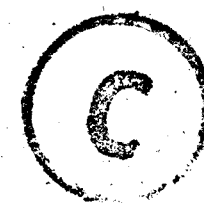


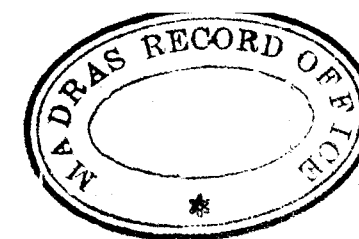
REPORT ON THE TOWNS
IN THE
MADRAS PRESIDENCY

(1914-15)



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REPORTS ON THE TOWNS

IN THE

MADRAS PRESIDENCY.

VISITED, BY

PROFESSOR GEDDES.

1914-1915.

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TABLE OF CONTENTS.

	PAGE
Report on Cocanada	1
✓" Tanjore	17
" Bellary	21
" Bezwada	29
"	37
✓" Canjeevaram	41
" Vizagapatam	51
✓" Trichinopoly	55
✓" Salem	63
" Guntur	71
✓" Coimbatore	79
" Madura	93
" Nellore	97
✓" Tiruvattiswaranpet (Madras)	

3

REPORTS ON THE TOWNS IN THE MADRAS PRESIDENCY
VISITED BY PROFESSOR GEDDES.

COCANADA.*

Before meeting the Chairman and officers of the Municipality for the discussion of their problems, we arranged to have a quiet morning for an independent and preliminary survey of the town. Yet this not simply by motoring, slowly and observantly of course, to and fro through the town's network; though that also is an instructive way of beginning, empiric though it be. For here two or three questions especially suggested themselves from the first, requiring two essential points of view; of Port and of Country. For this is a centre of export; that is, a point where maritime and agricultural populations and activities meet and co-operate; and this, as in most such mercantile communities, essentially under the domination of the former. Here then is the explanation of the value and attractiveness of this situation to the Dutch (with whose home and colonial viewpoint this town came clearly into line) and their long-enduring hold upon it—until 1825—is thus intelligible. On account of that absence of a true port which Cocanada shares with nearly all other Madras towns, the fishermen become lightermen, and thus tend to attain normally to a condition of increased responsibility, importance and well-being; how far is this reflected and expressed in their housing? and if little, why?

To these questions (at the time not so clearly formulated) we reached no sufficiently clear replies. The next question, what of the Dutch with their housing and town-planning?—is more easily answered by the inspection of the inner port (if we may so style the canal quays) and of the old town of Jagannathapuram, with its formal and spacious lay-out, its few dignified old bungalows. Here again an antiquarian enquiry would be needed if leisure allowed—ranging from old house-interiors, scraps of old furniture in basar or in homes, and again to old business offices and their traditions. If not here, then partly in the old East India archives, and above all between official records and family traditions, as partly among any residents of Dutch name or descent, and perhaps also in Holland. Enough here if we see that a whole book on these lines may some day be written; and this not only of local interest, as might at first seem; or even as raising the problems of Madras history as affected by the rivalry of European powers. Beyond these academic viewpoints of history, general and local, each considered as a record of the dead, comes vital questioning of history—that of elucidating the factors which explain the present situation and condition of the living. As the old Dutch influence has survived even in New York (and this in many ways, even from social leadership like that of old families, to national leadership, like Theodore Roosevelt's) may we not expect to find something of it here, in a quiet and comparatively little altered town, especially since the Dutch Company only relinquished its authority in the time of our grandfathers? What then were its qualities and its defects? And how far have each of these interacted or combined with those of others—first of Indian fisherman and peasant, and then with our own, as their successors? and ours again with the fisher-folk and peasants aforesaid? Our historic enquiries into records of fact have thus passed into new enquiries, even into the social psychology of the town in the present. Hence besides a history of Cocanada (and why not its historical romance?—indeed many of them) we now begin to see some of the lines on which may also, any day, arise its corresponding novel. What is meant may be illustrated from the tales of Galt for Scotland, of George Cable for Louisiana, and of others for the "literature of locality" everywhere.

But for even the formulation of such questions we cannot wait. For we have still to see the agricultural village, the nearest that may be, yet sufficiently outside the town and distant from it to escape urban modification; it thus shows us the simple and original social texture, which no town can ever spin or weave, but which it so easily and commonly wears down, and this to rage.

* For plans please see after page 16.

Here then we are getting back towards nature and social origins, amidst a veritable wealth of survivals of simple life and early civilization. It is our first opportunity of seeing closely and entering the round huts which are so characteristic of Madras, and which seem to have vanished from Northern India. But these once ranged throughout Europe, from classic Mediterranean to Erin and the Hebrides. In such hut villages began the civilization and history of great Rome itself; and her permanence, as through all changes "the Eternal City," is not a little explained by her loyalty to this fundamental and venerable past, this definite phase and stage of progress, at which civilization seems largely to have taken shape, and this in its main processes and forms. Round huts survived in Rome throughout her republican simplicity, her imperial world-supremacy and its corresponding material magnificence; for in Rome the circular temple of the vestal Virgins, shrine of the sacred fire their task and privilege was to tend, is but the right glorifying of the old world fire-hut, once the centre of the primitive village, and the due magnifying of the office of the village girls, who before marriage, were thus initiated to the social significance of fire, and of the hearth, with the ideals and possibilities of these fitly and reverently expressed in symbol. So the round temple of Rome as ascribed to Vesta is the idealisation of primitive home as woman's; and ascribed to Hercules is that of the home of the labourer. Some of the most sacred churches of Christendom, from Jerusalem to London, are round huts too, though idealised and developed a stage farther by the Knights Templars, as initiated beyond others into oriental traditions. The too easy and careless destruction of this venerable and primeval type of home, which has in our time gone on from Skye to Coromandel, has not merely had sanitary excuses to explain it, but an element of ignorance and indifference truly barbarian; and this not only to historic significance but to the human values and even the possibilities of this primeval architecture. To describe all we learned in the half-hour's inspection of this simple old village would exceed the present limits: enough that homes and gardens, public places and boulevards, temples and statues, even sacred ground and processional way are all there. In short, here is a town in germ, even a city in its infancy, and this a living infancy, growing from within, as village and city should ever do; needing help and guidance no doubt, but not the present too common alien natives; which are (a) to be let alone till its disease, overcrowding and deterioration compel attention, with (b) sweeping demolition followed by (c) the imposition of a new plan from authorities above and without; a plan which, whatever its elements of European merit, is, as we shall see, little related to village life with its characteristic Indian customs and Indian requirements.

I

From the excursion we returned to meet the representatives of the municipality and to study their improvements in progress or on plan. First and largest of these proposed improvements (large indeed for any city as modern improvement goes) is the extensive new suburb of Elwinpet, west of Raja Rama Rao Peta, lying to the north-west of the present city limit, upon a fine expanse of good and easily drained soil between the Valaru river running south-west and the Dhobi Khana and the river running south—a particularly fine situation, essentially in park conditions, and the Dhobi Khana will remain open ground and may readily be improved, while the river and bank may be easily made beautiful. This extension occupies one of the largest and best sites we have yet seen allocated for garden-suburb purposes. It is moreover the most formally designed; and hence it may be taken for a more detailed study and criticism than usual.

Here at Cocanada—just as at Vizagapatnam—we find the original (largely middle class) plan has been modified, to meet a sudden popular need—the reinstatement of a hamlet which has been demolished in course of changes in the town. The hamlet minor (but still, as huts go, ample) sites at the south-western extremity of the town plan has been allocated for the purpose, and some 54 of the 65 huts thus provided for are in all stages of progress up to completion. Each plot measures 60 x 60 or thereby, and since 14 feet must be left between each house and the boundary of its plot to minimise risks of fire, the frontage available runs up to 32 feet. Allowing for substantial thickness of wall and projection of roof, two rooms, each 12 x 12, are thus possible, with verandah in front and cook-rooms in verandah in court behind. Sometimes one

family (but more often two) occupies the hut. A sympathetic and competent sanitary inspector has kept an eye on the construction, so far as his other duties permitted; and no grave infraction of bye-laws has thus taken place. But though the whole of the little village seems decently habitable, great differences in detailed execution remain. Some have thrown away space, and made their rooms a foot or two too small, a very false economy and probably not an intentional one; others have roofs too low, or walls too slight, of mere "wattle and daub" instead of solid mud. Plinths vary greatly in height and finish; verandahs are sometimes of insufficient breadth; and so on.

These differences are not so much of poverty, but of workmanship. The huts are as if made by so many boy-scouts, of skill good and indifferent; and it is no disrespect to the sanitary inspector, but rather a supplementing of his usefulness, to point out that these boy- and girl-like builders need help and active leadership to improve the standard of their construction.

As boy-scouts need their scout-master and rise rapidly towards the standard he sets (and sometimes aspire beyond it), so it might be here. In all such cases then, I would suggest the employment of one or two skilled hut-builders, who would be as it were the maistri of this germ of a new city-building movement. With one or two really first-rate huts upon the site, to serve as examples to all others, a healthy rivalry would arise even were these maistris then to retire. Better still, however, if they could remain on the job giving a good turn, a guiding hand here and there as required.

The caste difficulty for each type of village need not be serious. Constructive ability has only lapsed in members of the literate classes in any country, and survives diffused in all others. A little enquiry, a modest expenditure, a small material prize or two for the best houses, and best of all, a generous recognition from the Chairman, from the Collector, and from other leading personages of the town, would rapidly set all this agoing; and house-pride again be re-established, with all that means for sanitation and for common wealth.

Again, may not the advantages of co-operation be organized for such poor house-builders? For a full-sized hut 80 feet outside giving two rooms 12 feet x 12 feet with verandah, etc., if all has to be paid for individually, the outlay is considerable, say:

	Rs.
Earth (carted from a distance)	20
Bamboos, timber and roofing leaves	40
Four doors and three windows	30
Labour	30
Total	120

and upon this sum, so far greater than the most that can be given by a valuator in compensation for the old hut which was demolished, economies are urgently needed.

Why should not the Chairman or some public-spirited members of the community take the initiative here (1) of organizing for these poor folk a standard rate for mud and cartage on a contract scale, rather than as separate purchasers bargaining individually? and similarly for timber, for bamboo and thatching leaves.

But beyond even this a step is needed and easy—that (2) of establishing a Housing Bank on the model of the Agricultural Banks already becoming so well-known (or even as a branch of one of these).

Into this Housing Bank should be paid by the compensating authority the sum agreed on, and to the credit of each person as henceforth a customer. He might supplement this by his own savings, where he has any; but instead of either cramping or jerry-building his house, as poverty may compel, or going to the usurer if he desire better things, let the housing bank provide the needful balance on its moderate terms. The man would still put his labour into the house as before, but the Bank would see to it by providing the master-builder (the working maistri suggested above) that the house was made a good security for the loan, and thus also the best possible dwelling for its occupant.

What impediment or what limit is there to such a "house-banking" scheme? Is not this a far safer and surer method than the present one, of paying cash compensation for demolished houses? The sum is usually insufficient at best; and thus from the recipient's point of view is so useless for its reconstructive purpose that it may far better be spent in paying debts, or in family needs, if not sometimes in consolatory festivity!

When one's old house is left, one never finds quite the same level. The usual tendency, after city clearances, has been towards a lower one. Yet the whole excuse and pretext of such clearances is to establish better conditions all round. It is time to be taking far more definite steps towards this than have the municipalities as yet, whether in East or West. Let us then give a Housing Bank a trial.

With leading citizens thus co-operating with leading villagers in such a scheme, the further improvement of dwellings would at once come up for discussion; and, with these improvements, the furnishings as well. What element, in the economy and house furnishing of any peasant people of Europe, is more satisfactory, more hygienic and more economic than the row of great jars, for rice and other cereals, which at once enrich and adorn the old fashioned homes of India? That these are today too rare is no argument for "laissez-faire," but the reverse. These jars are not simply the savings bank of the house-mother, though that is much; they place her in greatly more favourable conditions for effecting economy, by means of seasonal purchases, than she is in her present necessity of buying daily handfuls at the bazaar; and thus wages go further, and falling into debt is avoided, or at any rate mitigated.

It is the gravest ignorance of the time, the utmost sign of lapse of that substantial economic intelligence which should guide peasant, financier and statesmen alike, that our present money economy lays no stress on the essential and rural economist, woman. Yet the Bank of France is the "long stocking" of the peasant woman, and the Bank of England quite fundamentally "the old lady," and so the real Bank of India is the peasant woman with her row of jars well-filled. (Has she not thus been depicted upon bank-notes? If not yet, then the worse for them!)

Famine relief-works have too long neglected this essential of famine-prevention: and among our needed village maistri, the potter must again be given his place of honour (perhaps by and by the granary-builders as well). But with this large space given to the row of pots, the house will be too small? With such reserves and for such purposes, we can afford (as in poorer conditions people were wont to afford) the needful additional house-space.

Nor is this all. The housewife, thus reinstated in her true economic place, as maintainer and storer of the whole world's real and material wealth, will now take heart to complete her treasury. Brazen pots and copper vessels will again be piled up into shining columns; a great chest, wrought with something of the old beauty of craftsmanship, will take the place of the squalid little box, which at present holds her scanty belongings; and by the time her daughters come of age, a worthy dowry chest and bridal coffer, with well-woven draperies as well as jewels, will often have been added to this home-savings bank as of old.

To this home-making thought and life, upon which woman so normally concentrates, every vital element of the past may and must return; those of the present and opening future must be added as well. With the increase of goods, shelving becomes necessary; and whenever this is introduced for food, there tends to be less waste upon the ground for rat breeding; where fowls are kept, as is on the whole desirable (outside), the perhaps inevitable rats may be trapped by the appropriate municipal functionary. So also finer elements appear: the shrine, with its mythologic pictures, the tulsi plant, and so on. Housewives such as these reappear instinctively with every chance we permit them. That in Bombay or Delhi or too many other great cities they may be thought rare or even dying out, is simply an indictment or a confession of the inefficiency, and worse, of their housing, whether officially or privately supplied. That in the colossal chawls and dreary cooly lines, and kindred abominations, high-storied or low, concrete or corrugated, of which I have seen too many in Indian cities, womanliness and decency should survive, is no thanks to them, but supreme evidence of the strange tenacity of life. It is thus most hopeful that in

these smaller and saner cities like Cocanada, like Vizagapatam* (and I trust elsewhere in this Presidency) this collapse of the housing movement, into a ware-housing and rent-farming one, has not taken place. By the development of such saner methods, this catastrophe may be averted—and why not even arrested in the great cities where it has begun?

With all respect, however, to the Cocanada Council it may be pointed out that these simple huts hardly needed the spacious avenues and the regular conservancy lanes on which they are now located; and further, that a study of an old village of round huts such as that mentioned at the beginning† of this paper would have resulted in a more natural, and more congenial grouping. However, the work here is done; and the planning of a hut-village may arise more naturally at some other point of these studies.

II

Let us turn now to the general plan‡ of Elwinpeta for its more prosperous and middle class purpose, and for pakka houses, as far as may be. The plan however is disappointing at first sight, and this increasingly so, as one scrutinises it in detail and in general effect; and correspondingly in expense also.

Note for instance, the false symmetry which assigns a school and a choultry, and a reading room and a bazaar to four sites at the corners of the square, all of equal size. Is a bazaar no bigger than a reading room, and can its growth be thus defined? If not, is it town-planning to attempt this? I assume that the general orientation of the main avenues (about 30° E. of S.) is correctly adjusted to the prevailing sea-breeze; but am not quite assured of this. Otherwise the lay-out might with advantage have utilised the fine rows of palmyra trees.

There is some differentiation of size of the avenues, as of 45 and 34 feet. Yet surely those which are to be the most important thoroughfares, connected with the existing streets of the town, ought to be larger than those minor streets of domestic use which make up the rest of the network? To the central entrance avenue from the south I should give 60 feet, and to those entering from the east side, north and south of the central square an increased breadth also, say 60' and 45' respectively.

It is much to have left a central open space. But why a practically exact square? It is the form which gives least facility for games, admitting few groups at once. It also has shortest frontages and fewest houses. Is not this plan like that of the thoroughfares, essentially a product of office drawing-board, and instruments? and not a design thought out upon the field, for the uses and pleasures of the future community's life?

The reservation of the neighbourhood of the square for the larger plots is plainly neither of Indian nor European village traditions, but is a direct imitation of that separation of classes according to wealth which (since the industrial revolution only) has become characteristic of British cities. Has this been decided on by the Cocanada Town Council, as worthy of imitation? or are they simply copying from the work of some London draughtsman, to whom the notion that squares are for the well-to-do chiefly, and not for access to the people, has become habitual? Note moreover that far better properties may be given to well-to-do people along the irregular margins of the property if these be not spoiled by the present complete circumferential frontage of conservancy lanes: a feature new to town-planning design indeed, but not one likely to be imitated. In any case, the succession of seven streets and eight conservancy lanes which runs to northward of this square, without any break of open space, is poor and monotonous designing (or rather "drawing-boarding") and should be reconsidered. Does even the existing type-design permit this? I have seen nothing quite so mechanical since I last passed through the mining villages and manufacturing towns of North England, and the Midland "Black Country"—why should Cocanada accept these for imitation? How has it come to do so? Have we here a clue to the local origin of the particular English designer who has inspired the Cocanada draughtsman? In any case may not some better tradition be found than this? True, it is derived from British sanitary bye-laws, but these the earliest—of about 1858—with their enormous product of mean streets in our industrial towns;

* For note of Vizagapatam, please see page 41 infra.

† Page 2 supra.

‡ For this please see after page 16.

not from contemporary town-planning at all. Town-planning in fact as at present practised in England and elsewhere may be described as an endeavour to get beyond this style of planning altogether. It is happily here not too late to suggest that an alternative plan of more modern type be considered.

First, however, a difficulty arises, a frequent suspicion, a common dread. Those not clearly informed of the differences between the bye-laws of (say) 1860 and those rendered possible by the Town-planning Act of 1910, are at first apt to suspect that the more modern style—because obviously of pleasing aspect, it may be even beautiful, with its larger gardens, its pleasant avenues, its pretty lanes, in short its cheerful varied and artistic character—is thereby more expensive than the sober utilitarian monotony which it replaces.

But on examination and comparison of estimates, the exact reverse turns out to be true. The dull gridiron was the expensive plan; the varied chequer is cheaper as well as better and this at every point.

How is this? First, because no way of treating land not actually covered with buildings is so costly as to make it into road-ways; and none is so cheap and so productive as to save as much as possible of it for gardens and fruit trees.

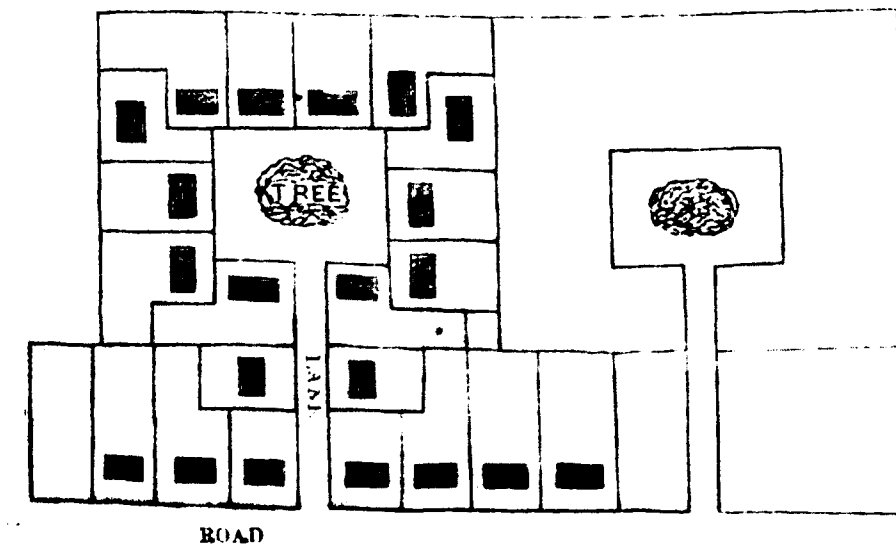
Second, because no way of planning uses so much land per house for roadways and conservancy lanes—in this case no less than 8 miles on the pattern here adopted!—while on garden village lines one half of this should suffice; indeed probably less may really be necessary.

How do conservancy lanes arise? In continuous thoroughfares, it is obviously inconsistent with amenity, and for Hindus incompatible with propriety, caste and religious feeling, that the sweeper with his burden should pass through the dwelling; and where building is in continuous "terraces," a conservancy lane is the only solution of the difficulty. But here in the country, where the plan is not of new streets at all, but of a permanent garden suburb, with houses all to be detached, there is no necessity for these lanes at all! Enough if we have at one side of the road frontage of each house a separate and special outlet for the sweeper attending the house latrine. That is, if there be one, and in spaces of the sizes proposed (from 120×75 to 60×60) there may well be. Even if continuous rows of buildings are erected, with common latrines adjacent, this vast amount of conservancy lane is not required—and will only serve as a temptation to dirty habits.

