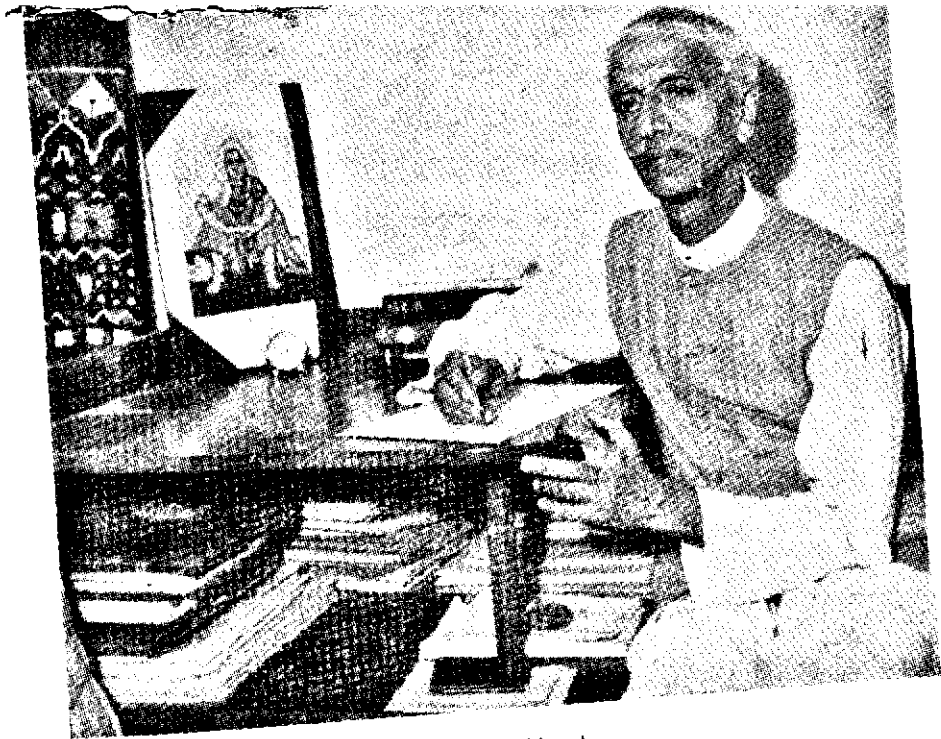


Clean people Unclean
Country

Harijan Sevak Samaja

Delhi, 1965



Author of book

Q. Is it not essential to reform the insanitary methods employed by sweepers for cleaning latrines and scavenging ?

Gandhiji : It is most necessary. What is more, until this is done the conditions of sweepers will remain pitiable. To this end it is the duty of Harijan workers and Caste Hindus to do sweeper's work themselves. No Caste Hindu will employ the methods used by sweepers. He will do the work scientifically. For example, he will cover excreta with dry earth and remove it in a metal vessel. He will avoid touching dirt with his hands as far as possible; he will cleanse the vessels with water and a rod; he will bathe immediately after doing the work; he will wear special clothes when scavenging. These reforms do not cost much. We may not relegate sweeper's work to one particular class. Therefore all should learn it in the same way as cooking. Each person should be his own sweeper. If this ideal were to be put into practice in society, the miserable condition of sweepers would at once be rectified.

HARIJAN—10.5.42

It is really a matter of privilege to my organisation "Harijan Sevak Sangh" to publish this book. The contents reflect the life long experience of the author Prof. N.R. Malkani who has been associated with "Harijan Sevak Sangh" right from its inception. I thank him to have spared time to ventilate his ideas on Sanitation in these chapters.

We have not fixed any price for this book. Generous donations from the readers will be thankfully accepted.

Jiwanlal Jairamdas,

Secretary,

11.3.1965

Harijan Sevak Sangh, Delhi.

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terrible insanitation. Surely this is work enough to satisfy the highest ambition of one who has the spirit of service in him". I have the ambition to be that one person and to find pleasure in one of the most unpleasant services—of improving the scavenging conditions of India.

N. R. MALKANI

WHAT MAN DOES TO MAN IN INDIA

India is a land of three thousand or more castes and sub-castes, intricately poised one above, if not against, the other. Often it is difficult to discover why one sub-caste considers itself or is considered as higher than the other. With great and meticulous care this superstructure of caste over caste has persisted for centuries and even proliferated. But by common consent the 'Bhangi' caste is considered the lowest of the low. And the 'Bhangi' himself has accepted this status almost without a murmur. In India we have also graded various occupations as one above the other and considered the profession of a Brahman priest as the highest, as against that of the scavenger. As if that were not enough, we consider scavenging with a certain repugnance that has become almost instinctive. And yet the 'Bhangi' has been called by rather gratifying appellations, more to mollify our conscience than to soothe his feelings. In Bihar he is called 'MEHTAR' i.e. an ELDER. In Uttar Pradesh he is called 'BALMIKI' i.e. a follower of Balmiki Rishi. In Punjab he is called 'LAL BEGI' i.e. a follower of a saint of that name. These are religious terms invented for our not very religious behaviour. The Muslim alone gave him a decent and correct name appropriate to his calling. He called him 'HALALKHOR' i.e. a person who earns his livelihood in a righteous way. Of late Hindu obscurantist conservatism about the caste as a system based on birth has been rudely shaken. Similarly the idea of

considering one occupation as lower than the other and regarding scavenging as the lowest appears to us now as the crudest form of social injustice.

One or two new terms have been coined as symbols of this recent awakening. One is 'Bhangi Mukti' and the other is 'Bhangi Kasht Mukti'. I believe Vinobaji coined the first term and the other was coined by common usage. Often the discussion about these terms assumes the form of a metaphysical disquisition with a nicety which has come to us as a legacy of the past. But, as I understand it, the idea behind 'Bhangi Mukti' is the abolition of the 'Bhangi' as a caste. This can only happen when every one becomes his own scavenger or does not mind being one. It involves a tremendous transformation in the mental attitude of the orthodox Hindu. It means considering night-soil not as filth but as matter in the wrong place, which has to be put in the right place. It means the adoption of a scientific attitude about sanitation and the eradication of the ritualistic attitude. Nowadays there is 'Brahman' sanitation and 'other caste' sanitation, with its corollary of Bhangi sanitation. Sanitation in modern times is a service and can be cultivated as an art of life. We shall have to rid ourselves of the idea that a Brahman is clean because he is born a Brahman, that water is pure because it is Ganges water, that matter is horrible filth because it is night soil. The idea behind 'Bhangi Mukti' is noble and of special urgency in an India that wants to be modern. But we seem to be yet far away from such a revolutionary mental change.

In practice the common term used is 'Bhangi Kasht Mukti', which means the abolition of all those practices

that make scavenging an obnoxious occupation. It requires a new look at all occupations. Occupations in India have been divided into sacramental and secular. Manual occupations have also been divided into skilled and unskilled and the latter further sub-divided into clean and unclean. All these occupations have become hereditary in course of time and become caste occupations, one adding to the rigidity of the other. When rigidity is superimposed on the background of social inequality, the edifice becomes a monument of curiosity and research but not of appreciation. In a rapidly changing world a rigid socio-economic structure like occupation by caste becomes obsolete. Nowadays the tendency is to divide occupations on the basis of required skills added to natural aptitudes. Such skills make the age-old divisions of manual and mental as superfluous, if not ludicrous. Every occupation should need mind and more of it to become skilled. The use of machinery and specially automatic machinery has made mental alertness supreme over mere manual skill. The machine has completely revolutionised our ideas about the division of occupations and mobility between them.

But in India we also allowed ourselves the indulgence of recognising clean and unclean occupations. As if this were not enough, we took pride in completely and criminally neglecting the latter. By some mutual arrangement we relegated the slaughtering of cattle to Muslim butchers and delivered the slaughter houses into their hands. The result has been that 'humane' slaughtering has become a communal problem in India and the slaughter houses of India have become permanent vestiges of primi-

tive practices. There is not one 'modern' slaughter house in India, not even in cantonments. We have relegated the occupation of skinning animals and curing their hides to Chamars. These do the dirtiest part of the work, often under muslim employers, who make the most profit out of it. The Dheds of Gujrat do tanning within their cottages and 'Dhedware' is in Gujarati a synonym for hell on earth. But we have given a sort of pride of place to scavenging and put it down at the bottom. Most Hindus are not aware of the depth of degradation to which we have reduced the scavenging occupation in India. It was the one occupation to which we applied our three attributes of Unseeability, Unapproachability and of course Untouchability. Night-soil in India is believed to be all these three and the unavoidable touchability due to washing after easing has resulted in punishing the left hand as sacramentally inferior to the right one. Of late, the unseeability taboo has been somewhat shaken by the sight of night-soil being carried as head-loads, in baskets, buckets or drums. Somehow we feel ashamed of such a practice as almost a stigma on us and on the quality of our independence. We seem specially compromised and humiliated in the presence of foreigners who remind us of it. We wish to abolish this head-load business if we could and preferably by law. But either of these is not so easy as it appears. We are now slowly realising that the evil is much deeper than the carrying of head-loads and other practices are even more horrid. It has been found that the actual cleaning of latrines by Bhangis is the foulest part of a foul business. This is done by scraping with a bit of tin or glass or leather or rubber or

improvised by an obtuse woman. Often the floor of the latrine is kucha or if pucca it is without a pan and the scraping means the soiling of the hand upto and above the wrist. Night-soil is carried in a small basket from latrine to latrine and then collected in a bigger basket as a head-load or waist-load to the nearest collection depot. The depot may be half a mile distant but what is a night-soil depot? In most cases the depot has large 40 to 50 gallon open drums, kept within an enclosure. These drums are emptied by ordinary buckets being dipped, lifted and then poured into a bullock cart. Sometimes there is a big cess pool as a reservoir, again to be bucketted out as before. It may, however, be even heaped up on the ground, for being basketed up into a bullock cart. The driver of the bullock cart sits over the man hole in a jolting cart and gets his clothes soiled by any over-flow. At the dumping ground the cart is physically overturned while besmearing the hands and person of the driver. The last is the person working on the dump with bare hands and feet, standing over filth for 7 hours in a day, with a spreading rod as his only tool. It is difficult to say which stage in this long process is more filthy than the rest, but I believe the actual scraping of the latrine is easily the dirtiest. It would not be pleasant reading to expatiate further on the relative degree of filthiness of each stage of this filthy business.

We are now beginning to recognise that this 'system' of scavenging is no system. It is but the practice of blatant barbarism in the name of an occupation. Scavenging is an occupation which deals with night-soil. It is a necessary and an 'essential occupation'. The Muslim

built the latrine and called it 'JAI ZARUR' i.e. a place of necessity. And so it is. We have first to accept the idea that a latrine is a place of necessity and as such should form a part of the house, as a kitchen or bath room does. On the whole India has hardly 50% latrines to meet its needs. The rest treat Mother India as good enough to serve as a public latrine India. The idea of going to the 'jungle' for easing oneself has to be eradicated for there are no more any jungles left for that purpose—at least not in towns.

Secondly scavenging is an unclean occupation which can be done in a very clean and sanitary way. It is possible to abolish the service of scavenging and along with it the 'Service Latrine' known as the drop and trap door SANDAS. There can be a sanitary system of scavenging requiring little or no service. We remember Gandhiji wishing to be born as a Bhangi, to abolish the caste of Bhangi. He also later professed to be a 'model Bhangi' who knew the science of Health and Sanitation and practised it as an art. Such a person "will never remove excreta in a basket or carry it on his head; he will cover excreta with dry cloth and remove it in a metal vessel; he will avoid touching dirt with his hands as far as possible; he will clean the vessel with water and a rod; he will bathe immediately after doing the work; he will wear special clothes when scavenging. . . ." And so on. It is so easy to suggest extra reforms and transform the latrine into a bath—cum-western type lavatory. In fact two things are very surprising. It has been found that the tools required for scavenging are just four and almost all inexpensive. These are a scraper, a covered bucket,

an iron pan in the latrine and a wheel-barrow to carry night-soil to the nearest tanker. A scraper costs a rupee, a covered bucket seven rupees, a pan about three and the wheel-barrow about Rs. 125. The latter can be easily replaced by a bamboo 'KAWATH' carrying two covered buckets by a sling at both ends. And yet all our public Health Engineers had never given a moment's thought to the making of improved tools and it has required a year's research work at the Central Public Health Engineering Institute, Nagpur, to finalise the design of a proper wheel-barrow. I may be credited with 'discovering' the design of a proper scraper in a latrine at Bhopal and which has since been further improved twice. No one thought about these tools and now that they are there the machinery of Government is finding itself incapable of introducing these simple tools, inspite of lavish Government grants. The tools are there and so the money for them, but not the proper approach which may be called the human approach to this traditional problem.

It appears to me that very little progress will be made on this sanitation front unless and until a radical change takes place in our mind with regard to night-soil. There is a great deal of irrational repugnance towards night-soil that has to be overcome by a great and serious effort. Everyone avoids the sight, the smell, the touch of night-soil as a most hateful thing in life. In actual life he is able to avoid the touch to a great extent but he avoids the sight and smell of his own night-soil at the cost of seeing and smelling night-soil all round. I think Indian towns and villages have the sights and smells

which are an abomination to foreigners but to which we have become reconciled or perhaps immunised. I suspect we do not understand what foul smell is, for we have lost all sensibility to it. Great diseases need radical remedies and one such is to do one's own scavenging. If that is too hard then the next best is to observe scavenging and help the scavenger in cleaning or at least washing one's own latrine. Every man and woman must learn to keep a nice broom or brush in the latrine ready for daily use. Along with this I would wish to introduce certain rational repugnance towards night-soil among Bhangis. I have seen horrible sights of scavengers walking in pools of night-soil or entering cess-pools or tankers to remove stones or other rubbish which choked the flow of night-soil. The Bhangin scraping night-soil literally with her bare hand is a common sight. I have seen the Bhangin receiving bread with her left hand and washing her right hand with dirty drain water to eat it while working. I have seen pails and buckets given to Bhangins for carrying night-soil being used on the sly for keeping drinking water or storing provisions at home. The repugnance of the Hindu and the lack of it in the Bhangi have become second nature with both. In my mind the orthodoxy is really and demonstrably responsible for both these attitudes and habits. Our over-cleanliness is responsible for the under-cleanliness of the Bhangi and some inter-change of positions would be for the good of both and society.

Often the question is put whether the Bhangi should be asked to give up his occupation by way of protest. I have never propagated this idea not because it is wrong

but because it is not a practical proposition. At least not at present. I have no other occupation ready at hand to offer him as a suitable alternative. There is a certain caste resentment that is slowly mounting among Bhangis, but there is yet very little resentment against the dirty nature of this occupation. Scavenging is a light, easy and now better paid job than before. The Bhangi often claims some cash as 'unclean allowance' for his job, to drink it away while continuing his unclean work. The new tools are there for the taking but he is reluctant to adopt them and change his old habits. But I do sincerely wish that about 5% of Bhangis resented this dirty job as a hereditary handicap and in an upsurge of self-respect gave it up. Among so many wild cat type of strikes which clamour for some extra cash, I do wish there were a few sensible type of strikes—for supply of new tools, for new type of sanitary latrines and for direct access to them. The strikes for more and more cash which goes down the drain in drink, have created a state of tension between the Bhangi and the public. There is a rising tempo of strikes and tension that is a challenge to all of us. But I think a few strikes against the existing practices of scavenging may create new tensions and help to find healthy solutions. One of these might be that 5% of caste Bhangis may be replaced by 5% of non-caste Hindus, preferably Brahmins. Gandhiji once said that, "If only we had given due recognition to the status of the Bhangi as equal to that of a Brahmin, as in fact and justice he deserves, our villages today no less than their inhabitants would have looked a picture of cleanliness and order....." That would be a sovereign remedy for this

monstrous enormity of our times, known as scavenging. But some such remedy is now over due in the name of sanitation, if not in the name of mere sanity of the Hindu Community.

GANDHIAN CLEANLINESS—SOME REMINISCENCES

It is quite appropriate that we celebrate the Gandhi Jayanti day—the 2nd of October—as the All India Cleanliness Day. Perhaps Gandhiji was the cleanliest Mahatma that the world or even India has ever known. We have an idea that Mahatmas are not aware of and are generally indifferent to their bodies. Our epic history teems with Munis, Rishis and Tapasvis absorbed in their austerities in deep jungles or on high mountains with bird's nest on their bodies and ant-hills on their heads. Never did we see a man so meticulously clean almost spick and span, in his person, in his clothes or his surroundings as Gandhiji. We all have read the English maxim 'Cleanliness is next to godliness', but he would be perhaps the best example of both combined in a wondrous way.

We in India are a fairly clean people in our opinion. We cleanse our teeth daily in the morning with a fresh twig of babul or neem, gargle our mouths and throats very assiduously, we bathe daily and wash our clothes at home for a daily change; we wash our hands before and after meals and gargle our mouths after finishing it; we leave our shoes outside our rooms and enter our kitchens with the ceremoniousness of entering a temple; we use water after urinating and lots of it after defecating. And so on and so forth, until cleanliness has

become with some of us almost a substitute for godliness. But I think we are clean in a rather uncouth way. We gargle our mouths and cleanse our noses in a public and a very biosterous way; we chew our 'datan' while walking on roads or sitting outside our houses, spitting about most furiously; the datan twig plucked from any tree is then thrown about everywhere; we wash our clothes but near a lake or a well and thus contaminate good drinking water; we use so much water in the latrine that we make an awful mess of it all. We eat our food off our shining plates with so much zest that we start licking up our fingers and even hands in a public way. We belch out to express our satisfaction at the end of our meal, also in a public way.

Gandhiji was clean but more than that, dainty in almost the Western way. I met him first in March 1917 when he was proceeding to Champaran via Muzaffarpur and lived for four days with me and my family. He looked almost small but every thing about him was unique. In those days he used to carry a small bag containing all his baggage. The bag had a tiny aluminium katori. In the morning while chewing his datan inside the room (he had a few teeth left) he held the tiny katori in his hand used it as a spittoon in a very silent and neat way. After finishing he went out into the compound, dug up a little hole emptied the contents and covered it up. He could chew datan in a first class drawing room with propriety. Now consider how gangs of 'gentlemen' in Delhi say on the ridge, go about doing datan and spitting about as if they were watering the roads. They seem to enjoy doing datan in a congregational way.

We in India have some sort of an idea about personal cleanliness, part of which is scientific and the rest is only ritual. But one may be excused for saying that we do not know the A. B. C. of sanitation. We have no word for it, as we have a Persian word for cleanliness, i. e. SAFAI. We will have to coin one—say 'Swachhata' for sanitation. But we find it hard to understand the meaning of public sanitation or better still Environmental Sanitation. We have a sense of duty, more specially to the family or Caste but we have no sense of duty to one's neighbour. In the City we seem to feel like strangers to everybody, without having much sense of Civil duty. We find it very hard to learn it, despite our personal cleanliness. We are social but in a very limited traditional sense. Often I was with Gandhiji and had the opportunity of watching his personal habits. I remember on one occasion he was returning from Ahmedabad to Sabarmati. At a little distance from the Ashram he got down the motor car to have his constitutional walk. On the way he stopped and walked about 30 feet away from the road to urinate. How many of us urinate away from public roads and public or private houses? We have the inveterate habit of sitting any where and our dhoti makes it all the more convenient. The more crowded a place the more its precincts smell of urine, human or animal. We do it with such ease and indifference as if we have a right to use any place as our very own. We are satisfied if we coil our 'Janeoo' round our ear and use a very little water for personal purity. The purity of the place does not matter. Worse still, we use our bath rooms as urinals, because most of us have no latrines and the few

we have are filthy. So the washiest place becomes the smelliest. In Gandhiji's Ashrama the bath room was distinct from the latrine and the latrine was distinct from the urinal. The urinal was open to the sun and the urine went deep down into the soil, for it is excellent manure. Chemistry of the soil converts waste into wealth.

We all know that Gandhiji in his later days used to call himself a 'model Bhangi' and wanted to be re-born as one. If there was one revolutionary change in his habits and way of thinking which was most significant for Hindu Society it was his way of disposing off night-soil and his human attitude towards scavengers. We have all read in his biography how he would cleanse the commodes of his Christian, Muslim and other guests and insisted on Ba doing the same. The latter appears to us as cruel, even today. It only shows how far he had thought and felt in this matter. In his Ashram the first baptism for a worker or inmate was his willingness to cleanse the Ashram latrines, almost as a Yajna, more holy than spinning, if not praying. It was a crucial test, not the latter. But he made the process as simple, as easy, as scientific as possible. The latrine had a wooden seat and two 'baltis' under the seat, one for night-soil and another for urine and washing. There was some straw at the bottom of the first. Out side the latrine was some clean earth and a khurpi. The user spread some earth after every use. At about 9 A.M. both baltis were slung on a bamboo pole or Kawath and carried to a trench in a field, washed, and replaced. The latrine was open to air and light at the bottom and below the roof. We are by

now familiar with Gandhiji's Wardha latrine and Appa Patwardhan's Gopuri latrine above the soil, for rural areas. But during his long tours, specially in rural areas, Gandhiji used to carry a commode as a necessary part of his luggage. I think he was the only person in the world who ever carried a commode like that—and in India not his famous goat but the infamous commode was something sensational. And yet we behaved decently and persisted in calling him a Mahatma notwithstanding the abominable commode. In his world famous cottage at Wardha the most impressing part is his closet, which he facetiously called hi 'Library'. Its equipment was almost all Western, but its simplicity was instructively Gandhian. The water-seal and flush commode was connected with a septic tank. Gandhiji washed with water, but I would like to imagine that he used paper before water. At least that is what I do, as an improvement; in spite of the pride of the West or East for its own way. I am told he did some reading over the Comfortable Commode, but who dare testify it? How many respectable and respected Hindus can stay in their latrines if they have any, for any measurable time, without an impulse to rush out of it. I remember an anecdote in this connection which is unforgettable. It was in 1925 or so that I was discussing something with him in the Sabarmati Ashram at about 10 a. m. Suddenly we were disturbed by Ba entering agitatedly and complaining that a mad inmate—Gandhiji used to have some mental cases in his Ashram, cynically called a lunatic asylum—was trying to set Ba's clothes on fire. Gandhiji jumped up, ran to the kitchen, firmly gripped the lunatic by the

wrist, dragged him trembling into his room and shook him up with a soldierly scowl. The man, out of fear passed stools in his dhoti. Gandhiji removed his soiled dhoti and then began a sort of scuffle between him and me as to who would wash the dirty dhoti until by God's grace both of us were relieved of the task by a merciful third party. Now tell me, who among us Hindus are capable of standing such a sight with equanimity let alone the question of washing? How many have private latrines? How many have decent ones which are not black and stinking holes? How many know the trick of defecating and washing without making a mess for the Bhangi? How many latrines give access to the Bhangi who comes to cleanse it? In this sorry affair we have gone to the limit of reducing the scavenger to the state of the filth that he carries. The Bhangi is filth because he carries our filth.

