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CITIES IN EVOLUTION

Cities in Evolution

by

PATRICK GEDDES

Edited by

THE OUTLOOK TOWER ASSOCIATION
EDINBURGH

and

THE ASSOCIATION FOR PLANNING
AND REGIONAL RECONSTRUCTION
LONDON

NEW AND REVISED EDITION

LONDON

WILLIAMS & NORGATE LTD.

Acknowledgments

CITIES IN EVOLUTION

The cutting of the original 1915 edition has been agreed between Dr. Arthur Geddes (President) and Phipps Turnbull on behalf of the Outlook Tower Association, and Sir George Pepler (Vice-Chairman) on behalf of the Association for Planning and Regional Reconstruction.

CITIES AND TOWN PLANNING EXHIBITION

The second Geddes exhibition, consisting of some 5,000 paintings, drawings, prints and plans collected and prepared for Patrick Geddes in 1914-15, has been cared for by its former Assistant Director and present owner, Dr. Arthur Geddes. A selection of some 40 of its documents has been chosen for this book with the assistance of W. W. M. Mann, and a final note added to the text by Sir George Pepler.

APPENDICES

These have been selected by the general editor, Part 2 of Appendix I being specially written by John Turner and W. P. Keating Clay.

Jaqueline Tyrwhitt
(General Editor)
Association for Planning
and Regional Reconstruction

Printed by
Knapp, Drewett and Sons, Ltd., 30 Victoria Street, London, S.W.1

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We will never bring disgrace to this, our City, by any act of dishonesty or cowardice, nor ever desert our suffering comrades in the ranks.

We will fight for the ideals and sacred things of the City, both alone and with many.

We will revere and obey the City's laws and do our best to incite a like respect and reverence in those above us who are prone to annul or set them at naught.

We will strive unceasingly to quicken the public's sense of civic duty.

Thus, in all these ways, we will transmit this City, not only not less, but greater, better and more beautiful than it was transmitted to us.

Introduction

CITIES IN EVOLUTION

The name of Patrick Geddes is revered in many countries as a father of the social theories underlying modern town and country planning, yet this—the only book he wrote directly upon this subject—has been out of print for more than a generation, and unread by many planners who profess to follow his way of thinking.

How could this be? There are two general explanations, one simple, the other more complex. The book, as originally issued in 1915, was a slightly enlarged re-draft of a little book that Geddes had been induced to write in 1909-10 (the year of the first British Town Planning Act) as one in the series "Home University Library of Modern Knowledge" published by Williams and Norgate. At this time the title was "The Evolution of Cities." This little book was then rejected by the publisher (after it had been set up in galley) as insufficiently popular in style and content. In the later Williams and Norgate edition, which was intended primarily as a textbook, chapters 7, 11, 12, 13, 14, 15 were added, but the main body of the text was left unchanged.

Patrick Geddes was a man who lived fully in the present. In this book he did not intend to write a philosophy of planning for future generations, but a political tract to precipitate action in his own time. As a result much of the book was "out of date" almost as soon as it was written. Secondly, Geddes' written English has its own complications. Probably because he wrote quickly and unwillingly, with his mind racing ahead of his words, his writing is, to a certain extent, a direct transcript of the spoken language. To some extent, also, it is couched in terms that he invented for himself. These irritations, together with the fact that interest in town planning was until quite recently

confined to a small section of the public, form the simple explanation for the long submergence of this book.

The more complex reason concerns Geddes' original and personal approach to the subject of town and country planning. While his general thesis of "survey before plan," or "diagnosis before treatment," has become planning dogma, his own organic and inter-related methods of investigation and interpretation were so far in advance of current thought that there is little wonder they could be effectively communicated only by means of personal conversation and discussion. Even then, the dazzling effect of his teaching seems to have bemused most of his students, and few have been able to make his thesis and methods clear to later generations.

Perhaps it is only now—in the period following the second World War—that the time is really ripe for the reprinting of this book. Now that the almost contemporary works of Bergson and Kropotkin, friends to whom Geddes frequently refers have become part of a normal education. Now that simultaneous thinking—a process that seemed almost magical when demonstrated by Geddes with the aid of his folded papers—has become insisted upon in the popular writings of every philosophical scientist. Now that sight from car and aeroplane, together with developments in cinematography and television, have made simultaneous vision a common human experience. Now that not only the work of the Peckham Health Centre, but almost every book published on popular psychology, give overwhelming evidence of the profound effects of the opportunities available in the immediate environment upon the physical and mental development of the individual.

Geddes desired to see created in his own time an environment in which man could express this simultaneity of his being: his one-ness with the social ideals, the scientific developments and the physical conditions of his own time and place. He was certain that an urban environment could be created that would make clear the continuity of time through the lives of men, by means

of an architectural expression of their aspirations and of the direct relationship of all methods of contemporary development —technical, scientific and artistic. He was equally convinced that the expression of these universal requirements could only become creatively effective when coloured and modified by the individual characteristics of life and action conditioned by the environment of each particular city.

This dual requirement of a God-like breadth of vision and comprehension with a clerk-like detailed accumulation of local material and humility of approach can scarcely be expected from any one individual planner. The combination can probably only be achieved by the gradual development of a "composite mind" which can, under certain circumstances, result from the close co-operation of a small group of people working together over a considerable period. The principal conditions are that the individual members of such a group represent a wide variety of training and experience and yet possess a common understanding (a common vocabulary). This is not something that can arise from goodwill alone. It needs to be carefully cultivated by a close co-operative training between equals at a post-graduate level.

Geddes was not, however, greatly preoccupied with the training of the expert. He was far more concerned that the ordinary citizen should have a vision and a comprehension of the possibilities of his own city. Thus Geddes lays all his emphasis on the need for a Civic Exhibition and a permanent centre for Civic Studies in every town—an "Outlook Tower".

This is something that, with all our discussions on the need for and value of "citizen participation" in town planning, has yet to be given a trial.

CITIES AND TOWN PLANNING EXHIBITION

The great exhibition of Geddes' life—the Cities and Town Planning Exhibition of 1911 (which included the Edinburgh Exhibition of 1910)—was sunk during the first month of the

first World War. It must have been a bewilderingly fascinating show. Brief pictures of it are contained in the words of Sir Patrick Abercrombie, Sir George Pepler and the writer A. G. Gardiner.

Sir Patrick Abercrombie said of the Edinburgh exhibition of 1910, "There was a time when it seemed only necessary to shake up into a bottle the German town-extension plan, the Parisian boulevard, the English garden village, the American civic centre and park system, in order to produce a mechanical mixture which might be applied indiscriminately and beneficially to every town and village in this country, in the hope that thus it would be 'town planned' according to the most up-to-date notions. Pleasing dream! First shattered by Geddes, emerging from his Outlook Tower in the frozen north, to produce that nightmare of complexity, the Edinburgh Room at the great Town Planning Exhibition of 1910. It was a torture chamber to all those simple souls who had been ravished by the glorious perspectives or heartened by the healthy villages shown in other and ampler galleries. Within this den sat Geddes, a most unsettling person, talking, talking . . . about anything and everything. The visitor could criticise his show—the merest hotch-potch—picture postcards—newspaper cuttings—crude old woodcuts—strange diagrams—archæological reconstructions; these things they said were unworthy of the Royal Academy—many of them not even framed—shocking want of respect! But if they chanced within the range of Geddes' talk, henceforth nothing could medicine them to that sweet sleep which yesterday they knew. There was something more in town planning than met the eye!"