I recommend therefore that the conservancy lanes, which total about four miles in this suburban village, be given up as unnecessary extravagance. The space may be added to the adjacent building plots. This space need not be regularly halved. Some people may wish no more ground, others may be willing to take the whole addition of 13 feet; what matter if the boundary line between back gardens now brought together, be not straight throughout. The great improvement is that instead of four miles of deariness, and with expensive fence or wall to keep out the unknown public of these squalid thoroughfares, we have $5,280 \text{ feet} \times 4 \times 13 = 274,560 \text{ sq. ft.}$ of ground saved from roads altogether, and this area made available for better uses—say $6\frac{1}{2}$ acres as well as the cost of its metalling saved. But the large central square (of $668' \times 679'$) is only about $10\frac{1}{2}$ acres. The magnitude of the proposed saving and gain may thus be realised. Thus the crowded northern half of the design may now be provided with a large open ground also, if that be preferred to (alternatively) increasing private spaces. We may choose something of both courses: i.e., give several of our six acres to each purpose, perhaps the best solution of all.

The main and secondary avenues still remain; but are they all needed? Not by any means; again a substantial area may be saved. At Hampstead, the wealthiest garden village in the world, one never dreams of such extravagant proportion of roads to houses as here. The main avenues which run at right angles to the many parallel secondary avenues of houses and their conservancy lanes, are necessarily much the most expensive, for ground, for area metalled, and for upkeep, and here in Cocanada bear no houses at all; these are distributed entirely over the secondary avenues. In Hampstead the main avenues bear houses along their whole length; while side roads (sometimes avenues) but often shaded only by garden trees (and thus even reduced to the breadth of lanes) are found amply to suffice for the whole needs of a far more luxurious and vehicle-using population than can ever occupy the present city-suburb of Cocanada.

The method is that of house-grouping. Its principle is simple enough as per diagram; which is capable of many variants (through-accesses to begin with);



and the economy is no less clear. But now these groupings, with their varying sizes and proportions, their positions and accesses, are indefinitely open to varied requirements and design; and a complex order, of architectural unity and variety, replaces the dreary and mechanical monotony of the stock pattern imitated in the plan of Elwinpet. Each row, each group, each house, may now be treated individually, and the heedful variety of true homes, thus appears. *House-pride*, that great incentive to city improvement and family well-being, now becomes possible; whereas, when all the houses wear the same "sanitary" uniform and ranking, steady deterioration, of street and family together, is not simply threatened, but as our British bye-law streets and towns have for half a century been so comprehensively showing, is practically ensured. Why begin here to adopt and repeat this mistake, when the ruling country, supposed to be imposing such bad plans, has nearly five years ago passed the Town Planning Act with the express purpose of getting rid of this bye-law monotony for ever! If so, is not a plan like this too seriously behind the times?

Take it next in details. Are these square plots really designed for Indian homes? Are they not simply copied from English bye-law towns, as suitable to the square villa or the squarely rectangular cottage? This square plot is moreover again an expensive one, because its slight economy in fencing is overpowered by its increased proportion of road-way frontage, with corresponding expense of construction and upkeep. Who wants to pay for 60 feet of this, when less will do?

To narrow the holdings as much as may be consistent with safety from fire, and to lengthen them backwards from the road will thus be fresh economy. Moreover, this shape fits far better the type of the Indian house, which tends to deepen backwards, and to make its additions in privacy behind. On the present square plan the occupant is prevented from enlarging his house, and illicit overcrowding must and does arise accordingly. Whereas if space to lengthen be given, additions can be made, and overcrowding prevented. The very best method of economy, that which permanently enriches family and city together, is rendered as far as may be impossible upon this existing plan; whereas it is the best use of the planner to provide for this.

Let us see then whether this principle of respecting the Indian family and home, and providing for the growth of both together, when sons marry and bring home their wives and have children, of whom a proportion may some day ask to be housed in turn, cannot be brought into our altering and developing plan? If so, we shall have made a step towards arresting that direful combination, of Indian family overcrowding with European slum-planning, which is now too frequently beginning in Indian cities.

Towards realising and designing what is needed, a convenient illustration, primarily for the European reader, but quite intelligible to the Indian, may be taken from the planning and allotment of graves in a cemetery. Only for paupers or in

time of pestilence or war are the graves kept close and side by side. In ordinary conditions, after a grave has been allotted to a member of the family of A, at least the next place is kept vacant, in view of its reasonably probable requirement by and by for another member. Similarly for B, C, D, and so on, so that family associations are respected; while the cemetery, planned as it was for the needs of more than one generation, fills up in the end just as rapidly, but more satisfactorily, than one of the stricter arrangements of regular rows. Surely only the dullest of planners would seek strictly to maintain the pauper and pestilence method as "regularity," or think this family method "more irregularity." Yet this is what plans like the present do for the living.

The living do not yet receive this consideration from town-planners. In the desolate individualism of European cities since the revolution in industry and politics towards the close of the eighteenth century (to which we no doubt owe much, yet whose defects are still vitiating our twentieth century thought and life), we have come to be satisfied with inhabiting a number in a street row, isolated for practical purposes, as completely as by material death, from our neighbours on either hand; and with our friends and our grown up family scattered indefinitely into similarly isolated conditions. Family and kindred, neighbourhood and village, all these have vanished from our western "progress"; and with consequences to town and city which need not be enlarged on here.

The point is, that with our European stock-pattern, we now tend to introduce into India not only our western home, with the family reduced to its simplest expression, but necessarily with this, its independence of all others. Thus in our cities our right and left hand neighbours in the same street are usually unknown to us, often even by sight and name; and our kindred and friends are scattered. How different the Indian household with its grouped families around the old grand-parents; its collaterals as well. To the superficial European eye this may seem "more overcrowding"—but though overcrowding be its often dangerous consequence, we forget that to the Indian eye our system seems little better than homelessness.

The respective advantages of these methods have often been argued; but it is not necessary to enter further on those here. Enough that the people we are here providing for belong to the Indian type, and that the plan which has been chosen for them is not only by the European, but for his limited family. Misfit is thus assured; and if this be so, we need not pause to apportion blame; but rather to try to design more in accordance with the nature of the families we have to provide for, in their needs and growth.

Return once more to our type-diagram above—that of house-grouping. This was introduced simply to show how roadways are now a days being economised, and gardens enlarged accordingly. But its building lots may now be lengthened backwards, and narrowed in frontage, so further diminishing road-lengths, and simplifying and shortening accesses.

Assume now that more land is available, and note next what happens if we apply some of our economy of roads to extending them, to something like their originally contemplated length. They can serve more houses: or, like the graves of the illustration used above, these houses need not at first occupy every plot in the continuous order preferred by builders and land speculators hitherto, but rather be allotted with spaces intervening. We thus obtain a new type of village plan; more spacious than heretofore. If we leave this ground vacant to weeds or to untidiness, criticism will fairly arise; but why not plant it with fruit trees to shade and enrich the future house when it is built? Meantime it may be let to one or other of the neighbours (of whom there are not only two, but five convenient enough for easy access); or if a number remain unlet to these, they may reasonably be let to a market-gardener, who may cultivate them more easily than he could have done the more detached strips of his native village.

Consider now the many advantages of this mode of suburban expansion. First its escape from European isolation, and its adaptability to Indian family needs and growth; next its economic appeal to real saving, in larger and better buildings. On the official plan the house once built is practically unalterable; on the proposed plan it may be greatly extended and improved, especially where lots are taken together.

If there be one aspect of Indian family life which should readily impress the thinking occidental (or even the thoughtless), it is that whereas only few with us, even among the rich, possess hereditary homes and their associations, these tend to be the rule in India. The more one sees and learns, the more it becomes plain that if not exactly the same elements of house-pride and family pride are present in both cases, at any rate truly equivalent ones. In this way is not our garden village not only escaping from its English nineteenth century bye-law streets into the better contemporary style? but beyond this again, to renewal of the essentials of the large family life and sociability of India?

III

So much for criticism; what of reconstruction? For that we have to leave the notion of planning as the making of a symmetrical pattern on paper with drawing instruments, and in imagination wander through the streets of our future town creating them as we go; and searching out the best position we can devise for each of its needed buildings and institutions. Differences of opinion will of course arise among us; yet some consensus may be reached. Hence the writer may be fairly called upon to offer his solution of the problem presented by each building, and to give his reasons.

Bazaar, School, Reading-room and Choultry: what conditions should determine their respective positions? Each may best be near the centre of population; this defines them north of the central square; and upon its main avenue for convenient access and good aspect. But the Bazaar does not need a park frontage, which is better left to dwellings; moreover, since this main street runs east into Raja Ramapeta, which has still to be developed, our bazaar may gain custom from this side as it grows, and also be near town and railway for its supplies. No one, however, can predict the future growth of a bazaar, hence twofold foresight provides (a) side street accommodation for expansion, (b) a small public garden space to northward into which its activities can overflow, and its busy shopkeepers also at times take the air.

The Choultry, as a lodging which leaves its residents to buy their food, may conveniently be near or opposite the bazaar, and on this main road to railway and town. It needs a good and conspicuous gateway, but its main area need not take up valuable frontage; quietness for its travellers also suggests the cheaper interior situation shown on plan.

The School is shown fronting to both the large and the small open space, of which the latter may serve as play-ground. The usual play-ground space is still shown, but now as a school garden. The introduction of school gardens has long been justifying itself. In France, in the United States, and in Russia, every school is expected to have its garden; and our tardier Education Departments in Scotland and England have at length fully begun to follow their lead. (In Madras we have an example in the excellent school garden of the school organized by Mr. C. B. Simpson for the employés of the Buckingham and Carnatic Mills—an undertaking well worthy of civic appreciation.)

The Reading-room may be placed in the same neighbourhood, at the foot of the school garden upon the avenue. It is here conveniently reached by the public, while its association with the school would give it an increased usefulness, and pupils and teachers alike a far more vital interest in reading. As temple, church or mosque come at any time to be desired, fitting situations may be found at the ends of the main perspectives looking westwards towards the present boundary of the village.

A village Hall need as yet hardly be provided for. It is better that the school and the reading-room be planned so as to admit of meetings, lectures, concerts, etc. Such a school hall (or even reading-room) may well have a stage at one end: again an accessory of admirable value to the school, indeed a resource of the very highest importance for raising our schools from their too frequent tradition of mere memorising to the vital apprehension of literature; as from sing-song to true music.

The beginnings of a Museum find their place also in the school hall; that of an Art Gallery also; though portraits, historical souvenirs, etc., may best adorn the reading-room.

Public fountains should not be reduced to the mere water standards which are shown on the plan, but treated—as throughout the whole past of civilization in all worthily designed human groupings for villages, towns or cities—as befits their purity, their usefulness, their accessibility, and conspicuousness, and also as the natural and beautiful centre around which the domestic labour of woman and her social intercourse so naturally converge and radiate again. From the economy of space we effect by the reduction of unnecessary thoroughfares, etc., we can thus easily afford to assign full space to each fountain, with its seat for rest, its shady tree. With a little sympathetic study and observation of the best examples, in Cocanada and elsewhere, these fountains may each be given a character of its own. To one a banyan and to another a peepul, to this a mango, to that another fruiting tree, to these again their varied group of palms, and so on. What better and simpler return in health, happiness, and general beauty by thus simply developing each of these characteristic points of our village; instead of leaving it in that too elementary crudeness which remains when the work of Engineer or Sanitary authority is left in the raw?

Returning to health, we note that in too many cases the proposed fountains are well over 200 yards apart in a straight line. In these cases a woman midway has 100 yards to walk; but at the centre of the block she has 200. This is too much for young wives, for child-bearers, for the ageing.

Hence I should introduce into the centre of several such blocks on the accompanying redrawn plan * an additional fountain. I admit the extra capital outlay this involves, but this is well justified in daily economy of fatigue. Water is also assumed as provided for school, bazaar and choultry.

A simple form of drinking fountain is coming into use in Europe which may be of value in India; indeed is probably already known. No cup or tap exists, so that caste-contacts are avoided. One simply presses a button, and a light jet of water issues; a tiny fountain, but only at the ordinary human height indeed rather less, so that one may stoop towards it, and catch the stream in one's mouth, while the falling and wasted drops do not pollute the place of origin.

What other elements of use or pleasure may we provide? One of the most excellent features one can see in an English garden village is that here and there a little nursery arises, with its flowers, and vegetables, its saplings and young fruit-trees; for the gardener is here invited to settle, and if need be, encouraged by easy rent. For he peculiarly aids the extension of the village by beautifying the gardens as homes are built.

It is one of the most curious arrests of contemporary minds that our excellent and ardent sanitationists, with all their concentration of mind upon the material process of evacuation, still neglect that fruit supply which is probably the central resource provided by nature for regularizing and normalizing the whole alimentary system. The world's literature of medicine is at present well-nigh dominated by the theory that all kinds of disease originate through auto-intoxication, by absorption of unwholesome elements—"toxins"—from the bowel; but as yet the physicians are disputing the efficacy of the strangest drugs, the weirdest treatments, the most heroic operations, and overlooking in each country the simple and delicious remedies provided by nature and her gardeners from time immemorial. In the cooler north, "the apple of knowledge" with its brain-clearing proof of wholesomeness, "the olive of wisdom" with even subtler digestive (and mental) values, and many others, are again beginning to be rediscovered. The healthy Arab has never lost his allegiance to the date, and so on; but with all the resources of India, it is a real reproach, and this alike to her old castes and races and to the governing one, that her fruit-resources are still so extraordinarily far from being improved, developed and diffused as they deserve.

Why not, then, give to this village a new individuality, beauty, health and wealth, an influence and example also, by planting her very avenues with fruit trees (as is so largely the custom of continental European countries) and correspondingly give every plot its start of fruit-trees as well as gardens? A garden suburb is much to establish, but an orchard village far more.

* The third plan after page 16 *infra*.

The objection is of course constantly made—"what an expense for watering!" But one should not forget that, after three or four years at most, the tree in ordinary conditions needs little or no watering; further many orchard trees yield more return than ordinary crops, and cost less both for watering and other labour of the year, so that the small initial outlay is sound economy. Moreover, trees hold up the water-level, which falls without them. Hence to abandon tree-planting is not merely to accept desert conditions, but to aid and establish their victory!

The provision of a tree-nursery plot is therefore suggested upon the plan, * though some other location, depending on soil, etc., may be found to be a better one. The park and avenue trees should be as far as possible fruit trees, and where roads are shown too narrow for public avenues, it is recommended that these be replaced by the simple and inexpensive method of setting-up building (and planting) lines. That is that the strip of land which is given up to the householders by the narrowing of the public avenue should not be encroached on for the building of their houses, but be planted with trees, which for the poorer streets at least may be provided from the Municipal nursery.

In this matter of fruit-tree planting, may not such an example as that presented at Bangalore be suggestive to Cocanada?

IV

We are next taken to the two old and congested villages of Malapeta and Indrapatti, the improvement of which has long been under discussion in municipal circles—so long indeed that a dramatic little incident arises as we pass through. An old man of strikingly patriarchal aspect, obviously still one of the leading elders despite the coming on of mortal disease, comes forward and delivers himself of an impassioned discourse, rising to anger like that of an ancient prophet; and this is interpreted by one of the Council as his upbraiding protest against the delay of improvements, first promised long ago, and again year after year.

Yet what is the unlucky Council to say or do, when thus roundly scolded by its constituents? With its limited resources of land and money, of organisation and town-planning, how is it to deal with such a large and old and ever-increasing accumulation of practical difficulties as these villages present? The dilemma is plain, and the Council is on the horns of it; the problem viewed in detail seems too complex for small improvements; yet viewed as a whole, it seems too vast and costly for comprehensive measures. Little wonder then that municipalities leave their slums so largely alone; yet meantime they grow worse, and their problems must soon be grappled with, and that thoroughly.

What help can a stranger give, with only the experience of a half-hour's visit to guide him? With as much time as that spent on the plan of Elwinpeta one might evolve something; but apparently no adequate plan of these old villages as yet exists. I ask for it. Meantime one ventures to point out that the place is far from being all bad; indeed that there is much good in it, and this even of places, of houses—of homes, that is—and of people.

What if this difficulty of the municipality were made the people's opportunity? If they have one "grand old man" like the orator who castigated us, have they not also others in the making? and with such as these may not some moderate improvement policy be talked over and planned out?

Despite obvious dirt, neither municipal sanitation nor private cleanliness is wholly wanting, indeed both are on a better level than we have often seen elsewhere. At present, here as everywhere, each goes on its own way independently: why not in steps?—in time? in tune? As we travel, in fact in every city, we hear much from the sanitary authorities about their difficulties and disappointments with their people; while the inarticulate people go on in their old ways, with disappointing indifference to their constituted authorities, and their regulations.

But if we do not catch our fish, what good of scolding them? Must we not rather improve our bait? If we cannot teach our children, what good of punishing?—must we not reconsider our methods? So it is for sanitation. After hearing from the authorities, in a dozen cities, of their disappointment with the people, and verifying too, as the simplest observation must, the grounds of this, one yet feels that the people are not yet successfully appealed to; and that the new pedagogy of sanitation is at least as defective as the old pedagogy has been.

* The third plan after page 16.

VI

The next problem arising for discussion from the perambulation of the town is that of the park some time ago projected, upon the irregular and at present very useless, but easily reclaimable swamp land east of the railway. That this would be a useful outlet of the growing town, and a playing-field for its youth, is obvious; in fact young Cocanada is already in evidence there.

But one is told that the Government has discouraged this project and given more or less strongly the impression that it considered Cocanada still too poor to entertain such a project. Since every town-planner naturally thinks of a town as too poor if it *has not* a park, one naturally enquires further into this adverse decision, or at any rate discouraging opinion; and endeavours to make out upon the town map what the extent and boundaries of the proposed park actually are. Puzzling arises; the map is not clear, nor up to date, in fact here as almost invariably when tested, it is misleading. Instead of the proposed park being, as the map suggests, of enormous extent, with corresponding expense for filling up, levelling, fencing and planting and the rest, great part of the land thus shown turns out to have been already acquired by the railway for its future extensions; and when this boundary is inserted, the space looks more practicable. But this again has to be studied in relation to the Government land to the north, the future town extensions to the south, and so on. In fact, the whole area has to be planned; and when this is done, the proposals of the municipality for a park, and indeed also boulevard reaching down to the ever-receding sea-front, will for the first time be intelligible on their real scale, and in their general relations, and the Government objections above referred to can then naturally be reconsidered.

The case for accurate Improvement Plans, and also for a general town-plan embracing all of these is thus once more clearly illustrated.

VII

Meantime, and probably at least in part from this check to a large park scheme, the question of small City Gardens has been mooted. What are the "pros and cons" of these? First the cons. To many, such small gardens seem but trifling, yet expensive. They favour special localities; they delay larger park schemes, and so on.

Here as in so many other cases, Indian cities tend to follow, and also tend to have impressed upon them, the example of English cities and towns, with their qualities and defects. It is the advantage of London for instance to be comparatively rich in great parks; and of its environs to have public commons. For its richer quarters, it has however also squares, usually restricted to the uses of immediately adjacent residents. But the people? Practically these only reach the parks on Sundays and holidays; thus the need has become felt of providing the working quarters also with open spaces, the equivalent of the squares as far as may be. Hence the rise of the "Metropolitan Playgrounds and Open Spaces Association," which in the last thirty years has opened many scores of spaces to the public, and these of all sizes, and on all scales of gardening, from acres to yards, and from parterres and avenues to a single tree and seat below. Each and all of these has been found fully to justify its existence, and to act favourably, alike upon the health and happiness of the districts improved. There is no question of favouring this or that municipal ward, for by this time everybody knows the policy of the committee is to make its spaces and gardens everywhere, yet only as opportunity arises, and land can be got on practicable conditions. This association is still a private one, but its influence and example have been of the greatest value to the London County Council, whose generous policy as regards public spaces is not a little due to the education of their constituents by the long-continued and modest beginnings of the private society. In Edinburgh and Dublin similar movements are in progress: in fact, Edinburgh may perhaps be peculiarly referred to as a city relatively well supplied with public parks and gardens; yet every addition of open ground, however modest, is immediately found of popular use. For children, and for women, who cannot readily go far from home, yet are not without some leisure between the preparation of meals, these small gardens are of the greatest value.

Again, instead of British cities, consider those of the Mediterranean, which by climate and conditions as well as distance are so much nearer to India; in these the advantage, use and beauty of the small public garden has been established, and this for centuries past. There need thus be no hesitation in opening municipal gardens in any and every quarter as opportunity may arise.

One very good way, adopted in various towns, is to lay out the ground around the Municipal office itself. Here in Cocanada, it is most gratifying to find the ground around the water-works and reservoir planted as an orchard and garden, and not left, as is too frequently the case in cities, as a mere administrative desert of over-jealous sanitation. It is true that the public cannot be freely admitted to the city's Tank; but here, with a very moderate outlay for fencing, a fairly large and pleasant garden can be granted to public use, without interference either with the reservoir or with the proposed extension of the filter-beds, etc.

