than they were. Smiths remember that they are traditionally mechanics and metal workers, and many of them, equipped with simple but modern implements and small power units, are doing repairs to farm tools and machinery with as much or greater efficiency and with much more convenience to the farmer than the town garage. With the introduction of the lathe, bandsaw, mechanical power, and welding plant, the village metal and wood worker is learning to hold his own, and should again be able to attract apprentices. A wise community is surely right in trying to facilitate and accelerate the change in his methods and outlook, by providing the technical and commercial advice which the village craftsman needs, as well as the same credit facilities as are offered to the farmer."

So, if we come back to the distribution of power, with which we began this chapter, and take into account the possible control of industry at large in ways which are at present being studied, and then consider the relation which agriculture may bear to this new development and the influence which, in turn, the long study of organization in industry may have upon agriculture, we can see something of a new vista for the future. It is not to be supposed that in his daily task of administering an unit industry the manager or director can make a new heaven or a new earth, but he may gain inspiration for his daily task by casting his eyes at times on the far horizon. He is doing something more than planning for the day's work ; he is doing something more than giving employment ; he is doing much more than catering for consumption. He is building up a portion of a future fabric, the fabric of man's

dependency upon man. We have forgotten very largely this aspect of industry, that it is growing and developing. We have come to regard it as a somewhat ugly necessity which increasing populations have demanded in order that they might live. What is now being revealed to us is that it is a factor in the whole process of civilization, that it calls on man for self-developments and for self-surrenders in the interest of man. It is being revealed, also, that it has wider roots than we have supposed, dug deeply into various sections of our corporate life and into the past, so that it is given to us as a heritage which we must attempt to direct and guide. Further, we have learned, in recent years especially, to see comparatively rapid changes come about, newer fusions, newer methods, newer adaptations of older methods and, on the other hand, newer demands from every quarter. It is easy to write angrily in condemnation of industry. It is easy to use strong language and to describe man as the slave of the machine. That does not lead us far. What we have yet to learn is the true use of the machine as the servant of man. When we have learned it we shall have begun the science of industrial administration.

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