Sir George Pepler said "P.G.'s survey studies were both inspiring and frightening: they fascinated by making plain some of the causes which help to mould our environment, they frightened by revealing the immense importance of the issues with which one was trying to grapple . . . To one of necessity immersed to a considerable extent in the machinery of planning, he was a

source of continual refreshment, a constant reminder that the machine is of no value except as a means of facilitating the living of a full life by the greatest number."

A. G. Gardiner wrote in 1913, "Perhaps you discover him at some Town Planning Exhibition. You have gone in without emotion, and have wandered round the rooms hung with great maps and diagrams and charts. You find them very important and very dull. You are glad you have come; but on the whole you will be more glad to go. Then good fortune brings you Professor Geddes and the whole place is illuminated. The maps cease to be maps and become romantic visions. His talk envelops you like an atmosphere; your mind becomes all windows—windows into the past and windows into the future. The old city leaps to life again; the map echoes with the tramp of armed men; it becomes a pageant of history, a sudden interruption of the present. But it becomes more: it becomes a promise of the future, a vision of the City Beautiful, with squalor banished, with learning and life no longer divorced, but going hand in hand to the complete triumph over the misery and confusion of things."

When this great collection, most of which was completely irreplaceable, was sunk (uninsured), Patrick Geddes friends in England—prominently among them Dr. H. V. Lanchester, Sir Raymond Unwin and Sir George Pepler—began to collect other material together to send out to Geddes in India. As a result the second exhibition was started and, to the astonishment of all, was displayed in Madras in the following year, 1915, with the addition of a number of original drawings and paintings.

From 1915 until 1923 the exhibition was repeatedly shown in a number of Indian cities. In 1924 it was packed and sent by his son, Dr. Arthur Geddes, to the Scots College then being built by Patrick Geddes at Montpellier in the South of France.

There it remained unopened. After Geddes' death in 1932, his son, unwilling to break up the exhibition, approached various planning bodies with a view to its utilisation as a whole, but

without success. During the whole of the second world war the exhibition remained at Montpellier. During this time the college was used by international students, prisoners of war and Nazi officers of the army of occupation. In 1947 Dr. Geddes agreed to have the exhibition sent over to England and it is now lodged in the Town Planning Department of the University of London.

The illustrations to the supplement in this book are a small selection from this second exhibition, and the text has been drawn from Geddes' catalogue for the first, 1911, Exhibition.

THE NOTATION OF LIFE

The one thing that most people know about Patrick Geddes is that he said "Place, Work, Folk"! This being so, it seemed important that this book should contain some reference to his "thinking machines" or folded paper diagrams.

Victor Branford said that in these diagrams Geddes "has used and clarified Le Play's essential concept (his Lieu, Travail, Famille), incorporated the Race, Moment, Milieu of Taine, and worked all these and more into the concept of the city, with Comte's Temporal and Spiritual Powers—People and Chiefs, Intellectuals and Emotionals—in their working co-partnerships and changes and strifes through history."

Philip Boardman, however, describes the normal effect of displaying these diagrams. "Things went along smoothly as long as it was a question of historical charts; Dr. George Sarton found the Tree of History with its symbolic condensation of past ages very interesting and suggestive. But then came A, B, C, with their six combinations, followed by a similar game with O, F, E (for Organism, Function and Environment, the basic triad of biology), and then by the parallel Place, Work, Folk of sociology. Having requested a supply of blank paper, P.G. proceeded to fold and refold sheets and to scribble words in the squares thus formed, but the words were often so abbreviated as to be unintelligible until explained. And since the

process of turning out these thinking-machines was more engrossing to their producer than mere explanation of what he had meant to write, many of the square's labels remained undeciphered as far as Sarton was concerned."

These diagrams have been disturbing to many people, particularly to practical town planners, and are often dismissed as one of Geddes' personal vagaries—quite incomprehensible to others, and very doubtfully scientific. They are here presented in three ways. In Appendix I. Part 1 is a greatly shortened version of Geddes' own descriptions of his full diagram "The Notation of Life": Part 2 is a short article written in 1948 by two young architects, educated in a post-Einstein world, who found in Geddes' diagrams a scheme of thought that they could develop to co-ordinate their own twentieth century thinking: Part 3 is a transcript of one of Geddes' talks to his small children half a century before.

Appendix II is rather different in character. For 31 years, from 1888 to 1919, Geddes was Professor of Botany at the University of Dundee. This Chair, which only required him to lecture during the summer term of each year, was his only regular source of income. The rest of the year Geddes roamed the world, giving lectures, designing exhibitions, making plans, creating organisations, and thinking and talking all the time. His final lecture to his Dundee students was given just after the first World War. Geddes had just returned from India. During 1917, his wife and devoted companion had died, and his son Alastair, the apple of his eye, had been killed in the R.A.F. Geddes himself was 65. This is the lecture he gave.

Appendix III is a brief biography.

THE VALLEY SECTION FROM HILLS TO SEA.

Both in *Cities in Evolution* and in the Cities Exhibition, reference is made to one of Geddes' basic concepts—the Valley Section the human landscape seen from river source to sea.

It is difficult to find a full description of this concept in Geddes' own words, but a transcript exists of one of the lectures he gave at the New School of Social Research in New York City in 1923. The part dealing with the Valley Section is here added to elucidate these references in the book. It forms an example of Geddes' method of deductive observance coupled with scholarship.

JAQUELINE TYRWHITT, (1949)

"The often quoted 'economic interpretation of history' is no mere formula adopted by a modern school of economics; it can be traced throughout the whole life and labour of man. The school of Marx is too easily satisfied with its industrial reading of this method, but the earlier schools of Le Play, still so little known in English or German, have long been working more widely and deeply on the same lines.

"Why the current neglect of their method of teaching both by the world of scholars and of religion? Because here is science shaking the very foundations of conventional beliefs. Here is proof that the venerable old stones that both our elderly scholars and our religious teachers have thought were poetry are, in reality solid, matter-of-fact prose.

"But what of history and its perpetual tale of wars? Though most of history seems to be a tale of war, yet war is not in fact that permanent state and outcome of 'human nature' which foolish people so often call it. We know that serious wars are comparatively recent in human history; we know too that the period of wars was preceded by a long age—a comparatively Golden Age—in which men were quietly cultivating their plants and domesticating their animals, and thus being cultivated by their plants and domesticated by their animals.

"Here then is the explanation of the late arrival of 'history,' for quiet, decent, constructive agricultural civilisation is non-historic. Historians have always been too much like the press of the present day which records, in the main, only unusual or tragic incidents. Is not one person who throws his chair out of

the window of more interest to the whole press than all the millions who use their chairs in the ordinary way?

"Let us take a very obvious, agricultural interpretation. Let think of our forefathers in the old days of colonisation in America or in Europe. Each drives his own plough across his own field, without any co-operation. Each can whistle the old tune 'I care for nobody, no not I; and nobody cares for me.' Each, in short 'minds his own business' and lets others alone. This is the civilisation of corn-growing. The land is ploughed and sown and the crop is cut by the man himself. Women and children are but accessory helpers at harvest. Here then, in the cereal cultivation of the West, from old Rome to modern America, we have the most basal of all factors within our modern Western concept of individuality and independence.