The large playing field of Elwinpeta is also a step to the establishment of a park system; while it will be noticed as a feature of the re-drafting of this plan already referred to, that the extension of this open space is proposed, and with small public gardens as well.

The opening of the reservoir garden may at first alarm those who realize that its fruit trees bring in a certain income. But the public soon learn to respect the fruit trees; and if urchins plunder, it is only after all a physiological evidence of the want of fruit, and to be met not by mere punishment, but by a more liberal policy of planting, through roads and avenues everywhere, until falling fruit is so abundant that no child or poor wayfarer needs to steal. This state of things actually exists for hundreds, indeed in aggregate thousands, of miles upon the roads of Europe—indeed there are regions in which the fruit trees pay for the upkeep of the roads. Why not more largely in India? Why not here? What better investment for water than to start them?

VIII

An element of excellent promise in Cocanada—one doubtless helped by its Dutch influence, and its own fishing and mercantile population—is the maintenance of a higher standard of public cleanliness and conservancy than in other towns, which need not here be particularized. The suggestion * has been made to the chairmen of one or two of these that it might be of advantage to send their sanitary inspectors on a short visit to their colleagues at Cocanada.

IX

As already indicated, that deficiency in properly drawn town-plans, which is common to most towns, is very manifest here; and any attempts rapidly to grasp the lay-out and general conditions of the city, still more to go into details, are constantly hindered, and sometimes thrown into perplexity and confusion, too often even positive error. The waste of time, energy and temper to any one who endeavours to identify his position upon this plan, at any of a dozen places visited, is not necessary; and the town-plan might and should be broadly rectified and brought up to date by the new city engineer without waiting for a new survey. A register of births and deaths is expected to be kept up to date; why then should the erection or disappearance of buildings be left unrecorded, often for any number of years? Even so important a matter as the demarcation of railway, government, municipal and private property is left indistinct, sometimes even unintelligible; while even the most obvious notations of the limits of cultivated land and swamp cannot be depended upon. When one brings the plans to the place under discussion and finds these absurdly incorrect, so far as present conditions go, the chairman and draughtsman alike are far too easily satisfied with such an explanation as that the plan is an office-tracing from the survey of 1860! To make at once this revision of the town-plan for all points at present under consideration, and thereafter as soon as possible for the whole town, is not a matter involving any great delay or trouble, while the result would be an enormous lightening of difficulties and correspondence to local and central governments alike. An amended plan should hang in the Council room, and indeed a copy in every department of the Municipal office. Copies should also be widely diffused through the

* Please see page 39 *infra*.

town, so that school boy and citizen should know the town-plan as well as those officially concerned with it. This small expenditure would be fruitful towards the arousal and diffusion of citizenship, and to the better appreciation of the labours of the Council and its servants towards the public weal.

CONCLUSION.

The regular and spacious lay-out of old Cocanada, due to the Dutch who ruled here until the transfer of 1825, has suffered from that lapse of town-planning which has arisen with, and characterised our industrial greatness, and which increasingly followed upon the railway age. Hence the original fine regularity of broad and avenued streets gradually lapsed, so far as extensions were concerned. This lapse has gone on, until the town's plan now presents the extraordinary feature of having only one single good avenue north and one south—the main road in each case—with subordinate roads running into confusion everywhere. This, in short, is a lapse from a developed town-plan to a simple road-side village growth.

Of recent years town-planning has been returning, but not yet with the old largeness of conception and view. Serious interest, good intention and endeavour are however manifest; and improvement is in the air.

It is important, however, to realise that, despite the length of the preceding report and the variety of town-planning topics it discusses, the main question for Cocanada—that of a general town-plan, designed with special reference to its essential reason of existence and possibilities of development, as a port and commercial city—has not been entered upon. For attempting this a mere flying visit such as the present does not suffice. The problem is, however, ripe for treatment and should be tackled, and this before the approaching railway developments, which the recent purchases of land indicate, have taken form. No source of city deterioration during the past two generations has been more serious than railway-planning without relation to other aspects of the cities concerned.

TANJORE.

Despite an even briefer sojourn than usual, the impression of the beauty of this old city and of the grandeur of its temple will remain among the most vivid experiences of my visit to India. It is seldom that an old metropolis of religion and of State retains so fully the stamp and dignity of both. The fortifications have their rest, and enduring use in protecting this historic city from the destruction which has befallen so many others: for now that fortress-cities are growing so few, it is doubly to be hoped that no rash improver will be tempted to substitute the conventional dust-desert of a ring boulevard for the present magnificent girdle of gleaming moat and stately wall.

Yet the malaria difficulty must not be forgotten; and many half-dry puddles at the bottom of the moat are only too plainly in evidence. Still, there is no difficulty in connecting these by a small ditch; so that, instead of many small and dangerous puddles, we shall have only one or two great bodies of deeper water, each less liable to malaria breeding, and far more easily dealt with; while there is also the further advantage of extending the area under cultivation during part of the year.

(The great sight of Tanjore is of course its famous temple, of which Fergusson's well-known eulogy is amply merited. More fully perhaps than for any other great monument of India, the harmonious and magnificent unity of this temple corresponds to that of a great European cathedral. In this case too, the main edifice finds an admirable contrast, alike in scale and style, in the small and admirably proportioned and decorated Subrahmanya-swami temple, which answers (and even more successfully) to St. Margaret's Church, which gives scale to Westminster Abbey. The whole is approached by a noble gateway, and enclosed within a cloister of perhaps the most unbroken range which existing architecture has to show. This mutual enhancement of good general planning by architectural and decorative execution fully justifies that hearty admiration which has been expressed by every European visitor.)

(But when we leave the temple, and enter the poorly designed municipal garden, the loss of modern taste is plain. Of the historic buildings which must once have filled this area nothing remains save Schwartz's Church, one of the most honourable monuments of Christian missions in India. Outside the gate the Forest Office is fortunate in having appropriate outlook upon a peculiarly noble peepul tree, enclosed within its pial. Here is an old element of town planning, which should be reproduced a thousandfold more frequently; for this is plainly of more constant use and pleasure to the public than are the neighbouring acres of half-neglected garden.)

(Entering the town, a broad and stately car street opens before us; and for good omen a couple of good houses are being built upon a vacant site in the traditional style, each with its outer and inner courtyard. We slowly perambulate the rectangle of car streets, and dive at many points into the minor streets between; and we emerge with (on the whole) an impression of relief, encouragement and hope. For though here as everywhere there is some congestion, and dirt is not hard to find, indeed many more or less neglected corners—there is no quarter which the movement of civic revivance may not readily improve and sanify, even beautify, instead of destroying.)

cities alike. Nor has the offer of suburban sites, ever, anywhere, so far as my knowledge goes, met this difficulty. For even where, as rarely happens, the site offered is one suitable and acceptable to the expelled people, the present cost of building practically excludes them in favour of the more prosperous classes: and hence it is that the result of such would-be improvements, to the poor, is thus, in more than my experience, mainly that of depression; depression increasingly serious, and more than ever difficult to relieve. (The very first example of this mode of procedure, the portion selected for beginning upon, is a matter of Rs. 30,000; but the method of conservative surgery, after a few hours' work, brings out the usual results; first, that the new streets are not really required, since ample communications exist already on every side; and, secondly, that the desired additional open space is far more cheaply obtainable by simply enlarging the existing lanes. With the addition to these of vacant lots, and the removal of a few houses, those of the most dilapidated and, in sanitary character and of the lowest cost, these lanes are greatly improved and every house is brought within reach of fresh air as well as of material sanitation—a point in which the more pretentious method, as its plans show, constantly fails. The total expense for this typical area (including in the case of the (smaller) necessary out-lays on roads and drains) turns out, on official estimate, to be one-sixth of the preceding amount, Rs. 6,000. The same method may of course be continued south of this area: the whole large extent of the former scheme will thus be better cleansed and sufficiently cleared; while the Rs. 30,000 originally voted for the first instalment will go a very long way towards accomplishing the whole.)

(So extreme is this contrast between this simple, economical, yet more thorough method of improvement, and the, of late years, customary one of cutting new would-be thoroughfares and would-be sanitary lanes, that I am constantly compelled to wonder and ask how this method, at once so costly and so inefficient, can have become so general as it is, and this alike in India and in Europe. True, to the professed utilitarian the preservation of the old world picturesqueness of these courts and lanes is obviously anathema; rousing all his deep-seated prejudices, and his readily excited sentiments, towards a coldly fanatical iconoclasm of old-world beauty, with the results of which, taking the world and the past century over, the present savagery of war can hardly compare. Yet when we realise that at six to tenfold greater expense than that of the conservative surgery here advocated and set down on plan we have not only less local efficiency, but an increase and intensification of congestion elsewhere, in fact the old difficulty to begin again upon anew, the awakening of the rate-payer is surely at hand.)

(But for this conservative method long and patient study is required. Nothing can be done in the office with ruler and parallel. The plan can only be sketched out on the spot, after wearying hours of perambulation and often arid sights and odours which neither Brahmin nor Briton, despite the moral and the physical courage of which they are legitimately proud, has often schooled himself to endure. Plans, too, are required for this class of work of a higher degree of detail and accuracy than that hitherto insisted on in municipal or governmental use: so that the recent practical class for engineers, etc., has here been necessary. But even when we have a detailed and corrected plan (instead of the rude tracing from the revenue atlas, necessarily largely out of date) the task is always more or less difficult. Even with a good deal of experience of the game, one is constantly finding oneself in check; now and then so definitely and persistently as to feel tempted, like the impatient chess-player, to sweep his fist through the pieces which stand in his way. This is indeed an old vice of beginners, when otherwise in authority; and their chance of learning of the game is of course spoiled by this abuse of it.)

III

(We now leave the city and explore the environs to northward. We come to the pleasant upward and downward site, north of the moat, to find this laid out with long lines of new dwellings, and these of the smallest (and correspondingly most expensive) type already unfavourably criticised* in other cities. Here peculiarly they show to disadvantage; since permanently spoiling what are plainly among the very finest sites around the whole city, and being set down in such a way as to

* See page 5 supra.

make their old and beautiful piece of garden ground as nearly as possible unutilizable, and in a fair way of becoming the usual desert of weeds and prickly-pears, and with every lurking foulness. Were the simple principles understood, not only that houses must be designed for the sites they have to occupy, but sites planned for rational and productive use, this would have been a hamlet of pleasant and prosperous homes, and an example to the neighbourhood and to the city instead of a warning.

The suburb further to the north shows the benefit of the influence of its temple in its regular planning: and with due care to prevent encroachments, and with the general cleaning up to which I confidently look forward as the civic age returns, this may readily be made a very satisfactory and pleasant quarter. The large and numerous temple and garden tanks of this neighbourhood seem more or less in order; so that it is the more regrettable that almost beside the Victoria Market and the Municipal Hospital there should be a vast and undrained storm-water pool. But this can surely be easily and cheaply dealt with, in view of the watercourse only a couple of hundred yards southwards?

Returning southwards we follow the large East Gate boulevard, which only needs a little attention to remain a magnificent thoroughfare. We pause to admire the excellent old garden of the Town Police Station, which in design is an ornament to the neighbourhood, and in upkeep a credit to the Police. Yet immediately south of this there stand the usual dreary Police Lines of official tradition. We cannot but regret that for lack of a little planning this beautiful garden was not continued and adjusted with the new buildings for the benefit of all the homes and families concerned. The explanation here, as elsewhere, is of course revealed by the very term "Police Lines" with its total error of mental vision, borrowed from the image of rows of celibates on parade, with blankness to the real problem and purpose—that concerned with chosen citizens, in their hours of repose, and of providing what should (and might so easily) be made model and exemplary homes.

Further south we come to the Market, which though obviously far from old or outworn, is already congested; especially in front, and with corresponding encroachments beginning upon the public way. Instead however of complaining of the traders, let us rather criticise the imperfect designing of the market (which has been planned with a minimum instead of a maximum of frontage) and endeavour to improve as well as to extend this. Towards this rough suggestions have been given.

We next visit a very crowded and slummy quarter, that of Samantbapalayam Tulukka Street, which abuts upon the main road running from the market to the southwest. Here a poor Muhammadan community is overcrowded around the mosque; and the problem of diminishing congestion, with minimum disturbance and maximum sanitation, has been gone into, with the engineer, upon conservative lines. The provision of some extension for this quarter however is urgent; and the limited improvements at present suggested may correspondingly be carried farther. This re-housing of some of these Muhammadans, in due proximity to their sacred edifice, may perhaps be found upon the vacant ground immediately north of this quarter; for though this has been partially occupied as a cemetery, there seems also some available vacant space.

Coming south again, we reach the S.P.G. Mission with its large ranges of buildings: and to its credit be it noted, that the lay out has been arranged with due regard to the general planning of the town, and with good effect upon the neighbouring streets. The various official buildings and bungalows however to west of this have been erected in the usual piecemeal fashion, and display the customary planless disorder. The best that can be said is that they are less wasteful of ground than usual; but architectural possibilities of grouping or of isolation, of harmony or of contrast, have been little considered.)

IV

(The main north and south road through this quarter, in fact that from the old town, past the Palace, to the Railway station, requires careful attention, since this seems destined to be permanently the main artery of the town. It should therefore be made the subject of careful study, preservation and improvement; and these from end to end.

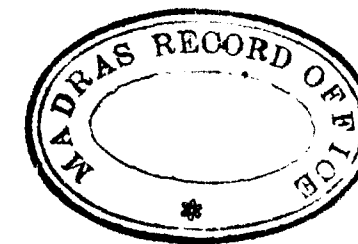
Not mere piecemeal improvement. As an example of the latter I cannot condemn too strongly the design shown me for the large vacant triangle opposite the Medical school and a little south of the Clock tower. This design has evidently, as is too commonly the case, been made upon a scrap of tracing cloth in entire detachment from, and forgetfulness of, the situation for which it is intended; but whenever this situation is realised, the present scheme will surely at once be discarded.

The road-fork at this point should be opened out and widened; and upon the remainder of this commanding site a fine public building should be erected. This would be seen from the town itself, and from the Vallam road, as well as by visitors arriving from the station. On what other site in Tanjore could a good building have more effect? Why not for instance a new Municipal Office, the existing one being obviously too small for present uses, much less for future ones? The situation is very suitable for this purpose on grounds of accessibility and general time-saving, no less than of architectural effect. Some minor use will easily be found for the present small Municipal Office and its compound.

It is time to pass to the possible suburban extensions. For these, excellent sites are available. First, that upon the large vacant area lying south of the railway station and traversed by the Trichinopoly road. Secondly, that south-west of the great temple; and thirdly, that of the old Nilgiri Garden, north of the great tank and west of the old fort town. The first and third of these sites are specially accessible and convenient: the first named for bungalows, and the other for houses mostly (but not necessarily) smaller.

After due consideration and discussion on each of these spots, sketch plans have been prepared by the City Engineer, in course of his short visit to the Course of Town-Planning at the Engineering College.

We thus leave Tanjore, as we entered it, with great appreciation of this fine old city and confidence in its continued future.



BELLARY.*

I

The situation of Bellary is a peculiarly striking and impressive one; and much has been made of it. First the old castle and fortress towering upon its rocky height, and with long water-collecting slopes, like those of Gibraltar, varied by picturesquely irregular boulder-masses, among which winds the ascent. Next within the fortress boundary, but practically upon the surrounding plain, stands the old town of Bellary, in which, despite modern transformations, something can still be made out of the original disposition and plan. The deep rain-water tank at the foot of the collecting slope (recalling that of Gibraltar) is here of noteworthy interest, and the question at once arises, for a town evidently poor in water—may not this collection of water from the rock-surfaces even now be somewhat extended and improved?

In front of the dual town, that is to southwards, there extends, as a leading feature of the landscape, the extensive shallow tank of Nalla Cheruvu. This it has at times been proposed to fill up. This filling up of tanks, created by ancient foresight, labour and sacrifice, seems often too lightly suggested. That the edges be regularized, and the slope of the bottom also, so as to avoid the irregular development of stagnant and mosquito-breeding pools and to admit of the steady retreat of the water towards a central and deepest portion—that surely is the more practical policy, and an enormously cheaper one. By thus arranging a pool of retreat, loss by evaporation would be diminished, as well as mosquitoes abated. And if annual drying up prevent keeping up the supply of fish to keep down larvae, we may efficiently replace fish by ducks, whose incessant searchings in mud and water, on bottom and on the surface are so peculiarly thorough and efficacious; while even if complete drought supervenes, the ducks survive. Is it not part of that curious apathy to minor agricultural interests which is so common among the educated classes, Indian not less than European, that such simple aid against one of the gravest scourges should not be provided and maintained? Will not some temple-trustees take the initiative with their tank? Even to the sending out of duckling colonies—which might be more protected by the sanctity thus acquired from birth, than would be their kindred, of more humble and domestic origin.

There is also a further and more urgent reason for maintaining the great tank. To its east lies what is now-a-days especially called Bellary, the town replacing the old one at the foot of the fortress; and now that this of late years has become gravely plague-infected, the tank is invaluable for the isolation of the western portion of the town which has grown up with the cantonments as their Main Bazaar. The lay-out of the garrison town to the west and that of the official town to the east of the Castle Rock are of more than the usual spaciousness, so that the total extent of Bellary is very considerable indeed.

2. The largest economic resource, of the western town especially, has evidently always been that of military expenditure: and the capital question thus arises and should be pressed for solution as soon as affairs of war may allow. What is to be the future of the garrison? Is it to return here, or not? The matter is of course one to be decided on grounds military and political, grounds of strategic communications, training and health; and cannot turn upon the interest of the town merely; but the citizens may reasonably ask for some speedy decision, clear, positive and fairly permanent. Without this the town lies in uncertainty, which is most disadvantageous to itself, and thus also to the public weal.

Thus the growing abandonment and dilapidation of West Bellary (Cowle Bazaar), while police, roads, cleaning, etc. have all to be kept up, inflicts a heavy and growing burden upon the main town; and it seems reasonable that the desire of the citizens for some assistance from the military authorities, some material help with these expenses, in the plight created by the withdrawal of the garrison, should be considered in a sympathetic spirit.

* For maps please see after page 27.

The situation is rendered still more serious by the growing economic competition of other towns, notably that of Adōni as regards the cotton trade. The cotton-pressing industry does not seem likely to increase; and there is thus urgent need of searching enquiries, alike on the part of citizens, municipality and Government, towards the development of industries which may at least check, if not reverse, the present diminution of the town. The fall of population from practically 50,000 in 1900 to less than 30,000 at present is probably rather under than over stated. Though in the present absurd exaggeration of specialization of studies—as of economics apart from hygiene, and of hygiene apart from economics, obviously related as these must always and everywhere be—plague is too much considered apart from poverty and poverty from plague, there is surely ground for suspecting here that these two are far from unrelated.

II.

3. We are now ready to enter upon the more specific changes which the town has been undergoing of recent years. The melancholy but at present inevitable collapse of Cowle Bazaar to the westwards finds here in the eastern town its yet more striking pendant in the present silence and emptiness of large quarters of the town, from which the citizens have been moved into plague encampments. Through the town moreover open long perspectives of thorough-going demolition unparalleled among minor Indian cities, even out of proportion to the large clearances which have been effected in Bombay itself; and comparable rather to the sweeping operations of Haussmann in Paris fifty years ago than to the zeal, excessive though that has often been, of later city improvers. Let any who incline seriously to defend this mode and plan of would-be city improvement look over the illustrated papers of recent months, with photographs of Prussian demolitions in Belgium, and then ask themselves—how comes it that we are also destroying defenceless dwellings and towns, with results so curiously similar?

A ramble through the town—even a glance at the town-plan without going there—is enough to show that not a single one of the three new thoroughfares which have been cut north and south is justified by any need of communications or of commerce. And similarly for the three others running east and west, of which one is already executed, and two are threatened, indeed decided on.

We visit too the vacant site next the great tank, and the large irregular square to the south-east of this, in which “overcrowding” has no less thoroughly been put an end to, and desolation has henceforth reigned. Never in any city of east or west in proportion to its area and population, have we seen such drastic treatment. The study of it is thus of the very keenest interest. If this be right, we have plainly here the culmination of a policy for the improvement of cities—or conversely, for the depopulation, which has taken place.

We go in search of the new dwellings which the authors of these extensive clearances no doubt promised to provide, but we fail, completely, to find them. The abandoned ground of a former agricultural college has been planned out in a pattern similar to that criticised* for Elwinpet in (Oceania) in large sites for the bungalows of the well-to-do; and the lots are said to be sold, but are not yet occupied. A Brahman builder in this neighbourhood has provided for a dozen or so homes for his own caste, and with a very unusual and satisfactory range of sizes and rentals, but still only for the prosperous; and one or two other beginnings may be found. Still, we are driven to the painful conclusion, that this whole set of clearances represents only a recurrence, indeed with exaggeration, of that worst type of clearance which began two generations ago or thereby in European cities.