Let me now change to a lighter and less unpleasant subject. Gandhiji had very few personal possessions, as can be seen by those who visit his Sangrahalaya. His sitting room was bare of furniture, except for a low desk and a chair in the corner for visitors who could not squat on the floor. But with all his manifold activities his room was orderly without books and with a few papers for disposal. Under the desk was a cardboard waste paper basket. No piles of paper and no scraps of paper flying about. One day I was walking with him alone in the evening on the Sabarmati Road. I had some waste paper in my pocket and carelessly threw it away on the road. He looked at me and smiled. There was a light rebuke in his smile but he did it by relating a story

to me. "I have read that once in America a father was walking on a public road and his son threw away some papers on the road. The father turned to his son and asked whether the public road belonged to his father or grandfather that he threw away his papers on it." Substitute Gandhiji for the American father and me for the son and the lesson of the anecdote was obvious. I learnt the lesson well and how I use waste paper, almost better than Gandhiji, is another story. I even carry waste paper in my pocket until I reach home, where I have two dust and two rubbish bins. (I suggest that rubbish bins should be different from garbage bins). Now who will answer for the heaps of waste and garbage that are thrown about our streets, and the way we spoil public parks and places with our leavings of food? And where movable rubbish bins are placed some ingenious person rolls or carries it home.

I shall finish this sketch with one more anecdote. Gandhiji was very scrupulous about his food and drink. He carried his kitchen about him as a scientist would carry his laboratory on his journey. He had few utensils but they were all shining and clean. Ours are shining and unclean because they are cleansed with filthy earth outside our houses. He learnt how to hold and use a spoon, but had it made of swadeshi wood. With the spoon and napkin alone he succeeded in having excellent table manners. We deny both and the result is our table manners are both unseeable and unbearable. Our meals are noisy and more so if delicious, though they may be in public. Our kitchens are ritually clean, but our eating houses are damnably dirty—exposed to dust, flies and

above all dirty hands. Our right hand—not the left, of course—is always in raw and cooked food including water. We have evolved a metaphysics about pure water, where dirty water can muster as 'pure'. All Ganges water is pure and so we drain the filth of cities into it and drink it away as very pure. Now Gandhiji adopted a habit about drinking water which was an improvement on the West. He drank only boiled water; he drank it off a corked bottle and without a glass. It was not cooled in summer or warmed in winter—but was ordinary bottle water. Once I was with him and in charge of the party during his Harijan tour in the South in 1934. When entering our car for the day's tour I was responsible for carrying his file of papers, his bag of simple medicines, his pillow, his bottle of boiled water and what not. On the way he would ask me about the next halt in the programme. If he had more than 15 minutes gap, he would take the pillow and have a nap on the seat. I then squatted down on the floor. On one such trip he woke up and wanted his bottle for a sip. I searched for it and found it missing. In my hurry and with all my care, I had forgotten to take it. The day was hot; we had 3 to 4 hours journey ahead of us. He had to talk all along the way. There were ponds and lakes of water in every village—but he would not have a sip. He told me not a word. There was not even a rebuke in his look. But the lesson I learnt was for life and of course during the rest of the tour I used to hug the wretched bottle as the most precious object. Now I would like to see a finicky European being so scrupulous about the water he drinks, so careless about its taste and so particular about

its purity. We in India make a lot of fuss about our kitchens and have created a class of Brahmins of the kitchen, dubbed as 'Maharajas'. We have evolved a metaphysics about pure water and who may touch it or serve it. And yet we are all the time poking our dirty hands into it and drinking so-called pure water, served by so-called clean persons. We are clean in a formal and traditional way. Of sanitation we know little and of environmental sanitation still less. It is time we gave up our pride and learnt some good lessons from the West—and not the bad ones—as Gandhiji did.

AN AMENITY OR A NUISANCE

It has been found that in most Indian towns when houses were built the latrine was not considered as a 'necessary' part of the building. In South India, generally speaking, for every 10 houses there are hardly 3 or 4 latrines. In North India the position is slightly better and for every 10 houses there might be 4 to 5 latrines. In no town have I found the proportion higher than this, except where there is underground drainage. But even there all the houses covered by the drainage system do not have latrines. Of late there has been a tendency to put in a latrine somewhere in the house but more as a necessary evil than as a necessary amenity. In Gujarat it is put in a small corner of the small OTLA (verandah) outside the house, generally made of corrugated sheets and rarely kept clean. In Panjab it used to be put on the roof or rather the open roof was used as an open air latrine during the day and as a sleeping place at night. In Kerala it is put in outside and away from the house in a corner of the compound. In Rajasthan I have found nice and pucca latrines put up near the bath room and then used as urinals or merely as store rooms or rooms for rubbish. It is only in towns with large or influential sections of Muslim population that the latrine becomes an essential part of the building. For instance it is only in cities like Hyderabad, Bhopal, Delhi and Lucknow that

most houses—even Hindu houses—would have latrines. The Muslims called the latrine a “JAI ZARUR” i.e. a place of necessity. Going to “Jungle” for easing would have no meaning in Arabian deserts and the custom of Pardah made privacy a necessity. It is only very recently that the latrine under the influence of the West has been accepted as an amenity. It has also been given very polite names, like the “Lavatory”, the “Toilet” or even the “Bath room”. Often it is a combination of both the latrine and the bath room—an abhorrence from the Hindu point of view. It was only a rare Hindu like Gandhiji who went so far as to call it his ‘Library’, in fact the most interesting part of his kutir in Sevagram is his “Library”. Fortunately, of late most municipalities insist on providing a private latrine in all new buildings before sanctioning a plan. As often as not this rule like so many others remains a paper rule and old habits prevail over such new-fangled ideas. Nevertheless a good beginning has been made for the construction of private latrines in a general way.

The latrines that exist in India are generally of the “Service” type, called “Sandas”. They are so-called because they are dry and night-soil has to be removed and carried by hand. But in fact there is no single pattern of the service latrine in India. It would be interesting to make a little research about the latrine in India, for I believe it is not an indigenous part of our houses but an improvised one, according to local conditions or idiosyncrasies. I am quite sure that not a moment’s thought has ever been given to the construction of the latrine, such is the repugnance towards night-

soil and the detestation of the place where it is found. The latrine in India has crept in. It has never been brought in as a part of our Hindu houses. So it exists even now in various types, some of which are extremely primitive. In Andhra you will find mere low-walled enclosures on open grounds are called latrines. Night-soil is then either baked by the sun, or eaten by pigs and the bakings removed by scavengers. Years ago I found such "Jajrus" in Ahmedabad "Pols", just inside the gateway and in front of residences, to be used by most residents of the Pol. On a morning one could find rows of men sitting inside and outside the "Jajru" easing themselves in public without any sense of impropriety. Dogs and cows served the purpose of pigs in assisting the cleansing of such latrines. Very recently I found in Pondicherry, one of the cleanest of towns, with the Aurovindo Ashram having the most modern and model system of sanitation, one of the filthiest type of "Service" latrine but without any service by a scavenger. In a corner of the house a square pit, about 4' x 4' x 4' is dug and two awkward planks placed across it to serve as a seat for easing. Dirt and rubbish are thrown in after every use and the pit is cleared every six or more months when it is full. The sight and stink of night-soil has become a part of the way of life of users, notwithstanding the repugnance for it. In the Punjab the roof as latrine has now become a roof with a latrine and is found nowhere else. In Saurashtra there are yet "well" latrines inside houses, used for years to come and never cleansed. Night-soil rots underground and emits foul smell due to gases, partially diluted by periodic pouring in of salt or

ash. Night-soil is kept out of sight but not free from smell. These were all, to my mind, improvised types of latrines and are now going out of use. But there are two types of latrines that persist. One is the Muslim type of the "Khudi" or step pattern, usually called "Pai-Khana". The steps run along a wall, or both the walls or all the walls of the latrines. The latrine is usually open to the sky and gives direct access to the scavenger for cleansing and even washing. In the South this has been slightly improved by Hindu intelligence and the steps replaced by a raised platform for seats and a drain behind it for easing. Thus night-soil is kept out of sight. It is there called the "Kakus" and is an improved type, because the drain is cleansed and washed more easily, specially when it is 'U' shaped. Urine and water do not make a mess of night-soil but flow away into an outside drain or cess pool.

But the most common type of the 'service' type of latrine in India is the 'Drop' type, cleansed from outside after lifting a trap door. Access to the scavenger is through a back gully, which is generally extremely filthy. If the latrine is on the road side access is through a dark and dingy "chamber". Very often there is no pan under the seat and the floor is bespattered with night-soil, urine and a lot of water. Night-soil then flows into the gully or on the road. Where there is a pan the contents overflow or are thrown about by the scavenger. The hands and clothes of the scavenger are stained and splashed with night-soil. From inside the latrine is too small (3' x 3'), too dark and stink because it is rarely washed. The only advantage is that the squatter does

not see night-soil. Whoever devised this type of latrine devised it so as to make it a place of filth and stink—an evil necessity in the house. He also literally made scavenging so filthy that the scavenger himself became identified with filth. Since then the Bhangi is not only one who removes filth but is filth. By long practise and habit the Bhangi has become used to handling filth so freely as to lose all repugnance for it. Paradoxically the intense and irrational repugnance of the average Hindu has led to the identification of the Bhangi with filth and handling it as if it is not filth. I have seen some sights of the Bhangi at work which would be difficult to believe if they were not true. Things would change only if the Hindu has much less and the Bhangi much more repugnance for night-soil. This will happen if there is a great psychological change and when the existing latrine is demolished and transformed into a sanitary one.

After visiting hundreds, perhaps thousands of service latrines, I have tried to devise a "pattern" which may be considered as a 'standard' pattern to be recognised by all Public Health authorities. In this I have sought the advice of a number of Health Officers, who themselves are aware that there is no 'standard' pattern at present which is recognised as such by municipalities. The existing latrine needs three basic alterations and three or four secondary modifications. The first basic change is that the scavenger must have direct access to the latrine like the user, and not through a back lane or a trap door cum chamber. This will mean a basic change in our attitude to the Bhangi as a human being pursuing a legitimate and essential occupation. Such a change

will not only make scavenging more sanitary but will also make us more sane and human. The excessive repugnance for night-soil is the cause of insanitation and makes us inhuman and the Bhangi sub-human. That is why Gandhiji said that he was a 'model Bhangi'. Incidentally this direct access of the scavenger would be possible only when the latrine is located in a corner of the courtyard with a door opening on to the road. Secondly the washing seat must be different from the easing seat, so as not to mess up the night-soil with urine and water, until it overflows or is poured out by the Bhangi. In some latrines I have found the washing seat a little ahead of the easing seat, with a pucca drain for urine and also water. This is done in a simple way by making the squatting steps 6" to 8" longer and on which the user slips forward while washing. In the Harijan Colony, Kingsway, Delhi, I had provided one additional step to the left for washing, with a soak pit outside for urine and water. This is also a common arrangement in Orissa. Either modification would serve the purpose but incidentally the dimensions of the latrine must never be less than 4' x 3' and desirably 4' x 4'. Today it is only 3' x 3'. Lastly there must be a regulation iron pan 16" x 8" x 4" exactly under the seat and so fitting in a sort of socket, as a drawer does in a table. It may have a few small perforations at one end to allow water to flow out. This will help to keep the latrine building clean and make the removal of night-soil with a scraper more easy. Such pans should be supplied at cost by the municipality every six months and the use made obligatory. Incidentally it will be good if

there is a wooden lid hinged to the seat which will cover it after every use to avoid flies. For the convenience of the user the construction of the latrine should be light and airy with half a roof or even without a roof. If there must be a roof then at least one foot of space between the walls and the roof should be left open for ventilation or covered by 'jalis'. The door in front, if any, should be only half a door to admit air freely from below and above. The Hindu loves to go to 'Jungle' for easing himself in villages. The latrine in towns should attempt to give him a sensation of squatting down in an 'enclosed' jungle. The existing latrines give the abhorrent sensation of being choked and cramped into a bit of dark den. These changes are sanitary, inexpensive and simple. I would be glad if this matter is discussed more freely and a healthy atmosphere created for making our urban areas far more clean than they are. Most of the towns of India are literally open and stinking public latrines and are suffered because we as a people have utterly dulled the sense of smell. If only we could see or feel as a foreign visitor does we would soon recover a sense of shame that we have also lost.

SANITARY CONVENIENCES

In the previous chapter I have discussed the various patterns of dry latrines in India and found them all of a most insanitary type. It is, however, easy to put up a sanitary dry latrine if we give direct access to the scavenger, keep a receptacle under the seat, provide a separate seat for washing and have a light and well ventilated superstructure. But it is obvious that a water-borne latrine is a clean alternative convenience which western science has presented to us. Considering the strong prejudice that we have against night-soil and latrines, I believe that nothing less than the universal introduction of water-borne latrines can remove the ancient innate prejudice. I consider the heavy cost of this change as worth while if India is to be a clean and sanitary country and if our prejudice is to be really eradicated. Unfortunately only about 34 towns out of 2,245 have complete or partial systems of underground drainage. The Central funds provided by National Water Supply and Drainage are inadequate and are almost wholly directed to water-supply. A pittance of Rs. 5 to 10 crores is spent on expansion and improvements of under ground drainage in big cities. The rest are left dry and dirty. An under-ground drainage scheme for a city of one to one and a half lakh population costs about Rs. 1 crores. It is estimated that the total cover-

age of all big towns would require more than Rs. 350 crores to be made available over half a dozen Five-Year Plans if population remains stationary. Where the funds are available, the pipes or the engineers or both are not available, only paper sanctions stand. But more than mere funds there is need for an almost revolutionary change in our sanitary habits. As a people we Indians are yet not sanitation conscious. Even our sense of duty to our neighbours and our duties as citizen are realised but dimly.

But it is a fortunate trend that in several states there is a desire to put in septic tank latrines in new houses, wherever there is adequate water supply. In Bihar and some other states bye-laws have been passed making it obligatory for owners to have septic tank latrines where the floor area is more than 1000 sq. feet. But this bye-law like so many others is not strictly observed. Whatever change has come is due to private efforts. It is now time that Local Bodies should add their public services to such private efforts. A septic tank latrine for a family of 5 to 7 members should not cost more than Rs. 500. This can happen if the Health Department takes an initiative in approving a standard design for such a latrine, as there is a standard pattern of the wheel-barrow prescribed by the Central Health Engineering Research Institute, Nagpur. The Municipal Body should authorise a trained plumber to do the job at a moderate commission and also see to it that he has the adequate supply of cement and pipes. Where one private latrine is not able to find space for a septic tank, it is upto the Local Body to permit a large septic tank for 20 to 30 houses.

Occasionally such tanks get choked by stones and other rubbish. In that case arrangements must be made in each town for cleaning and repairing the septic tanks. If these conveniences are provided systematically by municipalities, the adoption of septic tank latrines will become a movement in many towns. Time is ripe for it but not the Local Bodies.

But the crux of the problem is the conversion of dry (Sandas) latrines into septic tank latrines in lakhs of old houses. In cases where there is enough space for a septic tank, owners are willing but demand an incentive. One way is to give a loan at low interest and recover it within two or three years. There can be a slab system for giving no loans to high income groups; 50% loans to middle income groups and 100% loan to low income groups. Loans, however, are easily given but recoverable with great difficulty and expense. In Patna and Jaipur loans of one lakh each was given by the State Government to the municipalities but were misused by the municipalities for paying salaries to their staff. Most municipalities are financially broke and most States know that loans will not come back or will be taken as grants. But there is another way of giving a concession on the latrine tax, wherever it prevails. A 25% concession is, I believe, quite attractive. Considering that it will be a permanent one. The municipality can also afford it because water-borne latrines require fewer scavengers for cleaning them. I am of opinion that State Governments should permit Local Bodies to regularise such a concession. The problem of converting lakhs of dry latrines into water-borne is a huge one but it is time

that it should be resolutely tackled and solved.

But there is a type of wet latrine, known as rural, which can be easily introduced in suburban, if not in urban areas. This is known as the slab-cum-water seal latrine or technically as the leech system latrine. It has the same basin and seat as the septic tank latrine. But instead of three septic tanks, there are two ordinary kacha pits (3' × 3' × 3') covered by bamboo or brick, into which the night-soil flows by hand flushing. A gallon of water or less is enough to flush out and then because of the water seal there is neither smell nor flies. The kacha pits absorb the liquids but retain night-soil as manure. A pit takes three years to fill up and then the alternate pit is put to use. A flue is fixed over the pit to let out gases. The equipment of the latrine—the slab and the water seal—costs about Rs. 25 exclusive of superstructure, but one is saved of the services of the scavenger permanently. Care has to be taken that hand flushing is done immediately and that there is no well within 30 feet of the pits. Where there is piped water supply there can be no infection from the pits. These latrines are now introduced in thousands by Sanitary Inspectors attached to Blocks and 50% grant given in several areas. I see no reason why such latrines should not be introduced in sub-urban areas having piped water supply. Our P.W.D. is sometimes too orthodox and hide bound to accept new and cheap alternatives.

There is also a so-called pattern of water-borne latrine, known as 'Everkleen' made by a Meerut firm, which is really an improved pattern of dry latrine. The basin and the seat is the same as in septic tank latrines

but in place of tanks or pits there is an iron pan (16"×8"×4") under the seat into which night-soil is hand flushed. The pan receives the night-soil, the urine, the washing water and then an extra dose of hand flush after every use. The result is that night-soil literally floats in pools of water, which over-flows or is let out through pores at the top, which get easily choked. The user has a clean latrine inside but the drain outside is literally flooded with night-soil, water and urine. The pan lets out much water along with a deal of night-soil, which breeds flies, and emits smell. This latrine is also more expensive than the slab and water seal (rural) latrine.

From private water borne latrines the step to public water-borne latrines seems easy, but I have in practice found it difficult. A public latrine is used much more heavily than a private latrine and it being everybody's, is almost looked after by nobody. A public latrine is a necessity in India considering that less than 50% of houses have any latrines. But a public latrine must always be put in special charge of a scavenger and who lives in a hut on the spot. He has to keep it clean all the time. More than that there must be adequate supply of water in over-head tanks. I have often found tanks without water or tanks with broken pipes without flowing water. A water-borne latrine without water is much worse than a dry public latrine and much more expensive. Most of the public latrines in Madras City are water-borne but are generally filthy for lack of water. The scavenger is there but not the water or the mechanic who can repair breakages or remove chokes. The maintenance of most water-borne public latrines in India is abomin-

able and the seats are generally dirty, rusty and full of smell. Often such latrines are situated in distant and segregated places, for no one wants them near. In my mind such public latrines should be in the most crowded places and preferably kept underground as in Europe. But they must be kept scrupulously clean by the scavenger, the mechanic and even the user. Our Railways at some stations have a fool proof system of over head tanks and automatic flow of water every few minutes, which washes away night-soil in the drain. Much water is wasted and water does not flow all the 12 hours of the day. But the latrines are kept fairly clean. Instead of that a push or turn cock beside each seat saves water and is better provided the user pushes and turns the cock after every use. In any case the chain pull is the worst because it gets out of order after a few miscellaneous pulls and is then rarely put in order quickly. Thus the wet public latrine in India has quite a few problems of maintenance that remain to be solved.

The wet public urinal is cheap and very much easier to maintain. But it is strange that every town has much fewer urinals than public latrines. It requires no scavenger in special charge and a mere trickle of water can keep it clean. A person uses a public latrine but once in a day but needs to attend a urinal half a dozen times. There is another strange thing about a urinal that they are almost invariably meant for men and hardly ever for women. This discrimination based on sex is one of our unjust legacies of the past. The pattern of the structure of a urinal is simpler and fairly good. There are three low walls, a pair of steps by way of seat and a drain in

front. The steps should be at least 4" high and the drain in front should be 'U' shaped and 4" deep. I have found that in most towns the habit of urinating while standing in the western way is growing. This should be encouraged. If the steps are high and the drain somewhat deep the urinal can be used both by squatting and while standing. However, there may be a few white tiles fixed into the facing wall for those who want to use the urinal while standing. It is unnecessary to fix a porcelain basin and far too expensive to purchase and maintain it. Often it is broken and then never replaced.