"But if we are Easterners, and if we are cultivating rice, the position is quite different. At the start, we can have no cultivation at all until we have formed one big water committee for the district; for we have to control the water supply of the valley and adjust its flow so that each cultivator may get enough to cover his rice-fields. Here community action becomes the first necessity. Further, while corn had needed a strong man to drive the plough, everyone can put the tiny plant of rice into the ground and press it with his foot; not only the women but the little children and the grandparents can play their part. The men here have no great superiority over them.

"Here then, in contrast to the corn-based individualism of the West, we have the rice-based communal family and institutions of the East. A curious verification of this contrast came after rice was introduced into Lombardy in Italy, along the valley of the river Po. After half a generation or so, the peasants petitioned for certain changes in the Italian laws of inheritance and rights of property. The representatives of the rest of the Italian public naturally did not see much sense in this, but one representative who had been in China looked over the petition and exclaimed,

' Why, these people are petitioning for Chinese institutions! ' Of course they were, since they were cultivating rice.

"The valley section is the basis of survey. In such ways we may work out very many specific and definite civilisation values. We can discover that the kind of place and the kind of work done in it deeply determine the ways and the institutions of its people. This is the real stuff of the economic interpretation of history, though as yet practically ignored by both orthodox and socialist economists. Every science thinks that the classical and religious worlds were conservative and old-fashioned but is itself, in practice, no more open to ideas outside its particular fold.

"Let us look for a moment at the rhythms of the land masses of the earth and watch the movement in each; from snow to sea, from highland to lowland. Broadly speaking the world is built in this way, whether we take tiny Scotland, or a section across Wales and England, or across Ireland or Norway and Sweden, or even across mountainous Europe and the Siberian Plain, or North America and Canada with the Rockies, or South America with the Andes.

"A study of a land mass in this way makes many things vivid to us; such as the range of its climate; its corresponding vegetation and its accompanying animal life. In this study we can recognise not only snows on the mountains, but also their neolithic nature and their structure as well. Below them we come to the forests, then the pastoral slopes, the minor hills and plains with their uniting rivers, and so on down to the sea. All things are here. This is no mere political image of a coloured space on a flat map, but a geographer's region and an anthropologist's region and also the region of the evolutionary economist. In time we shall see too that it is equally the region of the conventional economist, and the 'politician.' But let us take all in natural order.

"We start at the head of our valley section, with its natural forests, the coniferous above the deciduous. Here the first natural activity can but be that of the hunter, until the woodman comes in too and then the miner. Next to the forest lands comes

the pasturage with its flocks and its shepherds. Next, but still on the higher and poorer soils, comes the struggling peasant (the 'crofter' as we call him in Scotland) with some share of hill pasture, but mainly dependent upon his hard and strenuous tillage of the poorer grains, oats and rye and, in modern times, potatoes, but not wheat. Wheat can only flourish on the deeper richer land further down the valley, where we find the normally rich peasant, eating white bread, not rye-bread nor oat-cake.

"So far for the temperate lands, but as our valley section serves also for the warmer climes, our rich peasant adds the vine and the olive. Wheat, wine, oil; here we have agriculture at its best, and, with it, the highest civilisation accordingly. Still, during the course of history, the Mediterranean region has been sadly ruined, so that prosperity is now with the farmer to the northward on his wheatland, though alas here too its stability is threatened.

"Hunter and shepherd, poor peasant and rich. These are the familiar social types that are so manifestly successive, both as we descend in altitude and as we trace the course of social history, that it has long been the bookish habit to speak of them not only as representing the main stages in civilisation but as though each had in turn succeeded the other for good and all. Indeed as all these are but phases leading to the present predominance of the industrial and urban order, it is often assumed that all these four types are now insignificant, indeed practically negligible. But of course these we have always with us. As each of our urban studies progresses we shall find them all there, not only with their produce in the city markets, or the present day showrooms, but in their parallel urban occupations.

"In the valley sections all nature occupations have their place.

The Miner

"We may conveniently start with the miner, essential from the first development of civilisation. First as a miner of flints (at Brandon in Suffolk its chipped flint trade has been continuous

with the prehistoric past). The surviving technical vocabulary of this craft seems to antedate all known language origins.

"Comparatively lately, as the vast periods of archæology now show, came the age of copper and thence of bronze, with wars becoming more predominant. Then came the comparatively recent introduction of iron and thus soon the terrible sword of steel, with whose doings history becomes full.

"Flints, bronze, iron and steel: here are the marks of the historic ages—the chronology of the miner.

The Woodman

"The woodman, however, may also claim to be the essential leader of civilisation for, after his gathering of brushwood and branches for the fire, his stone or bronze axe hewed out the clearings and then, at length, with steel he cut out the modern highways of the western world.

"The woodman also has been the house-builder, boat-builder, furniture-maker and, with his palisades, the fortifier as well. Further, it is to him that we owe the use of mechanical power, the lever, wedge, wheel and axe, the pulley and the inclined plane. He is thus the primal engineer. In this connection it is worth remembering that the father and educator of James Watt, of the steam engine, was one of the last of the old woodworkers, equally ready to undertake the building of a house or of a ship: surely a perfect linking of the old industrial order with the new.

The Hunter

"Next comes the hunter, tracking and killing his game. Here plainly we have not merely a rude survivor of primitive society, but a type which is of permanent and increasing significance in history. Though in the old established hunting societies, from the arctic Eskimos to the Australian aborigines, we find him deeply civilised and thus essentially peaceful, we of the West have learned to think of him as readily becoming a hunter of his fellow men, and thence increasingly the maker and the leader of war. It has not been for nothing that hunters became

nobles, and that kings, nobles and rulers have remained hunters even to our own day. Nor is it chance that sport and games, mostly of their making, play a chief role in the education of the youth of all other origins and occupations, training them for war service.

The Shepherd

"Now the shepherd; what of him? He is a widely contrasted type that has been trained by the gentle tending of life instead of the stern arts of taking it. Notably contrasted too is his long life, producing, accordingly, patriarchal supremacy and, with it, the patriarchal temperament. This is in utter contrast to the short-lived hunter, whose best years pass with early manhood.

"Here then is the contrast of patience with impatience, diplomacy with war. Thus, though the hunter ever becomes the war lord and claims all temporal power, to the patriarchal shepherd belongs the often far higher spiritual power. Witness his historic names: Holy Father, Pastor Pastorum, and the like for other faiths. Our modern image of the Good Shepherd is plainly derived from Apollo, the shepherd, even to the lamb and kid upon his shoulder; and there are statues and pictures of Buddha, older still yet essentially the same.

"Returning to the practical life of the shepherd people, we must not forget Father Jacob sending out his sons into Egypt to buy corn. For pastors become caravaners, and thus the makers of land-commerce and its market junctions; also the maintainers of communication, often as spreaders of peace, order and well-being, for the route often wellnigh creates the social type, as Demolins has so strongly claimed.

"The pastoral life too, free from excessive toil, is favourable to reflection and poesy, while its long lived elders have a wealth of memory and tradition to communicate. Woman too has no longer the drudgery of the hunting life, but the gentler arts connected with milk and wool. Thus she becomes the cloistered

lady of the tent, with her cushions and carpets, embroideries and jewels.

"In such ways then we see origins of our modern occupations: interpretations applicable on a large scale throughout the history of East and West alike. What essentially for instance is Islam but the discipline of the caravan strengthened and moralised for the journey across the desert, with the good time at the journey's end fully idealised for its encouragement?