The excuse is doubtless that of panic, after the first serious outbreak of plague in Bellary in 1898. But sanitary and governing authorities should be the last to yield to panic.

Moreover their measures must be judged by their success, and ample time has elapsed for this. If after all that has been so often said, of the “reduction of congestion”, of the “opening up of congested areas”, of the “need of perfilation”, and so on, be true, it has here been vigorously carried into effect. With what present results?

* For this please see page 5 *supra*.

The town is this very year being again swept with plague, on a scale only too comparable to its earlier horrors. Yet habit, here as everywhere, strangely dulls all concerned. Apparently in reaction from the former excitement and its too active measures, we have now a period of apathy and fatalism, with corresponding practical weakness. For so far from continuing the paucity of demolition, the Corporation authorities who guide us through the vacated streets confess that they no longer so much as attempt to fill up the rat-holes, though this might so obviously and cheaply be done (and that twice over—first when the house is vacated, and again before its occupants are allowed to return). Even the rat-catchers seem to have been dismissed!

Calmly (or, must we not rather say, dully, defeatedly) though every one concerned now seems to look at this plague-stricken town, here are all the essentials of this supreme horror of cities; and for hours we wander, realising Defoe's description of London in 1665, through streets and lanes of closed and silent houses, with the plague-mark upon their doors. The encampments, in their mat-huts, seem now immune: but to what anxious home-coming must they not look forward, since with any season the curse may return? In one afternoon ramble, one has three flea-bites.

How complete then has been the ineffectiveness of these demolitions towards the result they promised! Sanitationists are too seldom economists; and they have here never reckoned that impoverishment of a town which their destructive measures involve. First directly, by the reduction of the total valuation of property, and next indirectly (but even more seriously) by the depression to a lower level of housing, by a new and more serious overcrowding in fresh quarters, of the population they expel from their old homes. Moreover, to these ancestral homes the people of old Indian towns are peculiarly and deeply attached. But the sanitarian has too commonly ignored, I regret to say sometimes even harshly flouted, such “moral and intellectual damages,” though history is apt to show the nemesis of their levity.

I refer to the essential literature of plague treatment. It demands rat destruction in the first place; inoculation, as far as possible, and evacuation of houses when inevitable. But nowhere do I find proposals for demolitions such as we have here. From an authority I believe justly reckoned as the very highest I take this frank confession of the failure of an earlier mode of treatment—“the case of Bombay when the present epidemic first appeared in India. Money then flowed like water in a convulsive endeavour to abolish the disease. Medical experts, sanitarians and military organisers were given a full hand by the administration. But it was a case of the blind leading the blind.”

I quote the above with the direct suggestion that these Bellary demolitions, in so far as explained by the plague outbreak of 1906 (and I can discover no other excuse for them) are of similarly mistaken extravagance, and of similar leadership. And I state matters thus harshly, not without regret, nor respect for good intentions, but because of the urgent necessity that such a policy of sweeping clearances, which I see and hear of as being made a precedent for more or less similar ones in other cities, and this even without the excuse of plague, should be recognised for what I believe it is; one of the most disastrous and pernicious blunders in the chequered history of sanitation.

I must go even further: and ask the supporter of these demolitions whether they have not merely been a failure, so far as these may claim that well-intentioned plague measures excused them; but still worse, a possible contributory cause to its present return, extreme as this has been?

Let him imagine the effect of thus drawing the sanitarian foot through the crowded anthill, not simply upon its human ants thrust out, but upon their commensals, the rats, henceforth suddenly also compelled to migration. People and rats alike must thus crowd into already densely populated areas. Must not the starving and the struggling rats, which thus meet in competition, become increasingly liable to the disease? The heaped-up human population is necessarily less able to keep down rats than ever, and it is more careless of fleas than before. For, where her old home is taken away, what joy or effort has a woman in the new and inferior lodgings into which we have consigned her?

May not this clearance-treatment, with its starving out of rats from their old quarters, and its consequent over-pressure upon the rat-population of the neighbouring quarters, be yet further an element in the intensification of the virus (a notably variable one, as death-rates show)? And conversely, may not the return of the surviving rats to good condition (along with the re-adjustment of their reduced population to the available subsistence), be a factor in the fading out of the disease? I am aware that all this is speculative; but it is safer to occupy oneself with inquiries of this kind, which are within the medical and sanitary province and competence, than before such reflections, to undertake heroic measures, which end as here.

III

Yet when we look into these new thoroughfares, we find all reference to plague has vanished. Nor has the discussion with regard to them between the local and central authorities been that of general sanitary development, nor of economic development, nor even of the development of communications, as ordinarily understood. It appears mainly to have taken up what can only be described as æsthetic grounds. The Corporation are rebuked for their inaccess in producing perfectly straight thoroughfares along the new clearances, and those of a regular breadth. They plead in reply that they have had to avoid temples and other property too difficult of removal; and that with every appreciation of the beauties of straight thoroughfares, they cannot always afford to demolish a pakka dwelling for the sake of this when a katcha one on the opposite side may be had more cheaply, and at only slight deflection from the straight line. These pleadings seem to me unanswered; save by renewed demands to carry out the thoroughfares with a practically mathematical accuracy. Strangest of all, when the average breadth of the new clearances is well above the standard imposed (with of course correspondingly increased gain to sanitation, perfilation and so on) they have been instructed to narrow their roadway, to an average breadth of 34 feet! Nor is practicable guidance given as to the use proposed to be made of the spaces not required on either side of this 34 feet line. In some few cases these are of course large enough for new shops, or even dwellings — supposing any desire these, and are likely to construct them — a circumstance extremely improbable in present conditions, or for a long time to come. In other cases, strips of ground might be given away to the neighbouring properties which are now upon the new thoroughfares; but since these seldom effectively front upon them, but often turn only a gable-side, I cannot imagine that many will be purchased. Indeed were these sold by auction, and new erections to arise in consequence, these would often be so small and narrow as to be insanitary in themselves, as well as a new cause of insanitation to the neighbouring ones, — again shut in behind, and thus deprived of that perfilation, which was one of the main pretexts of the whole "improvement."

I deeply regret to write in this uncompromising way of roads which are so evidently made and paved with good intentions; and I have not ventured to do so without hesitation, nor indeed till after prolonged delay and reflection. But in view of past, present and proposed clearances elsewhere, in fact with projects less severe, but too evidently of kindred nature coming up for review in other cities, it is needful to take a distinct stand. Only thus can we urge that such schemes be in future more carefully considered, and their possible defects or failure more clearly foreseen, than has been the case in this unhappy city.

Enough however of criticism: What can now be done? I shall assume that we must face the impossibility for years to come of realising the new and prosperous thoroughfares which were undoubtedly dreamed at the outset of these clearances. The question is thus — how can these gaping slashes across the town be now to some extent healed over, so that their gradual revival and re-occupancy may take place piecemeal, prosperity may slowly return and as individual builders may come forward.

Instead then of any wholesale auction of the frontages, I see no hope save of such piecemeal treatment of them as is indicated above. By all means let any frontage be sold where there is any one to buy it, even if need be, let it be given away to any neighbouring property which can then afford to incorporate it, with construction of a new frontage upon the street. But I do not accept, as at all a good solution

the reduction to straight streets of 34 feet. I recommend simply the planting of trees, in almost complete avenues, by using these irregular spaces, and thus concealing the accidental shapes of neighbouring boundaries.

The straight line is thus given up, but a different aesthetic result is obtained; and I venture to say one more attractive, as well as incomparably cheaper than anything else which can be done with the boundaries as they are. The irregular gables and walls upon these new avenues will thus soon be screened by trees. What may still be seen of them will not be entirely destitute of picturesqueness from the first; and, as proprietors adjust their buildings to utilise these new entrances and outlooks, improvement will go on. This, I venture to submit, is making the best of the situation.

So for the large square cleared of its houses near the great tank. Since there is no longer any demand for new houses in this quarter, the intention of the municipality to preserve this as an open space is doubtless the right one. But since Bellary improvements are nothing if not of aesthetic value, it would be worth while to take a glance at the new centre of the square. Here is a series of concentric circles for flowerpot stands, surmounted by a British cast-metal lamp-post of the cheapest and coarsest trade design, instead of the decent and durable stone post used more appropriately in Bellary as elsewhere for this purpose. Note too the iron-railing, so high and forbidding as effectively to shut out the view of the flowers, if ever they come to be placed there; yet also so weak and ill-made as to have had its points knocked in all directions by the first boy, of normally artistic and critical instincts, who happened to pass by with a stick. Finally, in vivid contrast, rises the splendid pagoda roof in the background, with its gilded finial; for we have in this contrast the epitome of the collapse of Indian taste which has been too common (though I trust not yet universal) in the past fifty years; and of which the turning point seems not yet reached.

IV

Two other east and west clearances are suggested on plan *; but it is something that the municipality should have made the step of considering that one or other of these may suffice. After inspection, repeated some three or four times, of these neighbourhoods (in fact with a detail which, I venture to suspect, has far exceeded that gone into by those who originally suggested them) I definitely advise carrying out neither one nor the other in its present form: since these involve nothing better than the mere continuance and repetition of the destructive clearances I have above so roundly rated.

I am now naturally asked two questions,—first, would you then have let things alone, as they were and still largely are? Second, have you any alternative policy, and if so, what?

Fair questions both: and squarely to be answered. First; if the only choice be that practically given to Bellary, viz., between—

(a) things as they are, with all their evils, undeniably neither few nor small, in fact all that death-rates show and

(b) these sweepingly destructive clearances by sanitationists as amateur town-planners, repeating the errors of Haussmann in Paris and generally of the municipalities which for the generation after 1860 went on following his example—then (c) I believe the whole weight of experience and body of evidence goes to prove that the form of progress was, as in Bellary, from the frying-pan into the fire; from bad to worse. Were this all, or where this is all, I cannot refuse to support the most obscurantist and backward of municipal communities, in their resistance against such improvements—even against my life-long friends and natural allies, the sanitationists! For though I came to this city honestly expecting to support and even bless them, I am compelled, as above shown, to go away in quite another mood and manner of expression.

But now for the second question, that of alternative policy. Not a few Indian cities here offer constructive suggestions and vital example. See to begin with Vizagapatam† and Cocanada‡, with their new hut villages as well as their pakka

* Stitched after page 27. † For report on this place see page 41 of/2. ‡ For report on this place see page 1 of/2.

Extension Schemes. So in the great cities of the north. No city is more careful of its amenities than Lucknow, yet one sees in its environs an extensive and conveniently accessible new village with sites cheaply available for the dispossessed, and with permission, so long as building lines and sanitary conditions are respected, to build pakka or katcha as one's means allow. The effect is no doubt a motley one: but the arrangement is none the less wise; and there are already indications that in time the katcha buildings will be replaced by others on the pakka level, and these new streets will thus gradually rise to the level of the city as a whole.

So much for rebuilding, but what of the actual improvement of insanitary quarters? Are we to leave these untouched?

Not at all. Far from it, we propose to cleanse them, and this with a thoroughness which Haussmann and his imitators have never attempted. Note first that Haussmann was completely and pardonably blind to all the varied multitude of disease microbes which have since revealed themselves to the observant and microscopic eye; so that his demolitions and re-overcrowdings were comparatively excusable, as belonging to the general blindness of his period. But, what shall we say of sanitationists who still expect health results from expending all their available funds upon partial demolitions, now through this quarter, and now that? Are they not culpably blind followers of the blind?

V

Now for the different treatment, really a bacteriological one. It is first of mapping the entire areas of inferior health conditions: and this house by house and lane by lane. Then—instead of spending all one's resources upon a heroic frontal attack for the destruction of some one clamantly overcrowded and fetid area, on a scale proportionately costly, and therefore disproportionately small when all is done, we go along all the thoroughfares and lanes without exception, cleansing, paving, draining, whitewashing as we go. The whole neighbourhood is thus improved and heartened up, and its aggregate valuation is improved, instead of diminished. Its population above all is inspirited, not annoyed, alarmed, embittered or depressed. Note here that this psychological factor is constantly overlooked by those sanitationists whose working theory keeps down their health-consciousness and health-conscience, their health efforts correspondingly to the level of the rectum, and which forgets the regulation of the whole being by the nervous system, above all by the mind and mood, which re-determine health through brain! This factor however works to very different results in different types of city. Thus in Paris Haussmann's clearances became a main factor of social unrest, thus contributing directly (a) to the War of 1870, (b) to the Commune of 1871. In India, on the other hand, the people are silent, and submit to deteriorative influences meekly, even too meekly: at times however, their quiet protest is manifest, that of simply packing up and going away: and this seems largely to have been the case in Bellary.

Clearly defined then, instead of first cutting new broad streets, through crowded quarters, and then screening the old slums now doubly crowded, by new frontages, our first task is or should be to cleanse the old lanes into their utmost recesses and windings. Of this process the old city of Delhi affords an excellent illustration; and similarly great part of old Lucknow.

The next step is to get light and air into the courts and blocks: but this not by temporary demolitions soon to be built up again between new house-rows; nor as in Bombay and in Europe generally, usually made loftier in front to pay for the changes as far as, may be, and also more crowded behind, and with less space than before now available.

Instead of destroying a long row of inferior properties for a new street, or compelling the whole frontage of an existing narrow street to be set back (if not that opposite as well) our more modest improvement scheme takes only a house here and there for demolition. Quite insignificant changes these will seem; but so much the better; for the funds which upon the Haussmann principle are concentrated upon a single large new street may now suffice for the improvement of a whole quarter, it may

be an entire ward : as assuredly the wealth wasted in these few but drastic clearances of Bellary, applied in this gentler way, would have improved the entire city, and increased its valuation throughout.

This method lends itself better to exposition in the open than on paper ; and so it has been demonstrated in some detail to the city representatives who accompanied me, as to the Deputy Sanitary Commissioner, along the very lines of the projected additional clearances above discouraged.

I can imagine no better use of time for those interested in such practical questions than thus to bring those two methods into clear contrast and comparison in town after town ; thinking out both alternatives, and comparing their respective expenses and results. And if any reader feel that I have dealt too harshly with the method of local clearances, and be correspondingly dubious of the value of this method of moderate but more diffused improvement, I may here refer him (a) to the Town Planning Exhibition, (b) to the demonstrations in Madras which have been arranged along with it, (c) to the experience and results in European cities which have examples of both methods, e.g., old Edinburgh, in the Successive Improvement Acts of Sir William Chambers and of Sir James Russell and (d) to examples from other cities of the Presidency, discussed in other reports of this series.

Of course there is nothing in all this criticism to prevent our making spacious new communications where these turn out to be required, or aesthetic improvements of the utmost dignity. But the problem of Bellary has been stated as essentially a sanitary one : and I recall the sanitationist strictly to this.

VI

One other point remains—that of the central, the supreme problem of sanitation—the improvement of the Water-Supply. As to the particulars of this, I do not venture any suggestion ; my visit has been too short : but as to its urgency there can be no doubt : none therefore as to its precedence over any street improvement schemes, even were these of the very best. Water-supply has been from time immemorial a foremost concern of the town-planner.

BEZWADA.*

I

The geographical situation of Bezwada is a very favourable one, at the point where a long barrier of hills is cut by the river; thus converging communications from both sides up and down upon this point. It is thus from old time the agricultural capital of its region; and with irrigation and communications, its importance and population have rapidly increased, and may long continue to do so.

The topographical situation is, however, a difficult one. Old Bezwada seems to have arisen along the road (now most encroached on) running north and south to the west of Telegraph Hill: and, as population increased, the little town would spread out fanwise towards the sacred river, but with the limitation of approach to it given by the flood-level upon its bank. The old town is thus mainly the narrow isosceles triangle between the road next Telegraph Hill and that running north and south about the middle of the present bazaar; while between the two is an irregular network of lanes and courts, with considerable old overcrowding, with much more of recent growth. East of this a more orderly network of streets begins to appear, forming a second smaller triangle beside the first, bounded by a road running south-east towards Post office. North of this road a more orderly and modern planning appears in the space between the north end of the old town and the small hill (with bungalows crowning it) to the east. South of this hill and east of old town is the first European quarter, with District Court and Police, missions, churches, convent and schools, travellers' bungalow and club, Municipal office, Post office and Telegraph, etc.

So far then for Central Bezwada, which seems destined to maintain its character, despite all changes and new growths. Its improvement may therefore be considered first of all.

II

Of all improvements, that in cleanliness and ordinary sanitation is the simplest and most urgently needed. For Bezwada, as a town essentially of peasant origins, exhibits in the most extreme degree that indifference to the disposal of manure and dirt which is wasteful and regrettable in the farm-yard, but abominable and poisonous in the town. I would suggest that the Sanitary staff of Bezwada, the Sanitary Inspectors especially, be encouraged to visit Cocanada †, with their colleagues there for guides; since there a much higher standard, that of a maritime town and with Dutch traditions, is maintained, and being advanced.

Further I may refer to the "Inspection notes" of February 1914 of Dr. Matthew as covering the field of immediate sanitary endeavour very satisfactorily; and with clear definite recommendations, in which I heartily concur. This document should, in fact be widely circulated, not only among members and staff of the municipality, but throughout the various classes of the community. The development of their "Health Conscience" would thus be appreciably advanced.

III

I now come to improvements of housing and town-planning which are urgently required. Congestion is manifest, especially in the central bazaar quarter and on the hill side. The expansion of the town to the north, over the entire available vacant area, i.e., not only up to the forest, but including this, is now urgently necessary, and a town-planning scheme for this area should now be prepared and set actively agoing. Islampet and Wynchpet express successive waves of improvement; as indeed also do various smaller beginnings. But the neighbourhood has largely fallen into a squalid condition, repelling further settlement; and the problems presented by the groups of untouchables, by the unpleasant puddles of the old tank, etc., would need to be vigorously dealt with; as also that of the extraordinarily careless and dirty disposal of town rubbish at the north end of the forest. There is, however, no serious expense in any of these preliminary improvements; and there are sufficient good houses of various sizes in the neighbourhood to encourage building of the same kinds.

* For plan please see after page 34 infra.

† Please see page 15 supra.

One obvious reason of arrest of growth remains, that of the formidable radiation of heat between the hills on either side. That of the bungalows on the east is comparatively clothed with trees, and the fine patch of trees at the southern temple of Telegraph Hill shows what might and should be done elsewhere. Beginning with the "Colmatage" of the ravines, afforestation might next be extended over these hills, with enormous gain to the comfort and health of the community and reward to its expansion.

The housing of dispossessed people, and of the normal growth of population also, is possible to some extent west of Telegraph Hill but must more largely be made eastwards; and to these districts we shall come later.

Returning to the improvement of Central Bezwada the problem of the two main north and south thoroughfares first suggests itself. The older and more westerly, as already remarked, becomes increasingly narrowed, by old encroachments, as it approaches the river. But towards this end substantial help is coming from the widening, for a couple of hundred yards or thereby, of the present westmost lane of the town (parallel to this main road) thanks to the strip of land conceded by the Public Works yard running north and south beside this, thus widening one of the east and west laps beside the temple at the north-east end of this Public Works Department yard. This widened street would thus easily admit of the deflection into this of the main stream of wheeled traffic towards the river, leaving the present line of Brahmin street more direct for wayfarers.

The broader North and South Bazaar street may be easily widened a little as opportunity arises at one or two of its more constricted points, north of where it crosses Hanumakondavari street; but south of this it has been too much encroached upon throughout its length to be now enlarged with economy. The above named street which crosses this one, and is broader, affords a passable thoroughfare to join the new Public Works Department widening to the west, and thus the river view. Starting from the same main crossing towards the south-east the somewhat narrow but straight and improvable thoroughfare of Fakir Tekka street is easily reached, with its direct access to District Court and Post office.