But I have invariably found the location of the urinal in highly unsuitable spots. They are put up in isolated and out of the way places, where they are generally used for easing and then never cleansed. In fact we have paid no attention to the location of our private latrines, which are generally on the road side or on the back alley or on the roof. Both the public latrines and urinals are usually built away from places of habitation and where they cannot be kept clean. We waste water in many ways, even where it is scarce, but never wash our dry latrines, public or private. The wet ones have tanks but no water. I suggest that public urinals should be located in the most crowded parts of the town and more specially at blind ends of streets running into bazars, markets, bus stands, tonga and rickshaw stands etc. There should never be more than two units in a place but the busy part of the town should be saturated with them. This will do away with the smell of urine that pervades towns and penetrates our nostrils. Such urinals should be placed over drains, underground or

surface, so that cleaning becomes automatic. Where there is piped water supply, a pipe with a few small perforations over the drain should do the job of washing at a minimum expenditure of water. Such urinals in crowded places and without a fourth screening wall is not likely to be used as a latrine. It will be difficult to build many more public latrines in most towns considering the expense or trouble of maintenance. But one can dot every town with public urinals for men and women all over at very little expense, and with hardly any trouble of maintenance. We can thus remove one of the greatest public nuisances of urban areas.

Lastly a few words about the dry (Sandas) public latrine. Like the private dry latrine it too should have a separate seat for washing, have a receptacle (18" × 9" × 6") under the seat and give direct access to the scavenger. Cleaning from the back should be scrupulously avoided. The back side invariably becomes filthy and gives easy access to pigs, which disturb the sitter and litter the grounds with their own droppings, which no bhangi will remove. The pan under the seat should fit in like a drawer in a table, so that no pig can have access to its contents. There must be a good tap with a reservoir outside each public latrine for washing the receptacles and the wheel-barrow buckets. Where there is filth there must be water and plenty of it to wash it away. The walls of the latrine need not be higher than 4 or 5 feet, without a door but with a screening wall for each seat. I would much rather have no roof at all, to give the feeling of sitting in a 'jungle' or only half a roof for minimum protection. But there must be plenty of water to

wash the seats and the pans, if the place is not to stink and breed flies. The cleaner, the latrine, the more it will be used and the less the resistance of neighbouring houses. All these improvements are simple, inexpensive and of course sanitary but so far we have only succeeded in making our public latrines but plague spots, emitting foul smell and breeding fouler hordes of flies. Public latrines have really become additional public nuisances which we all detest and yet dare not reject.

WHAT HAPPENS TO A TOP PRIORITY

I—Urban Water Supply

Man has a few primary needs and their order of urgency is food, clothing and housing. But food includes drinking water and really precedes it, though not stated as a separate need. Mankind gets drinking water somehow, but a major part of it does not get protected or adequate drinking water. A large number of diseases, mainly intestinal, like cholera, dysentery, diarrhoea, are carried through contaminated water to the human system. India has suffered long from these diseases but inspite of rivers of water and skyfuls of rainfall it is believed that only a very small percentage of our total population gets safe water-supply to drink. More than one-third of the area is dry, rocky and arid, with very inadequate water supply. To my mind the most urgent task of the Government which deserves top priority, is adequate supply of safe water supply to all parts of India, urban and rural. But we seem to be yet a long way off from that happy position.

The First Five-Year Plan made the first serious attack on this grave situation by providing a sum of Rs. 30 crores for water-supply and sanitation. Of this amount Rs. 14 crores were for rural and Rs. 16 crores for urban areas. Fortunately the Central Government sponsored a 'national water-supply and sanitation' scheme in

August, 1954. For this purpose another Rs. 12.72 crores were allocated for urban and Rs. 6 crores towards rural water-supply. But in actual fact the sum allotted was Rs. 42.62 crores for urban and only Rs. 6 crores for rural areas. We shall take urban schemes first. Upto March, 1956, about 196 urban water-supply schemes and 58 drainage schemes were "approved" for execution in 17 different States, but the actual expenditure was only Rs. 8.3 crores—out of nearly Rs. 43 crores. The schemes executed were almost all for water-supply and hardly any for drainage. The unexecuted ones were carried forward as a spill-over to the Second Five-Year Plan. But the rural schemes fared much worse. Out of the 134 schemes approved in 19 States very few were executed and only a pittance of Rs. 2.8 crores was actually spent, though 82% of the population lives in rural areas.

The Second Five-Year Plan provided a sum of Rs. 53 crores for urban water-supply, made up of Rs. 30 crores in the Central and Rs. 23 crores in the State plans. A separate provision of Rs. 10 crores was made for Corporations. The number of schemes approved was now 275 but the expenditure was mainly confined to spill over schemes of the first plan. The performance was below expectation during the first three years. About Rs. 20 crores were sanctioned but hardly Rs. 15 crores were spent. Later the total plan allocation for urban water supply was reduced from Rs. 63 crores to Rs. 55 crores but the sum actually spent was only Rs. 40.32 crores, up to 31st March, 1960, with one more year of the Plan to spend the balance of Rs. 15 crores. Top priority is always given to urban water-supply at all important con-

ferences of the Planning Commission, the Health Ministry, the Central Local Self Government Council and the National Development Council, but so far it exists more on paper than in fact. The Third Five-Year Plan has provided a sum of Rs. 89 crores for urban areas and it remains to be seen how much is actually spent.

The Health Survey and Development Committee, known as the Bhore Committee, was appointed in October, 1943 and submitted its report in December, 1945. It devoted three chapters (XII to XIV) to what is known as Environmental Hygiene and Chapter XIV was entirely devoted to water supply and sanitation. I do not know what has happened to its manifold recommendations but I do know that precious little attention was paid to these important chapters—until the end of 1954, when a national water-supply and sanitation programme was formulated by the Central Government. The Bhore Health Committee was of opinion that safe and adequate piped water supply should be provided to all urban areas within a period of 35 years i.e. by 1980. The Report was prepared in pre-Independence days when such reports were drafted by officials and conservative members, with little imagination and less courage. Yet judged by existing conditions, the recommendation was a brave one, even for the present Government. The Bhore Committee also recommended that underground drainage should be provided in all towns with a population of 50,000 and above i.e. nearly 50% of the urban population, within ten years i.e. by 1956. At that time the total cost was estimated to be Rs. 60 crores; spread over a period of ten years. (The latest estimate is about Rs. 300 crores). The

Environmental Hygiene Committee (1948-49) appointed by the Union Government was the first agency charged with an overall assessment of the problems in the entire field of environmental sanitation. It recommended a comprehensive plan to provide water-supply and sanitation facilities for 90% of the population within a period of 40 years and also suggested a scheme of priorities for certain areas. However, no concerted measures were taken to implement their recommendations. As if these two reports were not enough, a third committee was appointed by the Ministry of Health, known as the National Water Supply and Sanitation Committee, which submitted its report in 1961. According to its original estimates a sum of Rs. 1300 crores was required to complete all the urban water supply schemes and sanitation but this was later reduced to a more moderate figure of Rs. 900 crores, considering the financial limitations of the country. In actual fact only a sum of Rs. 89 crores has been provided for urban water supply and sanitation in the Third Plan. There were substantial shortfalls of expenditure during the ten years of the first two plans. Granted that steps are taken to avoid these shortfalls during the Third Plan period, it is quite clear that we have to wait for 4 to 5 more plans "to provide urban water supply and sanitation facilities for 90% of the population within a period of 40 years..." perhaps beginning from 1956.

According to the Report of the National Water Supply and Sanitation Committee, there were 12 Corporations, 1294 municipal towns and 939 Panchayats (or Notified Area Committees) in India in 1961-62. This

makes up a total of 2245 urban areas. After making its survey it was found that only 245 towns had an 'adequate' water supply by which I understand a daily supply of 20 gallons or more per capita. About 465 had inadequate water-supply and the rest had no piped water supply whatsoever. This shows that nearly two-thirds of urban areas get their drinking water from wells tanks and rivers. Such a supply is generally inadequate and certainly not hygienic in any sense. It has been observed that where there is no piped water supply, the average daily consumption of water varies from 5 to 10 gallons per head. According to the Environmental Hygiene Committee of 1949 only 16% of the total number of towns in India had protected water supplies which served 6.15% of the total population. It is for this reason that conference after conference has passed resolutions year after year drawing attention to the neglect of this top priority and made insistent demands for more generous allocations. The conference of Health Ministers in July 1957 (New Delhi) resolved that 'considering the importance of providing safe drinking water supply to the people of the country, the conference was of opinion that the provision in the Second Five-Year Plan for water supply schemes was very inadequate and suggested that this scheme should be given the highest priority...' A similar resolution was repeated by the Central Council of Local-Self Government held at Srinagar in September 1957 and again in its 4th meeting held at New Delhi in October 1958. Such resolutions have become repeat resolutions at all annual conferences of Ministers, but have ceased to have any meaning. The Second Plan provided Rs. 63

crores for urban water supply and the Third Plan which in size is almost double of the Second Plan, has allocated only Rs. 89 crores. By the time a little headway is made with the existing schemes it is found that the number and population of existing towns and cities has increased by about 30% to 40%, making all estimates mere under-estimates.

It appears to my mind that one of the gravest drawbacks of the present system of allocations is the neglect of small and medium municipalities with small revenues. All municipal towns with a population of less than 20,000 should be put into a special category, entitled not only to a priority but to favourable terms. As it is all rural areas are entitled to a 50% matching grant on capital expenditure and all urban areas have only a claim to cent per cent loan. I think, small towns of population below 20,000 should be treated as semi-rural and grant-in-aid given to them on a slab system. The national water supply and sanitation committee 1960-61 suggested that towns with a population of 5 to 7,000 should be given 35% of costs as grant. Those with a population of 7 to 10,000 should be given 25% and the rest with a population of 10 to 20,000 only 15% grant. I think this is a very reasonable suggestion and should be accepted by Government. Without some element of grant it is highly improbable that these petty municipalities will have the benefit of piped water supply. But there is an irony about the relative treatment of small and big municipalities in India. The allocation for the National Water Supply and Sanitation Fund are on a basis of cent per cent loan, without any subsidy. These loans are appro-

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crores for urban water supply and the Third Plan which in size is almost double of the Second Plan, has allocated only Rs. 89 crores. By the time a little headway is made with the existing schemes it is found that the number and population of existing towns and cities has increased by about 30% to 40%, making all estimates mere under-estimates.

It appears to my mind that one of the gravest drawbacks of the present system of allocations is the neglect of small and medium municipalities with small revenues. All municipal towns with a population of less than 20,000 should be put into a special category, entitled not only to a priority but to favourable terms. As it is all rural areas are entitled to a 50% matching grant on capital expenditure and all urban areas have only a claim to cent per cent loan. I think, small towns of population below 20,000 should be treated as semi-rural and grant-in-aid given to them on a slab system. The national water supply and sanitation committee 1960-61 suggested that towns with a population of 5 to 7,000 should be given 35% of costs as grant. Those with a population of 7 to 10,000 should be given 25%, and the rest with a population of 10 to 20,000 only 15% grant. I think this is a very reasonable suggestion and should be accepted by Government. Without some element of grant it is highly improbable that these petty municipalities will have the benefit of piped water supply. But there is an irony about the relative treatment of small and big municipalities in India. The allocation for the National Water Supply and Sanitation Fund are on a basis of cent per cent loan, without any subsidy. These loans are appro-

priated mostly by big and medium municipalities leaving very little for small ones. But in most states the central loans are cleverly converted partly into grants by the State Governments. In Orissa the Government gives 66% grant and 33% loan on water supply. Others convert cent per cent central loans into 50% grants and 50% loans. It appears to me that this arrangement is both wasteful and irregular. There is no reason why water supply should not be run as a service paying its way by means of an adequate water rate. It should be run exactly as supply of electric power is run as an essential service. Secondly it is wrong to convert a central loan into a grant when the funds do not belong to the State Government. To the extent the State Government gives a grant to that extent central loans should be reduced and grants paid out of State resources. This unequal and discriminatory treatment of different municipalities is a cause of much injustice and heart-burning.

Lastly our present system of expenditure on schemes and their implementation needs a thorough revision. The First Plan provided a sum of Rs. 42.72 crores for urban water supply but actually spent only Rs. 8.3 crores ! The second plan provision was Rs. 63 crores, later reduced to Rs. 55 crores and the sum actually spent was perhaps less than Rs. 45 crores ! The Third Plan has provided Rs. 89 crores and in all probability a part of it will lapse. On the other hand all Central and State Conferences go on shouting for larger provision for water supply and the National Water Supply and Sanitation Committee wants a sum of Rs. 900 crores to complete all the schemes for all the urban areas. It is probable that our estimates are

wrong but it is certain that the administration of funds is thoroughly inefficient. As far as I know the public Health Department is yet in its infancy and is generally manned by a personnel indifferently recruited and trained for a short period at Calcutta. It is not yet considered as a separate, important and more essential department than the medical department. It is generally treated as a department sub-ordinate or incidental to the medical department. The public Health Engineering Department is yet in the process of being born. It is not even clear whether this new department will be born and bred by the Public Health or the Public Works Department. Environmental Sanitation and along with it water supply and sanitation will receive its deserved plan only when Public Health and along with it the Public Health Engineering Departments are properly organised and integrated under a single Ministry. The Seminar on Financing and Management of Water and Sewerage Works convened by the Ministry of Health (Government of India) at New Delhi on April 24 to 30, 1964, recommended the constitution of Public Health Engineering Department under a Ministry which has charge of both Health and Local Self Government and that the State Chief Engineer, Public Health, should work as a colleague of the Director of Medical and Health Services. The functions and status of this Department are yet undefined both at the Central and State levels.

WHAT HAPPENS TO TOP PRIORITY

II—Urban Sanitation

Nearly three years ago, the Union Ministry of Health constituted a committee 'to make assessment of the requirements of water-supply and sanitation, both urban and rural, and to suggest ways and means of financing these programmes effectively'. Smt. L. Simon, Minister for Local Administration Madras, was the Chairman. The Committee's Report on National Water Supply and Sanitation was submitted on September 30, 1961, and was considered by the Central Council of Ministers for Local Self-Government at its annual meeting held at Calcutta from November 1 to 3, 1962.

This chapter intends to discuss mainly the problem of 'sanitation' as presented by the Committee's Report on "National Water Supply and Sanitation" submitted on September 30, 1961. It appears that this Committee imposed on itself two very serious limitations. Its assessment of the problem and estimates of expenditure is mainly of water supply and not of sanitation. In rural areas the problem of sanitation, which means the sanitary and scientific disposal of all human wastes, remains as serious as before and the "national water supply and sanitation scheme" is really intended for the 'nation' minus the rural areas. It is well-known that 80 per cent of the population lives in rural areas. We also know that

in the cycle of nature what is taken out of the soil must be returned to the soil, so as to enrich and replenish its fertility. But in India these 'organic wastes' are allowed to become filth that breeds disease and robs the soil of its riches. Owing to our traditional habits and worse still, owing to our criminal negligence our agricultural production has been allowed to deteriorate from generation to generation for lack of organic manure.

Secondly, by 'national sanitation' we really meant only underground sewerage of sullage water. The scheme does not include surface drainage of sullage water. The report states that 'sewers had been laid only in 35 cities and towns, but even so, there were unsewered areas within those cities and areas'. In Bihar only Patna has an underground sewage system, which, however, covers but one-third of the city. The remaining 75 towns have no such system. Madhya Pradesh has partial sewerage in Indore and Gwalior only; Madras has sewerage in Madras city which covers two thirds of the population and Madurai and Coimbatore have but partial sewerage systems. And so on for all the other States. The 'national' scheme for sanitation really covered only 35 cities out of 2,282 cities and towns in 1961. Even these are 'partial' projects and State funds under this scheme are largely spent on improvements and extensions of large incomplete projects. As the population of cities goes on increasing rapidly, a provision that is adequate today is found to prove inadequate after five years and so the race between need and funds for meeting the need is always an unequal one.

But there is another and a graver problem that is

now assuming dangerous proportions. The population has become water-conscious and insists on adequate supply of clean drinking water. More and more funds are demanded for piped water-supply. But people, and specially those living in municipalities have not become sanitation or sewerage conscious. Very few new schemes of sewerage are taken up for execution and most of the funds are spent away on improvements and extensions of old schemes in big cities. A handful of cities swallow 95% of the funds for water-supply and leave hardly 5% for sewerage.

The Enquiry Committee on Scavenging Conditions, 1960, of which I happened to be Chairman, recommended that 'a specific amount must be earmarked for the underground drainage schemes separately and at least one-third of the total allocations of the national water-supply and drainage schemes should be earmarked for drainage schemes'. The Third Plan accordingly earmarked a 'specific amount' which is only one fifth of the total allocation under this scheme. But in practice this is a paper allocation and the thirst of municipalities for water-supply remains insatiable as ever. For the last several years the Central Council of Ministers of Local Self-Government and the Central Council of Health Ministers have passed resolutions showing the danger of neglecting sewerage, specially in areas infected by filariasis and the irony of improving one amenity and simultaneously increasing another disamenity. The Central Council of Local Self-Government which met at Calcutta in December, 1962, resolved that "there should not be separate schemes for water-supply but schemes for water-supply

and drainage should be formulated and executed as one unit....." In spite of the unanimous and persistent opinion of Ministers of Health and experts the neglect of sanitation continues. The reason is that funds allocated for this scheme are so meagre that water-supply projects swallow up all and ask for more. Secondly, we in urban India have not yet become sanitation-conscious. We prefer roads, lights and water to sanitation. Very few bother about or are even aware of the fact that our towns stink and reek with filth. It is time that sanitation should rank as one of the problems of national emergency.

But the financial aspect of the problem has to be touched in a realistic way. Underground sewerage schemes are fairly expensive, more so if costly plant is installed for treatment of sullage water. Water supply schemes are equally expensive, if not more—but these are believed to pay for themselves by means of water rates. It is theoretically accepted that the supply of water is a service which should be run by water Boards, as electricity is supplied by Electricity Boards, so as to leave a neat profit. The water tax is generally 10 per cent of the rental value of house property, while the latrine (sanitation) tax is only $7\frac{1}{2}\%$ of the rental value. In fact the latrine tax should be higher than the water tax, considering the growing deficits arising out of sanitation services. In any case they should be equal to and not lower than the water rate. As it is, even the water rate does not pay for the services. The national water supply scheme is based on the advance of loans by the Central Health Ministry, to be returned with interest in due course. In fact, as the report of the National Water

Supply and Sanitation Committee States : "The Central assistance was in the shape of a total loan to State Governments who distributed the amount to the local bodies as loan and partly as a grant-in-aid. The pattern of such State subsidy varied from one-third to two-thirds of the cost of the schemes".

The State water supply schemes are not self-supporting but are heavily subsidised by State Governments and the water tax is inadequate for the return of the loan. Year after year Ministers and their experts pass resolutions and insist on grant of Central subsidies for drainage schemes, appointing sub-committees to persuade the Planning Commission to sanction grants, without which sewerage schemes cannot be undertaken by municipalities, most of them with poor resources and with heavy annual deficits. The State Governments should be stopped from sanctioning grants for water supply out of funds advanced only as loans. To the extent they sanction grants for water supply these must be out of their own and local resources. It is diversion and misuse of funds to convert Central loans into State grants. On the other hand at least 25% grants should be sanctioned for underground drainage schemes for towns with a population of less than one lakh and more than 50,000.

But this leaves the problem of surface drainage, which prevails in almost all the cities and towns, completely untouched. With regard to rural areas there is no scheme of surface drainage as such but haphazard attempts at kucha drains out of residual funds at the disposal of Development Blocks, without site plans, estimates and technical advice. All the sullage water in villages is collected in

pools and ditches all round, to breed flies and mosquitoes and to brew that smell peculiar to our villages. In urban areas, as we know, 68.2 per cent of our population is not served by sewerage system and 11.2 per cent is served but inadequately. And yet there is no national or State scheme for surface drainage of these vast areas. The result is that one-third to two-thirds of surface drainage is kucha, with no plans and estimates of a phased programme for total pucca drainage. This becomes serious when we know that much urine and night soil in urban areas finds its way into surface drains. Often the bazars and thoroughfares have pucca drains but not the residential quarter. It is necessary to take these up in a phased programme spread over about ten years, making provision for a growing population. Estimates of expenditure must be prepared by the Public Health Engineering Department for all towns with a population of less than 50,000 and the schemes financed by State loans and small element of subsidy on a slab system, as in the case of water supply for small towns. As it is, there is no recognised place for surface drainage schemes either in the Central or State and therefore in local plans. These are thoroughly ignored in 80 per cent of towns.

It is generally found that water supply is improving fairly rapidly in larger cities—while drainage schemes remain in the survey or estimate stage. In places where the annual rainfall is over 40 inches the problem of storm water disposal assumes a serious form. In Bihar, where there are almost annual floods, the storm water flow makes the problem of drainage particularly acute. For instance

the industrial town of Katihar swims in the midst of pools of water and Muzaffarpur is thoroughly water-soaked. At the highest levels there is a surreptitious struggle going on within the minds of experts between underground and surface drainage. There is some expert opinion in favour of underground drainage in all medium towns as against surface drainage. It believes that surface drainage plus storm water channels cost anything from 60 percent to 80 percent of the costs of underground drainage. In smaller towns of population between 25,000 to 1,00,000 the relative costs will be nearly the same. This view has yet to be accepted by Health Engineering Departments before it becomes operative. The large number of smaller towns have mainly kutchra drains carrying sullage, night soil, storm water, flood water and even rubbish to no one knows where. We are fabricating Master Plans for Monster Cities bursting with crowded populations and shouting for more water and drainage and other amenities. The more they get the less is left for the whole country. And yet we are astounded at the break-neck rate of our urbanisation with all its evils.