"Another spiritualised caravaner is Paul of Tarsus, significantly a tentmaker. Through Tarsus must pass all caravans between Europe and Asia. Tarsus had had its mystic priest-king, like the high priest in Jerusalem, yet it was also a Greek university city and had next come under the rule of Rome. Here as nowhere else Paul could combine into one training those fourfold elements—traveller's spirit, Jewish idealism and learning, Greek philosophy and subtlety and Roman citizenship—which prepared him first for high influence among the Pharisees and then for his virtual primacy in extending through the Roman Empire the germinating Christian faith, in the individually developed form that he gave it.

The Poor Peasant

"It is time to pass on to the next type in our valley section, the poor peasant. This is not the farm labourer or the ploughman, but the smallholder of the uplands. He occupies land better fitted for thorns and thistles than for oats and corn. Here labour, strenuous beyond all other, is needed; and wellnigh continuous throughout the seasons. Here economies are of the very essence of survival, storing for the winter and for seed and using both with frugal care.

"There is an oft quoted verse in the Psalms, 'They that sow in tears shall reap in joy. He that goeth forth and weepeth, bearing precious seed, shall doubtless come again with rejoicing, bringing his sheaves with him.' Everyone understands quite literally this rejoicing at harvest. But one may ask learned Jew

or Christian, alike in vain, to explain why the sower should be described as weeping, or else get only metaphysical guess-explanations.

"Whereas, here is the vividly pathetic reality of the early history of the poor peasant. Early forms of culture could seldom produce enough food for the year. So the institution of the season of Lent arose in the spring, as a time of blending the economic hardship with social discipline. See then this verse in its homely details: that of the poor peasant who must take the precious few grains that remain from the harvest store away from his children who are crying for food and from their starving mother. He strides out past them to the field with stern-set face. Yet when he has left them to cast the little store over the field, he too breaks down and weeps.

"Simple and vivid interpretations such as this appear over the whole range of occupations from mountain to sea and come together to develop a re-understanding of history from the evolutionary standpoint.

"The poor peasant and his thrifty wife are compelled to more economy, foresight and saving than inhabitants of the gentler climate and better soil further down the valley. Hence the foundation of Banks and Insurance Companies has been initiated by this social type. Their surplus population also is constantly pressing down the valley and into the wider world, and, through its training — at once strenuous, frugal and provident — it succeeds exceptionally. Hence the frequent rise of men from this formation — Swiss, Scots or New England for familiar choice.

"The interlocking frontier of pasture and oatfield, which unites as well as separates the shepherd and the crofter, is also of high cultural impulse; witness the wealth of regional song and story, of music and dance, and indeed their turn for serious thought as well.

The Farmer

"Pass on now to the richer peasant, upon the deep and fertile ploughlands of the plain that once was prairie: the farmer with his tall heavy-headed wheat that gives him his good white bread to eat and an ample surplus to sell. Here, with the ample crops, are better cattle and stronger horses, with all the time a normal surplus for better dwellings with pleasing gardens. In these lands a much greater population can be supported, so that instead of the isolated cottages we now find goodly villages and wealthy market towns—often, in the old days, walled around and with substantial gates.

"The old story of Cain and Abel is plainly thepastoralversion of immemorial and world-wide tension between peasant and shepherd. Despite all the spirituality of the pastoral culture, its caravans have not always paid fully in wool for what they have taken in grain, and the farmer has had to build and wall his cities for peace and safety. Where, except in peaceful England and in her daughter great America, has the farmer been able to live upon his land in the detached way, which to both of these has become a matter of course? The long distances, which we see daily tramped from enclosed village to open fields from France across to India—and which so greatly impoverish all concerned —express the general history of the old agricultural life, too often beset with dangers from without.

"Again see how the profession of the Law has arisen fundamentally from the needs of farmer peoples, since, of all occupations, it is the farmer that most needs binding bargains and definite records, for land tenure, crop sales, etc. These mature as contracts, enforceable by the elders in court assembled.

"Further, it is the farmer's occupation that yields the main beverages, wine in the south, beer in the north; and thus we find the wine-shop and the alehouse which, as caste and wealth develop, readily become exclusive, and thus become the club. Talk of affairs in congenial company loosens the tongue and gives

it a freer range. In such symposia, the concrete farming viewpoint and the more abstract legal one interact; discussions reach political levels, and ere long parliamentary oratory foams from the mug and sparkles from the glass. It is more than a popular jest that social and constitutional evolution has developed alongside the art of brewing.

"We need not here enter into the elaboration of agriculture into gardening and intensive cultures, as in the old tradition of China, but can pass now to the last of our main occupation series, that on the sea.

The Fisherman

"Anthropologists tell us that woman initiated movement on water in streams and rivers, but, when it comes to sea-faring, the man must take her place in the boat, and she must take his on land; accordingly acquiring a strengthened individuality and self-reliance, as old tales and current observation will alike confirm. For it is no mere coincidence that the initiative of modern feminist movements has essentially been along the maritime fringes of the northern seas, and has from thence spread slowly inland.

"The fisherman is tempted to venture out from salmon fiord or river to seek for herring and cod, and thus grows more adventurous. In a larger boat, the crew must become more authoritatively organised to be efficient in such a hard environment which requires prompt decisions and obedience, and gives no time for discussion. Moreover the fisher on the sea can reproduce the caravan on land and become merchant-venturer, passenger carrier, emigrant and mail-boat. And since, like the hunter, his calling is of the taking of life, not the tending of it, and since endless opportunities of quarrel arise between seafarer and landsmen, and between fisher and fisher, he must soon travel armed. The gradual admixture of seafaring with buccaneering and piracy and their more gradual disentanglement

into navies, both mercantile and combative, has often been repeated in history.

Conclusion

"What, finally, is the value of this kind of survey of occupations?

"First as a general and introductory outline towards fuller anthropological and historic studies, region by region and age by age, up to our own land and day. But next as the very essence of the social survey that is needed for every region and every city if we are to understand it at all; much more if we seek to work our way towards regional betterment and development, towards town improvement and city design.

"From these few and seemingly simple occupations, all others have developed. To trace these developments is thus to unravel the explanation of the individuality, the uniqueness, of each of the towns and cities of men; and yet also to understand their manifold similarities, region by region.

"As our surveys advance we become at home in our region, throughout its time and its space up to the present day. From thence, the past and the present cannot but open out into the possible. For our survey of things as they are—that is as they have become—must ever suggest ideas as to their further becoming—their further possibilities. In this way our surveys are seen to have a practical interest beyond their purely scientific interest. In a word, the survey prepares for and points towards the Plan.

"All through the preceding discussion, we have seen that our survey method yields different viewpoints and perspectives from the customary ones. But, as yet, local, civic and political action has been too little concerned with surveys of this comprehensive kind. Even the regional geographers and the town planners have not fully grasped the importance of this work: on the one hand for the education of each and every community, on the other

for its better material and economic organisation, and social and cultural organisation as well. Just as, on the scientific side, our surveys are bringing all our specialised studies together, so, on the practical side, they suggest possibilities of social service through civic and individual co-operation. They involve at once the conservation and the development of all the best that we can find in our regions and our cities, together with a more and more efficient diagnosis and treatment of their respective evils.