IV

Returning once more to the densely crowded centre of the old town, what further improvements are necessary? The best line has been already agreed upon, and surveyed, that running north and south nearly midway between Brahmin street and Bazaar street. I have not of course had time to study this and the other proposed improvements of this quarter in detail, though they would well reward this: but in general terms I concur with the views expressed and projects pointed out to me by the Chairman and Dr. Matthew. The only further suggestion I need make is that an old congested quarter like this may be helped more effectively (a) by taking out an occasional building, so as to yield an internal air space, tree-space or even garden court, or (b) by widening here and there into a small square or rectangle, than by the far costlier process of widening uniformly throughout. Such little squares may with advantage open here and there from the present bazaar network, in which there is evidently a shop famine, as is evidenced by the rise of rents of recent years, which far exceeds that of normal progress, and is a hardship to shopkeepers and their public, with doubtfully desirable gain even to the proprietors. The new squares, if I may so continue to speak of what are merely slightly widened portions of old side streets or occasional widenings of main ones, would far more easily be well built if their value were thus increased, and space then given for shop below and house above. In other cases too, a good house without shop might be constructed by an owner attached to his ancestral home—a sentiment which cannot be too much respected by the considerate town planner or improving municipal committee, even though it cannot always be possible completely to yield to it. But when removal is inevitable it should be aided whenever possible, not merely by the costly lubricant of compensation, but by offered transfer to some new site capable of acquiring traditional family associations and value in its turn. There are already too many beginnings in Indian cities (I do not think particularly in Bezwada) of a western recklessness of removal and of dull monotony of renewal which are fatal to home and family sentiment, and thus disastrous to citizenship and to the

city; and it may be described as a main object of recent good town planning and housing so to plan and build that the local sentiment and even conservatism of the Indian home and its quarter, which has also been characteristic of European cities in their best days, may increasingly be recovered and maintained. For what is a period of civic change, with its inevitable burial of something (often too much) of the past, but a fresh opportunity—that of re-establishing anew for our successors the conditions of that ancestral pride and piety which we have felt for our own civic heritage? It is the outrage of this feeling in Belgian cities which has made their destruction a grief and a cause of indignant protest to humanity at large. But while we can all realise the destruction of an ancient monument we are only too apt to forget how kindred associations cling to old landmarks of little interest or beauty to us who pass by.

I am aware that to the busy improver, naturally impatient of sentimental delays, this expression of sympathy, and still more the policy of patience and of conservatism which it implies (and even urges) may seem at first sight obstructive. It would fain even be destructive of the dreary and monotonous net-work plan, to which he is too apt to sacrifice all that the constituents and clients for whose interests he supposes himself acting most value, but which are for him obscured by the material confusion and dirt he rightly longs to remove. But it is better for him to hasten slowly to consider and revise his plans anew, and these for de-congestion and for rebuilding alike. In face of the present excessive conservatism of the old Indian town, the authoritative and sweeping reforms to which he now so often inclines contain new dangers he in his turn has to be awakened to, first that of "throwing out the baby with the bath" or of destroying the old embroidery in its cleansing; next of replacing this ancient and complex web by the crude and mechanical pattern imposed by the industrial age upon the American Commercial town, or by the early British sanitary bye-laws (of about 1858) which have made most of our modern sanitary industrial quarters, with all their sweeping and regulating and standardising, the home of a mental depression, a moral isolation, a dreary dullness, which are probably of a far more serious destructiveness to the community than were even the material diseases which such bye-law construction has abated, great though its services in this respect have been.

This is not a criticism of the proposed treatment of central Bezwada. On the contrary it is a defence of the policy of moderation to which its proposed improvements belong. It is a defence of that principle of reconciling the appreciation of the past and the consideration of existing interests, with the due claims of the sanitary measures which are so urgently required, as of those of locomotion and of commerce. How then shall we effect the real (and the economical) improvement of these old quarters, with the excessive and timid conservatism now everywhere menaced by a no less excessive because rash and ill-considered radicalism? Plainly by finding the right compromise—that of conservative surgery. Even this cannot but be painful, and at hopelessly diseased or decayed points even drastic; while always as antiseptic as the sanitary reformer can desire. An old city should thus be treated like an old and venerable tree, which, after such sharp yet careful and even reverent treatment, at once retains its character, and renews its growth.

I assume then that these principles may be maintained, and old Bezwada thus escape that infection of crude town-planning which appears to be threatening too many of its sister cities, and against which they cannot too strongly be cautioned and guarded.

The right spirit, of conservative surgery, has presided over a plan sketched out by Mr. Roberts* for the improvement of the access to the modern quarter, that leading from the old town and the Police offices by Municipal office and Post office to the Telegraph office. Its widening of roads and rounding of corners are excellent and when viewed by approaching from the old town with its narrow thoroughfares it may well seem sufficient. But when we approach this important quarter from the other side, of the growing eastern portion of the city, in fact from new Bezwada, as we may call it, these thoroughfares, even when widened, will still be too small? For here is the centre of the whole city's net work and by this narrow central route like that of wasp's waist or hour-glass middle, the most essential circulation of the whole city must increasingly pass. I therefore suggest a retracing, in which the

* Executive Engineer, Central division, Kistna district.

proposed widenings and roundings are increased, with formation of a small Post Office Place; and I am convinced that on reconsideration, especially by approach from the east ward these moderately enlarged demands will not be thought to be of any excessive provision for the Charing Cross of so rapidly growing a city.

V

In view of the growth of business, and of that habit of business to abide by its old centre of which London "City" is but the most familiar and important case, how is the extension of the commercial offices and godowns, to be provided for, and this without checking the needed expansion of the Bazaar quarter, already so cramped? The needed solution is afforded by the utilization of the Canal Bridge, which crosses the canal quite at the best position for it, about the middle of old Bezwada, and lands us in what we may at once conveniently begin to distinguish as South Bezwada. It is difficult to understand why this expansion has not long ago begun; but there certainly seems no reason why it need be any longer delayed. The Canal Bank west of the bridge is occupied by the Public Works Department, with old and new bungalows, etc., but east of this Canal bridge for the best part of a furlong up to the Railway bridge, there is as fine a site as one can see in Amsterdam, with the same beauty of canal and river view in one; and with the advantage, so important in this climate, of shady northern aspect for the street and its principal office rooms alike.

The acquisition and development of this site, surely the best alike for business situation and for amenity obtainable in the entire city, would give that impulse to city improvement which is so desirable. Conversely the check to it which may so readily come from careless and sordid building, or by crude and extravagant architecture, is no less to be guarded against. But it should not be very difficult to find an individual or a group in Bezwada able and willing to give this important scheme due consideration and preparation, and to obtain a suitable architectural design accordingly.

This improvement, moreover, leads obviously towards a more extensive one, that of filling up the large triangular area, of about 12 acres lying behind this new canal frontage, and enclosed by the river wall and the railway bridge embankment to west and east respectively. This scheme has of course long and often been talked of, but has surely now ripened towards execution. I leave to Mr. Roberts' technical knowledge and skill the task of reporting as to the methods and expenses of this undertaking; but there seems no reason that the pumping of sand from the river need be either dangerous or expensive. The work can be carried out in two or three seasons and with no great outlay, while the consolidation of sand does not require that prolonged delay before building which is essential where mud is the material available. The present cart-stand would thus speedily find as good a site further south, i.e., in the north-west angle of this large triangle, and the balance of its area would become available for building purposes. The lay-out is fairly obvious: behind the new quay fronting the canal would arise minor business streets, behind these again streets and squares, dwellings for clerks and for labourers, while overlooking the esplanade with its fine river, its sunset magnificence, a (fairly close) row of pleasant bungalows would naturally arise. The land has at present no value to speak of; and the expense of filling up, though for the considerable depth of 15 or more feet required, should thus be safely recovered.

Yet even all this is but the western half of the future south Bezwada. The canal bank admits of the construction of a spacious roadway under the railway line, here fortunately and permanently single; and the fine northward boulevard above predicted may thus be continued eastwards along the canal bank, and in fact indefinitely; the more since the bridging of this canal at due intervals has already been under consideration between Municipality and Government. The filling up of an easterly section of the low-lying ground between the canal bank and the river wall is an easier matter than that of the preceding one, since the depth required to be added is here much less; and this development too may be extended indefinitely eastwards. Before this raising the utilisation of the pleasant riverward slope for garden purposes will doubtless proceed below the present (inconsiderable) beginnings.

VI

The importance of the river front for bathing purposes would thus be increased, no inconsiderable matter, either for the development of residences, the daily needs of the citizens, and the attraction of pilgrims. For this old cult of river-bathing is no dying cult; but on the contrary needs but due appreciation with corresponding regulation and planning to create here a veritable second to Muttra and Benares themselves, and even to extend its blessings to the children of other faiths. From the west we bring an experimental familiarity with that invigoration of body and mind which goes with the bath; and this above all in nature more than in the dwelling; why then need we fail to recover from this ancient yet living East, that sense of deeper purification, of higher resolutions, with which our own tradition, from sacred literature to modern poetry, is already so rich and full?

The due development of this magnificent river front with its ancient and sacred associations, may thus afford the best of outlets for the active citizenship of the Brahmin community.

VII

At this point also, and in this connection, we may note that another direction of development of the city lies up-stream, west of Telegraph Hill. The present road is steep and inconvenient and its lowering through hard rock would not be without expense, though this partly returned by utilisation of the material. The wall of the Public Works Department would have to be rebuilt, unless indeed it can be arranged that a sufficiently unclimbable railing replace it? In that case, the fine river view the present wall shuts out may be recovered.

The somewhat dilapidated villages of this neighbourhood and near the hill, present no serious difficulty as regards improvements; and the increasing interest of the leaders of Brahmin opinion in the condition of the lower castes and the depressed classes may here find useful and reconstructive field. Between this high ground and the flood-swept fields next the river, the inner embankment by the roadside affords protection to an ample acreage, suitable let us say, for an ideal Brahmin garden village suburb, and for other garden villages beyond.

In course of this study of city extensions reasonably to be expected, the development of a tramway system naturally suggests itself: and its alternative routes and possibilities should be worked out on draft plans, and fully considered. It is too often the custom to say 'wait until the suburbs grow'; but this caution is apt to be too narrow and timid; the bolder policy, that of pushing out the tramway into the proposed suburbs, is the way to make them grow.

VIII

It is now time to discuss the future of the eastern portions of the existing and expanding town (which have of course been visited in considerable detail, before entering upon the present report upon the western portion).

First of all we come to the railway. And with every appreciation of its importance to the city's past growth, present activity and possible future, it is impossible not to express the extremest regret for the way in which the expansion and development have been conducted. Apparently, as results show, from its own immediate requirements only, and without any adequate infusion of modern town-planning methods, even for its own purposes; and still more obviously, without consideration of the requirements and convenience of the town, much less the damaged amenities which go with it the extreme interruption (one must say all but destruction) of its communications. From Aberdeen to Moscow, from New York to San Francisco, the above criticisms have to be made of railway planning. This more or less everywhere recalls, repeats, exaggerates, the careless progress of the caravan, and even the devastation of its conquests; and though improvement has begun, it still seeks too much hastily to exploit for immediate profit rather than wisely develop for progress. Yet this first elemental phase of railway history—that of route-extension and immediate aggrandisement, inconsiderate of the land-injury, the village damage, and the town spoiling which its unskilled planning has almost everywhere inflicted upon its passage and during its expansion—is happily now coming to an end; and the higher

elements, which have also throughout history come to the front amid all the extensions and conquests of the caravaniers—in fact their statesmanlike, social, and even moral qualities, are increasingly appearing among their modern representatives. Even a more enlightened self-interest begins to realise the past mischiefs done, and to regret them; and from this again the step is inevitable, to be ready to meet the communities which have been and are suffering from their inroads, and to consider how far better planning may even now mitigate the damage done, and this with economy and mutual advantage to all parties concerned.

Let us grant from the city's point of view that the main line of route is the right and necessary one, and at any rate that it is permanently fixed; and further that the three level crossings originally provided were the best that could be given at the time of making the railway, whose present vast expansion was unforeseen. But the main south crossing is nowadays far too often closed, and its opening too tardy for public needs, while the middle crossing has been almost obliterated and the northward is dangerously spoiled. Beyond this the further needs of the extending town seem not at all to have been provided for. The offer of an over-crossing in the middle, but as a mere foot-bridge, is obviously quite inadequate for the city's requirements; while a large over-bridge with its long ramps on either side would be expensive and inconvenient to all concerned. Here then the solution seems to be to supply an under-bridge, for which there seems no serious difficulty at all of sufficient head-room for ordinary purposes, nor yet of drainage or lighting. Probably the present northern crossing may before long require the same treatment: while as already pointed out, the requirements of the future, further northward still, should now be planned out and agreed on between municipality and railway; for though execution may be deferred until actual need, foresight design can never safely be delayed.

Yet before entering upon this a further criticism of the railway and associated arrangements should be made: (1) that of the comparatively recent extensions of large sidings almost up to the very bank of the Ellore canal and (2) the extension of the oil tanks of the various companies immediately behind this. It is these extensions which further cramp and limit the old town by crushing and defacing its vital link with the new: and their removal for the town's sake, should seriously be urged, persistently pressed, and negotiated for. But to maintain these although their removal be temporarily inconvenient, cannot really be sustained by the Railway Company as truly in its own best interests; for since the present east expansion has taken place in recent years, much more than the present area can possibly now supply will before long be required. Surely then the better policy for all concerned is to remove the more easterly of these sidings, and slightly to shorten such as may remain indispensable. This can be effected by utilisation of the extensive railway property to the north of Bezvada station, and on space at present more than ample, and indefinitely extensible as need may arise. With these the oil tanks should of course go northward, or rather north-eastwards. For the whole question of the city's relation to the railway system should now be considered.

To begin with, we may note the position of the single factory lying between the railway and the Ellore Canal, and close by the bank of the latter. This is plainly the right position for factory development; and the planning of this whole area towards these purposes and these only, excluding even industrial dwellings, should now be amicably gone into by all parties concerned: i.e., Railway, Canal, Municipality and Factory-owners. The proposed removal of the rice-mills from old Bezvada should obviously be to this site; for here and here only can be found the requisite position of most economical working with due provision of railway sidings on one side and of canal wharf on the other; and with adequate roads between and to all parts of town alike (for I assume the improvement of the present old crossings, whether by under-bridge or otherwise). The advantages to old Bezvada from this removal are obvious, while the ready utilisation of the present mill-premises as stores, etc., would protect the present owners from loss. Their inconvenience and loss of time during removal would at once be compensated by the many advantages and economies of new and better premises, and these in a situation of convenience which would give their industry no small advantage over their less conveniently placed rivals elsewhere.

The gain to the town from having this dusty industry with its unpleasant waste-product of ashes, dirty, gritty and unwholesome sent to windward is again obvious, and the removal of this stuff by railway or canal is easy; while its possible utilization for brick-making, for manure, etc., may also here be far more practicable than in town. The chemical analysis, in this land of waste and deficient manure, has therefore been arranged for.

This removal of the factories would carry with it as an early consequence, the decongestion of the town. The factories would still be within easy walking distance, so that no hardship to workers would be inflicted; but gradually a demand for nearer dwellings would arise.

For these an admirable situation has long been waiting. The plan of Arundelpet, with its two public buildings and its convenient roads and bridges, the whole lying between the avenues of the banks of the two canals which enclose it, shows that foresight and town-planning have not here been lacking. But the plan needs amendment; it has the defects of its period, of apparently utilitarian design, whose monotonous and unattractive respectability disguises a prodigal wastefulness, for unnecessary length and multitude of roads. But half this length may be dispensed with, and the economy devoted partly to making this area all that a garden suburb can desire, and partly towards such future extensions as may be necessary. In this fine situation may and should be constructed a suburb which would not only be one of the best features and influences of the city, but an example to others, especially in the canal area; for here may we not reasonably hope to see united the advantage of the working life in good conditions, worthy of Holland and of India, at their best? Just as north of the Ellore canal no further dwellings should be constructed (save of course those required by the railway for its own purposes, and upon its own ground), so south of this canal no factories should be allowed. The improvement of Ellore Road, and the planning of the vacant sites and fields to eastwards of the extending town, should also now be fully considered. The Government quarter south of Buckinghampet Road, with its spacious Cantonment type of planning need, here hardly be considered in detail; but the closer lay-out inevitable for most of the fields to north of this need not exclude the provision of pleasant and attractive bungalows easily reached by the spacious thoroughfare. The large number of clerks employed in the various Government offices may also suggest housing supply at various standards of income; while the needs of peons and servants generally should not be forgotten; and this upon an improved scale, not the deteriorated and crowded one of which there are such unfortunate examples in larger cities. Instead however of here following their bad example, it is not a little desirable, and even socially urgent, to set a conspicuously better one which increased health, happiness and resultant efficiency will soon be found to justify. It is interesting here to note that one of the most distinguished architects of India authorises me to say that his own improvements upon his servants' dwellings, though upon a scale of space and of comfort (e.g., including electric light) thought prodigal by his neighbours, have thus richly repaid him.

The problems of rebuilding in detail, and this for different classes, have been discussed more fully as regards Vizagapatam* and Cocanada†, so that here little need be said save to repeat as essential sources of the creation of house-wealth, which a too mechanical method of town-planning and of sanitary regulation tends to repress, if not even to suppress beyond recall—first the constructive ability of the poorest people, and this of wife as well as man: and secondly the persistence of real constructive artistic tradition and faculty in the craftsmen of the town. Not but these have their defects and limitations, but all are capable of being corrected. These are the sources of cutcha and pakka construction, and each at their best: whereas the system of too strictly imposing pakka construction upon those who cannot afford it results in the limitation of their indoor space. A too mechanically regular and sanitary planning tends to remove their most useful outdoor space also, that of backyard large enough to be cultivable into garden; whereas with better planning and simpler construction, space can be given, both outside and in. If one other point may be insisted upon, it is that, here in Bezvada, at this outset of a new period of expansion, the time is ripe for the arousal of each and every caste group, with its vast resources of moral

* For the report on this please see page 41 infra.

† For the report on this please see page 1 supra.

and material co-operation, and this at each and every level, from the Brahmans by their sacred river to the sweepers at their humble but useful and healthful task—holy therefore also in its way.

So far then this general survey of Bezwada and its possibilities. In summary we have advocated—

a heightened standard of cleanliness, and this primarily by improved inspection, etc., but fundamentally by advancing public opinion, which can be helped on in this civic respect just as in matters imperial. And as the vast activities of the war have thus educated the public upon its larger plane, so a vigorous policy of constructive civics actually is found similarly everywhere to arouse interest upon these local levels, which moreover add up, like "local actions" in the military sense, into larger and larger issues. Beyond this fundamental cleaning-up, this arousal of health-conscience, this renewal of Diwali, comes the question of housing the poorer classes; and in this of enlisting, eliciting, guiding their own constructive powers, and into conditions of marked and unmistakable advance upon their present condition.

Congestion thus reduced, the improvement of the communications, housing and bazaar accommodation of the old town has been urged, and detailed improvements have been discussed in typical cases.

The expansion of the old town business quarters, primarily to the opposite bank of the canal has been advocated, and this as a beginning of an extending South Bezwada, with reclamation as required.

The improvement of communications with the eastern half of the town, across the railway has been pled for, and the removal northward of its southern sidings and oil tanks. The removal of the factories to north is recommended, with due railway and canal facilities, and with the development of the fine area of north Arundelpet as a workers' garden village.

The development of Buckinghampet eastward has also been recommended, completing for our period the expansion of the city on this side.

Finally, in course of the Practical class held at the recent Town Planning Exhibition the drafting of some of these extension plans has been begun by the City Surveyor.

It remains only to thank Mr. Hanumanta Rao, Municipal Chairman, and his colleagues, for their kind help and guidance in that necessarily rapid study of the town in all directions on which this report is based; as also to express real obligations to Mr. Roberts*, Public Works Department, and Mr. Fotheringham, Sub-Collector.

* Executive Engineer, Central Division, Kistna district.

CONJEEVERAM.*

At the very close of my work and stay in this Presidency, I have been privileged to visit this city; and I cannot readily express the pleasure with which I find already realised here—and since an indefinitely remote past—most, if not all, of the proposals I have been making for other cities in the opening future. For here is not simply a city made monumental by great temples, and rich and varied by innumerable minor ones; what rejoices me is to find (a) the realization of an exceptionally well-grouped and comprehensive town-plan, and this upon a scale of spacious dignity, combined with individual and artistic freedom, to which I cannot name any equally surviving parallel, whether in India or elsewhere; and (b) the correspondingly high level of housing, and of well-being of the town generally. The culture-cities of Europe have monuments and aspects still more delightful to my western eye. But from St. Andrews to Durham, Lincoln to York, Oxford to Salisbury, Bruges to Malines, Aix-la-Chapelle to Cologne and Freiburg, Rouen to Nimes, one finds too readily that contrast of deterioration, even to slum and squalor, which is comparatively absent here. Too often in such cities one also finds corresponding social and personal deterioration as well; but if this exists here, as at points it doubtless may, it has escaped me. My stay has been short, and my scrutiny correspondingly far from exhaustive; but I was fortunate in being guided and accompanied by the chairman and the sanitary inspector as well as by several leading citizens: I have pressed them to show me the very poorest and worst parts of the town; and I have been taken to one after another of what they describe as these. Poverty, of course, there is—especially among the weavers, who are here as everywhere depressed, but by general economic causes—but this poverty is in a form endurable, compared with that of too many other towns. Of slums, in the ordinarily frightful sense, there appear to be practically none, and of dilapidation very little. Not only are the main thoroughfares magnificent in their avowed spaciousness, and substantial and pleasing in their buildings, but the minor streets would often be considered first-class ones in other towns: while of badly congested areas, so familiar elsewhere, I have failed to find any. I am the more compelled to accept the favourable assurances of my hosts by the fact that of the five or six plans, mostly of small sanitary lanes, and other minor improvements, which were shown me as all the changes at present in progress, or urgently required, I was able at once to accept each and every one, and to approve them: and with only a single suggestion—that of economising the demolition of a gable by a slight narrowing of the lane, I think from 10 feet to 9 feet or thereby. Here is a result widely different from my experiences of other cities, and my criticisms of their plans; and this I interpret as fuller evidence of the positively as well as relatively good condition of the town.)