The latest All India seminar on Water and Sewerage Works held in Delhi in April 1964 made a preliminary appraisal of the total problem and recommended that a total investment of the order of Rs. 1,000 crores will be necessary to place urban water supply and sewerage on a satisfactory footing. The present pace of the programme would require 8 to 10 Five Year Plans to meet the urgent situation and is therefore quite out of time with the realities of the situation. The seminar was also strongly of the view that water supply and sewerage should be

then treated as two stages of a single operation, with adequate provision of funds for both so as to complete all urban schemes within fifteen years. It, therefore was of "the unanimous opinion that the formation of statutory water and drainage boards is an effective means for increasing the efficiency of financing and operating municipal water supply and sewerage services. Such boards will have the advantage of financial autonomy; improved ability to tap local resources (with State support); better opportunities for grouping small municipalities to run their schemes on a business-like footing; better realisation of dues when this duty is freed from local politics; pooling of technical staff for a joint effort. The seminar was confident that all urban schemes including those of sewerage could be made financially self-supporting and that there would be no need of any element of subsidy even for small municipalities. In fact it considered the concept of a subsidy as a gift as illusory and as engendering a feeling of expection of charity in the place of self-reliance. The seminar was attended by 118 delegates, including thirteen representatives of International Agencies. In fact this was the first time that the urgent problem of urban water supply and sewerage was tackled on a comprehensive, realistic and practical basis. At my suggestion the word 'Drainage' was substituted for the word 'Sewerage' in the proceedings of the seminar. Thus surface drainage would no more be given the go by as not the concern of the Central or State or Local Governments. It is probable that the recommendations of such an important seminar would find same place in the Fourth Plan. It would also be proper if a similar seminar is held on Rural Water

Supply and Sanitation. As it is the recognition of the problem of Rural Water Supply is only verbal and the miserable sums provided in plan periods are generally unspent. About sanitation the less said the better. It is nowhere within the mental horizon of planners twenty years after independence.

NIGHT SOIL DEPOTS

In every town there are a number of night-soil depots. Night-soil removed from latrines or open grounds is carried by the scavenger to a spot where it is collected before it is finally carried to the dumping ground. The Bhangi comes into physical contact with it first in the latrine, secondly while carrying it to the 'Depot', thirdly at the Depot and lastly at the dump. These are all closely inter-linked and one stage inevitably leads to the next, until night-soil is finally disposed off. Each stage is or has been made filthy and it is difficult to say which is more so. But it appears to me that the so-called 'Depots' are needlessly made filthy and that this stage can almost be eliminated. It is desirable that every private house should have a private latrine but it is not necessary that every town should have a night-soil 'Depot'.

Night-soil in latrines is generally taken in small, handy, open bamboo baskets and then collected in bigger baskets that can hold about 10 to 15 seers. The baskets are often plastered with cow dung from outside but ash or earth or even paper is spread inside to prevent leaking of the contents. In fact liquid night-soil of the latrine is invariably mixed with ash and made semi-solid before it is carried on the head or the waist. In Panjab and other States where there are customary rights, it is even mixed up with dry household rubbish, almost in the proportion of half to half.

It is then heaped on the ground convenient to the scavenger and carried to the depot at a time convenient to him or her. When taken to the depot it is again heaped on the ground until the bullock cart or truck comes to lift it. Another set of scavengers are employed to fill their baskets and empty them into the open cart or truck. What appears like rubbish is really filth containing night-soil. The roads stink with small heaps of such filth lying here and there. The Depots are nothing but big heaps of such filth and become plague spots for the neighbourhood. Often these depots are to be found inside the towns and in Bharatpur I found one in the midst of the bazar and adjacent to a temple. Because these depots collect large quantities of night-soil filth, their number is kept low and they are installed on the outskirts of towns. The scavengers have often to walk a mile or more to reach them before they are able to unload their baskets.

The basket is now being rapidly replaced by the open iron pan or 'tasla' which does not leak. Almost liquid night-soil is then carried with a little ash spread on it. But in many places the scavenger is given small iron drums, with or without cover, with a capacity of 15 to 20 seers. The night-soil carried is almost liquid and without any mixture of sand or ash. The drum often has two handles on the side for lifting but scavenger manages to lose the cover, even when supplied. This liquid night-soil is then poured out physically into bigger drums of 15 to 20 gallon capacity i.e. containing two to two and a half maunds of weight. In West Bengal and Orissa there are large drums of 25 gallon capacity and these are kept without covers. Night-soil is poured into them until it

over-flows on the floor. Neither the drums nor the floor is or can be washed. When the bullock cart arrives the liquid contents of drums are bucketed out and poured into the bullock cart drums. Some times a team of three to four scavengers gangs up and passes buckets dripping with night-soil from one to the other and finally to the cart. The hands and clothes of workers are besmeared and fouled until long habit has made them unconscious and insensitive to the process. An ordinary human being will find the sight repulsive and the stink intolerable, In a few towns there are 'kunds' or pucca pools for containing night-soil, which are also emptied by gangs of scavengers passing on buckets of dripping night-soil from the cart. This is a slight variation on the big drums where no floor is soiled though the pools are never washed. In Secunderabad I found a big barrel of 50 gallon capacity fixed on a high platform reached by steps. Night-soil is emptied in a man-hole at the top of the barrel and emptied through a spout at the bottom direct into the bullock cart or motor truck. The spout is opened by a cock but the barrel is unwashable. This is the least filthy way collecting night-soil before disposal to the dump. In Andhra drums of 10 to 15 gallon capacity are placed on the roads at various spots and filled by scavengers bringing night-soil from private latrines. They are then mounted on hand pushed trollies and carried to the Depot from where motor vans lift them bodily, at the rate of twenty per trip, for being emptied at the dump. The lifting into the van requires the labour of five persons and so does the emptying, while both operations are filthy.

It appears to me that the 'Depot' as an institution.

can almost be dispensed with by the mechanisation of transport. Night-soil mixed with sand or ash may be carried in big baskets but it need not be heaped on the ground at the Depot. At Patiala I found twenty such depots but there was always an open truck in position to receive the mixed night-soil directly. A retired Jamadar at a nominal salary was posted at each depot to see to it that filth was emptied straight into the truck and never heaped on the ground. For twenty depots there were 50 trucks working by turn in shifts, so that an empty one was always at the depot. In the afternoon the motor trucks were parked in the Transport depot and the night-soil depot replaced by a motor truck stand. Such stands ceased to be a public nuisance and could be increased in number without much public inconvenience. Where 15 gallon drums are kept on the roads for collection, as in Andhra, these can be taken to the 'stands' and straight-away lifted on to the vans. Each municipality must see to it that it has enough motor trucks or vans so that there is always an empty one at the night-soil stand. Thus night-soil when collected will never be kept at any place until it is removed when the van arrives. Each depot should be converted into a motor or cart 'stand' for receiving night-soil directly and taking it straight to the dump.

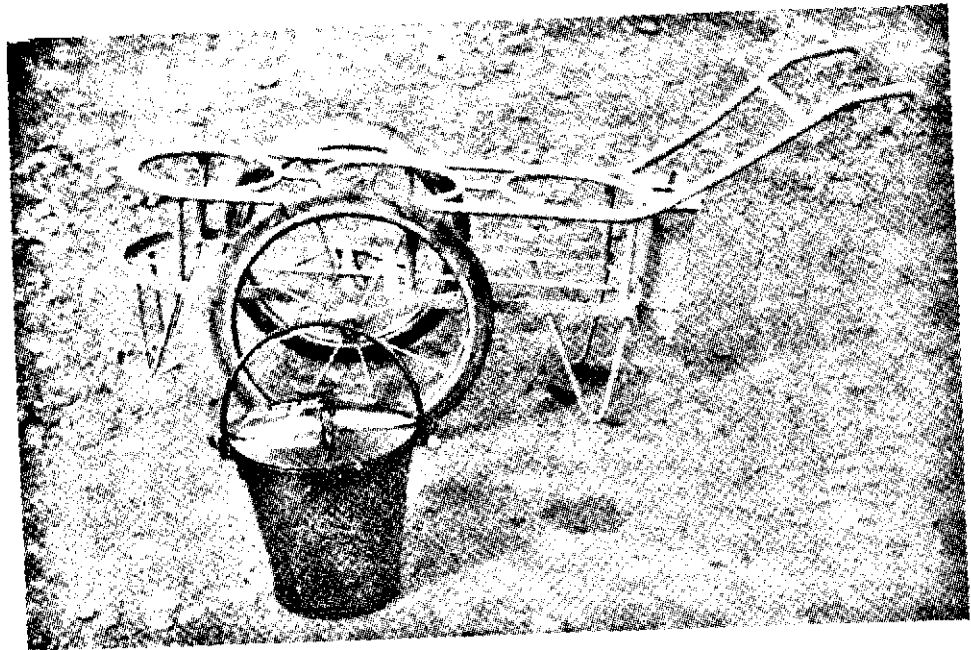
Fortunately in most municipalities the bullock or buffalo cart is being rapidly replaced by motor truck. The ass persists in the Panjab and the cart in Tamil Nad. But taking the country as a whole the transport of night-soil in towns is being mechanised. With the rapid growth of towns and their long distances the slow removal of night-soil or rubbish by carts creates traffic problems and jams.



Heads-load of filth Ghaziabad (U.P.)



Transport of night-soil as donkey-loads in Puniab



Approved Nagpur pattern No. 6

The sight of both is unpleasant and the smell is repulsive. Mechanised transport helps to minimise both these evils. But there is no close thinking about the kind of mechanisation and the design of motor vehicles which may be standardised. It appears to me that the Tractor-Trailer system is the best on the whole. A trailer has a double advantage. It can draw a truck for rubbish or a tanker for liquid night-soil. It is also detachable, so that empty ones can be lifted and full ones taken away. In some places the proportion is one trailer per tractor and often it is two trailers per tractor. I have been reliably informed that three to one is workable. I found in Katihar (Bihar) that the Health Officer was contemplating a proportion of seven to one and a tractor took two trailers at a shift instead of one. Where roads are good, this is possible. Secondly the trailer for night-soil should have a tanker, round or egg shaped, which can be easily emptied through a valve at the bottom, worked by a wheel at the top. Being round it is also easy to wash and empty, provided night-soil is pure. With increasing use of tankers and wheel-barrows the old habit of mixing night-soil with ash or sand becomes undesirable. The night-soil collected in closed buckets and carried in wheel-barrows require no such mixing to prevent leaking and seepage. But old habits die slowly. Both the wheel-barrows and the tankers are complementary but both require pure night-soil for their proper use. A serious effort is now being made to introduce wheel-barrows in a large way but there is no such equivalent effort to replace carts and motor vans by motor tankers. The municipalities have realised that such mechanisation means not only rapid disposal of waste but

means economy of labour. The bullock cart is expensive as well as slow. The motor van is faster but is always expensive as it requires unnecessary teams of workers for loading and unloading. The scavenger needs a little education before he understands that ash or sand are no more necessary to prevent leakage and that they are paid to carry night soil and not ash or rubbish. Carrying only night-soil will be a quicker job. Unfortunately this education of the scavenger has hardly started and the municipalities have yet no idea of standardised mechanisation. Worse still, most give first preference to mechanised transport of rubbish and yet leave the removal of night-soil to bullock carts. In the whole country I found that only Saurashtra has paid some attention to the scientific and standard mechanisation of transport, both of night-soil and rubbish. The transport depots at Jamnagar, Rajkot, Jhunagadh have excellent workshops attached to them and both are kept to a high standard of efficiency.

The rapid standardisation of mechanised transport raises the crucial question of adequate funds for carrying out the change. A set of one tractor and three trailers will not cost less than Rs. 20,000. This system will have to be supplemented by an ancillary system of Tempos and trailers for negotiating narrow roads and lanes. A few motor vans will be indispensable for outlying areas of growing towns for collection from thickly populated localities. At present mechanisation is taking place in a haphazard and halting way, in spite of the desire for doing so. There are irregular renewals and the normal budgets of most municipalities do not permit new purchases in a substantial way. There are small workshops for minor

repairs but no large workshops for heavy repairs. As there is no provision of stand byes, frequently a tractor needing minor repairs deteriorates until it requires major repairs. In Muzzaffarpur I found 5 tractors out of order and requiring major repairs and in most municipalities breakdowns are quite common. I think it is the duty of the Ministry of Health to indicate the standard pattern and strength of mechanisation for public sanitation and not leave this matter to mere time or the whims of Health Authorities. More than that the Ministry must find ways and means for quickening the pace of mechanisation that is already taking place. I suggest that each municipality must have 50% loan for mechanised transport, which may be equally shared between the Central and Provincial Governments. The programme may be phased over a period of 5 to 10 years, preference being given to mechanised transport of night-soil. It must also be made obligatory for each municipality to allocate a commensurate sum for the annual budget for purchase and maintenance of such transport. Today such a provision is inadequate and depends on the fancy of the Municipal Council. In the short run the municipalities will realise that mechanisation means economy in labour and in the long run that towns are kept more clean.

MUNICIPAL COMPOSTING

In every town and city there is always the problem of proper disposal of human wastes. These are mainly of two kinds—dry and wet. Dry wastes are partly organic (like garbage and vegetable peelings) and partly inorganic (rubbish like glass, wood, tin etc.). Wet wastes are generally organic and consist of sullage water, urine and night-soil. Where there is underground drainage, there are sewage liquids and their sediment known as sludge. The disposal of dry and wet wastes assumes large proportions in big towns and cities. It is calculated that every adult passes 6 to 7 oz. of night-soil per day. It would be 8 to 9 oz. per day for vegetarians and in some States of India there is a habit of easing oneself twice a day. Rubbish would be one lb. per head per day in small towns but would be one to two lbs. in bigger towns and cities. This rubbish is generally a mixture of useless refuses and useful garbage. The proportion of garbage in rubbish would be more than 50 per cent in small towns but would be hardly 30 per cent in cities. In big cities the disposal of refuse i.e. inorganic rubbish becomes a serious problem. So also the disposal of sullage or sewerage water in small towns is manageable but becomes serious in large cities with a daily supply of 30 to 50 gallons of water per head per day. The urban population of India in 1961 was 7.88 crores, distributed in about

3,100 urban cities each, with a population of more than 5,000 persons. The human wastes of such a rapidly growing population would run into millions of tons per year and their proper disposal offers a very large problem.

The most immediate problem is where to collect these large quantities of dry and wet human wastes. Ordinarily wet wastes like sullage or sewerage water is disposed of easily into streams, canals or rivers of water. The rivers of India are well-known in Indian tradition and literature. They have generally some sacred love about their genesis and a certain purifying quality is attributed to them by religious rites. But they carry a load of filth and impurity perhaps unknown in any other country. Besides carrying the ordinary human filth they also carry the dead bodies of men and animals. So far very little has been done to reduce this pollution and desecration of holy rivers. In India the purity of castes has been ingeniously mixed up with touching of drinking water but in India we have also managed to pollute water, standing or flowing, in as many ingenious ways. If scientific purity of water is ignored then this way of disposing of wet human wastes is quite simple and easy. But the disposal of dry wastes offers a more serious problem, specially in big towns. Burning up refuse in incinerators is obviously wasteful and creates a smoke nuisance which would be unbearable. Perhaps every 5,000 persons produce one tone of rubbish per day and more in cities. This wasteful method of disposal by incineration can be tolerated only if indulged in by the military, which rarely thinks in terms of economy. The

next method is to do controlled tipping and filling up of dips and ditches in towns, where so much of building work is done. But it is not always easy to dispose of all the rubbish of a town in this way.

Since a long time it has been observed that human wastes mostly come from the soil and the best disposal is their return to the soil. There is a kind of natural cycle in organic matter by which waste is transmuted into wealth. In fact waste is only matter in the wrong place i.e. not returned to the soil. The soil requires water, air and manure to be productive and fertile. The process of converting organic wastes into organic manure as food for plants is known as composting. In simple words composting is open air oxidation of such wastes so as to reduce the proportion of carbondioxide to nitrates from 60 : 1 to about 12 : 1. Our soils are in dire need of nitrogen for revived fertility and composting is a method of drawing nitrogen from the atmosphere into the soil through the decomposition of wastes by bacterial effects. Such organic composts are the natural food of plants and are more beneficial to crops than the addition of artificial fertilisers. More than that they add what is called 'humus' to the soil that makes its texture light and suitable for aeration. The Indian peasant, like the peasants all over the world, knows the benefits of natural manure. But unfortunately he has known but never made any effort to realise the benefits of human wastes and excreta as manure for his soil. Such is his instinctive repugnance of human excreta.

It is calculated that in Indian towns only 50% to 60% rubbish is actually collected. Very few houses have

dust or refuse tins and few towns have a satisfactory system of refuse bins or drums at convenient street corners. Our habits of throwing about rubbish at all times in all places but away from our own houses reduces towns into rubbishy towns. Only Bombay and perhaps Ahmedabad have a fairly scientific and mechanised system of collecting rubbish. So also less than 50% of night-soil is really collected for composting, because hardly 50% of Indian houses have private latrines. In the South the percentage perhaps falls to only 30%. Even where there are private latrines, we manage to mess up night-soil, urine and heaps of water in such a way that some of it over-flows and more of it is emptied by scavengers into open drains. There is thus not only insufficient collection but an artificial imbalance between the collection of rubbish and night-soil due to our traditional habits. This imbalance is further accentuated by removing rubbish by mechanised transport in preference to removing night-soil. The bullock cart is yet reserved for removal of night-soil and an evil pattern of a cart. It will be therefore necessary to correct this imbalance in collection, this prejudice against night-soil and improve the collection of both rubbish and night-soil.

The general method of composting in India is by trenching, which is a simple and cheap method. But no standard and uniform method of trenching prevails. The depth, the width, the length, the internal distance of trenches varies from town to town. The depth in the soil should be normally 3 ft. and never more than $3\frac{1}{2}$ ft. for active bacterial operation. So also the width may be about 8 ft. and the length say 20 ft. It is known that

50 c.ft. of manure compost weighs about one ton and a trench should be a one ton compost trench. This would be easy for calculation, for carting and for land management. Scientific trenching requires a 6 inch layer of rubbish and a 2 inch layer of night-soil, because one cubic foot of rubbish weighs only 20 lbs. and one cft. of night-soil weighs 60 lbs. After maturation they are almost of equal weight. There should be 6 such layers of 8 inches each i.e. a total of 4 ft. with 3 ft. inside the trench and one ft. above it. But in most towns the height, the number, and proportion of layers vary so that the end product is rarely of a uniform quality. There is rarely a proper lay-out of trenches with geometrical system and still less an adequate provision of roads between trenches for carts and motor vans to operate efficiently. The connecting road leading to the trenching ground is almost never pucca and becomes impassable during the rainy season. Above all the dumping grounds are too near human habitations considering the rapid growth of towns. There are dumps which are only one to two furlongs, not miles, from residences. It is calculated that for the refuse of every 10,000 persons, there should be at least one acre of land i.e. for a lac there should be 10 acres of dumping ground. There never is such an adequate provision and there are hardly any alternative sites. Often the dumps are allotted on rocky and uncultivable lands, on which composting by natural process becomes too slow. Thus a simple and natural process of composting our wastes is riddled with obstacles and inadequacies which are obvious. The result is that almost all dumps are run at a loss and not

as a business promising profits plus public health. In fact no accounts are kept and often the manure produced becomes an unwanted commodity lying on the hands of the municipality.

This raises the question of mechanised composting where everything is controlled. Proper composting requires attention to aeration, temperature, moisture for bacterial decomposition and digestion. Mechanised composting controls all these factors. It adds the required moisture, maintains the required temperature and disturbs the mass for quick oxidation. The net product is uniform, without smell and secures a good price. Human wastes are full of rubbish like glass, wood, metals, cloth etc. which add to the weight but reduce the quality of compost. Mechanised plants have crushing hammers and magnetic arrangements for separating organic matter from mere rubbish. The digestion hardly takes a week, when trenching takes about 6 months. A mechanised composting plant costing about Rs. 5 lakhs can handle 100 tons per day—enough to serve a town of one lakh population. It will hardly occupy the space of one acre. In big towns and cities the problem of increased rubbish and too little night-soil makes trenching more and more difficult. A mechanised compost plant can add sludge or sewage or night-soil to heaps of rubbish for starting the process of decomposition and maturation without any difficulty. Cities like Delhi, Allahabad, Benaras which are surrounded by agricultural fields can do a roaring piece of business through mechanised composting and avoid the waste by incineration or filling land. Unfortu-

nately not one city of India has so far installed a modern though modest compost plant.

Experts have calculated that town compost that could be prepared from human wastes of 7.88 crore urban population would be about 9 million tons. As against that the present production is only 28.55 lakh tons i.e. a little less than one third of the potential. The potential production of compost would contain 0.61 lakh tons of nitrogen, 0.52 lakh tons of phosphoric acid and 0.71 lakh tons of potash. The monetary value of these plant nutrients would be about 25 crores of rupees and the potential availability of nitrogen alone would be equal to the nitrogen supplied by the ammonium sulphate of the Sindri Fertiliser Factory. Its effects on an additional agricultural production would be considerable. It is well-known that agricultural production per acre is four-fold in Japan and three-fold in China as compared to India—and this is mainly due to the scientific and rational application of human night-soil, liquid or composted, in those countries. Of late the peasants repugnance to night-soil compost is on the wane. In Saurashtra cart loads of raw night-soil mixed with rubbish are willingly taken by peasants from the town to the fields. In the Panjab scavengers have customary rights even in night-soil of their clients and private dumps are maintained by them within municipal limits on rented premises, for selling raw and decomposing refuse to peasants. Composted manure is often sold by auction to competitive bidders, at increasing prices, though in other places low prices were fixed by the Food Ministry years ago as incentive to farmers. Difficulties of transport to fields

yet exist but the prejudice to use of owners carts or handling human manure is fast disappearing.

The Grow more Food Campaign launched by the Food Ministry after the Bengal famine and since Independence has had something to do with improved methods of composting and the growing popularity of urban compost. In some States the Food Ministry has given loans for mechanised transport of manure. But this has been in a haphazard, irregular manner. It is the function of Health Ministries to collect and carry refuse to dumping grounds, which function they have largely neglected, as shown by me in a previous chapter. The Food Ministry may only provide loans for disposal of compost to peasants on their fields. On the whole the prejudice of peasants to using their own carts for carriage is decreasing. The Food Ministry can also do its best by organising training for scientific composting. In some States compost development officers or Bio-Chemists have been appointed to train Municipal Sanitary Inspectors for a week or so. But this is done irregularly, casually and for too short a period. There should be courses of training also for Jamadars who are actually in charge of composting. Secondly the Food Ministry can help in providing agricultural farms to municipalities, not only by way of demonstration but also for setting up a profitable business in growing grasses, fruit trees, if not vegetables. It can also help in constructing godowns for storage of compost, specially in rainy weather.