"In short, we have here before us at once a scientific and a practical movement. By this means our dispersive and unrelated specialisms can be co-ordinated towards a synthetic vision and a unified evolutionary understanding, region by region. Similarly our multifarious division of labour can thus be harmonised and orchestrated towards the common weal. By such surveys both the naturalistic and the humanistic origins of each region are searched out, with accordingly a better interpretation of each in the present. Thus we are able to perceive a number of possibilities, among which we have to search out the best. The movement thus extends to the largest possible scope and aims—synthetic, synergic and sympathetic.

"Such surveys must always be dispassionately scientific. Our endeavour is first and foremost to "see the thing as it is," and next to co-ordinate it with other things, until we reach a mental picture of each of our regions and communities in all the elaborations of their place, work and people, throughout the past and in their present, in all of which good and evil are strangely intermingled. Our science thus cannot but point to action, our diagnosis to treatment. With a fuller knowledge than before, social action will tend to be more sure and more skilful.

"As a result of this clearer vision, we may hope and strive anew to overcome and dissipate evils, sometimes even to transmute them into ideals—as from war, with its vultures and eagles, to reconstruction with its phoenix; and from fear, hate and cynical despair to social ideals. Our life, both social and individual, may thus become further civilised and developed as we utilise all

that is best in our own past history, and apply it towards yet higher phases of social activity.

"From an understanding of our regions and our cities, we cannot but come to vitalising and evolving them in place, work and people; and with in every case their own people creating the best from their own place. Thus Holland has made the Dutch, yet the Dutch have made Holland; and this in alternation and harmony throughout the generations.

"In short, our geographic and historic surveys are increasingly yielding us a philosophy, an ethics and a policy of social life, in which all that is best in the various divergent schools of thought and action may increasingly work together."

PATRICK GEDDES (1923)

Bibliography

The only books about Patrick Geddes that are readily available are Philip Boardman's life of Geddes, which gives a picture of the man himself and contains paraphrases of several of his lectures and papers—though not those directly relating to town planning ("Patrick Geddes," Philip Boardman: University of North Carolina Press, U.S.A., 1944) and my own edition of parts of Geddes' Reports on Indian Cities, which gives an idea of his approach to practical town planning problems ("Patrick Geddes in India," edited by Jaqueline Tyrwhitt: Lund Humphries, 1947).

In addition there are, of course, the works of Lewis Mumford who has carried forward much of the Geddesian phraseology and developed many aspects of his thinking—most especially perhaps in "Technics and Civilisation" and "The Culture of Cities."

JAQUELINE TYRWHITT (1949)

"Patrick Geddes' joyous slogan, 'By living we learn', was re-lived by himself—and his wife Anna—by sacrifice. In Edinburgh it was by their own efforts, and by spending all their own small capital, that they re-made the neighbourly courtyards. The co-operation—the 'synergy'—they set at work to achieve a nobler city was inspired by the intensity of feeling and emotion which made Geddes' vision of the neighbourhood, the city and humanity a 'Polity', lit by a new 'Ethic' and 'Etho-polity'. The lesson for planners is that 'Survey' is not learned at a school, nor even by visiting a site: it is learned by true living with one's neighbours."

ARTHUR GEDDES, 1949.

Preface

From opening chapter to concluding summary it will be plain that this book is neither a technical treatise for the town-planner or city councillor, nor a manual of civics for the sociologist or teacher, but is of frankly introductory character. Yet it is not solely an attempt at the popularisation of the reviving art of town planning, of the renewing science of civics, to the general reader. What it seeks is to express in various ways the essential harmony of all these interests and aims; and to emphasise the possibilities of readier touch and fuller co-operation among them. All this is no mere general ethical or economic appeal, but an attempt to show, with concrete arguments and local instances, that these too long separated aspects of our conduct of life and of affairs may be re-united in constructive citizenship. Despite our contemporary difficulties—industrial, social and political—there are available around us the elements of a civic uplift, and with this, of general advance to a higher plane of industrial civilisation.

The civic awakening and the constructive effort are fully beginning, in healthy upgrowth, capable not only of survival but of fuller cultivation also, towards varied flower and fruit—flower in regional and civic literature and history, art, and science; fruit in social renewal of towns and cities, small and great. Such renewal involves ever-increasing domestic and individual well-being, and these a productive efficiency, in which art may again vitalise and orchestrate the industries, as of old.

Nor is this "merely utopian," though frankly Eutopian. In matters civic, as in simpler fields of science, it is from facts surveyed and interpreted that we gain our general ideas of the direction of Evolution, and even see how to further this; since from the best growths selected we may rea ryet better ones.

Furthermore, the book makes an appeal even to the professed town-planner, though he already knows the facts it contains. For its definite principle is that we must not too simply begin, as do too many, with fundamentals as of communications, and thereafter give these such æsthetic qualities of perspective and the rest, as may be, but above all things, seek to enter into the spirit of our city, its historic essence and continuous life. Our design will thus express, stimulate, and develop its highest possibility, and so deal all the more effectively with its material and fundamental needs.

We cannot too fully survey and interpret the city for which we are to plan—survey it at its highest in past, in present, and above all, since planning is the problem, foresee its opening future. Its civic character, its collective soul, thus in some measure discerned and entered into, its active daily life may be more fully touched, and its economic efficiency more vitally stimulated. With civic energies and life thus renewing from within, and the bettered condition of the people kept clearly in view, the interior circulation and the larger communications from without will become all the clearer, and be surer than before of constructive efficiency and artistic effect. For civic considerations have to illuminate and control geographic ones, as well as conversely. Idealism and matter of fact are thus not sundered, but inseparable, as our daily steps are guided by ideals of direction, themselves unreachably beyond the stars, yet indispensable to getting anywhere, save indeed downwards.

Eutopia, then, lies in the city around us; and it must be planned and realised, here or nowhere, by us as its citizens—each a citizen of both the actual and the ideal city seen increasingly as one.

The reader will notice that the book has been in type before the (1914-1918) war, but not a line or word has been altered, and only the closing sentence added; since the main theses of the book and its appreciations and criticisms of German cities are not affected by this turn of events. The Cities and Town

Planning Exhibition, of which so much has been said in the following pages, has fully shared in the civic history it illustrated, by total destruction by the vigilant and enterprising Emden but is none the less in process of renewal.

PATRICK GEDDES (1915)

1

Cities in Evolution

The evolution of cities is here treated, not as an exposition of origins, but as a study in contemporary social evolution, an inquiry into tendencies in progress.

Shall we make our approach to the study of cities, the inquiry into their evolution, beginning with them, as American city students commonly prefer to do, upon their modern lines, taking them as we find them? Or shall we follow the historic and developmental method, to which so many European cities naturally invite us? Or if something of both, in what proportion, what order? And, beyond past and present, must we not seek into our cities' future?

The study of human evolution is not merely a retrospect of origins in the past. That is but a palæontology of man—his Archæology and History. It is not even the analysis of actual social processes in the present—that physiology of social man is, or should be, Economics. Beyond the first question of *Whence?*—Whence have things come? and the second, of *How?*—How do they live and work?—the evolutionist must ask a third. Not, as of old at best, *What next?*—as if anything might come; but rather *Whither?*—Whither away? For it is surely of the very essence of the evolution concept—hard though it be to realise it, more difficult still to apply it—that it should not only inquire how this of to-day may have come out of that of yesterday, but be foreseeing and preparing for what the morrow is even now in its turn bringing towards birth.