II

The town-plan well rewards study; that of Big Conjeeveram especially. For here the problem of the two great temples and their surrounding car streets and quarters has presented an exceptional difficulty, which every town-planner will appreciate: that of co-adjusting quarters governed respectively by the two contrasted systems of orientation which the temples of god and goddess respectively require and impose; for while the god's temple is placed by the cardinal points, that of the goddess must lie diagonally between them. The regularity, yet free and flowing originality, with which this adjustment has been accomplished, with the resultant beauty and variety it affords, makes this one of the best object-lessons in street-planning to which I can point in India. Outside the large rectangular area (of Siva-Kanchi) thus formed, regularity of planning deteriorates, as usual in most towns, but does not so wholly break down. The junction with the southern suburb beyond the Car street is well managed without lapsing into disorder in the way so common elsewhere; but continues past the modern public buildings and schools, and through Hodgsonpeta to Little Conjeeveram.)

* For map please see after page 39 *infra*.

Is the city then perfect? I do not of course say or think that; but to suggest improvements worthy of the vacant sites remaining would be a matter which no planner would undertake without much consideration, and real appreciation of the privilege of contributing his endeavour to so excellent an existing whole. He would enquire more fully into the circumstances which have preserved Conjeeveram from the deterioration so sadly manifest in religious cities generally; and he would thus be involved in enquiries into matters of religion and ethics, education and art, yet of industry and economics also. He will be wise if he do not insist too strongly on introducing elements which do not as yet exist, desirable though some of these may be: primarily he will seek to maintain, and then enhance, existing advantages, and thus help this old city to carry on its antique past into the opening future, without falling into the squalor of that lower industrialism from which sister cities have suffered, but from which there are grounds for hoping that Conjeeveram may escape.

A very distinct sign of hope in this direction is the little Co-operative Factory of weavers in Big Conjeeveram; with its simple and admirably planned building, and the evident spirit of energy and mutual good will which pervades its use. The association of a school with this is also encouraging.

A short visit to one or two other schools, notably that for girls, gave a further evidence of that wise co-ordination of respect for the traditions of the past with provision for the opening future, in which the future of more than Conjeeveram lies.

III

The water-supply I understand to be excellent; and the natural drainage is also good enough to suggest the hope that no too costly and elaborately complete system of underground drainage may be necessary. Storm water channels no doubt require attention here as everywhere, and may doubtless admit of further improvement; but for absorbing ordinary drainage gardens seem common, and the increase of this natural and normal sanitation may be hoped for. I found at one point (of which unfortunately the name and exact position have escaped me) that the ordinary work of surface drainage was being arrested by (a surely too strict interpretation of) an order from Government not to proceed with drainage repairs or improvements, until the planning of the general system was matured.

I must here mention, with peculiar approval, the practical way of dealing with drainage which I observed at least at two points, and which I believe to be capable of imitation, and this at a thousand points throughout the cities of India: not simply the guiding of drainage (of course not in the undue quantity of a sewage farm) into a garden, but actually the formation of new gardens, for the express purpose of receiving such impure waters, and thus converting what would have been in each case a fetid and poisonous nuisance into a scene of order and beauty.

IV

(As over this old and sacred city, so beautiful and prosperous, there hangs the dread of possible deterioration, as in too many other cities around, so there is, if not a constant menace, at any rate a latent danger, on the strictly material side. For with a city lying below river-beds, and these constantly rising, perpetual vigilance must be necessary; there is yearly, and even increasing, danger. Efficient though dams, protective bunds and dykes have proved themselves so long to be, there is always the possibility of exceptional floods; and the consequences which might arise from even a smallest breach in one of these would be serious.

What exact provision exists, comparable for instance to that of the "Ministry of Water-state" in Holland; i.e., for the periodic inspection, the maintenance and repair, the heightening and strengthening of these unrelenting defences against the tremendous destructiveness of swollen rivers? When even the steady and sluggish little Ouse has burst its ancient and well-tended banks this very winter, and has spread flood over 80,000 acres, this question will not, it is hoped, be deemed an impertinent or inappreciative one.

(Of the many temples, which are the main glory of Conjeeveram, only a single word may here be said. An enquiry must be permitted as to the Kailasanatha Temple, which is protected under the Ancient Monuments Act, but which has also—surely before this protection?—been the victim of what I must deliberately describe as the very worst “restoration” which I have ever seen in any part of the world. The old stones have been weathered, in many cases I daresay almost weathered away; but even in this state their general impression is striking and venerable. But in the midst of these stand huge pieces of restoration, in stark and glaring whiteness, itself ghastly and repellant, notably the crudest and yet most mechanical reconstruction of the ancient bull, and of a number of the rampant lions. At a distance these appear to be new constructions altogether, but on closer approach one finds that a new cement surface has been plastered over the ancient figures; thus caricaturing them in the worst possible way, at once in mechanical copyism and total failure: hideous exceedingly, yet not terrifying; contemptible, mean and monotonous throughout. It is not enough that such restoration seems to have been stopped. The question must be asked—can it not be removed, even chipped away? Or failing that disguised by verdure—of course kept under control?

And are such things still being done in India?)

VIZAGAPATAM. *

Our first visit, with the Deputy Sanitary Commissioner Dr. Matthew (through all these inspections a valued and helpful colleague), was conducted by the President and Secretary of the Municipality, and the Deputy Collector, with the assistance of the City Surveyor and Engineer, to *Mahuranipeta*. This was originally planned as a new road for pakka cottages and small bungalows, but it has been modified by settlement of weavers from a lower part of the town injured by the recent flood. Their new huts are in progress, being built, generally, it appears, by their future occupiers themselves, as larger spaces (lots 24 feet $\times$ 30 feet) than those of their flooded houses; and I doubt not they are justly described as decidedly improved in other ways.

Here is an excellent illustration of that house-building habit and efficiency, which is traditional all over India, as of old in Europe; and it is most satisfactory to see this encouraged here by the municipal authorities, instead of suppressed, as is too frequently the case, by the external supply of the more expensive but really inferior dwellings, from cooly lines to chawls, which are becoming so regrettably common in greater cities. These are indeed dangerously near being taken as standard types, to be established by central authorities and accepted by local ones!

The placing of a poor working population upon this excellent and healthy site, at first laid out for the more prosperous classes, and this with space between huts, and regard for family independence, is still unusual, so far as my experience goes: and I desire warmly to congratulate all concerned upon thus having provided for the health and happiness of a greater number of their fellow-citizens than they had originally planned for.

It is satisfactory also to note that by encouraging the people to build their own houses, the capital outlay for housing, which is necessarily so considerable, even where accommodation is inadequate, has here been avoided, with economy to all concerned. With an outlay averaging about Rs. 100 per house, a more spacious and more congenial type of accommodation has been provided than is usual in larger cities with their more conventional pakka materials and methods, and their consequent larger outlays for inferior space, and access to the open air.

Near this new group of houses is an older colony, of roughly built huts of untouchables. These huts are more or less outworn and insanitary, while their situation is no longer acceptable to their new neighbours, who are all caste people. It is gratifying to note that a good and higher-lying site of two acres (to be extended to four) has been generously provided by the Maharani for these people; and that their removal to better homes, in a village-group of their own, will soon take place.

This removal will next afford space for the "Bucca" colony (of camphor-bead makers, etc.) who at present occupy an overcrowded and insanitary village-site in the city, near the sea-front; so that the improvement of this area may also be carried out, and it is hoped again with advantage to the people dispossessed, rather than with that too common neglect of their re-housing, and consequent overcrowding of other quarters, which has too long been common in larger cities and under would-be progressive municipalities, zealous for material improvements, but less considerate of their poor constituents.

Nor is this all: at Burujupeta Hill, now being quarried away, the cow-keepers, who at present occupy a large area, and who must shortly be dispossessed, are being provided for, also in part of the neighbourhood to be vacated by the untouchables.

I am not informed as to how far provision is being made for model byres, etc.; but the opportunity is manifest; and I trust it will not be missed by so considerate a municipal body, and this with due reward in the quality of its milk-supply and the improvement of public health accordingly. The occasion is one for participating in that hygienic reorganization of the milk-supply, which is now so pressingly before cities everywhere.

* For map please see after page 49 *infra*.

II

We come now to the material planning of this area. Its study, though at first sight peculiarly simple, is rendered obscure by the extreme vagueness and inadequacy of the plans available. From these plans, and the drawings and tracings made from them, even the most conspicuous landmarks, as temples, etc., are too commonly omitted, so making their interpretation a matter of difficulty, discussion and doubt, even to those familiar with the localities, and responsible for their improvement. Such positions and dimensions as are given, constantly turn out to be gravely inaccurate; sometimes even so misleading as to be worse than no plans at all. This badness of plans [largely mere tracings from Revenue Atlas, or from former tracings, or enlargements of old surveys, often greatly modified since their execution] is a source of waste of time and trouble, which cannot be too sharply commented upon at the very outset of these inspections. Yet not without practical suggestion. I am aware that large and improved maps are in contemplation, but municipal improvements cannot wait for this. I would therefore suggest the official map-surveyor, who in ordinary circumstances would naturally work over the whole of each town in his accurate fashion, and with corresponding expenditure of time, should be instructed first of all to go over, check and correct the plans of those portions of each town which are being selected for improvement by the municipality. He should broadly indicate their contours.

This Maharanipeta Road scheme affords a case in point. No one looking at its plan merely can realise how much contouring is here required; with this the lay-out of the main new road and its minor associated ones (at present a mere product of drawing-board and set squares), would certainly have been far more successful. I understand that another design, made by the Engineer * to the District Board, was on contour lines; but this, in the haste of housing the Sali after the flood, was overlooked. As regards the upper portion of this road, which is little more than marked out, it is still worth considering whether its gradient should not be somewhat improved, by curving its upper portion somewhat downhill, towards the end of the present police lines. These can still be extended backwards from the Main Road, instead of alongside of it. A better space would thus be afforded on the upper side of this new road, between it and the Sandhill Terrace.

This Sandhill Terrace, I understand, it is proposed to level; but can this really be satisfactorily done? Is not this a travelling sand-dune, pushed before the prevailing wind, and needing rather to be fixed by trees? Palms are already keeping this partly in order.

The area of sandfields behind, nearly up to the bull-slaughter-house, is indicated (but ill-defined on plans) as belonging to the municipality, and its lay-out should be also considered without further delay.

Before building over this, should not the suggestion of Mr. Arbuthnot † be considered?—that of cheaply and effectively utilizing a large quantity of the bulk (and certainly much of the surface) of this Sandhill property, by running the sand down a wire to the swampy land which is needing reclamation at a not inconsiderable distance below? In view of that surely approaching development of Vizagapatam port to which we shall come later, this simple and economical method of improving one side of the town by also improving the other, and all this with an inexpensive installation, and with gravitation for its cheap and simple motive power, must surely recommend itself.

The more this lowering of these seaward sand-dunes and slopes can be effected, the better will the invaluable sea-breeze enter the town, which these heights at present too largely shelter from it. Here is a manifest gain to comfort and working efficiency; that is to public health: while the material gain to the town, from spreading its edge westwards, by raising the present swamp, is doubtless even more obvious.

The sand-slope behind the new Sali huts is at present too steep, and too near to them, and the present choice—between prickly-pears with their snake and vermin fauna, and sliding and blowing sand—is a most unsatisfactory one; whereas the gentler, but still considerable, slope which would remain, were the top of this sand taken away, could be planted with palms and other vegetation, at once useful and beautiful; and the bank would thus be fixed permanently.

* Mr. P. B. Arbuthnot.

† District Board Engineer, Vizagapatam.

Now that pipe-water can soon be had at the level of the Collector's office, the lay out of the upper portion of this estate should be considered; and the future residential character of this fine situation with its splendid views, seaward and landward, should be determined, though of course kept subject to modification.

III

I have heard Waltair repeatedly described as a Brighton, but the comparison is quite inadequate: it corresponds rather to fine portions of the Riviera. I have not had time to devote to this portion of the town any of the attention it deserves; but its development is well worthy of attention, both from the municipality and from its town-planner. Now that the Bombay Town-Planning Act has passed through, it cannot be long before other presidencies and their cities acquire similar powers, to frame and further town-planning schemes; and here a well considered lay-out for bungalows, of moderate garden area, would surely attract both summer and winter residents, and from many places, with builders accordingly. The improvement of the broken nullah ground towards the shore is of no great difficulty or expense: and for terracing and planting, the adjacent Forestry Office, and its grounds, afford both example and guidance.

The development of this watering place quarter, descending to a continuation of the present Sea Road or Esplanade (and to a future parallel road at higher level) will of course correspondingly increase the demand in this neighbourhood for dwellings for servants, peons, chuprassies, etc. Hence the municipal area, already partly allotted to huts upon the westward and townward slope may grow for a long time to come; and its expansion should be amply provided for, unless new congestions are to arise.

Houses for clerks in the Collector's office, etc., might also be provided in this quarter, and the congestion of the town thus would be further diminished.

IV

The Sea Road between Vizagapatam and Waltair is beautiful; and its continued extension northwards will further improve its attractiveness: while in the next generation if not in ours, it will doubtless be widened seaward as an Esplanade. The checking of the ugly and mischievous prickly-pear should be attended to, and this not merely by mere extermination: its more pleasing competitors should be fostered, in their work of binding sands and adorning them.

As we approach the older end of Vizagapatam town, we also see this at its best. But the practice of building high walls to maintain and shelter terraces above, when it is carried too far, as at the Town Hall or the Court House, has the worst possible effect, in these cases practically concealing both buildings altogether, and by the dullness of screens. The Hotel next the Court, with its low wall and simple piers, affords a far better treatment of its frontage, as well as a more economical one; and it also fully admits the sea-breeze, which the other's big useless terrace-walls must largely deflect over the building which requires them.

From this Sea Road we may consider the ways of entering the city; and conversely, the citizens' ways of reaching the sea. Here again my time has been too limited for adequate study of the full set of alternatives, one by one and from end to end: in fact not only from Sea Road to Main Road but from sea to westerly swamp as far as may be; in view of that approaching expansion westwards which the Port development must bring.

Of the clearing of Sali Peta the vacant site remains; and unless I mistake, new plans for this have not yet been prepared. I must accept the assurance that this thorough clearance was necessary; and I have already spoken with appreciation of the re-housing of those dispossessed: still I submit to all concerned that the more normal and more considerate procedure, of building new huts before demolition of old ones, is far more likely to yield good results. Mature plans are thus assured; and speedier and more economic execution becomes possible also.

In the removal of Burujupeta Hill there is bold town-planning conception; and though such important features are commonly worth preserving I feel bound to accept this removal as an advantageous one; since at once favouring the breeze and

improving through communications. The execution of this by a contractor without expense to the municipality, and with good results alike to the roads, and to the cheapening of building materials, reflects credit on the municipal house-keeping.

The uses of this site are also obvious. First, for the junction of Sali Peta with the widening and extension of Ammavari Lane. Next, for a road transverse to this, from the Main Road towards the sea, though the exact planning of this (as a possible partial alternative for the two designs at present shown on plans) seems as yet hardly successful. Thirdly, for new houses—possibly including some extension for the cow-keepers of this neighbourhood?

V

This clearance brings us fully to the difficult question of the course of the new transverse thoroughfare, between Sea Road and Main Street, and doubtless ultimately beyond this, towards the present swamp, which is the future site of New Vizagapatam.

Yet towards this needed improvement, of a transverse thoroughfare, the town-planner will find it best to begin *not* with the discussion of the rival alternatives upon the general line selected.

Before entering upon this, let us rather consider the growth of the town, and this from its earliest past, and the extension and elaboration of its plan accordingly; its complication and confusion also, up to the present.

In general plan Old Vizagapatam strikingly recalls, both by its geographical situation and narrowness and its at first Dutch lay-out, the City of New Amsterdam, since better known as New York. First we find the Old Indian Port, of which the present fisher-village, doubtless again and again rebuilt, is the surviving relic: while the later mosque and cemetery represent the period of Muhammadan ascendancy; and the poor and unhealthy little village northward presents the great decline. The Dutch, whom not only tradition connects with this place, but orderly survivals of town-planning also, may next probably be responsible for the direct road through the Fisher Village, and for the sites now occupied by Port buildings, etc. This area may probably have formed the bulk of their Old Town; but later, as prosperity and European population grew, would come the orderly lay-out of their New Town; which ranges up to the area till lately occupied by the Government Buildings, from Collector's office to Civil Court, etc., and stretching right across, from swamp to sea, which occupies what is to this day an unmistakable Fort. This Fort space may have been obtained by the appropriation of an old fair site, or that of its resultant bazaar, or not improbably something of both.

The Main Street of the town next the Fort, and what was then the Main Road in the country, had thus their direct continuity interrupted; and the Main country road is here deflected for obvious military reasons to a new Fort gate farther east. The road enters appropriately between the Fort and the Civil Court; so that here literally, as so often in old cities, we have here in germ a "Sublime Porte," with its doing of justice at the gate, as was the old and expeditious fashion.

Outside this old Fort begins another New Town. Of this the development may also be approximately deciphered from its plans, quite independently of the town's annals, with which I am unacquainted; but which it would now be of interest to compare with the graphic record which is the very plan of the city itself.

The Main Road once deflected, the little bazaar which may pretty certainly have occupied its old straight course outside the Fort, would have to follow this; but dockers' and sailors' dwellings would arise here, and doubtless with the usual intricate overcrowding. Of this there are still traces at three or four points (as for instance in the pushing of the Sea Road outwards to a new course in this neighbourhood).

Both on the north and to the south of this Fort area, and close to its stockade, were planned, for strategic reasons, roads running east and west, from swamp to sea. The south of these, next the Fort, is naturally a through street; but the north and landward road, since at first mainly a sentinels' walk, has never fully acquired the character of an urban cross-thoroughfare. Moreover the military planning, with its

slight southward inclination of the Fort wall, so as to command the Sea Road more fully, was unfavourable to this; and the Sea Road is thus more naturally reached by a turning to the right further out.

The position of the Municipal office outside the Fort gate marks this as belonging originally to the outside Bazaar town, though this has necessarily overgrown the original but smaller Port town. Similarly the position of the Police office is explicable, as that of the old guard-house for enforcing the deflection of the Main Road to the Fort gate, and as controlling these and all other entries, from the Sea Road or the swamp side also, as well as regulating the Bazaar townlet, between it and the Fort stockade.

Beyond the area, the Main road has first been bordered by large bungalow compounds, laid out by the old merchants; pleasant country homes like those which fringed the curiously similar Bowery (Bouri) of old New York. The Dutch cemetery, which would naturally be placed about the limit of the Dutch town, at the time of its acquirement, has been gradually enclosed; and the town extended as far as the block in front of what is now the Cathedral.

With this growth of wealth and population, and the resulting differentiation of classes, there began a fresh town-planning movement, now regular, and in the style of the later eighteenth century: and this well-nigh doubled the area of the little town. For now arose behind the spacious compounds on each side of the Main Road, that regular series of parallel lanes—narrow indeed, but decent, and convenient enough for a population requiring little or no wheeled traffic—which give a new and distinctive character to this large portion of the extending town and throw an interesting light upon the standard of housing and general economic prosperity of their builders.

The irregular lanes which lie between these straight streets and the sea are plainly those of fishing and other villages, which then corresponded to the present Bucca Colony today, and which in its turn is now to disappear. The formation of a regular east and west thoroughfare was thus unfortunately blocked; and only a rough substitute for it arose irregularly, quite outside this planned area. For of this, the northward edge was defined merely by the natural run of drainage towards the sea; and this road, like so many in Indian towns, thus follows its course.

The position of the Cathedral, though today so excellent, at once central and characteristic—was plainly at first one of the humblest. As befits the apostolic tradition of fishers of men, and of preachers to the humble classes before the rich and great, the original Catholic Mission which this great church replaces, would cheerfully take up such a modest place, at the very extremity of the city's growth, as would be permitted by (and inconspicuous to) the frankly hostile Protestant traditions of Dutch and English alike. This outside fisher-lane however would become well-trodden by the folk from the sea-side fishing village; and this by the Friday fish-purveyors of the clergy, who were thus materially appealed to by them as well as morally. It is this humble lane which has thus developed into what is now the most important, if not the most convenient, east and west thoroughfare of this portion of the town: and it is interesting to note how it at once compares and contrasts with the original Main Street of Glasgow, which arose in this way, as the path between the Cathedral and its fishing-village. This mode of origin may be traced in other European ecclesiastical cities.