Lastly there is the human factor of compost maddoors, who are the most hard-worked and yet the most

neglected class. Standing on filth he is not provided with boots. Resting during mid-day he is not provided with any shelter. Working in dust and filth, there are hardly any wells or taps for washing and drinking after work. In fact all the washing of tankers and vans and carts should be done through over-head pipes and tanks on dumping grounds but water which is the first need for cleanliness is the last provided for this 'unclean' occupation. Existing dumps are too small, too near, too dirty and too uneconomic to be tolerated any longer. In fact the compost worker should not only be trained but efforts should be made to interest him in composting by giving him a bonus on profits. That assumes that dumping grounds should be profitable business concerns, run on scientific lines and with the active interest of workers. It is possible that the irrational and unscientific attitude towards night-soil may be really over-come by the rational and business like organisation or urban composting.

HOUSING OF SCAVENGERS AND SWEEPERS—THE WEAKEST SECTION OF THE COMMUNITY

For improving the living conditions of scavengers and sweepers the one most important factor is the provision of suitable Housing for them. Other social amenities in the form of starting Bal Bhawans, Sanskar Kendras, Palna Ghars (Creches) become meaningless without having proper houses to live in. Even the provision of adequate and clean drinking water, roads and lighting depend to a great extent on the prior existence of habitable houses. But generally speaking, scavengers and sweepers live in 'Bastis' which are situated in the worst part of towns. Often an open kacha nullah (drain) runs through these bastis. As if this public nuisance were not enough, it is also found that there is a public latrine, a night-soil carts' stand, even a dumping ground located near these bastis. To this the sweepers add a feature of their own—the scavenging pigs—as the last touch to make the site a plague spot in the town, so that the Hindu cremation ground appears a decent place by comparison. On or near such filthy and segregated sites, the scavengers are allowed to put up kacha *jhupras* and *jhuggis* of mud or straw or corrugated sheets, which just give physical shelter and for the rest only dis-comfort. Roofs are so low that often it is difficult to move about while standing; too

dark to see faces clearly and too stuffy to breathe freely. These are but one-room shelters for a family and frequently for more than one family. Verandahs are rare and even the kitchen is within the room or out in the open. Thus the problem has many facets—of segregation, of filthy sites, of tiny building units, of lack of minimum amenities for clean living and lastly lack of social amenities.

The most serious obstacle is the lack of suitable sites for Housing of Conservancy Staff. Alternative sites near places of work are generally unavailable. Where available these are too costly for sweepers or municipalities to acquire. Proceedings for acquisition of building sites are the first and often the final hurdle which means the failure of Housing Schemes. There is even a greater hurdle—the social tradition of segregated caste housing, now reinforced by modern class housing, which makes segregation in housing a permanent social disability. In a few cases the bastis happen to be on good sites but efforts are made to push them to the outskirts of the town on the plea of constructing pucca tenements. Thus the problem of Housing is basically one of finding proper sites, even more than the construction of pucca tenements. It is the primary duty both of Government and the Local Body to secure and develop a proper site first and then start construction work. To build pucca tenements our filthy or segregated sites will only help to perpetuate the Housing problem. There are many cases where scavengers and sweepers have put up good cottages with their own resources, when a good site is assured to them.

The next question is the allotment of a minimum plot for construction. It has been observed that the minimum need is for two rooms, a verandah, a kitchen and an open but enclosed ground. For a family of five members the plot must be 500 sq. feet at the rate of 100 sq. feet per person. Harijan families are generally larger and a Harijan tenement often accommodates more than one family, because there are too few of them for so many. A plot of 700 sq. ft. is, therefore, a minimum need. The built area may be 240 sq. ft. for two rooms (10'x12'), 80 sq. feet for a vernadah (8'x10'), 30 sq. feet for a kitchen (5'x6') making a total of 350 sq. feet for the built area. The Home Ministry Scheme provides a building plinth area of 220 sq. feet only (120' for one room, 80' for a vernadah and 20' for a store). But it suggests a bathing platform and a sanitary latrine 'wherever possible'. More than that it suggests that each house 'must be planned in such a manner that with improvement in the living conditions of beneficiaries an additional room or two can be constructed in the near future'. The slum clearance scheme of the Housing Ministry provides a building plinth area of 232 sq. feet—120' for one room, 84' for verandah and kitchen, 16 feet for a bath room and 12 sq. feet for a lavatory. Only one room is provided in this scheme which is confined mostly to big cities where sites, materials, labour making Housing too expensive and a tenement of 230' costs Rs. 3,000 to Rs. 4,000. But even the slum clearance scheme desires to build two room tenements when financial conditions become more easy. The Prime Minister has recently pronounced the doom of one-room tenements, which do not meet 'minimum'

family needs and are both insanitary and against moral hygiene. The existing arrangement for providing only one-room and a verandah cum kitchen must be quickly scrapped as too inadequate an accommodation for the poorest family in the country.

With a two-room tenement, a verandah, a kitchen and some open space the question of cost per tenement assumes importance. Under the Housing Scheme of the Home Ministry for Backward Classes, there is provision of a sum of Rs. 1,000 only per tenement, irrespective of the acquisition of a plot, its development charges and a built area of 350 sq. feet, which will meet the minimum needs of a family. Nor is there any difference made between urban and rural areas with their varying costs of construction. There is now a proposal to revise this provision and increase it to Rs. 1,200 at least in urban areas. This should be adequate for a built area of 220' at the rate of Rs. 5 per square feet. Such a rate is, however, feasible only in small towns with a population of a lac and less. But it is necessary that an open space of 200' to 300' should be provided for the future construction of an additional room, a bathing platform, a store and if possible a latrine. It has been found that the pattern of priorities is a room, a kitchen, a verandah, a store, bath room and a latrine. The bath and latrine hardly receive any attention. These do not exist even in most lower middle class family houses. The store is desired but there is hardly any space or money left for it. But the need for an additional room is intensely felt by all families, even of the lowest social strata. The priority and importance given to the bathing platform and latrine by

the Home Ministry and the Slum Clearance Schemes has no relation to the actual needs. Our chief anxiety should be to provide an additional room and an open space of 200' to 300' in spite of the increased provision of Rs. 1,200 per tenement.

It appears to me that in small towns, having a population of one lac and less it is possible to build a two-room tenement, with a total floor area of about 325 sq. ft. at a cost of about Rs. 1,200, provided the site is given at a nominal ground rent and cheap local materials are used. Let us take the materials first. The plinth may be only one foot high. Walls may be of second or third class bricks in mud plaster. The roof may be of country tiles or of balis covered by matting filled with earth, with a coating of mud plaster or in cool climates of corrugated sheets covered by straw thatch etc. The floor may be of mud plaster only and concrete may be used only for pointing of walls on the outside or in the kitchen and bath-room floors. In fact the life of the tenement being taken to be only 20 years, there will be a variety of local materials that will easily suggest themselves to an intelligent person for cheap construction. The urban pattern of pucca brick, cement floors, lintels roofs is entirely unsuitable and unpractical within the present cost estimates. In fact very little attention has so far been paid to plans and cost of poor class housing in urban areas and still less to rural housing. Expensive middle class patterns of design and cost are thoughtlessly imposed on the poor and backward classes. It is necessary that plans must observe the importance of providing minimum plot area and built space. Secondly, some

research along with a deal of common sense must be used about building materials of tenements for the poor.

Equally important is the question of the nature of aid provided by the Home Ministry. At present there is a grant-in-aid of Rs. 750/- per tenement and the balance of Rs. 250/- is expected to be provided by the beneficiary in labour, transport, materials or cash. The Home Ministry scheme is a self-aided scheme for building of self-owned tenements. The beneficiary is expected to contribute 25% or even more of costs, in any conventional way, preferably in labour. In fact the whole sum of Rs. 750/- is often paid in cash, irrespective of any contribution by the beneficiary. Very often the payment is made through the Social Welfare Department and tenements are built by ordinary contractors. There is little supervision and check on construction and the beneficiaries are given ready-made tenements, poorly and wastefully built. It would be much better to allow the beneficiaries to build their own houses under the supervision of a municipal committee and not by contractors. Secondly, given the plan, the Government grant should always be in two instalments and in kind—never in cash. It will be for the beneficiary to give his free labour and where necessary to employ and pay skilled labour. In this way it would be possible to build two room tenements with a kitchen and a verandah, according to specifications, given before, having a life of 20 years and within a cost of Rs. 1,200 per tenement. It is possible that a tenement of this pattern may require some additional financial provision. But this should be met by a loan, not exceeding Rs. 500/- and recoverable by the

Local Body in 12 or 15 annual instalments. In towns with a population of one to three lacs, the total cost of self-aided and owned tenements may be of the order of Rs. 2,000 per tenement. But the additional cost of Rs. 500 to Rs. 750 must be advanced by the Local Body by way of a cheap loan, or hire-purchase system. This will further involve and interest the beneficiary in having his own house and saving for it. The scavenger and sweeping castes are considered to be deeply indebted on account of wasteful expenditure on drink, gambling, feasting etc. The desire to own and live in one's house will be the greatest social incentive for reducing expenditure and saving for housing. It will also raise the social position of these castes for acquiring and enjoying housing property. It has been found that under the incentive of ownership, kacha floors are later made pucca, verandahs are covered by trellis work and store rooms and bathing stands are also added.

Unfortunately, the Home Ministry Scheme of Housing is distorted or exaggerated in many ways by several State Governments. This scheme is basically for self-owned housing built by the beneficiary himself. Madras and Mysore give a subsidy of Rs. 750/- but each municipality contributes Rs. 750 and then becomes owners of the tenement. Uttar Pradesh gives subsidy of Rs. 750 but the municipalities contribute Rs. 500 per tenement and then become owners. West Bengal gives a subsidy of Rs. 1,350 along with a free site by municipalities, which then become owners. Thus the main purpose of the Home Ministry scheme is completely foiled. In some cases such municipalities also charge an economic rent

for such subsidized housing. Secondly, costs of construction are separated from costs of acquiring site and the total costs inflated. Andhra gives Rs. 250 extra for sites and development charges. Gujarat and Orissa give Rs. 500 for purchase of sites; Panjab gives only Rs. 200 for site. In fact both must be separated and payments may be made for either but not for both. In rural areas subsidy should be mainly for sites and in urban areas sites should be given by Government, or the Local Body free of cost but the subsidy should be for housing mainly. But the worst abuse of the original scheme is the arbitrary increase of subsidy and cost by many States. Madras and Mysore have increased the estimated cost to Rs. 1,500; Orissa to Rs. 1,750; West Bengal to Rs. 1,350 and Madhya Pradesh to Rs. 3,500! Given a certain sum under the Five-Year Plan for Housing of Backward Classes, with a provision of Rs. 750 only as subsidy per tenement, any inflation of subsidy and costs will only mean the construction of fewer tenements. And yet all these tenements are one room pucca tenements, with a carpet area of only 200 sq. feet and without any open space. There is a deal of superstition about building pucca tenements and a deal of orthodoxy about the use of traditional building materials along with the persistent use of the contract system by vested interests. It is a rough guess that in India there are about 5 lac sweepers and scavengers employed by about 2,500 municipalities. Hardly 10% of these employees have been provided with municipal tenements. The rest are living in private huts and jhupries. In five important States there are customary rights and the scavengers are privately employed,

who live in their own huts. These cost anything from a hundred rupees to a thousand. Some of them have a built area of 400 to 500 sq. feet with two spacious rooms, a broad verandah and a good kitchen—all costing about Rs. 800 only. But these are built with local materials of mud, straw, tiles and cheap wood so as to last for about 20 years. Our municipalities should study their construction and improve them say by 50% to 100% and no more. Instead of that we try to improve them by 1000%. The result is that most sweepers have miserable jhuggis and a very few live in small cramped, uncomfortable but so-called 'pucca' tenements. The designs and specifications of housing for 'the weaker sections' must undergo a revolutionary transformation to permit their housing on a rational and adequate basis.

Lastly the provision of total funds for housing under the Plan is the closest limit to its expansion. The Plan provision for urban Housing of Backward Classes under the Central Sector is only Rs. 290 lacs; provision under State Sector, mainly for rural areas, is only Rs. 235 lakhs. It is only in the Third Plan that specific provision has been made in the Central Sector for Scheduled Castes engaged in 'Unclean Occupations', so as to include sweepers and scavengers. I believe that about Rs. 200 lacs are spent on housing of Chamars and other Scheduled Castes in rural areas and hardly Rs. 90 lacs are left for sweepers during the Plan period. Giving a subsidy of only Rs. 750 per tenement it would mean the construction of about 7,000 to 8,000 new tenements if the total provision is spent. This happens rarely on account of complicated problems of acquisition of sites and difficult purchase of

building materials. In fact quite a few States have arbitrarily increased costs and subsidies. It is, therefore, necessary to look around for other sources of financial aid. Fortunately the Third Plan States that 'the housing of sweepers and scavengers must receive special attention'. In selecting slum areas for clearance and improvement high priority should be given to areas predominantly inhabited by sweepers and scavengers. It was only in the Third Plan that slum clearance was broadened to include slums of sweepers and scavengers. But unfortunately this remains but a paper recommendation. In fact 90% or more of this occupation live in slums and it would be easy, specially in case of municipal employees, to do slum clearance and re-building. But this is not done and instead slums are selected with very few i.e. less than 5% of inhabitants classed as sweepers. The Home Ministry's special provision is only a supplementary aid and every effort should be made so that this caste benefits from the general provision of the plan under various categories. The most obvious and the most neglected is the provision under slum clearance. Unless about Rs. 5 crores are earmarked out of the total provision of Rs. 20 crores. under slum clearance schemes, hardly any benefit will be enjoyed by this, weakest of weak social sectors, who really live in 'gandi bastis'.

The Third Plan also allows expenditure on 'improvement' of slums. The average expenditure on a new one room tenement with a built area of about 200 sq. feet is say Rs. 3,000. It is about Rs. 4,000 in the nine Big Cities. But there are thousands of slums having tens of thousands of huts which can be easily 'improved' with

an additional expenditure of Rs. 500 to Rs. 1,000 per hut. Such minor or major improvements have not been undertaken so far in any impressive way. In fact it would be desirable to modify even the Home Ministry scheme so as to give a smaller subsidy to existing jhuggis for building an additional room and this subsidy may be restricted to a sum of about Rs. 300 only. The crore in the scheme would then go a long way in covering a large number of 'improved' tenements. The instance on all new and pucca tenements results in heavy expenditure on a lucky few tenements and for the rest the lapse of large unspent balances. The total provision is too small considering the vast problem and yet the irony exists of unspent balances. The easy and obvious method of resolving the housing problem gives place to the tortuous, traditional and expensive method.

Lastly it will be good if the various schemes of Housing do not overlap but have different and well defined functions. For instance, the Home Ministry scheme of Housing for unclean occupations should be exclusively reserved for unclean occupations in the urban sectors and the Housing of Scheduled Castes, including the unclean in the State Sector for rural areas. So also the Home Ministry scheme for urban areas should be mainly confined to towns with a population of one lac or less, where houses can be built at a cost of Rs. 1,200. For cities with a population upto three lacs, an additional loan may be advanced, upto a maximum of Rs. 500 per tenement. The slum clearance scheme may be reserved for bigger cities with a population of three lacs and more. Here the Home Ministry's scheme of Rs. 750 as

subsidy would carry us no where. On the other hand the slum clearance scheme permits a total cost upto Rs. 4,000 and an additional subsidy for sweepers upto 65½% of cost. The Low Income Group is mainly a loan and not a subsidy scheme. There is permission for a subsidy of Rs. 750 as well, provided the loan is reduced to that extent and provided 20% of the cost is initially paid in cash. Such a scheme is really intended for the Scheduled Castes who may be said to belong to the lower middle class. There are very few who have risen to that class and the sweepers and scavengers are famous for the scale of their indebtedness. The starting of Co-operative Housing Societies is quite trying for all castes and classes. For the Scheduled classes and more specially the scavenging classes it presents nothing but a series of bottle-necks and hurdles.

NEED OF SOCIAL EDUCATION ON SANITATION

It is now obvious that the problem of public sanitation is largely one of scavenging and adopting scientific methods for disposal of excreta and urine. In rural areas, public sanitation is but a nominal term occasionally used in official reports and mentioned by public health authorities. No serious study has been made of its various aspects and the methods of approach for solving its problems. But in urban areas the proper disposal of excreta, urine and sullage water assumes large proportions as the towns, specially the larger ones, grow in number and density of population. Scavenging then becomes an essential occupation and the scavenger is said to belong to 'Essential' services. It is only very recently that Ministries and Departments of Health have become somewhat conscious of the complicated nature of this problem although very little is being done to break it up into its various aspects so as to deal with each part scientifically and efficiently. As it is, there is an utter lack of sanitation consciousness, at all levels, which makes sanitation drives mere spectacles for a passing show. We have become road, light and of late drinking water conscious but not yet sanitation conscious. In fact environmental sanitation is a term current only among so called sanitation experts, who are yet so few. It is,

therefore, necessary to make the country sanitation conscious by imparting a sort of sanitation education in a large and serious way.

To do so, it is necessary to understand not only the urgency but the complexity of public sanitation, the parties that should be concerned and the content of such public education. We have already discussed the different stages and processes involved in a campaign for sanitation, the largeness and urgency of the problems beginning with the latrine and ending with the composting field. There is not a single stage on the long road where we could indulge in some small feeling of satisfaction or achievement. In fact it is not only the Health Departments which have to be concerned but also the scavenging caste and more than that the general public. The last appears to me to be the most important because the present deplorable state of sanitation is largely due to the utter neglect of the public, its ignorance, its traditional habits and its old prejudices. The scavenging caste has become the most outstanding victim of these evil habits and ignorant prejudices. The Health Departments being official services take it easy because the scavengers are the lowest and weakest sector of the community and the general public is criminally indifferent. Each of these parties requires a fairly strong dose of education on public sanitation. We shall begin with the last first.

All over the world there is some repugnance for excreta—its touch, sight and of course smell. This is but natural and should cause no surprise. It is, however, kept within rational bounds. In India such repugnance is carried to extremes so that it overflows from excreta

to those who are given the duty to remove it. Excreta is filth but we in India almost identify the Bhangi with excreta and consider him as filth. I believe in the wide world there is nothing like the Hindu Bhangi. He is the unique creation of the irrational revulsion we have for excreta. The primary lesson to be rubbed into our mind is that excreta is filth but remains so as long as it is in the wrong place. In fact all matter in the wrong place is filth but has some human value if used in the proper way in the proper place. Night-soil is filth in the latrine but is valuable compost in the dumping ground and waste of night-soil is criminal waste considering the backward condition of our agriculture. This waste is wealth and not mere filth. Secondly the public must be taught that night-soil is after all not such a very dangerous thing. It does contain pathogenes i.e. germs of disease but these can be easily combated and that if night-soil can carry disease like Filaria, ordinary water can carry much more dangerous diseases like Cholera, typhoid, malaria, etc. Milk which is considered as the perfect food can equally well carry diarrhoea, cholera and typhoid. We are painfully learning how to protect our milk supply and more painfully understanding the meaning of pure drinking water but we are having it. It is a simpler training with regard to sanitary disposal of night-soil.

And the beginning has to be made with the latrine. One can understand the instinctive repugnance for excreta but one cannot understand the irrational dislike of the latrine. We dislike the touch, the sight and the smell of night-soil and this is also natural. But the way

to avoid or minimise these is to have a latrine. But we have adopted just the way to minimise touch but to maximise the sight and smell. By having no latrines and defecating any where we see night-soil everywhere and smell it by vitiating the pervading atmosphere. The country requires a raging campaign that every house must have a latrine, as much as it has a kitchen. In fact the two are essential and complementary to each other. Secondly this latrine must be a sanitary one and preferably a water-borne one. It appears to me that urban sewerage may be a luxury in other countries but in India it is a dire necessity, considering our inveterate habits and observance of mere ritual cleanliness. Where this is not immediately feasible, the septic tank latrine or the hand flush (slab and water seal) latrine must be made obligatory in all new constructions. The existing dry service latrine (Sandas) is an abominable structure which must go or be radically improved. The Sandas must be abolished by law and is a worse evil than the carrying of night-soil as head loads.

For this it is necessary to make a radical beginning with all our educational institutions. Many of these have excellent buildings, some have sports fields, a few have gardens but most have no latrines or have miserable ones. Every primary school ought to have model urinals and latrines and baths of approved pattern and kept scrupulously clean by students themselves. Every child must learn how to use and cleanse these at school and then at home. In this the child must become the father of man in the name of science, reason and necessity. A good beginning has been made by the Railways and the

Hospitals by enforcing the installation of modern sanitary fittings and trying to use them properly. Educational institutions alone can educate and inculcate the difficult art of proper maintenance. Select schools and municipalities must instal public exhibitions of the latest sanitary equipment and the best models of urinals, latrines and dust bins. Research may or may not be done by some experts but the common school must join in a daily search for improved tools and techniques in the school drain, urinal or latrine. It is mainly by such experiments by the common child that mental attitudes will change and ultimately radical advance recorded.