This of course is difficult—so difficult as even to be throwing us back to inquire into present conditions, and beyond these into earlier ones; yet with the result that in these inquiries, necessary as they are, fascinating as they become, a whole generation of specialists and more, since the doctrine of evolution came clearly into view, have lost sight or courage to return to its main

problem—that of the discernment of present tendency, amid the apparent phantasmagoria of change.

In short then, to decipher the origins of cities in the past, and to unravel their life-processes in the present, are not only legitimate and attractive inquiries, but indispensable ones for every student of civics—whether he would visit and interpret world-cities, or sit quietly by his window at home. But as the agriculturist, besides his interest in the past pedigrees and present condition of his stock and crops, must not, on pain of ruin, lose sight of his active preparations for next season, but value these studies as he can apply them towards this, so it is with the citizen. For him surely, of all men, evolution is most plainly, swiftly, in progress, most manifest, yet most mysterious. Not a building of his city but is sounding as with innumerable looms, each with its manifold warp of circumstance, its changeful weft of life. The patterns here seem simple, there intricate, often mazy beyond our unravelling, and all wellnigh are changing, even day by day, as we watch. Nay, these very webs are themselves anew caught up to serve as threads again, within new and vaster combinations. Yet within this labyrinthine civicomplex there are no mere spectators. Blind or seeing, inventive or unthinking, joyous or unwilling—each has still to weave in, ill or well, and for worse if not for better, the whole thread of his life.

Difficulties of approach to civic studies, and civic betterment, Examples to rouse interest of antiquary and artist, of builder, of housewife, of artisan, etc.

Our task is rendered difficult by the immensity of its materials. What is to be said of cities in general, where your guide-book to Rome, or Paris, or London, is a crowded and small-typed volume? when booksellers' windows are bright with beautifully illustrated volumes, each for a single city? and when each of these is but an introduction to a mass of literature for every city, vast beyond anticipation? Thus, taking for example one of the smallest of historic cities—one now known to few in Britain, fewer still in America, save in association with the world-famous generosities

of one of its children, steeped early in its traditions of patriotism and of literature—Mr. Erskine Beveridge's valuable *Bibliography of Dunfermline* fills a bulky crown octavo of closely printed two-columned pages!

Again, each specialist, each general reader also, is apt to have his interest limited to the field of his own experience. If we are to interest the antiquary or the tourist, it must be first of all from their own point of view; but we reach this if we can show them, for instance, exactly how one of their favourite cathedral cities —notably Salisbury, for choice—was planned. At the exodus of its Bishop from Old Sarum in 1220, he brought its citizens after him into what he had laid out as a veritable garden city; so that Salisbury at its beginnings six centuries ago was curiously like Letchworth or Hampstead Suburb to-day (1910), so far as its homes were concerned. Indeed, their architects would be the first to recognise that Salisbury had advantages of greater garden space, of streams carried through the streets; not to speak of the great cathedral arising in its spacious close beyond.

Thus interested, the antiquary is now the very man to lead us in tracing out how the present crowded courts and gardenless slums of Salisbury have unmistakably (and comparatively lately) arisen from the deterioration of one old garden-home after another. He re-discovers for himself in detail how curiously and closely medieval town-planning and housing, thus recovered, anticipates that of our Garden Cities; and whether he care to renew such things or not, he can next help us with more difficult cases, even with what is probably the most difficult of all—Old Edinburgh, so long the most overcrowded and deteriorated of all the world's cities—yet with its past never wholly submerged, and thus one of the most richly instructive, most suggestive to the fresh-eyed observer, to the historic student. Hence here the impulse of Scott's re-opening of the world-romance of history, and next of Carlyle's tragi-comic rendering of its significance; here is the canvas of Robert Louis Stevenson's subtly embroidered

page; and now (1910) in turn, in more scientific days, the natural centre for the earliest of British endeavours towards the initiation of a school of sociology with its theories and a school of civics with its surveys and interpretations.

The painter may be at first harder to deal with, for he has as yet too seldom begun to dream how many new subjects for his art the future is here preparing, when our Garden-Suburb avenues have grown, and their cottage roofs have mellowed. Yet we shall reach him too—even next spring, for then our young orchard will have its first blossoms, and the children will be at play in it.

The builder, again, eager to proceed with more cottages, is impatient of our civic dreams, and will not look at our old-world plans of temples or cathedrals. As yet he is somewhat apt to miss, in church, and still more in the business week, what a certain old-world aphorism concerning the frequency of failures among those who build without an ideal, may mean if restated in modern terms.

Again, the utilitarian housewife, busy in her compact and convenient, but generally rather small and sunless scullery, may well be incredulous when we tell her that in what have now become the slums of Old Edinburgh, for instance, this scullery was situated in the porch, or on a covered but open first-floor balcony, until she can be shown the historic evidence, and even the survivals of this. Even then, so strong is habit, she will probably prefer her familiar arrangement; at any rate until she realises how, for lack of this medieval and returning open-air treatment, she or her little maid may be on the verge of consumption.

Her husband, the skilled artisan in steady employment, with bigger wages and shorter hours than his Continental rival, may well stare to be told how much more there is that makes life best worth living in many a German working town, as compared with ours; or how, were he a mechanic in Marseilles or Nîmes, or many another French city, he would be week-ending all

summer with his family at their little country property—now looking after his vineyard, or resting under his own fig-tree.

Needed correction of popular ideas, such as of medieval towns.

Above all, let us end this preliminary unsettling of popular beliefs as we began. Rich man and poor, Conservative and Liberal, Radical and Socialist, have all alike to be upset—in most of what they have been all their lives accustomed to hear and to repeat, of the poverty and the misery and the degradation of the town life of the Middle Ages, and from which they have been so often told we have in every way progressed so far—by having put before them a few of their old plans and pictures. For, in any public library, it is easy to search out the old documents, as in wellnigh every town the actual survivals, which prove how grand and spacious were its market and public places, how ample its gardens, even how broad and magnificent were the thoroughfares of many a medieval town. For what is to blame in them—and now-a-days rightly enough—has mainly been introduced in the centuries since the Middle Ages died—the very worst of it within the industrial period, and much within our own times.

If a concrete instance of this be wanted, the world has none to offer more dramatic and complete than that of the Historic Mile of Old Edinburgh, and especially its old High Street, in which this is being written. For as we have above indicated, this mass of medieval and renaissance survivals has been, and too nearly is still, the most squalid conglomeration, the most overcrowded area in the old world; even in the new, at most the emigrant quarter of New York or Chicago has rivalled its evil pre-eminence. Yet our "Civic Survey of Edinburgh" showed these evils as mainly modern, and that the town-planning of the thirteenth century was conceived—not only relatively, but positively—on lines in their way more spacious than those which have made our "New Town" and its modern boulevard of Princes Street famous.

Aristotle—the founder of civic studies as of so many others—wisely insisted upon the importance, not only of comparing city constitutions (as he did, a hundred and sixty-three of them), but of seeing our city with our own eyes. He urged that our view be truly *synoptic*, a word which had not then become abstract, but was vividly concrete, as its make-up shows: a seeing of the city, and this as a whole; like Athens from its Acropolis, like city and Acropolis together—the real Athens—from Lycabettos and from Piræus, from hill-top and from sea.

Large views in the abstract, Aristotle knew and thus compressedly said, depend upon large views in the concrete. Forgetting thus to base them is the weakness which has so constantly ruined the philosopher, and has left him, despite his marvellous abstract powers, in one age a sophist in spite of Aristotle, in another a schoolman in spite of Albertus Magnus, or again a pedant in spite of Bacon.