How far may this historic, and central, thoroughfare be now improved? The irregular open space between it and the Main road should certainly become a public square; and this might be effected with little expense. Widening beyond this is however difficult and costly. The fine Temple which a little way east of the Cathedral, adds another feature of interest to this road: and the question may be asked: May not both the Cathedral authorities and adherents, and those of the Temple, be able and willing to contribute something towards the improvement of their respective situations and their common thoroughfare? The present existence of what might easily be made a fine "Temple Place," corresponding to the "Cathedral Place" is a notable advance upon the state of things shown in the old plan and tracing provided to me, one very inaccurate (indeed which should be obsolete—although that upon which the municipal improvement scheme is actually working!).

will already be found puzzling enough; and if postponed much longer, it will be increasingly difficult, if not impossible to make the best of these fine neighbourhoods, or to link them adequately with each other, and with the town.

The provision of a Public Park, and the formation of suitable Park-way approaches should also be considered, before properties are further broken up for building purposes.

CHAPTER II.—NEW VIZAGAPATAM.

So far we have been considering the improvement of the Old Town, and its residential suburb of Waltair. But no town-planner can leave this city without some consideration of that larger future which plainly awaits it, so soon as the revival and development of its damaged, and too long arrested, Port can be proceeded with. The geographic and economic importance of this situation need not here be descanted on, but simply taken as known, and the Engineering adequacy and competent execution of the port design will here be assumed.

Must we however also assume that the usual British and American procedure of port-making hitherto will be continued; or may we not now-a-days begin to hope that the town-planning of modern Continental ports, notoriously so much in advance of those of the British Empire, will at length be considered, and realised as worth learning from?

On customary British lines, up to and inclusive of the new London Dock designs (estimated to cost £14,000,000), docks, and docks only, are seriously considered by their promoters; while the Railways similarly study their own interests, and the two then adjust themselves as best they may, heedless alike of the municipality and its inhabitants, or even of the industries they alike so largely exist to subserve.

On town-planning lines, however, these two great interests are seen as but two among others. The adjustment of railways, roads and warehouses to docks, just as of offices to them all, by the architect is considered more and more carefully, so as to economise space, time and energy (and thus money accordingly) to all concerned; and the enormous volume and expense, obstruction and delay through the cartage involved by old-fashioned planlessness is accordingly reduced, largely even abolished. Each factory quarter is designed with direct and ample railway facilities from the very first; and its gradual or considerable expansion is provided for.

Ignored by each and every one of the ports of the English-speaking world hitherto, but now becoming seen as of vital and essential importance, in continental seaports, are the questions of housing, and this from the dockers upwards. In fact, their efficient, healthy and attractive housing is now becoming soon to be a basal factor in the prosperity and progress of each and every port; and the total neglect and prevalent misery of their housing, with the alternate exasperation and sullen discontent which their squalid homes produce is a main element in the explanation of the calamitous dock-strikes and disorders of London, Dublin, and other leading ports of the British Isles. Conversely, the excellent planning of dockers' housing in recent Belgian and German ports especially, has been an appreciable factor in the progress of such ports during recent years.

We may now trace the alternative methods of developing Vizagapatam, the planless traditional way, and its town-planning alternative. Let the constructive work begin: on the first assumption the multitude of coolies employed are left to find such lodging as they can in the already congested town; which they further deteriorate accordingly. On the second plan decent (even if only temporary) housing accommodation will be provided from the very first.

On the first or "laissez-faire" method, the existing railway system will more or less remain in possession of its frontage at the wharf station; and — since this site is totally inadequate for the needs of this new expansion of labour and commerce — all sorts of patchwork additions will be made by successive engineers, each altering the work of his predecessor, until the eastward expansion of the ever-crowding town is hopelessly blocked. Its ground values will thus rise; and foolish economists, orthodox or unorthodox often alike, will mistake this for a sign of prosperity. But this rise is at the expense of economy and efficiency to all concerned; and peculiarly

Note upon the plan * that from the Bucca Colony an old lane runs in the direction of the Cathedral Road, but is shown as ending blindly. Since this colony is to be replanned, its future wide cross-thoroughfare can easily be linked up with Cathedral Road by widening and extending this lane.

Again, the Annamavari Lane is shown upon this municipal plan as to be widened. The very first bit of widening of this, at its southern end, next to Cathedral Road, would relieve the traffic upon the easterly part of this by allowing a portion of it to pass easily into the long lane almost parallel to Cathedral Road, and which it is in any case proposed to widen in its easterly part, in fact into the main cross-thoroughfare through the present Bucca Colony.

It will be objected that this change will also work the opposite way, by bringing more traffic from the Sea Road into Cathedral Road than it can at present bear until widened. But it may be answered that this makes it all the more worth while to widen Cathedral Road. At any rate, it is worth considering what the expense would be, and comparing this with the expense of the other schemes, as drafted upon the municipal tracing.

At present there is no cross thoroughfare north of Cathedral Road until we come to New Agraharam Road: and this is unfortunately too narrow to be sufficient for much traffic, while its widening would be expensive, though the replanning of the Peta may make this worth considering. Hence the two schemes of successive Municipal Chairmen, for a better thoroughfare midway. The earlier of these schemes is a straight cut through the intervening labyrinth, and has the disadvantages of such too easy solutions, these of serious disturbance to intervening property, and of costliness accordingly. The second scheme, that of widening (on one side only) two existing thoroughfares from Main Road and from Bucca Colony respectively, has the merit of economy: but a grave demerit also, in that these two widenings do not meet. They fall into the Chengalarow Peta Road, but this at a distance of two blocks west. This road would thus be congested by this additional traffic; while its widening would be expensive, probably nullifying the economy of this scheme. Moreover, the double-elbow upon this plan would make the road awkward for driving, and still more for motors. I regret then that even this scheme cannot be recommended as an adequate solution of this difficult problem of crossing the town at this point.

Not to leave this problem with a destructive criticism merely. I submit an alternative suggestion, indeed two alternatives, for straightening the thoroughfare from Main Road by way of Burujupeta Hill, when this is lowered. Of course their respective cost will be considered.

The planning of the Sali Peta site, as already noted, also admits of the widening of its central thoroughfare to meet New Agraharam Road.

Finally, the proposed widening of Boyi Veedi, up to and beyond the north edge of the Sali Peta clearance, to the Chengalarow Peta Road, might perhaps also be extended a stage farther through the adjacent block into the lane immediately parallel to it. From the east side of this a succession of lanes leads towards the road, which joins the Sea Road north of the Muhammadan Burial Ground.

Our conclusion then is:—that no single first-rate thoroughfare can be formed in this quarter without undue expense; but that the necessities of traffic, even at moderate, may be met by making a number of smaller improvements, as means and opportunities arise, until this whole series of transverse thoroughfares are improved. Among them, they will be fully capable of carrying all the traffic which is likely to arise, even with the fuller building up of the Bucca Colony site and the Sea Road quarter generally.

With the continued expansion of the town, and the growth of Waltair as a residential neighbourhood, more of the traffic will come in by the road past Hindu College and Civil Dispensary; and, by and by, down that from Collector's office, etc. Hence these widenings we have been considering are not so important after all, in view of the growth of the town beyond them.

The planning of this whole neighbourhood, of Waltair generally, and thence to Alipur and its neighbourhood, as thence to Waltair Station, and back to town, should also be considered without further delay. The town-planning of this neighbourhood

* Stitched after page 49 *infra*.

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The communications of this new town with the old are no doubt so far interfered with by the present Vizagapatam station line; but, besides, a level crossing, a sloped over-crossing might be constructed. Further north, as the railway rises towards Waltair, under-crossings become possible also. The existing ways from the main road to the (reclaimed) swamp would in some cases need widening, but not always. The lines of their extension broadly suggest the plan of laying out this reclaimed swamp site, although of course so many railway crossings would not be possible.

The drainage of the town to the present sewage farm can doubtless easily be carried on across the new town also, and at the far extremity pumped upon a new sewage farm, reclaimed accordingly to fertility.

Returning to the question of dwellings, it is probable that there would be a steady increase of demand for houses in Old Vizagapatam, whose residential prosperity and value, as well as that of its shopping streets, would go on rising. The wealthier classes would of course find Waltair most congenial; and, as population increased, train facilities would attract a suburban population northward also. A modern maritime city, efficient commercially and industrially, and steadily prosperous, as the outlet and inlet of a great and increasingly prosperous inland region; adequate housing for the people, with healthy and beautiful suburbs: here in short are the conditions of a good port, even of Bombay, at its best; and though of course on a far smaller scale, still a real one; and without the many evils with which past neglect, rather than natural difficulties, has crowded Bombay and all our other old seaports.

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The drainage of the town to the present sewage farm can doubtless easily be carried on across the new town also, and at the far extremity pumped upon a new sewage farm, reclaimed accordingly to fertility.

Returning to the question of dwellings, it is probable that there would be a steady increase of demand for houses in Old Vizagapatam, whose residential prosperity and value, as well as that of its shopping streets, would go on rising. The wealthier classes would of course find Waltair most congenial; and, as population increased, train facilities would attract a suburban population northward also. A modern maritime city, efficient commercially and industrially, and steadily prosperous, as the outlet and inlet of a great and increasingly prosperous inland region; adequate housing for the people, with healthy and beautiful suburbs: here in short are the conditions of a good port, even of Bombay, at its best; and though of course on a far smaller scale, still a real one; and without the many evils with which past neglect, rather than natural difficulties, has crowded Bombay and all our other old seaports.

to the housing of the people. Upon this narrow site there is already ~~much~~ ^{room} ; if business offices, warehouses and godowns, shops and workshops have all to multiply upon this space, and an increasing population have also to be lodged, its congestion will become increasingly exaggerated, with the usual resultant waste and inefficiency in commerce, the usual deterioration and disease among the people, which we know so well.

Instead of letting all this happen, and calling it "natural" with the futilitarian economist, let us briefly consider the possibilities of that adequate town-plan, which has never entered into his conceptions, and thus never been so much as mentioned, in his ponderous, yet mostly worthless, treatises.

As the town-plan of Old Vizagapatam revealed itself when studied as an historic development, so that of the new city may open out when viewed as a geographic one. For this purpose city-view and plan may happily be seen as one, by ascending the flag-hill by the port entrance, and surveying the landscape it discloses.

Here our Dutch predecessors must often have viewed the splendid field for their characteristic mastery of nature which this vast extent of swamp and backwater discloses, and have revolved their plans, for redeeming the one, and developing the other, upon the lines which have built up modern Holland from far less promising natural conditions. The actual realization of such schemes was actually attempted by Bishop Tissot, though without success: yet his remaining embankments, and beyond these the goods line of the railway, show how comparatively easy this redemption of the marshes may be. The excavation of the new port, and thereafter the continuous dredging of the harbour bar, will afford a large supply of material for reclamation and raising of levels. Mr. Arbuthnot's suggestion * of running the Sandhill into this marsh may here be recalled: while the existence of the railway line also makes the further work of filling up easy. The Ross Hill, however, should not be touched: its rock is too hard to make its quarrying for this profitable, and its beauty, for its true use, of recreative and general outlook, and in fact as the very first and finest of all the city's possible parks, will surely also protect it, as will the various sacred edifices further back.

Assume then the new harbour dug, and the matter dredged and excavated deposited upon the swamp, so completing the filling up of the large portion between the goods and passenger railway lines, and even sufficing, as it perhaps may, for extending this made-up land, west of the goods line also.

This filling-up scheme would of course be proceeded with gradually: but for the area the space included by a line from Ross Hill point north-eastwards to Waltair station will not be found excessive: say then to the hill bearing the Catholic Chapel, near the Hindu cremation ground. Along the edge of this area a second outer railway line might run down to the edge of the new harbour.

Between these two railway lines the warehouses, and the storage areas for timber, coal, etc., would find convenient place ~~near the docks~~. Further up, nearer the station, the factory quarter would conveniently be placed. The space between the Vizagapatam passenger line and the goods line to west of this should, however, be kept free from railways and from factories and warehouses alike: since this, when it properly raised to a healthy level, would form the artisan and labouring quarter. This should of course be designed upon adequately modern lines and from the first. The existing Vizagapatam passenger line might be continued to meet the other lines of the port near Ross Hill point with one or two passenger stops by the way. But the railway to the present wharf station would become practically disused, and its space (save indeed for a single emergency line or so) should be resumed, e.g., for dock management premises.

If the present cutting through the hill can be used with safety as a road (at any rate after due attention), should not the present dangerously crowded and congested Fishermen's Village or the present port be thinned out, if not largely removed to the north side of the hill? The Muhammadan settlement near the old Collector's office is described as very insanitary; but the filling up of the swamp and its channels should here afford excellent and spacious sites for new dwellings as good as may be.

TRICHINOPOLY. *

(Here one is fortunate as in few cities, by being able to climb to an outlook of the greatest extent and magnificence, an outlook over city and region alike. I have not had elsewhere in Southern India, and which compares with that from the Rock of Gwalior or from the heights of Edinburgh.)

(The great rock, though so long mainly occupied and dominated by its temple, seems to possess more vestiges of the ancient and perhaps original Fort than are now easily discerned; and an antiquarian scrutiny of the old quarters immediately surrounding the rock would doubtless reward the historic enquirer.)

II

(Before leaving the rock a criticism must be made of the unsuitable and water-fully expensive decoration of the large new water reservoir upon the south shoulder of the hill. For this is adorned with enormous neo-gothic battlements, after a fashion set by readers of the Waverley novels, which was supposed to be reminiscent of the glories of the Welsh castles of Edward I, and from about 1843 to 1860 were stuck upon modern jails and "restored" county mansions alike. It does not mitigate the irrelevance of this particular imitation that it is in Southern India, where this style was happily unknown, nor that it is executed with the huge and costly substantiality of the civil engineer. Not only economy, but greater beauty would have been attained by displaying, instead of bedizening, the simple massiveness which such an elevated tank requires: and if further enrichment be, as in this case, desired, it should have been of a kind relevant to the nature of the building, and not rudely mimetic of a remote style of feudal architecture, unintelligible to the Indian community and long obsolete at home. Is it asked what would be the appropriate treatment? At best nothing beyond such simple, yet massively Egyptian, outward slope (or perhaps mathematical curve) as is suggested by the increase of pressure upon the wall of the reservoir as the water deepens from top to bottom. But it may be said that some finish is needed; hence these battlements. A simple outlook, with such moderate parapet as is necessary, and below this a moulding or a simple frieze, would have been amply sufficient. But (the more since economy has here been no object) why not arrange to obtain from this pressure of water its appropriate and decorative expression, that of a fountain? On festal occasions at least this might be turned on to flash and glitter in the sun and throw its rainbow emblem of hope and promise upon a little garden of verdure and flower, which would grace the great brown rock like the jewel worn by its ancient war-lord. It will be replied that this battlement is just such an allusion to the military past of the rock. But no such allusion can justify the militarising of a water-tank: for what can be more peculiarly inappropriate than to adorn a thing at once so important and so vulnerable as a reservoir, in the very way to attract fire, by disguising it as a Fort?)

(This destructive criticism cannot be amiably omitted, uncongenial to its designer though it may be. For it is only as we abandon such literary reminiscences and such mimetic treatment in our architecture and our planning, and deal with the nature and common sense of things as they are, that we attain to a handling of them which is at once substantial and artistic. Moreover the first problem of the town-planner in every city is to press that its (after all very limited) resources are not to be wasted upon such mere decorative pretences, which bring architecture and art into disgrace with plain and practical men; but on the contrary that expenditure be restricted to real and vital uses. With these however a relevant and appropriate beauty arises, as indeed with every job of usefulness and skill which a man puts his heart into doing.)

III

(Descending into the town we find something of the usual labyrinth of lanes behind the main streets, and these not without some overcrowding, especially north and east of the rock. But there is nothing to justify wholesale demolitions. It is quite enough to apply that gentle, yet thorough-going method of "conservative surgery" which has been so often described in this series of reports.)

* For maps, please see after page 53 *infra*.

Coming southwards through the town, large areas are again indicated, both east and west of the Main Bazaar street, which are crowded beyond what they should be. Extensive destructive proposals are already drafted (in part even authorized and provided for by Government); but on scrutinizing these areas, as notably at the southern end of the old town, the usual result appears—that each and every block can be treated, at once more economically and more sanitarily, not by the proposed sweeping clearance, but with conservation of practically almost all the decent homes (not merely the pakka buildings); and this, as usual, at a mere fraction of the existing estimate for a far more destructive but less efficient treatment, in this case from one-half to one-sixth.

That the old town can thus be cleansed, its lanes widened, and with spaces opened out and with destruction of but few homes, has now been worked out upon plans of representative areas; and this not only in sketch on the spot, but subsequently in detail, in the recent practical class at Madras, with the City Engineer.)

Any disappointment with these measures will be cleared away, as their detailed house by house thoroughness is realized; and as it is seen that both the large outlays and the long delays which are necessary for a small area of destructive clearance will suffice to cleanse well-nigh the whole of the old city, and this without that intensification of congestion elsewhere, with corresponding general rise of rents, which are the inevitable resultants in Indian and European cities alike of the sweeping and wasteful destruction for which the tradition of Haussman is responsible, but which it is the first duty of more considerate (and less unskilled) planners to make unnecessary.)

IV

(We now leave the town and come southward through an area not less extensive. Old irregular villages and suburban streets, missions and public buildings are here all confusedly clotting together; and with new insanitary areas and congestions arising to match the old ones. Yet this part of the town is still capable of being cleared up to some extent, by the preservation of its main southward thoroughfares and the improvement of transverse ones also, and of course with improvements in detail without number into which we cannot enter within these limits.)

(Coming further south, one asks—what of the large Government site formerly occupied by the Sepoy Lines now demolished? How far is this available for suburban planning)

(Again, in a town so long and comparatively narrow as this one, and with a good main central thoroughfare, is there not scope for a tramway?—perhaps even for the extension of this tramway to Srirangam?)

(We return to the main town and admire its spacious boulevards on the east and west. That on the west is exceptionally fine throughout its range between the great Teppakulam to the Municipal Hospital. But why not continue and protect it from encroachment, as far as its junction with the Main Bazaar Road, near the water-channel?)

(The east boulevard is less well-kept. It is insufficiently planted with trees and too much left to stones and rubbish; while upon these neglected spaces, bits of the very worst and smallest kind, and of the lowest type of dilapidation, are scattered here and there.)

(The cart-stand is said to require extension; but on inspection we see that this congestion is more or less local. Great part of its area is actually left to weeds, so that here a little better planning and working is all that is required.)

(The new Paracheri to east of this exhibits the disadvantage of a thoughtless application of a standard plan in a way as far as possible from anything which can have been desired or foreseen by its original designer; and the improvement of this misplanned suburb upon simpler lines, more adapted to the situation, has been strongly recommended on the spot.)

V

(New extensions for the more prosperous classes on the west side of the railway, have also been studied on the ground; and with substantial economy of result: every one of the serious demolitions proposed (and in this case all of good and

expensive property) proving quite unnecessary on inspection. Substantial reduction was also thus rendered possible of the length of roads and streets, and with corresponding increase of house and garden space. Plans incorporating all these improvements have now been worked out by the Engineer.)

As the town develops, the question of reduction of wet cultivation must arise; or, failing this, the raising of building areas. In the latter alternative, I cannot but think that the sand of the river may be brought by simple and economical methods, as of rope-tramway, etc., to any point which may be desired. But this whole problem involves consultation with the irrigation expert and civil engineer. I suggest that the irrigator should be consulted in every case where extensions are required; as his exact knowledge of levels and requirements may be protective. Even now for instance, could he not improve the unlucky Paracheri of Darenallur beyond the boulevard above referred to? Finally, is it not possible that the irrigator might do much to relieve the present difficulties of drainage in this and other towns? For when, as here, irrigation channels are at hand, why not conduct more of the drainage into them?

VI

(Of course I make no pretensions to a grasp of drainage questions; yet I venture to submit my doubts whether the customary method of establishing a thorough-going drainage scheme for a great city, independent of its irrigation channels, is not too expensive altogether, even supposing it to be ultimately and permanently efficient? Even in some countries, it were the custom, and even the duty, of the representatives of each and all of the various departments of the town's activities periodically to meet around a table bearing the town-plan lying upon it, and with the express purpose and really defined duty of collaboration towards the improvement of this plan, would we not be able sometimes to break up this costly and magnificent drainage system into useful and manageable portions, instead of drowning one small sewage farm in unspeakable foster, as too often happens. (I do not say that this exists at Trichinopoly!) Why not rather improve the fertilising value of innumerable minor streams, and so create a wealth of gardens?)