Next we have to take up the question of educating the Bhangi in methods of scavenging. There are a number of urban occupations which were considered unclean a few years back. The occupation of making leather goods, of cutting hair and even of washing clothes were considered 'unclean' in old India and the Mochi, the Hajam and Dhobi became untouchables. Today a great change is coming over all these and we have spick and span washing-dyeing houses, shining and clean hair-cutting saloons and not the last and least sparkling and attractive Bata Leather Shops. Nothing is more astoundingly refreshing than the fashion of using leather bags, leather cigar cases, leather suit cases and even leather decorations in orthodox homes when only the other day its touch was considered defiling. But scavenging has remained unclean and if possible has become more filthy than ever before in our crowded towns. The common Bhangi is born to it and the occupation descends from father to child as a natural legacy. Skills are hereditary

i.e. not learnt but imitated. Tools are traditional i.e. not modern but improvised. The very idea of training in scavenging skills and equipment with new tools appears as bizarre and unusual.

Unfortunately the Bhangi himself has taken the occupation for granted and has of late bothered most about his wages and the terms of his employment—never about the conditions under which he works. His only tools are a bit of tin as scraper, a leaking bamboo basket for carrying night-soil on his head, a bullock cart brimming with liquid filth over which he sits while on his way to the dumping ground. He does not mind putting his hands into drums of night-soil, or carrying it while dripping on his head or soiling his clothes over the bullock cart, or walking on it in the dumping ground. It is strange but true that the irrational repugnance of the Hindu for night-soil has directly and demonstrably resulted in the irrational and utter lack of it in the Bhangi. He is not consciously aware of the extent to which this unclean occupation has debased him in society. The first great lesson the Bhangi must learn is that night-soil is filth and scavenging is an 'unclean' occupation that has become hereditary. After all occupations are only means of earning a livelihood and any occupation should be as good as any other without becoming hereditary. But it is necessary to inculcate into him the sentiment that for him any other occupation is better than this occupation and that he and his children should cultivate a little of the irrational repugnance for night-soil, so abundant among Hindus. I hope that the Bhangi will soon become as much conscious of his working conditions, as he is now

of his service conditions and the time will come when some of his children will refuse to do scavenging, leaving this service to others who consider it as 'essential'. The best education from him is to cultivate a sense of self-respect and consider this occupation as unclean to which he must not cling as if by way of birth right.

The next is to demand new tools to enable him to avoid or reduce the touch, sight and smell of night-soil, as far as possible. Such tools are few, simple, cheap and now easily available free of cost from the municipalities, under instructions and grant-in-aid of the Ministry of Home Affairs. Tools like scrapers with handles, hard rubber gloves, short rubber sole boots are now being offered and willingly accepted by scavengers. The wheelbarrow for carrying night-soil requires a change of habit of carrying it as head or shoulder or waist load. Habits change very slowly specially among women who are constitutionally somewhat conservative. A certain patience and persistence is required to introduce the wheelbarrow among Bhangins but success is assured if a sense of self-respect is aroused in the community. In most States the wheelbarrow has come but the new habit has not yet had time to grow and assert itself. Unless and until the self-respect of scavengers breaks the old habit totally the new tools will come and go like a passing show. For this it is also necessary to start work or ten days course of training of Jamadars and subsequently of Bhangis to acquire the small skills necessary for their proper use. Two occupations in India are deemed to require no skills that can be acquired viz., scavenging and butchering of cattle. Both these require new tools and

some training in their use to improve working conditions that are degrading now. Once the beginning is made it will be possible to further improve tools and methods which will make these occupations demonstrably as clean as the occupations of midwives and surgeons. That is the standard of efficiency that has to be acquired.

Lastly we have the municipalities and corporations which have to implement programmes of public health and sanitation through their Health Departments. It is unfortunate but true that most of them are road and light conscious and are now becoming water conscious but are indifferent to public sanitation. Municipal Councillors allow the conservancy services to carry on sanitation work in the most insanitary, unscientific and wasteful way in this age of science and efficiency. This is so because the general public is apathetic and the conservancy staff is the victim of traditional filthy habits. Efforts have to be made to rouse both to a new sense of duty and self-respect, which is bound to be reflected in a new sense of responsibility among urban Local Bodies. As it is very few improvements are being introduced in a field almost barren of them and these are being introduced in a half-hearted and mechanical way. Grants-in-aid for purchase of tools are mis used for 'other' purposes, where tools are purchased they are of the wrong pattern, where they happen to be of the right pattern they are neither repaired nor replaced by new ones. The public and the Bhangi community as a part of it has a soul which can be awakened; but the Local Bodies can and should have some alertness and more of intelligence. Unfortunately both are scarce and the result is that the Local Bodies

are the most serious hurdle in the way of introducing improvements in public sanitation.

The Public Health Service is yet an infant service in India and very few medium or large municipalities have Health Officers. The rest have only Sanitary Inspectors. The Health Officers are really trained and oriented for the medical service in medical colleges. Those who are misfits in the medical line choose or are shunted off to the Health Service, after a two month's special course of training at Calcutta. Public Health Education has not yet been recognised as a distinct type of education and basically more important than mere medical education. The result is that the Director of Medical Services is also in charge of Health Services at the State level. He may or may not be assisted by a Deputy Director of Health who is also essentially a medical man. Often the schemes of the Health Ministry have to be implemented through the Ministry of Local Self-Government and the two are entirely separate, different and not well co-ordinated. The latest arrival on the scene is that of the Public Health Engineering Service, essentially a part and parcel of the Public Works Department, but working out the projects of the Local Bodies with indifference to the existence of the Health Department, while implementing sanitation projects. These Departments of Public Health and Public Health Engineering are new but necessary, but both are not properly affiliated to the Local Self-Government and Health Ministries. Hence progress in this field is painfully slow and disappointing.

SOME COMPLICATED PROBLEMS

It has been found that in India every house has not got a latrine and that on the average after every ten houses there are perhaps hardly five latrines. The number would be less in the South and slightly more in the North. It is only in Panjab that almost every house tries to have a latrine, though on the roof, as an after-thought or a mere extra. Nowhere is it considered as an essential part of the house, though in the North the latrine is called a 'Jai Zaroor' i.e. an essential place. The problem is how to make the public as much latrine-conscious as it is kitchen-conscious. This requires a raging and concentrated campaign which must change our mental attitude towards night-soil and consequently towards latrines. The public must be informed and educated about the chemical and physical and pathogenic aspects of night-soil in terms of science and reason. Talk about night-soil in respectable and decent circles must become open scientific and rational. It must be taken out of the irrational sphere of our sub-conscious. It will be simple and easy if a serious beginning is made in all our educational institutions, more specially in the primary and even pre-primary stages. This is our urgent but long-term programme without which all efforts at improved sanitation will be futile or disappointing. On the official side the Public Health Departments must join hands

with the Agricultural and Educational Departments so that the attack on the latrine front is complete and comprehensive.

But it is not enough to persuade people to have a latrine. The slogan must be 'Have a latrine and that a sanitary latrine'. It appears to me that such a latrine in Hindu India shall have to be a water-borne latrine, considering the inveterate repugnance that has come to us as an evil legacy of the past. There is the cheap slab and water seal latrine known as the 'Rural Latrine' that is slowly covering our vast rural areas. This was the result of coordinated efforts by a few Research-cum-action Public Health Centres, partly aided and guided by the Ford Foundation. It is now necessary for such centres to apply their minds to discover an urban water borne latrine which is not so expensive as the septic tank latrine nor so elementary as the rural latrine hardly suitable for congested urban areas. It is a puzzle how Research Scientists gave priority to the Rural Latrine and left the urban service latrine severely alone. As it is the septic tank latrine is making a painfully slow progress because it is expensive, requires much space creates a problem about the disposal of its affluent. The Aqua privy is less expensive and requires less space but gets easily choked up, specially as a public latrine.

But the hardest problem would be the abolition of the lacs of old service latrines or 'Sandas' and its substitution by water borne latrines. It is easy to prohibit it in all new buildings and then to enforce the prohibition strictly and severely. But it is not so very easy to demolish it and build a new one in its place. The cost, the

trouble and above all the existing inertia may prove insuperable obstacle. Perhaps the path of least resistance would be to alter and improve it at little cost and without offering any loan or subsidy for this. We must have a model design of a sanitary service (dry) latrine which at present exists nowhere, not even as a blue print. Rules of most municipalities mention a standard service latrine, without giving designs or specifications or estimates of such a latrine. I suggest that such a dry latrine should be well-ventilated, have a separate seat for washing, give direct access to the scavenger and be situated in a corner of the back side courtyard or verandah of the house. These are all necessary changes but require necessary alterations in our mental attitudes. Perhaps the most serious obstacle will be the resistance to the direct access of the scavenger because the repugnance to night-soil is matched by the revulsion to the person of the scavenger. These have to be overcome slowly, persistently and irresistibly over a long-time.

It has been found that little children generally ease themselves just outside their houses. Often there is no latrine at house and where there is one the child is not taught to use it properly. Some one must stand by his side while he defecates at ease and no one is free or willing to stand by his side in such a place. Sitting outside the house, the child has the company of other children too and can take his own time. At home if there is a step ((khudi) type latrine, perhaps the steps are too wide for him. If there is a flush type latrine he is afraid of the deep hole in the basin and more afraid by the flush water rushing into the hole. Where adults don't

bother about the proper use of a latrine, mothers will not bother about a latrine for a child. Perhaps the best solution is to have a cheap small commode for a little child and then empty its contents into the latrine. In no case should he be allowed to sit here and there inside or outside the house. A little grown up child has to be taught how to squat and use a latrine but it is necessary that some one must stand by its side. But here the proper solution will depend on the nature of the child and its parents, provided they seek a solution. It is not easy to offer a ready-made solution by a third party for such a tremendous problem.

All adults generally defecate once a day but urinate half a dozen times and oftner in the rainy or cold weather. In India the general custom is to do so out in the open, even where there is a latrine at home. Our service latrines are generally so dark and filthy that we refuse to enter them so often for passing urine. The result is the terrific and penetrating smell that pervades over our urban and of course rural areas. Long and traditional use has almost made us immune to all such smells. I am afraid it will be difficult enough to persuade our people to have a latrine but it may be less difficult to introduce a urinal at home. If every latrine has a separate place for washing that may be used for urinating also. If entry into the latrine for such a purpose is anathema, the next best is to use the bath-room. Only care should be taken that there is a special seat for it, over the surface drain and water is poured out after every use. As it is our bath rooms stink with the smell of urine. Perhaps a better place would be to have a separate seat for urinat-

ing outside in the courtyard or verandah but over a drain. The old habit of using a little water after every urination may be revived to keep not only the person but also the urinal clean. But the best and fool proof device is to have a water borne latrine-cum-urinal in every house that will offer the best guarantee against the use of outside spaces for urinating. Here again there is no single and positive solution of such a vast problem whose solution depends on the habits and idiosyncrasis of so many individuals. But I am quite clear that every urban (and even rural) area should be literally saturated with public urinals in all crowded places and thoroughfares. The habit of using the public urinal may subsequently inculcate the habit of having and using a private urinal. Unfortunately the same thing cannot be said about the public latrine, when the beginning has to be made with a good sanitary private latrine. The public urinal does not lend itself to such misuse as the public latrine does.

It has been found that the scavenging of most private latrines in India has become a traditional occupation for women. In rural areas the sweeper who is also scavenger for there are few latrines—is generally a man. In urban areas where the sweeper is not a scavenger, the sweeper is generally a male and the scavenger a female. Only in public latrines there are both—men for male latrines and women for female latrines. There are several reasons for reversing this role by having male scavengers and female sweepers. I believe the best uniform for a scavenger is to have no uniform at all while scavenging—except a short pant, a banyan, an apron, a pair of rubber gloves and rubber sole shoes. If possible the hair should

be cut short and a white Gandhi cap donned on the head. This filthy occupation should have the simplest, cleanest and whitest costume out-rivalling the apparel of a nurse or surgeon. But Bhangins in India put on saris or lehnga skirts and wear long hair but have no foot-wear. In northern parts they also observe some sort of purdah. It goes without saying that they are all thoroughly illiterate and ignorant about their jobs. They can never be persuaded to wear shorts or cut their hair or wear gloves or even to put on shoes. They are also conservative by nature and so bound down by old habits and traditions that it is not easy to change these and equip them with improved tools. Unfortunately they often take their little children with them while they work or to assist them in their work. Thus the occupation is made permanent and hereditary by human arrangements and society makes sure that the mother will pass on her occupation to her descendants in perpetuity. History shows few such legacies so evil as this one. Lastly, women visiting a number of private latrines in private houses lend themselves to little or large freedoms that may lead to loose morals. The taking of bread as a perquisite of her job, the Bhangin undermines the existence of her kitchen and by meeting miscellaneous males often undermines her domestic morals. It would be better and safer to change her job, from scavenging to sweeping roads or cleansing drains but it is difficult to say how this inter-change can take place. By custom the male has begun to think that scavenging is a woman's job and the most he can be persuaded to do is to scavenge roads and open spaces, but not latrines. However

municipalities, if they desire can slowly effect this necessary change whenever new appointments are made and provide alternate work to women. And the growing sense of self-respect and preservation of domestic integrity among men scavengers can be strengthened by voluntary workers.

In India most occupations—manual or mental—are based on a tradition of caste. This is more specially true of what are known as low manual occupations in rural areas. The village occupations of weaver, barber, dhobi, leather-worker and even potter are more or less hereditary. This hard old tradition is now being slowly cracked by urban influence and migrations to towns. But the occupation of Bhangi has remained severely hereditary, though it is mainly urban. This is so because it is so filthy that no other caste is willing to take it up, except under conditions of semi-starvation. By virtue of its filthiness scavenging is considered as the lowest of the low occupations and the scavenger caste stands at the base of the whole absurd complicated super-structure of caste. By a conspiracy of circumstances in several states sweeping has been separated from scavenging and the sweeper caste considers itself as superior in status to the scavenging caste. A sweeper will refuse to scavenge and will not take water or food with him. In the same basti both will live in separate blocks. In fact a subtle distinction has arisen between scavengers who cleanse latrines and those who remove it from roads and open spaces. This has resulted in disastrous economic consequences. The scavenger is believed to work for seven hours a day, but hardly works for more than three. Nor

can he be reasonably expected to scavenge for the whole day. Under rational conditions he could be allotted the work of sweeping for the rest of the day, but other sweepers will not permit him to do so. The result is that the conservancy worker in India is paid as a full timer but works only as a part-timer. For the rest of the day being idle he takes to smoking, drinking and gambling as part-time occupations. On the other hand the expenditure on sanitation grows heavier with every strike for a higher wage. The gap between input of resources and output of service is daily widening. This knotty problem can only be solved by dissolving these inter-caste barriers and by rapid mechanisation of various processes of sanitation, which at present sounds like a distant cry in the wilderness.

Lastly there is the old and outstanding problem of the 'Idle' Bhangi. Three hours filthy work and no work for the rest of the day has become a kind of special legacy. Most of the social evils that have cropped up in this caste can be attributed mainly to this ingrained habit of idleness. There is a slowly growing revulsion towards scavenging due to social awakening but there is hardly any desire for acquiring the skills of a cleaner manual occupation. These are too strenuous and continuous as an attractive alternative to a simple, light and part-time occupation. The need of a supplementary cottage industry which is a little more skilled and a little more strenuous and brings an extra-income may tempt the female if not the male scavenger. This may be poultry farming, ambar spinning, silk germ rearing, bamboo-cane work or some such light work. But as it is

the Bhangin has not even a regular kitchen at home and he will not even keep his basti and outside premises clean. He has got trapped in a vicious circle of circumstances, which are so over-powering that it is extremely difficult to rouse him to shape a new destiny for himself or even his progeny.

THE CHALLENGE OF AN OLD PROBLEM

The All India Harijan Sevak Sangh holds its annual sessions at various places and passes a number of resolutions after a free and forthright discussion on the main problem of abolition of untouchability. Clause 17 of the Indian Constitution formally abolished it in 1949; the Untouchability (Offences) Act was passed in 1955. The Home Ministry has set up welfare departments in each State for the well being of Scheduled Castes. The Harijan Sevak Sangh has been helping in abolishing untouchability since 1932 and the Depressed Classes League has been mainly working among Harijans. And yet untouchability persists, both in urban and rural areas. The pace at which it is receding is slow and much yet remains to be done.

It is being increasingly realised that untouchability cannot be abolished by external aids of money or legislation and mere organisations. Gandhiji called it the greatest blot on Hinduism and a great sin requiring a purification of men's own minds rather than helping others.

When he founded the Harijan Sevak Sangh he was confident that the Sangh's work will be done within ten years and Hinduism will get rid of this evil. Today he will be a bold man who can state any time limit of this nature. Often one feels the need of a second Gandhi to finish this great job, but God or Nature is not so lavish

easy conscience, after every such outburst. There is hardly an urge to purge oneself of caste discriminations and to organise any resistance for abolishing them among Savarnas as well as avarnas. They expect the savarnas to do the full job of exorcising themselves as well as avarnas of the sin of untouchability. They are but spectators for all time who like to indulge in depreciating the efforts, however, wrothy of savarnas. It is a consciousness of fuller rights without a qualm about the performance of any duties. Gandhiji expected Savarnas to purge Hinduism by purifying themselves. Educated Harijans have higher expectations from Savarnas in helping Harijans also to purify themselves, while having trust only in Government and laying exclusive claims to its funds and agencies. It is probable that with such expectations Harijans will now show some advance in the economic sphere, as they have already shown in education, but they will hardly make any impact on the abolition of untouchability.

The Harijan Sevak Sangh has always considered the problem of untouchability as basically a socio-religious matter, whose solution must start with the individual purifying himself first in order to purify Hindu society. In fact, every Harijan worker is asked to sign a pledge that—

“I shall personally refrain from considering any person as untouchable by reason of birth or caste. I do not consider any human being as inferior to me in status.....”

It means the abolition of belief in high and low by birth. Untouchability will not go until several Hindus, including Harijans, hold the contrary belief of equality by birth in an active and dynamic way. Fortunately, Gandhiji

has by himself done more than half of the job by effecting abolition of inequality in the religious sphere. Today untouchability utterly lacks the sanction of scripture or Hindu saint or priest. Almost all public temples, including the bigger ones are open to all Hindus. The desire to go to temples is growing weak, specially in the north and Harijans equally share the same feeling. Gandhiji hit the evil of untouchability on its head and so hard that today temple entry is not even considered a problem by Harijans. They sometimes talk as if it was never a problem little knowing that it was its hardest core. But social disabilities persist and will do so for some time, depending on the resistance offered by Savarnas and more specially by avarnas, who are their victims. Some of these disabilities are of a traditional nature, viz., access to wells, services of village barbers, access to tea houses and restaurants, exaction of BEGAR, wearing gold ornaments, riding horses etc. They are fading away gradually and could be wiped out quickly if intelligent and restrained resistance is organised in towns to begin with. Harijans have expected other Hindus to give a lead up till now. It is, to my mind, their turn now to give a lead for us to follow. Such a lead might help Harijans to abolish untouchability from among themselves as will.

But there are social disabilities of a more resistant nature. These arise out of the pursuit of some dirty occupations in a dirty way. There is not much of a superstition about considering the occupation of a barber, or a washerman, or bamboo worker as unclean. The hair-cutting saloon and the dyers and cleaners of the town have transformed these trades and made them fashionable.

Leather work and shoe making are on the way leading to respectability. This way has been shown to us by Bata, whose foot-wear shops are the cleanest, brightest and most attractive in towns. It is surprising how during the last twenty years leather wear and leather goods have become quite the fashion, even with woman. Two hereditary occupations remain as the citadels of filth, insanitation and detestation. Scavenging and flaying of carcasses are yet the most repulsive and hateful trades in India, in which science, health and common-sense have been so far overwhelmed by an evil tradition.

It is upto the Harijan Sevak Sangh to make its most serious attack on these occupations, in the name of humanity, science, health and even national wealth, so as to transform them into clean modern pursuits open to all and not confined to a caste, which is detested for these.

The Harijan Sevak Sangh and the Hindu Community would do well to concentrate its energies in improving the working as well as the living conditions of the bhangi and the chamar. A campaign has to be launched, sustained and stimulated in a deliberate and aggressively scientific manner. The public and even the Government is bound to fall in line if not for the sake of bhangis and chamars, then at least in the name of science, sanitation and avoidance of waste of national wealth. Such a drive will give teeth to an activity which of late has ceased to be a movement. It will even receive the hot support of Harijans on economic grounds.

It many Conferences an opinion is expressed that as

long as there are castes there will be outcastes. Time has come when an attack should be launched on both. Today they lack the support of religion or scripture. Neither of them serves any useful function and one could say with some truth that both have become somewhat anti-social. Caste is being revived by politicians for snatching power and the outcastes are being perpetuated for purposes of greed. Politics and economics are becoming a disintegrating force, isolating Harijans and dividing so-called Hindus. The challenge is no more to Hinduism only but to men's manners and morals. It must be faced not only by the Harijan Sevak Sangh but by all good men in society. The crisis is not of belief but of good conduct.

SANITARY CONDITIONS IN TAMIL NAD

It was in 1956 that the Central Harijan Welfare Board (Union Home Ministry) appointed a sub-Committee of five members to inquire into scavenging conditions in India, more specially with a view to stop the habit of carrying headloads of night-soil. The sub-Committee toured in almost all the States with me as the Chairman, and submitted its Report in 1960, which was published in 1961. In June 1962 the Home Ministry appointed an Advisory Committee of nine members, with me as Chairman, to help in the implementation of the recommendations made more specially in introducing improved tools for sanitary scavenging. These tools are mainly four, viz. the scraper for cleaning the latrine, the pan under the seat of easing, the one-gallon covered bucket for carrying night-soil and the wheel-barrow for transporting it to the nearest place of collection. The tools are simple and inexpensive. The Home Ministry pays liberal grants to municipalities for purchase of tools and the Central Institute of Engineering, Nagpur, prescribes their pattern. But with all these aids it has been found that this simple change is not so simple as it appears.

The Inquiry Committee visited Tamil Nad in June 1959 and the Advisory Committee in December 1962.