So also in later times; and with deadly results to civics, and thence to cities. Hence the Constitution-makers of the French Revolution, or of most modern politics, still so abstract in spite of Diderot's Encyclopædia, of Montesquieu's Spirit of Laws, each abounding in wide observation. Hence too, the long lapse of political economy into a dismal science, although it arose concretely enough, first by generalising the substantial agricultural experience of Du Quesnay in France, and then qualifying this by the synoptic urban impressions of Adam Smith. For, as the field-excursions of our Edinburgh School of Sociology are wont to verify, his main life and apparently his abstract work was primarily but the amplification and sound digestion of his own observations—not only in maturity at Glasgow, but in boyhood and youth in his earlier homes.

Nowhere more clearly can one realise that superiority to agriculture as a means of wealth, of the manufactures, the shipping and the foreign trade, on which Smith insisted so strongly, than in a ramble through the busy little merchant towns—Kirkcaldy, Dysart and the rest—which line the coast of Fife. For in Smith's

day, though not in ours, Fife was a "beggar's mantle with a fringe of gold," as King James the Sixth and First so shrewdly and picturesquely described it five or six generations earlier; and with exactly the same economic insight.

Defects of current education in delaying progress from abstract politics to concrete civics.

So bookish has been our past education, so strict our school drill of the "three R's," and so wellnigh complete our lifelong continuance among them, that nine people out of ten, sometimes even more, understand print better than pictures, and pictures better than reality. Thus, even for the few surviving beautiful cities of the British Isles, their few marvellous streets —for choice the High Street of Oxford and the High Street of Edinburgh—a few well-chosen picture postcards will produce more effect upon most people's minds than does the actual vision of their monumental beauty—there colleges and churches, here palace, castle, and city's crown. Since for the beauty of such streets, and to their best elements of life and heritage, we have become half-blind, so also for their deteriorated ones; especially when, as in such old culture-cities, these may largely be the fossilisation of learning or of religion, and not merely the phenomena of active decay. Yet even these we realise more readily from the newspaper's brief chronicle, than from the weltering misery too often before our eyes.

Happily the more regional outlook of science is beginning to counteract this artificial blindness. The field-naturalist has of course always been working in this direction. So also the photographer, the painter, the architect; their public also are following, and may soon lead. Even open-air games have been for the most part too confined and subjective: it is but yesterday that the campers-out went afield; to-day (1910) the boy-scouts are abroad; to-morrow our young airmen will be recovering the synoptic vision. Thus education, at all its levels, begins to tear away those blinkers of many print-layers which so long have been strapped over our eyes.

Whether one goes back to the greatest or to the simplest towns, there is little to be learned of civics by asking their inhabitants. Often they scarcely know who are their own town-councillors, or if they do, they commonly sneer at them; albeit these are generally better citizens than those who elect them. They have forgotten most of the history of their own city; and the very schools, till at any rate the other day, were the last places where you could learn anything about it. They even wish to forget it: it seems to them often something small and petty to be interested in its affairs.

The shallow politician's sneer has done deadly work from Shetland to Cornwall; what should have been their best townsfolk have too long felt above meddling with mere local "gas and sewage." Even the few thinking young men and women in each social caste—with exceptions of course, now more and more counting—are not yet citizens, either in thought or deed. If not absorbed by party politics, they more commonly think of becoming administrators, and state officialism is far more attractive than the city's; the "civil service" is familiar to all, but civic service a seldom-heard phrase, a still rarer ambition. Do they dabble as political economists? High abstracts and sublimates of all these common types of mind are found in all groups and parties, and are to be diagnosed not by their widely differing party opinions, but by their common blankness to civics.

2

The Population Map and Conurbations

The population map and its uses. London ("Greater London") as a spreading man-reef.

Given a population-map, what has it to show us? Starting from the most generally known before proceeding towards the less familiar, observe first the mapping of London—here plainly shown, as it is properly known, as Greater London—with its vast population streaming out in all directions—east, west, north and south—flooding all the levels, flowing up the main Thames Valley and all the minor ones, filling them up, crowded and dark, and leaving only the intervening patches of high ground pale. Here then we have a fairly accurate picture of the growing of Greater London. (*See map on page* 192).

This octopus of London, polypus rather, is something curious exceedingly, a vast irregular growth without previous parallel in the world of life—perhaps likest to the spreadings of a great coral reef. Like this, it has a stony skeleton, and living polypes—call it, then, a "man-reef" if you will. Onward it grows, thinly at first, the pale tints spreading further and faster than the others, but the deeper tints of thicker population at every point steadily following on. Within lies a dark and crowded area; of which, however, the daily pulsating centre calls on us to seek some fresh comparison to higher than coralline life.

Here, at any rate, all will agree, is an approximation to the real aspect of Greater London as distinguished from Historic London. What matter to us, who look at it for the moment in this detached way from very far above, or even really to the actual citizens themselves to-day, those old boundaries of the counties, which were once traced so painfully and are still so strictly maintained, from use and wont or for purposes other than practical ones? What really matter nowadays the divisions

between innumerable constituent villages and minor boroughs whose historic names are here swallowed up, apparently for ever, like those microscopic plants, those tiny plants and animals, which a big spreading amœba so easily includes, so resistlessly devours?

Here for most practical purposes is obviously a vast new unity, long ago well described as "a province covered with houses." Indeed a house-province, spreading over, absorbing, a great part of south-east England. Even the outlying patches of dense population already essentially belong to it; some for practical purposes entirely, like Brighton. Instead of the old lines of division we have new lines of union: the very word "lines" nowadays most readily suggesting the railways, which are the throbbing arteries, the roaring pulses of the intensely living whole; or, again, suggesting the telegraph wires running beside them, so many nerves each carrying impulses of idea and action either way.

It is interesting, it is necessary even, to make an historic survey of London—an embryology, as it were—of this colossal whole. We should, of course, look first into its two historic cities; we should count in its many boroughs as they grew up before being absorbed; we should take note of, however easily we forget, its innumerable absorbed old villages and hamlets, its ever new and ever spreading dormitory areas—loosely built and distant for the rich, nearer and more crowded for the middle class, and—where shall we seek or put the worker and the poor?

We see, we recognise these many corporate or at least associated units of the body politic, all growing more and more fully into one vast agglomerate, and this with its own larger corporate government, its County Council. Yet even this is already far outgrown; but in time, if the growth-process continues, as in every way obviously under present conditions it must, this governing body must overtake the spreading growth, and bring all that is really functional London into its province, with economy and advantage to the vast majority of all concerned.

Of course, in a general way all this is already known to the reader—to Londoners, greater or smaller; but does it not gain a new vividness with such a map before us, a new suggestiveness also? Do we not see, and more and more clearly as we study it, the need of a thorough revision of our traditional ideas and boundaries of country and town? As historians and topographers we cannot too faithfully conserve the record of all these absorbed elements; but as practical men governing, or being governed, we have practically done with them.

Let the Lord Mayor of London and his Corporation survive by all means, as historic monuments and for auld lang syne; let there be for the historic City, and for all the neighbouring boroughs—not merely Westminster, but every regional unit that can practically justify it, and as far as may be—local autonomy too. We are making no plea for over-centralisation; on the contrary, we are inclined to think that many ganglia may be needed to maintain the health of so vast and multi-radiate a body politic. But the essential thing is that common arrangements for life and health and efficiency be made in the main according to the present and the opening developments, and not maintained unduly upon the lines of history; otherwise we shall continue to have local friction, overlapping and wastage, arrests and encystments, congestions, paralysis even, instead of the general and local health and economy we surely all of us desire.