In this connection too may be stated, for this city as for any other, the essential argument against the stereotyped rows of dwellings for sweepers. These good people at least are free from that excessive horror of manure which involves the wholesale waste of it throughout India; and if small gardens were given them, doubtless with a little initial guidance and encouragement they would soon be enriching and improving their own environment, and setting a much needed example to the community. For here and there some citizen would be unconventional enough to encourage the sweeper to lighten his labour by fertilising his own garden; and, from a few such cases, the progress of gardening and sanitation would thus go on together. A more intensive gardening, everywhere, from China to France and to Scotland, is the best and the most sanitary as well as the most natural method of disposing of organic refuse. Hence—as the organic point of view, which is maintained in these reports, and is at many points now reappearing in the world, gradually gains upon the mechanical one, with its blindness to life—there is every hope that the health and wealth of not a few Indian villages and towns—and, in parts at least, even cities,—may be gradually increased, and with much economy of their present (or projected) drainage schemes. The modern (and ancient) septic tank is surely a first step towards this; but its present wastefulness to agriculture should (and may before long) be redeemed.)

SALEM.

Here as usual on arrival we were plunged into the multifarious details of congested quarters and of new extensions—details obviously too manifold and complex to be satisfactorily grappled within a brief two days' visit. To save time, and to keep from being submerged, several hours of work were well spent in first getting these various plans and projects arranged, in an intelligible, because topographic, way. A suggestion thus arises, and is respectfully submitted to the Council—as indeed to Councils everywhere—Why not introduce such order into the confusion of scattered plans and projects, with their respective correspondence? The method is simple enough. First hang upon the wall (conveniently the northern one) the general map of the town: not one tinted for the mere electoral detail of wards, but topographically. The main roads above all must be clearly shown, say, in brown; and with these also the railways clearly marked: and all these to the very confines of the map, no longer absurdly cut short at the city boundary, as the bad tradition of these town-plans is; one doubtless with its convenience for revenue purposes, but useless, nay far worse, for town-planning. Let the tanks and water-courses be coloured light-blue, the slopes boldly contoured and the waste lands dotted. The wet lands may conveniently be green; and the wet and dry land must be shown far outside the city boundary; so that we may thus form an idea both of the limitations and of the future possibilities of the growing town, and not simply of the extensions proposed to-day. All religious buildings, such as temples, mosques and churches, places of burial also, should have their unmistakable tints, say, of red. With these should be indicated mission compounds, with schools of all kinds, dotted over with their respective tint. Government and municipal buildings and areas should also be plainly coloured, say, with purple and yellow respectively.

Upon another map should be indicated the outlines of a survey of castes and occupations; with these again around their appropriate temples, mosques, etc. Distinctively Brahmin; Muhammadan and Christian communities should also stand out as clear as may be from the streets and quarters in which the population is more mixed. Weavers, fishermen, chucklers, sweepers and other associated groups should be shown, and Paracheris well defined. The large industries—mills, tanneries and works of all kinds—should also be plainly shown.

Another town-plan may conveniently be reserved for water-supply and drainage in light and dark-blue respectively; and the specially insanitary quarters may be recorded on this map also, emphasised in appropriate variety of sombre tints.

In this way, there will soon arise upon the wall of the city's chamber the beginnings of that City Survey which is the indispensable preliminary of a good town-plan. The town's unity, and its diversity, are thus alike more clearly realised. The customary division into mere wards, so widely pernicious to citizenship and to civic efficiency, is thus kept in due subordination; in fact, this may best be left unstudied by all parties, at least until the approach of the election day!

Here, of course, we have the difficulty that the divisions of our town map are (in India I believe alone in all the world) treated ward by ward, each ward being represented as an island, alone in a blank and uncharted ocean of white paper. To cut these out and fit them together, and thus make a large scale map of the whole town, is an obvious necessity. But with the town-planning movement henceforward to work in, a task to surveyors so readily congenial, they will not continue this vicious heritage of mere revenue methods, but set about preparing continuous town-plans, like those of all other cities and countries.

II

With such city surveys thus before us, the town-map of Salem would become readable. It is no longer a mere heterogeneous congeries of wards, or even of villages. As in so many towns, the centre here is plainly the old Fort (absurdly called Ward No. 6) and the origin and strategic position of this Fort, defended on two sides by the rectangular bend of the river, is plain. The detailed study of its

lay-out, orderly as the plan shows, would doubtless well reward attention. Let us at least note the spacious boulevards which have replaced the ancient fortifications on east and west, and regret that such fine thoroughfares have not been continued or imitated, in other parts of the town.

East and west of the Fort runs the main road, on the north somewhat deflected by the old military zone. On this space now stands a series of Municipal buildings and north of the road, the Courts, the Collector's office, etc., have completed the arrest of the otherwise natural northward expansion. How far new expansions in this direction are still possible beyond these (i.e., between the toll gate, and the Mariyamman temple on the west, and the Sukhaveswaram temple on the east and northward to the Maravaneri tank), we may enquire. The northward village of Kumaraswamipatti, and its surroundings, may also be suitable for extensions.

Returning however to the main road, east and west, we have, on the east, the old market town of Salem proper (including most of wards Nos. 8 and 5), but extending southwards into Kichipalayam (ward No. 4) and eastwards into ward No. 9 with its more recent planning. Finally in this direction, the village of Ammapet has grown up into "Ward No. 10." West of the Fort, the village of Shevapet similarly has grown up; and it also has spread southward, apparently more lately, into the large suburb of Gogai.

III

We may now take the various improvements in order, so far as time has allowed; on the one hand studying the congested areas, and on the other proposed suburbs.

First, the congested areas. Proposals of destruction are here sweeping and costly, e.g., Rs. 94,000 for Kichipalayam alone, in which no less than 400 houses are proposed to be removed. After devoting a few hours to the detailed study of a portion of this quarter, undeniably a perplexing labyrinth, and working out a portion of it in detail, leaving the sketch to be continued by the surveyor, one unhesitatingly reports that there is no necessity for the demolition of anything like 400 houses, probably not even of 40. As in many previous towns, a careful and conservative surgery is what is required, not this sweeping amputation! I cannot too clearly put on record the affirmation that this too common method of wholesale destruction, whether it be initiated by municipal authorities or by their sanitary advisers, is a wrong one. To begin with, it is far too costly, even for the resources of municipalities and of Government put together; since on this principle we should have to destroy and rebuild half of India—cities, towns and villages alike. These sweeping demolitions, considered with regard to the difficult game of planning, are essentially in line with the overturn of the chess-board and its pieces by an unskilled and impatient player; but this, as every one knows, is the poorest way of getting out of check! And here, where the pieces are not the mere toys of a drawing board, or even objects of civic and natural economy and value, but are homes and centres of neighbourhood life, each dear beyond all things to their occupants, no criticism can possibly be too serious. It is more than time to protest against this whole method, and to entreat municipalities and Government alike to be reconsidering this entire policy of wholesale demolition, insanitary though these neighbourhoods may at present be!

Do we then advocate the cessation of these sanitary grants upon which this policy depends? Certainly not; it is its better diffusion and application which is pled for. Rain is good, but not to wash away the soil; it is desired to fertilise the field, but not to spoil the crop. So with sanitary grants. A sum such as is proposed for the small quarter of Kichipalayam alone cannot proportionately be found for every other quarter of this and similar towns, even by the most prosperous and most generous of Governments. Better applied, this grant would suffice to clean up half the town. We do not destroy other things which get dirty: why then houses, and

I am aware how harsh this criticism must seem: but I plead with any to whom it may seem discouraging that they will reconsider such a neighbourhood as this in the light of a fresh improvement plan. This was begun on the spot, and left with the surveyor to be continued; and kindred ones similarly initiated for other areas. I ask it also to be considered that these grants are mainly spent on destruction on the ammunition, so to speak, of a vigorous local bombardment. No doubt that

comparison goes, in some (not all) respects, too far; but it is needed to bring out the essential situation. The general failure to reconstruct which has as yet characterized practically all demolition schemes, whether in India or elsewhere, is thus explained. The available public money is mostly spent in destruction; and the valuation paid to owners for compensation is notoriously insufficient to enable them to rebuild at the present rates.

* (Here, as to rebuilding, and to proposed housing bank, etc., my recent report on Cocanada may be referred to.)

Take next wards Nos. 5 and 8, lying on each side of the Main Bazaar street of Salem. This northern area No. 8 is peculiarly intricate and difficult. It is satisfactory, however, to recognise in this block that the first plan of new thoroughfares cutting across it in both directions, at great expense (and to little purpose after all, either for traffic or for sanitation), has been replaced by a later draft plan, very much less destructive and costly, with only two new thoroughfares. But these are not connected with each other; and neither can be said to be urgently required for trade or for communications. They also are open to the objection of leaving too large insanitary areas untouched. Even a third criticism appears. The corn bazaar on the main street presents the most extreme example I have met of sub-division into narrow strips; its shops having been divided, and these sometimes sub-divided, until at last they are only six or five feet wide. This indicates the extreme congestion of a most important traffic, and the corresponding costliness of alteration. Moreover to destroy an appreciable percentage of these shops is something which mere compensation for their rental value cannot really compensate for. If expelled, these traders have nowhere else to go to; and their competition for shops must be increased, the rentals of the whole street accordingly, and thus the staple food of the people will be rendered appreciably and permanently dearer; thus tending to increase the poverty upon which insanitation so much depends. For all these reasons, therefore, we set about the preparation of a fresh draft plan.

The corn trade is now little interfered with ; for our widened lane only a single shop has to be destroyed, and that the smallest of the whole line. Within the block itself, a considerable economy is effected over even the less costly of the preceding schemes. Every house in this interior area is now reached by sanitation, instead of a large proportion of them being left much as they were before, on the preceding plans. The existing homes are therefore mostly retained ; with corresponding economy of Government grant, and to the immense satisfaction and advantage of their occupants. Furthermore, conditions and aspects of old village life will be revived in the old lanes, thus widened, but still characteristic and homely, with their new and airy squares, which may now be adorned with tree and pial, well or shrine. The one disadvantage which can be alleged is that the straight lines of the drawing-board are not inserted ; but after all these had not been found practicable in either of the two preceding designs. The re-study of it in detail which has since been given by the city engineer and sanitary inspector has been incorporated in course of the work of the practical class. This crowded Grain Bazaar on the north side of the street, with the Vegetable Market opposite, gives a very striking example of that localisation of traffic well-known to economic town-planners, but as yet too readily overlooked in Indian towns, by those of merely sanitary or street-widening aims.

Struck by these inconvenient looking and overcrowded shops, a benevolent town-council erected a fine new "Victoria Market" in an excellent open space only a couple of furlongs off; and entirely in the dignified, quiet and peaceful company of public and municipal buildings. Yet such is the obstinate conservatism of trade, that after thirteen years we are told that not a seller or buyer has yet been persuaded to go, and the market stands practically derelict accordingly. When I ask if any suggestions have yet been made as to how this difficulty may be got over, I am gravely offered the solution that "its use should be made compulsory". I ask "how can this be done?" "Municipal regulation should be made prohibiting the present traffic within at least half a mile of this new market-place!" But was any municipal over-regulation of the past ever more arbitrary than would be this? Could any be more vexatious in its interference with the natural course and conduct

of affairs or more impracticable? Far better to confess the failure, and scrap this market altogether (though some other useful purpose could surely be found for this) than now to attempt to impose a measure in such direct opposition to the habits of a leading trade and its public. What elected body could survive such a despotism following up of one blunder by a far worse one?

Just opposite the crowded Grain Bazaar is a Girls' school, and opposite that a temple. Pity that the new market had not been there and the school where the market is! Even the tenderest girls can walk an extra furlong or two, but trade will not.

So difficult is it to plan for an old established line of business that I cannot feel sure that even a grain market on the opposite side of the same street would be successful. Grain, as everybody can see, is best on the sunny side of the street, both for keeping and for showing; and the problem is thus to lengthen the bazaar on the sunward northern side of the street than upon the shaded southern one. Vegetables, on the other hand, suffer and dry in the sun, and need shade. Hence the preference of this class of dealer for this south shaded position.

All such considerations are obvious enough when thought out; but my experience hitherto of the proposed shifting of businesses and populations in any or every town I have visited gives me the deeply disappointing impression that such simple common-sense considerations are constantly being overlooked, and with crude and unsuccessful town-planning as a consequence, unnecessarily costly to the municipality and too often disastrous when all is done. That is to say, such plans are apt to propose (and when carried out, to involve) damage to business, with resultant injury to prosperity, it may be of producers, traders, or consumers, and sometimes all alike. No statistician can exactly estimate this; but it none the less finds its nucleus in that deterioration of localities (if not even the bulk of the town) which so often follows the well-intentioned but badly planned clearances of late too common in municipalities. Such deterioration is too often also evoked by the suggestion of further large and ill-considered schemes by sanitarians, and would only be increased now by uncritical acceptance and subsidy from Government.

IV

Let us pass now to Shevapet, with its proposed new east and west thoroughfare. To find a ready course for this, with the approximate straightness desirable for a main thoroughfare, is curiously difficult; but the general course selected, I am glad to say, appears to be the best one. Improvements in detail are possible; thus I have suggested the formation of a small public place at an important road junction, and where a large area can be obtained with trifling additional outlay, by simply widening the existing street area a little further. Trees could here be planted.

The present insufficiently comprehensive view of all such city improvement is indicated by the fact that this new thoroughfare, though rightly decided on, has not been thought out at either end. How is this new road to be adjusted to meet the main country road westwards? In other words how is it to join the existing main street as this leaves the town? Or has traffic been sufficiently considered as it comes in from the country? If this new street be made wide enough, it will of course relieve the too narrow and congested main street towards the north of the Fort; but is its proposed width sufficient for the future? I think not.

Again, the new road gets nearly as far as the Fort in the south, and by a straight and satisfactory course. Yet while this opening and widening is proposed in Shevapet, the very same road is just now being encroached upon further east. Indeed almost blocked; thus the new slaughter-house has been laid out, as usual, without any considerations of planning, and is here already seriously in the way. Still it is just possible to get through. Thence (passing other ill-planned obstructions, of cooly lines and unnecessarily prominent latrines) our new road runs south of the Fort to join its east Boulevard.

This western half of the town, up to the river, will thus have two main east and west thoroughfares, instead of only one as at present. Then why not confine this great improvement to the eastern half of the town, and thus double its advantage.

and more? For this purpose a new bridge will be needed, at the south-east angle of the Fort. Thus the existing road south of ward No. 5 can be reached. Let this be widened and continued north of ward No. 4 by a new road (at the utmost a furlong south of ward No. 9) into ward No. 10. Ammapet will thus become like Shevapet with a double east and west thoroughfare. The whole of Salem in fact, instead of being as at present a succession of overgrown villages strung upon a single main road will thus become a town, with a double main thoroughfare; and even its present areas of congestion will largely be relieved, automatically accordingly and without demolition, because their expansion and their business are facilitated, enabled to spread over a longer distance and a widened area. Yet even two such parallel thoroughfares are not enough for the future. A third line of communication should be planned for north of these, and not left unconsidered till it has to be cut through at some later date and at great expense.

V

Similar study is needed as regards additional north and south thoroughfares. These are here no less obviously necessary; for the main road running north from the Fort is still practically the only one which is as yet adequately developed, and this for a town extending nearly two miles east and west, and no doubt destined to grow.

The Arisipalayam extension will aid the development of the needed new north and south road at the west end of the town; but that at the easterly end should also be considered without further delay.

New railway developments are predicted, of which I learned merely by accident. I failed to obtain plans and particulars upon my visit, and the rough sketch, subsequently sent me, shows far from sufficient study of the problems of road crossings, town extensions, etc. People are no doubt glad to accept a railway, on almost any terms; but this should no longer prevent due regard for the future. It is to be hoped that this constant tradition of railway planning, without due attention to town development, will be put a stop to by the proposed Town Planning Act.

VI

Had time allowed, a study would have been made of the River banks, and these alike from the standpoint of utility and beauty. Utility of various kinds; first in relation to thoroughfares and bridges, but also in relation to cultivation and habitation. Can any practicable and profitable treatment of the water-course be suggested by the irrigation engineer? There is at any rate no reason why such a length of landscape beauty and possible fruitfulness should be left to prickly-pears and snakes, to filth and rubbish. Private and public gardens, tank promenades, in fact even park and park-way, of course here suggest themselves.

VII

We may now consider the proposed extensions of the City.

To these only brief space need here be devoted: for the gratifying reason that each and every one of these three proposed sites visited seems suitable and convenient; in fact excellent. As regards their planning, however, a note must be made on each.

First on that south of Kichipalayam. Here the proposed sketch-plan is unsatisfactory, and needs re-consideration in every respect. The well-known "standard plan" which has been sent out as a too solitary suggestion to every city, has here been copied mechanically; as is shown by its bringing a sanitary lane instead of a frontage upon the main thoroughfares. Existing roads and wells, trees and rocks, and natural features generally, are all ignored. A site-plan requires first to be prepared, and upon this the preparation of a good design would be easy.

The proposed removal of the Paracheri turns out on examination in the field to be unnecessary. The utmost caste objections, can easily be met, by removing the very few houses which are close by the roadside, and by planting the space with trees or as an ornamental garden, if no low caste tenants offer for the vacated sites.

The Paracheri may even be left, and extended, especially southwards, without the least interference with the new Garden Suburb; but those few of its members who may be dispossessed as above should of course receive full compensation for this.

It has been suggested to take an alternative site instead of this, north and south of Maravaneri tank. My own inclination would be to both sites, as demand springs up, and as funds allow.

VIII

The new land being acquired west and north of Arisipalayam is also beautiful. No plan of this had been prepared; but in the practical class held lately at Madras in connection with the Town-planning Exhibition this has been approximately drafted; and I am pleased to say, with car streets as well as temple. But a fuller and precise site plan should now be prepared, showing the existing mangoes and palms, and other valuable and beautiful trees; and the present sketch-plan can then be revised and its areas varied, so as to preserve, not only for the bungalows, but for the smaller houses, also, a share of these fine orchard trees, at any rate much more fully than is possible upon the sketch-plan prepared at Madras without these particulars.

IX

The proposed extension at Hastampatti to the north, a fine site of about 100 acres, has long been under discussion; and I take it that the lack hitherto of any adequate plan has been one of the factors of delay. This scheme is for large bungalows, mostly with two acres, some of one, none with less. But no plan was shown, beyond that of site, with present roads! It has also been proposed to reserve a portion of this land for possible future official buildings; but Government apparently also had not prepared its plan for this lay-out: and a large portion of the ground has meantime been purchased by a neighbouring mission, thus interfering with the plans of both the intending purchasers! But I am informed that before this private purchase was made, particulars of this scheme had been submitted to Government, and even a third of the purchase-money deposited: so that mutual concessions are surely here desirable, to avoid discouragement to suburban development, which it is hard enough to foster in India. Such a strife of interests can only be avoided when sites are planned towards the maximum advantage of all concerned, and not left to the struggle of individual interests, and the chances and delays of daily life.

Old plans of this neighbourhood have been shown to me; but these so inaccurate as not to be clearly intelligible, even on the ground; and this to no less than six persons, who represented most, if not all, of the various interests concerned! The necessity of better site-plans is surely thus plain. With such materials as have become available, a plan for this area has now been drafted at the Madras practical class, which I trust may help matters onwards towards execution.

We are next conducted to visit the new Scavenger colony; again on standard lines; and planted in a wilderness of broken ground with the usual spreading thickets of prickly-pears. Nowhere could this too inflexible plan appear at greater disadvantage. A large and healthy area, which might, with moderate labour, be put in order, and well-spaced for separate houses, is here largely spoiled, and left neglected.

But when we enter one or two of these humble cells—we cannot call them homes—we find again the poor women folk making, as ever, the best of it, and planting and watering, within their absurdly tiny but well-swept compounds, of 10 × 10, here a little row of plantains, and there a fruit-tree! Yet all round outside this tiny patch of garden lies the uncleared rubbish of the builders, for what builder ever clears away? That job is for my humbler caste of gardeners. Why exclude us altogether from this paradise of sanitation? These poor women, though constantly blamed—by those who have not fully and fairly observed them—for their untidiness, are still, as ever, the soul of India, and the salt of the earth. It is their ruling and organising authorities, their municipal government, with its large contracts and public works (which, as aforesaid, are not cleared after the building is done), who not only totally neglect to utilise the domestic instincts, the cleanly and orderly endeavours, of these poor women, but who thus limit, discourage, and depress them—some no doubt gravely; and these are then pointed at, for an undeserved criticism of all.

Let us put this criticism more clearly. Had one-third of this average expenditure per house, i.e., say Rs. 100 instead of Rs. 300, been put in a Housing Bank, and to the credit of these people (and why not the women preferably?) and they were then encouraged and wisely helped to set about the construction of their own homes, in their good, though old-fashioned, way of mud and thatch; but with better planning and spacing, for gardens above all; and with some guidance and leadership for house-building and for gardening successively—the result would have been satisfactory, healthy, fruitful and even beautiful. To this traditional rural village constructive-ness, I trust and believe we shall soon return; and with results which will satisfy the sanitarian, indeed far better than do the too urban and mechanical methods into which he has been led by the tradition of military engineering, and away from that direct service and advancement of domestic life which is sanitation proper.