But very little improvement could be seen after more than three years. The most significant change has been the introduction of about 3,000 wheel-barrows since 1958-59 by most municipalities, with a grant of 3 lakhs, more specially during 1961-62. It is now intended to purchase 2,614 additional wheel-barrows with a grant of Rs. 4 lakhs, sanctioned for 1962-63 and thus "completely eliminate the practice of carrying head-loads of night-soil" in Tamil Nad. The wheel-barrow has probably come to stay and female scavengers have accepted it, in spite of their earlier protests. The introduction would have been more rapid if a light pattern, as suggested by the Inquiry Committee, had been introduced. In Tamil Nad the wheel-barrow carries a single drum of 20 gallon capacity, difficult to handle and empty, specially by women. It also costs Rs. 190/- each, as supplied by a single manufacturer—Simpson & Company Limited. The Inquiry Committee and the Home Ministry had suggested a pattern carrying two small pails, of 5 gallon capacity and costing less than Rs. 120/- each. In several towns of Tamil Nad the Simpson wheel-barrow has been purchased but is not exactly on the roads, while orders have been placed for the supply of additional 2,614 wheel-barrows of the same ill-advised pattern. The night-soil barrel is never washed and gets corroded within six months, without any provision for replacement. On the other hand not a single other tool has so far been introduced, in spite of the promised Central Grant. The open bamboo basket persists and is carried on the shoulder instead of the head. To my mind its replacement by

one gallon bucket is as important as the light wheelbarrow itself, if the head-loads have to be stopped.

These new tools are important, but the latrine and its pattern seem to me basic to the improvement of scavenging conditions. Speaking generally for all the States of India, hardly 50% of house-holds (excluding huts and the home-less) have latrines and if anything perhaps only 40% have latrines in Tamil Nad. Henceforth no plan of a new house should be passed if it has no latrine. In Bihar most municipalities have resolved that new houses must have sanitary-septic tank latrines only and for which a rebate of 25% on the "Latrine Tax" will be permitted. But the real problem is that of existing houses, which can have but do not have latrines. I think time has come when a survey of private latrines should be made and the municipalities should insist on new latrines being built in old houses which have space for doing so. India is the only country where body-loads of night-soil are seen and perhaps also the only country where the sight of rows of men easing themselves on the road or rail side, and in the open is so unforgettable. Kerala is the 'cleanest' State in India and has no "head-loads" but if anything the chains of squatters easing themselves along roads are the thickest and almost endless. In the West men and women eat and drink publicly but ease themselves privately. In India it is the reverse. We have willingly welcomed the new fashion of eating publicly but persist in carrying on the old fashion of easing ourselves in the open. The result is that all roads, parks, platforms stink with night-soil and we are proud of keeping our houses 'clean' at the cost of converting

whole towns and villages into vast latrines. Wishing not to "see" night-soil at home, we cannot escape its smell and also see it everywhere, except at home.

In most of the towns we visited, we found that public latrines of the flush type had been introduced. For instance Vellore had 5 flush and 13 Dry public latrines; Coimbatore had 6 flush and 97 Dry latrines; Kancheepuram had 2 flush and 36 Dry latrines. The shift to flush latrines is thus very slow. In Madras, because of the underground sewerage system, 302 were flush and only 52 Dry latrines. But in almost all the places, including Madras, the condition of flush latrines was unsatisfactory, if not worse than that of Dry latrines. The overhead tanks had inadequate supply of water and there were no taps inside the latrines and sometimes even outside them. The seats were generally choked with night-soil and everything was left to the scavenger to keep them clean. A set of flush latrines must have a good supply of water, with push-cock taps inside each latrine, a tap over a reservoir outside it—and a Bhangi in special and preferably exclusive charge of it. The Dry public latrines were fortunately open to the sky, but with trap doors and instead of pans there were heaps of earth under the seats which are changed after several days. A tap over a reservoir for washing was a rare phenomena. In every town there were extremely few public urinals for men, but none for women. These were generally of the basin type, which can not be misused for easing. Obviously the habit of using them while standing is becoming popular in many towns. Private latrines were of the 'KAKUS' or Drain type, which are open to the sky

and easily cleansed by scavengers. But the Drain should be of the semi-circular and not of the rectangular type. There are yet large number of private latrines of the trap-door or box type, without a pan and without direct access of the scavenger. It is time that trap-door latrines, without pans and without direct access of the scavengers, be banned all over India. But in Pondicherry we found one of the filthiest types of private latrines—an open ditch in the courtyard with two odd wooden poles over it for squatting, placed near the domestic well and cleansed once every 3 or 4 months. And yet Pondicherry has its public latrines all of the flush type and kept fairly clean. Pondicherry people are also not so allergic to night-soil and allow the scavenger to cross all the rooms and kitchen, while bringing night-soil from the latrine. I would not have believed it if I had not seen it.

Lastly the transport of rubbish and night-soil is yet predominantly in the bullock cart stage. The worst sinner is the Corporation of Madras, which maintains 970 carts for removing rubbish and night-soil. These are all of the traditional type, while Coimbatore and Salem have box type carts with rubber tyre wheels. The night-soil carts are of the "trapezium" type, which are difficult to empty or to wash. Where motor vans are used the rubbish is rarely covered. With regard to night-soil we saw open and over-flowing huge barrels being lifted by men with difficulty and emptied in the filthiest manner at the dump. The barrels are then returned back unwashed, for there never is water on the dumping grounds even for drinking, much less for washing. In Bihar and other States we have the system of tractors and trailers,

in the proportion of 1 to 4 or 5, carrying rubbish in troughs and night-soil in tanks. More is thus transported and in a cleaner way. The Corporation of Madras has a large fleet of 70 lorries for carrying rubbish but only 10 lorries for night-soil. Instead of having a surface drainage system in the un-sewered area, it has allowed the growth of thousands of small cess-pools, which are daily cleansed by another fleet of 27 scammel type motor vans, and that too in an unsatisfactory way. One of the urgent sanitary needs of Madras is the completion of its one-third unsewered area and of Coimbatore the completion its two-third unsewered area. The Health Ministry must find ways and means for modernising the elimination of human wastes either by underground sewerage or by up to date mechanised transport. In this the Municipality of Madurai has made an advance by carrying raw night-soil by open drains to its sewage farm and growing grasses or vegetables as a source of profit. The Madras Corporation has been making similar experiments at the Kodungaiyur farm 5 miles from the city and is growing 4 to 5 crops of grasses per year. So far only 200 of its 500 acre farm have been utilised. But nearly two-thirds of Madras sewage goes waste into the sea, and the Corporation does not know what to do with its terrific quantities of rubbish, except to heap them up in its dirty dumps. The problem of rubbish is a challenging one in all towns, but is in its acute form in Madras City.

PUNJAB—ITS FILTH AND FLIES

I visited East Punjab as Chairman of the Advisory Committee on Scavenging Conditions (Home Ministry) from the 21st to 29th of March. The function of the Advisory Committee is to advise about the implementation of the recommendations made by the Report of the Enquiry Committee published in 1961. The Committee was appointed in June 1962 and Punjab was the fifth State that it visited after Madhya Pradesh, Bihar, Tamil Nad and Gujarat. During its week's tour the Committee of 9 members divided itself into two groups to cover as many municipalities as possible. Both the groups visited 13 municipal towns and met representatives of about 40 other municipalities called to district towns. The daily programmes begin with a round of the town to observe the condition of sanitation, followed by meetings of municipal officers, the councillors, the social workers and lastly a public meeting in a Harijan (Bhangi) basti.

During our week's tour we observed certain things which were peculiar to the Punjab. In all the 18 districts there prevails the system of customary rights of Bhangis, according to which each Bhangin cleanses the private latrine of 20 to 25 'Yajmans' and gets Rs. 2 per month per latrine or 2 breads or one rupee and one bread, as she chooses. She is not a municipal employee and no 'Yajman' can change his Bhangin whether he likes or

dislikes her service. Naturally she does her work not as I like but as she likes, because she can not be changed. But equally naturally she has to accept a small cash perquisite or stale bread, as I like not as she likes. This traditional system of customary rights does not exist in 5 States of South India and 4 States of East India. It exists in some parts of Madhya Pradesh, Rajasthan, Gujarat, Punjab and U.P. It is slowly disappearing from these States and rapidly from Gujarat. But in Punjab it prevails in all the districts and shows no signs of abatement. Unfortunately there is a peculiar refinement of customary rights in some districts—the additional right of owning night-soil removed from private latrines by private sweepresses. This means that she has the right to cleanse the latrine at the time she chooses, use any tools for cleansing or carrying night-soil, put it at any place and even sell it to whomsoever she chooses. Punjab is one of the very few States where small heaps of night-soil can be seen at all times on the roadside or in the drains or in 'rubbish depots' which are really filth depots. Punjab is also the only State where private sweepers own small dumping grounds within municipal limits—the town of Karnal has six such grounds where raw night-soil is sold to peasants for use as manure in fields. Such heaps of night-soil lying on road side, or drains or rubbish depots or dumps are the luxuriant breeding places for flies.

There is one other peculiar feature of scavenging conditions in the Punjab that creates an additional problem of sanitation. About 80% of urban houses do have a latrine of the 'KHUDI' or step pattern, known as PAI-KHANA all over India. But the real PAI-KHANA or

step latrine exists only in the Punjab and I believe it is a muslim and not a Hindu one. Both the institution and the pattern are muslim, and are found even in the South where muslim influence prevailed. It is generally too small for the big Punjabi, with only 2 seats and open to the sky but with little or no water for washing it. I have not much of a quarrel with this pattern because it is open to light and air; urine and washing water flow away into a drain without messing up the night-soil, as is done in 'Hindu' latrines. It gives direct access to the Bhangin. But it can be easily improved by making it larger (4'x5'), by increasing the seats to 4 (two for children), and by providing a jar of water for washing the seats. It should also have a roof and a door to make it fly proof. But 80% of existing latrines of Punjab are 'Roof' latrines--on the 1st or 2nd floor. The steps of the stair-case are generally steep and the last stair-case leading to the latrine is also narrow. I do not know how the latrine in Punjab got on to the roof and nowhere else. It requires a little research. The common argument is that the space below is too small to accommodate a latrine, which takes only 9 to 10 square feet. So are houses in other States, but yet they manage to have a sort of latrine on the ground floor. Some say that the Punjab sun does the work of scavenging by drying up night-soil and sparing the service of a scavenger. But the sun is hot enough in other States of India in North-West and Punjab is a State which exports scavengers to Bengal and Assam. Some say it is 'convenient' to have it on the roof as it is out of sight. But a roof latrine is inconvenient in hot and cold days of the seasons. It is inconvenient for children, for the old

and the sick. It is unclean as it requires water to be lifted to the roof. But the roof latrine is most inconvenient for the Bhangin who has to go up and down for scavenging work. After service the Bhangin often carries the night-soil in a bamboo basket and the basket either on the shoulder or her lap. The basket is now being replaced by the 'TASLA' or iron pan but not by the bucket, open or covered. It is difficult to handle the bucket while coming down steep staircases. But the worst of it is that the roof latrine becomes a fertile breeding place for flies—it is open to the sky, cleansed at all times and rarely washed. Often adults sit outside the latrine and the roof is littered with night-soil, cow dung cakes and other rubbish. But the same roof is used at night for sleeping and the flies it breeds overflow to the house during the day. This miserable roof latrine is also being built in 'model' towns and colonies which have houses with large compounds and courtyards—on the plea that roof latrines save space on the ground! It is time that roof latrines should be banned in new houses and be replaced by sanitary septic tank latrines on the ground floor. I am afraid Punjab is a State which has the least number of 'sanitary' water-borne latrines. It has the finest houses, with fairly good bath rooms, kitchens and store rooms but the most miserable little roof latrines.

The Enquiry Committee on Scavenging Conditions was appointed on 12th October, 1957, with me as Chairman 'to put an end to the degrading practice of scavengers having to carry night-soil in buckets or baskets on the head'. The Enquiry Committee toured in Punjab for 4 days in July 1958. The Advisory Committee again

toured for a week from 21st-27th of March 1963, to find out the extent to which its various recommendations and more specially the recommendation about the abolition of head-loads had been carried out. The Home Ministry (Government of India) sanctioned a sum of Rs. 1,32,000 in 1959-60 for enabling municipalities to purchase 'wheel-barrows' with a 50% grant. This was distributed among 56 municipalities during the course of the year. A sum of Rs. 2,66,000 was sanctioned in 1961-62 and the grant-in-aid was liberalised and increased to 75% for municipalities with a population of one lakh and less. The whole sum, however, was allocated in a lump to Ludhiana municipality and 2,570 wheel-barrows with covered buckets were despatched by the Punjab Government to Ludhiana without their knowledge and the consent of scavengers. These are all lying unused in a park because the Bhangins refuse to handle them. Our Committee during its tour did not see a single wheel-barrow on the roads and with private sweepers. We have all a strong doubt whether the grant-in-aid of Rs. 1,32,000 for 1959-60 and given to 56 municipalities was utilised at all and if so whether the wheel-barrows are on the roads. In all places we found the Bhangin bringing night-soil from the roof in small baskets on shoulders and carrying the collection of 5 to 6 latrines in larger bamboo baskets on the head to the rubbish depot or the municipal trolley after walking 3 to 4 furlongs. The basket has been replaced by the bucket or pail in many other States and the head-load by the covered wheel-barrow to some extent. But in Punjab there is not the least willingness of the Bhangin to accept either and there is very little

seriousness about the problem at the municipal level. There is also such an emotional gap between the municipal authorities and the conservancy staff that any solution by mutual consultation is improbable. The State Government has received a grant-in-aid of Rs. 2,21,000 from the Union Home Ministry for 1962-63. This was allocated to 28 municipalities on 14th March, with instructions to draw it and spend it before the 31st March. Our Committee has, however, advised the State Government to stop the grant and not purchase wheel-barrows, which will never get on to the roads. There is a fear in our minds that the whole sum of Rs. 11.50 lakhs allocated for this purpose in the 3rd Plan period will probably be unspent where it is not mis-spent. As it is Punjab is going its traditional way of carrying baskets of night-soil and as head-loads.

It appeared to us that this is due to a variety of mistakes and mis-applications. In Punjab there is the peculiar habit of mixing rubbish with night-soil and carrying it as a head load. I can understand the practice of mixing a little ash before carrying night-soil in leaky baskets on the head. But I do not know why all rubbish is so mixed that night-soil becomes rubbish and vice versa. This mix-up cannot be carried in closed pails and buckets placed on a wheel-barrow, as is being done in other States. This night-soil-cum-rubbish, which I call 'filth' can be carried only in ordinary refuse carts used in all municipalities. The cart has to be covered and light enough for use by a Bhangin. There is no place for a pail or bucket in carrying such filth. The State Government 'approved' a pattern of a refuse cart which is heavy,

has a wrong cover and is provided with an unwanted bucket. It was 'approved' without any technical advice and in spite of rejection by Bhangins. There is lack of understanding at municipal official level. In Punjab there are customary rights in latrines and customary rights even in night soil in some districts. A Bhangin does not serve a continuous block of houses but 15 to 20 latrines in 8 to 10 places. She goes up and down roof latrines and again to and fro to scattered houses and latrines. In the same street there may be 8 to 10 Bhangins working at a time and giving them 8 to 10 wheel-barrows in narrow lanes would create traffic jams. Thus old habits of illiterate Bhangins apart, there have been technical mistakes and administrative obstacles about the introduction of the wheel-barrow. We were surprised and pained that ignorance about customary right, their 'nature and complexity' was the greatest at the Secretarial level. Officers in charge were not aware of the gravity of the problem of sanitation in the Punjab and had hardly given a thought to the technical and still less to the human aspect of this problem. I believe Punjab is one of the few insanitary States in India, as Kerala is one of the cleanest. When I toured three years back as Chaitman of the Enquiry Committee I stated that Surat was the dirtiest town I had visited in India. Since then Surat has made ample amends for its past negligence. I think that Ambala is easily the dirtiest town I have visited during my recent tours in five States of India. Punjab has become development conscious and progress can be observed in so many ways. But it has not yet become 'Sanitation, conscious' which can be verified if you observe the number and weight of flies that breed in it.

SCAVENGING CONDITIONS IN MAHARASHTRA

It is the policy of the Government of India (Ministry of Home Affairs) to improve the working conditions of scavengers, more specially by supplying them with a few simple and improved tools. For this a provision of Rs 144.19 lakhs has been made in the Third Plan, out of which a sum of Rs. 9.54 lakhs has been allocated to Maharashtra. Of all States it was only the Maharashtra Government which decided to stop the practice of carrying head-loads of night-soil within one year i.e. by the 2nd October, 1963. Other States have a phased programme extending over the whole Plan period or more to stop this evil practice. As Chairman of the Advisory Committee on Scavenging Conditions (Home Ministry) I had recently the opportunity to tour for ten days in Maharashtra along with other Members of the Committee and to observe the extent to which working and living conditions of scavengers had been improved and the practice of carrying head-loads stopped.

There are 223 municipalities in Maharashtra and we were officially told that only ten of them had failed to stop the practice substantially. This was a very great and pleasing surprise for the Committee. But on closer examination we found that there were quite a few limitations on this large claim. The new Maharashtra broadly

consists of three regions—Maharashtra, Vidarbha and Marathwada. The policy of the State Government has been fairly well enforced in Maharashtra, indifferently in Vidarbha but poorly in Marathwada. In fact each region has a separate Municipal Act, providing different conditions, uneven terms of employment for its conservancy staff. Marathwada was formerly a part of the Hyderabad State and the Bhangi there is a private scavenger enjoying customary rights. Nothing has been done there to abolish these rights and stop head-loads carried by them. Conditions are slightly better in Vidarbha but by no means satisfactory. Until these three regions are properly integrated and a uniform municipal Act passed, the head-loads will persist and sanitary conditions will not improve in the State.

The Home Ministry has suggested the use of 'wheel-barrows' by scavengers for stopping 'the carrying of night-soil as head-loads'. It also requested the Central and Public Health Engineering Research Institute, Nagpur, to experiment and to finalise a cheap, light and durable pattern of wheel-barrow, which could be used even by women. Such a pattern known as Cpheri No. 6 was finalised in December, 1962 and communicated to all State Governments. We were informed by the State Social Welfare Department that there were 5,488 Mehtars in Maharashtra—excluding private Mehtars in Marathwada and other places. Out of these only 3,725 were supplied with wheel-barrows and more than one-third of the grant-in-aid of Rs. 9.54 lakhs yet remains unspent to-day. The Advisory Committee visited 14 towns and met Executive Officers of about 50 others at District

Headquarters but did not see a single wheel-barrow of approved pattern No. 6 at any place—except at Nagpur. In fact Maharashtra has the most varied patterns of wheel-barrow, purchased by different municipalities according to their fancies and at fancy prices. I believe that at least one-third of the number supplied are not on the roads as being too heavy and another one-third are unserviceable requiring repairs or renewals. It is necessary to centralize the manufacture and supply of new approved wheel-barrow after making proper arrangements for storing and washing and repairing them. As it is the number of wheel-barrow purchased is no index of their use or the abolition of the practice of carrying head-loads. All that one can say is that an extensive effort has been made by most municipalities to abolish the practice and a good beginning made with the use of wheel-barrow. On the other hand no other tools—viz., the scraper, the rubber gloves and short boots—have been distributed. These are simple, very cheap and willingly accepted by scavengers. The State Government has a policy about the abolition of head-loads, but none about the improvement of working conditions of scavenging in general, though grants-in-aid are available for both.

To my mind the abolition of head-loads by the supply of wheel-barrow is only the first step and it is time to take the second step of giving tools for improving working conditions. In fact I would prefer the second step being taken first, in order to prepare a ground for the use of wheel-barrow. But the vital step in the interest of public sanitation and Health is the provision

of private latrines in every household and that a sanitary one, dry or wet. It is my general impression that out of every 10 households in Maharashtra only 3 or 4 have latrines. Bhusaval has a population of about 60,000 and only 2,429 private and 32 sets of public latrines. Manmad has a population of 23,000 and only 590 private and 13 sets of public latrines. And so on. A latrine in Maharashtra is not considered a necessary part of a house and preference is given to a store or bath room, wherever possible. It requires a great and basic change in our psychology to give the latrine the next place after the kitchen and consider both as really 'essential'. Secondly Maharashtra has the 'basket' system of latrines, known as Sandas or Service latrine. More than the head-loads I consider the so-called service latrines—the Hindu latrine—as an abomination to be banned. It gives no admission to the scavenger to enter the latrine for cleansing it; It messes up water, urine and night-soil which flow and over-flow. It is on the road-side and a sort of public nuisance; it gives a pig's access to the latrine from outside. In Maharashtra we think this is not enough and add a cess-pool to each latrine for collecting wash water, urine and even night-soil, that stinks, breeds mosquitoes and is emptied every second or third week. All these cess-pools must be closed down at once to abate a public nuisance that exists alongside the private nuisance of a basket latrine. Most latrines in Maharashtra have some sort of improvised pans, but Vidarbha and Marathwada have the infamous basket—which has given us the term 'basket' latrine. In the 'extended' suburbs of Bombay one finds these basket latrines of four seats put up by

landlords for a whole building of two to three floors, accommodating 50 to 100 families. During my tour I found Bhusaval the cleanest and I am afraid Bombay suburbs the filthiest in Maharashtra.

With regard to public latrines and urinal, the less said the better. Urinals for women are almost non-existent, for reasons perhaps only known to men. They are generally put up as an after-thought, in wrong and out of the way places, where they are often used as latrines. In fact the busiest and most crowded spots of each town should be literally saturated with urinals, to remove the most penetrating smell of ammonia that hangs over all our towns. Bombay City has proudly put up a few hundred urinals, many in wrong places, at a cost of about Rs. 2,000 per seat. I think one can put up sanitary urinals at Rs. 200 per seat even in Bombay City which can be used both for squatting and standing. It should set these up by the thousand and not by the hundred. Bombay City and suburbs have only 332 blocks of public latrines with 1,429 seats? Even if a seat is used by 50 persons the latrines can be used by only 75,000 persons in a population of 45 lakhs. Most of them are flush latrines but badly maintained, without assured water supply and without a bhangi in special charge. Public latrines in other towns are mostly of the 'basket' pattern, without any water supply, but with large cess pools for retaining wash water and even night-soil for days. They are too few and too distant from human habitation to be kept clean. By some irony these public places of filth which should have the most abundant supply of water, have the least in every town and this denial is also extended to the basties where the scavengers live. Scavenging in India is expected to be 'dry' i.e. without water,

while easing is expected to be very wet i.e. with profuse washing for a little cleaning.

With regard to underground drainage, Maharashtra has but four cities which have a fairly complete system and about nine towns with new schemes under operation, that may be completed in the Fourth Plan. The Third Plan provides a sum of Rs. 11 crores for 'water supply and drainage' and I was authoritatively told that the major part will be diverted to water supply and the balance will go in for 'expansion' of drainage in the four big cities, with the spill over for new schemes. Surface drainage is neglected both by the Central and State Governments, in the faint hope of having schemes of under-ground drainage passed. All the towns have similar hopes and expectations with regard to water supply and sanitation; but all do not get what they want according to the present socialistic set up. The few giants devour up the small funds meant for all.

Thus Maharashtra has made a fair beginning for the banning of head-loads in one of its regions, leaving conditions much the same in two other regions. The purchase of wheel-barrows in one region has been more extensive than in any other State, leaving the total eradication of head-loads perhaps to the Fourth Plan. Other things, like the supply of tools the introduction of sanitary latrines and urinals, the carrying out of drainage schemes appear to me as a 'long term programme' unless the policy of the State Government becomes as specific as that about the banning of head-loads. For that the Urban Development Department will have to become far more active and will have to co-ordinate its activities with the Health and more specially with the Social Welfare Departments. In all this I have severally let alone the more complicated and human problem of improving the living conditions of scavengers.

THE BHANGI IN INDIA

The scavenging caste in India is generally known as the Bhangi Caste. In Andhra the 'Madiga' caste and in Tamil Nad the 'Thoti' caste pursue the same occupation. This appears to be but a local name for the caste widely known as the 'Bhangi' caste. It is difficult to trace the origin of this caste by etymological research. According to Dr. Ambedkar the untouchable castes of India were originally known as the 'Broken Castes' who belonged to nomadic tribes that were defeated and scattered by the Aryan invaders and who then sought protection and work near villages. They were treated almost as outsiders and strangers who were made to live on the outskirts of the village. Perhaps that is why they were also called 'Antyajas' i.e. those segregated outside the village. According to another interpretation the 'Broken Castes' consisted of those who ate beef after beef-eating was prohibited by post-Vedic Hinduism. But the modern Bhangis have no tradition and no habit of eating beef or carrion. The modern Bhangi is also essentially a product of urban areas where he lives in colonies called 'Bastis'. He is rarely to be found in villages, except as member of a family or two of sweepers in villages. It is, therefore, difficult to find out how the scavenger in India came to be called a 'Bhangi'. But I think it is not so difficult to explain why he was called a Bhangi. Untouchability in India had three grim aspects—the untouchable was also unseeable and unapproachable.

All the three traditional aspects are on the retreat in rural areas but almost seem to persist with regard to the Bhangi in urban areas. He really remains untouchable, unapproachable and is not allowed to enter the house even for scavenging. His is in fact the most 'Broken Caste' among all the 500 or more outcastes of India. As long as the Bhangi Caste persists so long untouchability will exist in India.

But it is almost amusing to find the flattering titles given or adopted by this caste. The Moslems called the scavenger a 'Halal-Khore' i.e. a person who earns his livelihood by righteous means. The Hindus called him 'Mehtar' i.e. an important person. The Bhangi himself adopted gratifying appellations as prefixes to his caste title. The Bhangis of U. P. call themselves Balmiki Bhangis, who are followers of Valmiki Rishi, the composer of Ramayana and who celebrate his birthday as that of a Guru. Some Bhangis of Panjab are known as 'Baleshahis' who are followers of the great moslem disciple of Guru Nanak. Others call themselves 'Lal Begis' i.e. followers of a Moslem Pir of that name. A few are followers of another Moslem Pir known as MIRA and offer him worship in the Moslem way and even adopt Moslem personal names. But in spite of these Moslem appellations or even modes of worship all the Bhangis are and have remained as staunch Hindus throughout the vicissitudes that Hinduism experienced during Moslem rule. There is no tradition of any large scale conversion of Bhangis to any other religion—except the conversion of about 20 lac Mahars (sweepers) of Maharashtra to Neo-Buddhism, under the leadership of Dr. Ambedkar.

The conversion was essentially a social reform or rather a protest movement and not much of a religious nature. In a sense a new social caste, nominally outside Hinduism, has been formed, which in due course may become one of the many Hindu sub-castes.

Though the Bhangi caste has remained loyal to Hinduism through centuries and has even adopted Rishi Valmiki as a Guru, it has almost remained untouched by religions or socio-religious movements within Hinduism. It was only as late as the beginning of the 20th century when the Arya Samaj launched a missionary movement for the regeneration and revival of vedic Hinduism that the untouchables, then called the suppressed castes, were considered as organic parts of the Hindu religion. Swami Shradhanand not only founded the militant Shudhi Sabha for the reclamation of converted castes but also founded the Achhut Uddhar Sabha for the protection and uplift of these neglected outcastes. The efforts of Swami Shradhanand were warmly supported by late Lala Lajpat Rai and Master Gokal Chand who founded the Shradhanand Ashram at Lahore in 1928. Several life members of the servants of the People's Society were asked to concentrate on Achhut Uddhar in its early years. The Valmiki Sabha which now looks after the welfare of all scavengers in India is but a later off-shoot of the earlier Achhut Uddhar Sabha whose activities were mainly restricted to Panjab and Uttar Pradesh. There was even a local social reform movement among Bhangis of U.P., known as 'Sat Mat' and initiated by Munshi Harbaksh, a Bhangi, to abolish the habit of drinking, gambling and excessive expenditure, during marriages. But at present even the

Arya Samaj seems to have lost its original religious fervour and there is not even a semblance of a social reform movement among Bhangis from within. Like other scheduled castes they are also being drawn into politico-economic changes as guided by the All India Depressed Classes League. Even the All India Harijan Sevak Sangh, founded by Mahatama Gandhi for many years concentrated on ameliorating the socio-educational conditions of rural Harijans, almost ignoring the existence of scavengers in urban areas. The freedom movement of India which touched all sections of the Indian Community, hardly made any effort to draw the so-called scheduled castes and left the Bhangis severely alone in the political or even the economic plane.

And yet the Bhangi Caste is essentially an urban caste and also lives concentrated in big bastis, within the most crowded parts of the town. The scavenging occupation is looked down upon with such detestation that the scavenger living in the heart of the town is physically segregated and socially completely isolated. The isolation is so rigid that Bhangi parents have not the courage to send their children to adjacent schools across the road lest they pollute other children by their presence. Even the water taps used by them are avoided by members of the general public, including other Harijan Castes. It has been found that the Bhangi is perhaps the only migratory caste among outcastes. Uttar Pradesh is one of the biggest exporters of Valmiki Bhangis going to Bengal, Assam, cantonment towns and foreign countries like Burma Fiji, Mauritius etc. The Behari Mehtar follows close in his footsteps and to the same places. It

is strange why Maharashtra has no local Bhangis but gets them all right from Gujarat, Andhra. Kerala and Mysore have very few local ones but get them from Andhra and Tamil Nad. The Panjabi and Rajasthani Bhangi spread to South India along with his Moslem or English employer. He is, as it were, the aristocrat among Indian Bhangis and often his women folk keep at home and run a kitchen. These inter-State migrations have somewhat improved the wage rates of the migrants but kept them socially and educationally as backward as ever. In fact though they have remained for generations in their adopted states and have even picked up the regional languages, they are yet considered as outsiders and denied any special treatment. Speaking generally the number of scavengers is rapidly on the increase, along with the growth of the urban population. Any local deficit is easily made up by inter-State migrations or by recruitment from another related caste. The Dom in Bihar, the Mang in Maharashtra and the Dhedh in Gujarat hovers on the horizon of rural unemployment and is ready to seek any regular employment in the town even as a Bhangi. The scavenger is a light and regular worker, though scavenging is socially the lowest of all hereditary occupations. There is as yet no growing repugnance for it and no organised group movement for renouncing it, as among Chamars of Panjab or Mahars of Maharashtra. There is not even an expressed desire for accepting new tools and learning modern methods for pursuing the occupation in a sanitary manner. A step forward has been taken by the Government of India for introducing wheel-barrows so as to abolish the old habit

of carrying night-soil as head-loads. This has yet to become a movement for making scavenging a sanitary occupation, though hereditary.

During the last decade or two, however, there has been a sort of awakening amongst Bhangis, somewhat aided by the Trade Union Movement. The aim has all along been to raise the cash wages in direct or indirect ways. In every State there is the monthly wage more than doubled by the Dearness Allowance. Often there is a free tenement or a cash rent in lieu of it. In several States there is an "uncleanliness" allowance of Rs. 3 to Rs. 5, which however, keeps the occupation as unclean as ever. There is a cash payment in lieu of soap or broom or basket allowance. There is now and then an ad hoc increase of Rs. 5/- as a special allowance. The monthly wage is under constant pressure of an increase under the threat of a lightning strike in this essential service. In no State is the total wage lower than Rs. 60/- and in some it is as high as Rs. 100/- p.m. The wage bill of municipalities on account of conservancy services is a growing and burdensome one, more so as strikes are becoming frequent and improvement in sanitation is almost negligible. There is a chronic and growing strain on relations between municipalities and their conservancy staff, which is now extending to relations with the general public. In Andhra, and Kerala the Communist party which has no caste or outcaste prejudices of any kind, finds it easy to hob-nob with scavengers in their social relations and makes political capital of it during elections. In Panjab where the scavenger is almost at the top on the economic plane and perhaps at the bottom

in the social plane, he is politically conscious and has very much his own way in the pursuit of his occupation and the demand for higher wages. In other States he is slowly becoming more organised but almost invariably for doing indifferent work for higher wages. The municipalities are beginning to recognise this new challenge to their financial solvency. But neither the municipalities nor the general public yet recognise the challenge of scavenging as practised in the traditional way as a threat to the sanitation of towns.

I have already observed that urban scavenging has resulted in the creation of a Bhangi Caste which is untouchable, unseeable and unapproachable in the real sense of the term. As long as scavenging is practised in the traditional way untouchability will persist in its most degraded form. But scavenging is almost a modern and mainly an urban occupation. In India it has been made unbelievably filthy to the extent of treating the scavenger as part of filth. It should not be beyond the wit of man and the capacity of modern science to convert the occupation into a clean one—as that of a midwife or a surgeon. The moment scavenging becomes really sanitary that moment the scavenger will cease to become physically untouchable. Science and technology in their application to human affairs are not always a boon and the evils of rapid industrialisation and urbanisation are now well-known. But I think science and technology in the domain of public health and sanitation can only be a positive good. In unclean and insanitary India both should be accepted and rapidly introduced, whatever be the initial cost. In this I suggest that the top most

priority must be given to underground drainage schemes in all towns above a population of 25,000 and along with it the erection of water-borne latrines in every house. Fortunately the Bhangi was never a beef or carrion eater. With the abolition of customary rights and payments in kind the system of eating 'Juthan' is bound to disappear. The giving of uniforms, aprons and a few necessary tools is bound to transform the occupation, as has been done for the village dai. The Bhangi is essentially a recent product of urban life, first created as an occupation by Moslems and later in British rule made into a hereditary caste. He is the latest and the worst addition to the caste system. It is time that the caste should be abolished and its place taken by persons better called as 'Safai Mazdoors' or 'Safai Wallas'. And when that happen and the occupation ceases to be degraded, it is probable that the way of life of the Bhangi will be reformed. His drinking, gambling and extravagant habits, for which he is despised, are but the result of an occupation which is in fact filthy and makes him filthy. It does not sound-well in our mouths to chastise him for drinking and other evil habits, which to a great extent are the result of our making scavenging as dirty as possible and then strictly segregating the scavenger.

APPENDIX—I

Composting—the process and its importance.

Human night-soil or excreta is organic matter which contains proteins, carbohydrates, starches etc. Proteins have carbon di-oxide and nitrogen. The soil and specially the Indian soil badly requires nitrogen for its fertility, which is also in the atmosphere but which can not be used by the soil. The soil is full of bacteria which feed on carbon that is in organic matter. The proportion of carbon to nitrogen is approximately 60:1 in human excreta. The Bacteria in the soil while consuming carbon, reduce the proportion of carbon to nitrogen to about 12 : 1. Composting is the process of bacterial digestion by which night-soil is dis-integrated and converted into nitrites or nitrates. The soil cannot absorb nitrogen directly from organic matter like night-soil, but indirectly after such matter is digested by bacteria. Such digested organic matter in the soil, known as Humus, then becomes a sort of nitrogen bank, on which it can draw slowly according to its needs.

Human excreta also contains bacterial pathogens i.e. bacteria which can cause human disease. Hence the human fear of excreta. Such pathogens can only be destroyed by other bacteria in the soil. With a certain moisture and temperature in the soil the pathogens are annihilated, given sufficient time. It is believed that the

soil teems with bacteria to a depth of three to four feet, but not deeper. Night-soil trenched below four feet is not easily digested i.e. converted into nitrates, nor are the pathogens effectively destroyed. Night-soil left on the surface of the soil is poor in nitrogen content in proportion to carbon and creates a health hazard. It also creates a secondary health hazard by breeding flies and other pests that can carry disease. Flies and filth generally go together, with disease following in their wake. Hence the necessity of burying night-soil or trenching it, in order to preserve nitrogen and avoid disease.

Digestion of night-soil and other waste organic matter is quicker and more complete within the soil with the help of bacteria and the air of the atmosphere. Such digestion is known as 'aerobic' digestion i.e. composting with aeration. In septic tank latrines the digestion by bacteria manually introduced in water but without the help of oxygen in the air is known as 'anaerobic' digestion. That takes at least 40 days and even then it is not complete. The affluent that comes out of the tank after that period has some smell and is not free of pathogens. It is calculated that aerobic composting in the soil means 60% to 80% digestion of organic waste; while anaerobic composting in septic tanks means 40% to 50% digestion only. The construction of cement air-tight tanks is also expensive. Aerobic composting by trenching is inexpensive and is more complete but takes five to six months. This period can be shortened by adding moisture and heat and by stirring the waste matter to aerate it thoroughly. In the west composting plants do the job within a week by screening and removing inorganic

rubbish; By adding moisture and aerating the mass within rolling drums. Such plants also occupy very little space, while ordinary dumps for composting require an acre of land per 10,000 persons.

Compost from human excreta is richer in nitrates than animal droppings. The latter have very little of proteins and therefore of carbon. The digestion is therefore slow and the manure has a lower content of nitrogen. Human organic manure containing proteins has a richer concentration of nitrogen. The Japanese and Chinese recognise this difference and value human excreta much more than animal droppings for their agriculture, which is a sort of horticulture. In India millions of tons of cattle excreta are burnt as fuel and more millions of tons of human excreta are thrown away, to make agriculture poor and the country very filthy.

Lastly, organic manure prepared from human or animal wastes is more essential for the soil than inorganic manure i.e., chemical fertilizers. It is true that man and animal live essentially on organic (proteins etc.) food and plants live exclusively on inorganic matter, viz. nitrates, phosphates, sodium, etc. Digestion of organic wastes ultimately means conversion of organic into inorganic matter. But chemicals in organic matter are more easily and more slowly assimilated by the soil. Organic manures are like fixed deposits in the soil drawn as and when needed. Inorganic fertilizer in the soil are like current account, to be drawn upon quickly. The soil takes both not in a dry condition but as solutions in water. Inorganic fertilisers require quick and large waterings, to retain both nitrogen and ammonia in the

solution. Alkaline soils have already too much of ammonia and ammonia nitrates or nitrites release ammonia, which volatilises too quickly in the air. While ordinary and even alkaline soils, with less waterings absorb both the ammonia and nitrogen in the compost. Half the soils of India are too dry for inorganic fertilisers, while organic compost is excellent for all kinds of soil. This organic compost, otherwise known as Humus, also improves the texture of hard and clayey soil, so as to aerate its lower layers. The soil also needs oxygen in the air for breathing and that is best done through Humus within it.

APPENDIX—II

Extracts from Jawaharlal Nehru's Speech in a Public Meeting of Sweepers held on Ramlila Maidan, on 2nd January, 1964

When you asked me to address your meeting I felt some hesitation, though I liked the invitation. I had heavy work to do which I could not easily leave behind. But I could hardly refuse to attend this special gathering of *Safai Mazdoors*. So here I am before you this evening. Now it is embarrassing for me to find words for speaking to you. In fact in this matter I feel somewhat ashamed. I visited several times, several years back the places where you live. Seeing your huts I felt unhappy and ashamed. I therefore hesitated to appear before you now and then and yet be reconciled to your miserable conditions. This is our Government and we have our own Constitution which provides that our worker comrades and those who are considered as "low" should receive special care and protection. It is our duty to abolish this evil of high and low by birth and specially to improve the condition of those who do sanitation work.

You know very well what Gandhiji said in this connection and how he lived according to what he said. Frequently he used to live where you people live. Of course he could as well live in big and palatial houses

but he preferred to live with those who lived in distress and who are considered low by our society. He thought that by doing so he would be able to focus people's attention to your miserable conditions and thus perhaps help to improve them. In this big city of Delhi we see big and luxurious houses and huge offices being built but the real test of the progress of a city is the living conditions of the common man—where he lives, what amenities he enjoys, what are his inconveniences and whether these are being removed or not. Where you have great palatial buildings on one side and filthy *basties* on the other it is not a sign of progress. This city is full of slums and efforts are being made to clear them step by step. I live on the hope that they shall be cleared, though it is rather taking a long time. Unfortunately even those who live in them put in obstacles in removing them and in moving to other places. But it is not right that there should be slums. All of us should have clean places to live in, more specially those who do sanitation work. However, we have been so entangled in this matter that there is delay and old conditions persist. We and our Constitution desire that every an Indian must have minimum milk and food, a decent house to live in, education for his children, and health for all. These are all primary needs that have to be met. It is not proper that some should have stately houses to live in, as I have and the rest should face inconveniences and discomforts. These are the failings of our society that such things yet continue. I hope these will improve by and by. I would like to know that all your children are in schools, because nothing

uplifts a community so much as the imparting of education. Children who are educated, fashion their lives in a different way and can do much work. They cannot tolerate those conditions of living which were endured by their parents. I, therefore, give my highest priority to education. It is only thus that progress is made, otherwise a community is considered backward and inferior. There should be no high and low and all should have equal opportunity.

You are doing *safai* work, which is considered an essential service. It is not right that those who do sanitation work should be considered low. Of course your methods of work should change, so that you have the least inconvenience and dis-comfort. I would request the Delhi Municipal Corporation to give special attention to this matter: how sanitary workers serve, how they live, what are their difficulties and how these can be removed. I think it is the primary duty of the Corporation to build for you proper houses, which are neat, and are supplied with water, light, schools, playing grounds and other amenities.

I want to tell you that it is now possible to improve your ways of cleaning by scientific methods. Traditional ways will not do. Unclean work can be done in a clean way and need no more be done in an unclean way. There are other occupations also besides sanitation work which you can take up. It is not obligatory on you to cling to a hereditary occupation. All Indians should be able to live decently and work honourably and receive regard for doing it. Only then we shall be able to hold

that our nation is making progress. It gives me pain to see that although we achieved independence 16 years back, during which we did much, started big industries, gave attention to agriculture and improved it, yet the weaker sections did not receive proper attention and they did not make sufficient progress. If we had given them more consideration, then by uplifting them others also would have been lifted. More than that the canker of high and low within our minds would have been cured. Caught up in the meshes of caste and its distinctions of high and low our people have suffered much. We have to raise our nation to higher levels. You too can do much in helping yourselves to rise and along with you our nation. I have often seen that the places you live in are not kept clean. In fact these cannot be kept clean without your effort. If decent houses are put up for you and you live in them decently, then you not only benefit your selves but the whole nation. Some of your customs are some times too old and wrong. By abolishing such useless customs and by adopting good ones you can benefit yourselves and your families. This is not a point for me to belabour but it is obvious that even those who are your well wishers cannot achieve success unless they receive your full cooperation.

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ERRATA

Misprints and Correction

Page	Line	Wrong	Right
6	18	sanitation	insanitation
16	20	used	using
„	26	hole	hole, emptied
17	12	civil	civic
19	12	hi	his
„	29	was	who was
20	16	is	has become
21	23	earth	earth lying
26	27	now-here	no-where
33	31	water-borne is	water-borne ones
37	6	by	for
43	15	schems and sanitation	and sanitation schemes
45	14	to	on
55	14	urbar	urban
„	19	exectation	expectation
„	27	not the	not being the
61	6	trailer	tractor
„	9	lifted	left
62	26	thickly	thinly
63	19	for	from
64	17	refuses	refuse
65	10	love	lore
„	27	tone	ton
70	19	or	of
73	12	were	was

(b)

74	26	our	over
75	26	making	make
77	9	is given	is given free or
79	1	or	on
82	12	of	pursuing
91	10	from	for
93	9	two	ten
100	3	to	for
„	13	cracked	cracked up
103	20	will	would
108	19	its	their
„	30	It	In
118	17	is also	is too
122	16	there	their
128	17	giants	giant cities ,
„	33	severally	severely

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