Look now at the map of London with any friend, or if possible with two—a Progressive and a Moderate. What real difference survives between them when they sit down like plain, open-minded citizens to look at the map? Do they not agree that both their parties would do well to sit down to it also, to survey the whole situation afresh? If so, our plea for City Survey is growing intelligible; and even its economy, its positive fruitfulness, would before long begin to appear.

As, however, our Progressive and Moderate friends continue these studies, and as the vastness of the problems of London thus increases upon them, they will admit that they are, separately or

collectively, unable clearly to realise all that is going on in this vast man-reef, and still more to foresee what the morrow will bring forth. Still, one has this definite bit of knowledge and the other that—now of the part of London where he was brought up or lived as a young man or of the places where he works and lives now. So gradually we piece together in conversation a good deal of useful knowledge, it may be even of practical suggestion, here and there.

Need of inquiry into smaller cities and city-groups. But here the same growth-process appears, industrial towns and cities uniting into vast city-regions, "conurbations," which require the broadest of surveys.

But as our two type-Londoners' studies go on, as with growing interest they would, they would soon come to new points of difficulty, to problems too vast readily to be grappled with; and one would ask another, "Cannot we learn something as to this from what they are doing in smaller places, in simpler cities than this tremendous London of ours? There is Birmingham, it might help us." The other might agree; and even remember that he had heard from an American friend of an active municipality in Glasgow.

Suppose they look them up in the atlas. Alas, these also have spread beyond the simple dots we learned to identify as schoolboys; and instead we see great and growing masses, each essentially like another London. Let us try Lancashire, with its great cities; that will surely help us. There is Manchester with its great Liberal and Free Trade record; there is Liverpool, with its equally strong Conservatism; they surely must have threshed matters out between them. But behold, upon our map these, too, are fast becoming little more than historic expressions. The fact is that we have here another vast province almost covered with house-groups, swiftly spreading into one, and already connected up at many points, and sometimes by more than sufficient density of population along the main lines of communication.

Here, far more than even Lancashire commonly realises, is growing up again another Greater London as it were—a city

region of which Liverpool is the sea-port and Manchester the market, now with its canal port also; while Oldham and the many other factory towns, more accurately called "factory districts," are the workshops. Even if this process be not in all respects so far advanced as in London, and as yet not organised in practice under any common government, is it not becoming fairly plain, a matter of reasonable foresight, that if growth and progress are to continue much longer as they have long been doing—in some respects of late faster than ever—the separate and detached towns, whose names we learned at school and still for local purposes employ, will become mainly of minor and district usefulness, postal and what not, like the practically unified cities and boroughs of London?

Hence, if we are to avoid the many mistakes and misfortunes of London through the past delay and present confusions of its organisation and government, is it not time to be thinking of, and even to be starting, a unified survey of urban Lancashire? This, as in the case of Greater London, we should consider at every point with the utmost respect to local history and even to administrative autonomy, yet also as part of a greater whole, already only too much consolidated at many points, and still growing together. Is it asked, "Of what use is all this?" Of many uses, but enough here if we cite two—Public Health and Town Planning. Only a word then of each; and first Public Health.

These great communities are already exercised, yet in most cases not nearly exercised enough, about their sanitation and their water supply. Moreover, if better crops of human population (as we are all becoming determined) are to be grown than the present one, the question of a fuller and a far more vital access of youth to the country and to country life and occupations must assume an incomparably greater importance, and correspondingly greater space than that which has yet been given it by municipalities even with the more exemplary of Parks Departments, bright patches though these show amid our vast labyrinths of streets.

Even in the town planning movement this enlarged way of looking at our enlarging cities is not nearly common enough. The architect is accustomed to single buildings, or to street plans at most; the city engineer is accustomed to streets or to street-quarters at most; and both are reluctant to enlarge their vision. They still speak as if any such wide outlook and foresight were "ahead of the times"—"might be useful fifty years hence"—and so on through a dozen variants of the grumbling protests which are a main symptom of the senile phase which fixity to environment may bring on at all ages.

But now, returning to Public Health, in each and every one of the congresses of Health and Sanitation which now meet so anxiously from year to year in one after another of these great cities, is it not obvious to every member of these, as regards the large cities around them, that they are late enough even if they begin forthwith? Their accesses to Nature and natural conditions have already been three-fourths destroyed; indeed more, so far as the working mother and her children are concerned—that is, the nation of tomorrow. The neighbouring great towns are rapidly linking up by tramways and streets no less than railways, while great open spaces which might have been not so long ago cheaply secured as unrivalled lungs of life are already all but irrecoverable.

Here are already solid arguments for our proposed survey, and they might be strengthened and amplified, were not our problem here and in this volume mainly the clearing of ideas before the shaping of policy.

To focus these developments, indeed transformations, of the geographic tradition of town and country in which we were brought up, and express them more sharply, we need some little extension of our vocabulary; for each new idea for which we have not yet a word deserves one. Some name then for these city regions, these town aggregates, is wanted. Constellations we cannot call them; conglomerations is, alas, nearer the mark at present, but it may sound unappreciative; what of "Conurba-

tions?" That perhaps may serve as the necessary word, as an expression of this new form of population-grouping, which is already, as it were sub-consciously, developing new forms of social grouping, and of definite government and administration by and by also.

Beside the vast conurbations of "Greater London" and "Lancaston" other colossal city-groups are arising, here generalised as "West Riding," "South Riding," "Midlandton," "Southwaleston," "Tyne-Wear-Tees" and "Clyde-Forth."

For our first Conurbation the name of Greater London is obviously already dominant beyond possibility of competition; but we need some name for the Lancashire region also, and for each similar one we may discover. Failing a better name, since we cannot sink Liverpool and other cities in a "Greater Manchester" or the like, let us christen the vast conurbation of the Lancashire millions as "Lancaston."

It is this "Survey of Lancaston" which its constituent cities and boroughs most need to realise; and this both in detail and in mass. Imagine it photographed from an aeroplane journey, as well as mapped street by street. In all these ways we can gradually accustom ourselves to visualise the region. What are its existing defects? and what its remaining possibilities? What natural reserves still remain to separate its growing villages and suburbs? What gardens and allotments are still possible to sanify them?

Leaving Lancaston, we have but to cross the Pennines to see along the foot of their eastward slope another dark galaxy of towns. Huddersfield, Bradford and their neighbours constitute the world-metropolis of wool no less distinctly than does Lancaston that of cotton. What shall we call this province, this natural city-alliance? Why not, in an urban sense, as of old a rustic one, simply preserve the good name of West-Riding? Similarly for South-Riding, as we may call the conurbation centring round the steel and coal of Sheffield.

Note again the present expansion of Birmingham, which has of

late legitimately succeeded in having its overflowing suburbs unified with itself, its extraordinary growth recognised, as now a city exceeding even Manchester or Glasgow. Invigorated by absorbing its outlying suburbs, Birmingham is already (1910) planning new extensions upon that bold and generous scale of civic design not so long ago characteristic of great cities; but lapsed, eclipsed, forgotten with the coming on of the Railway Age. Yet this present expansion is but a step in the old process.

This larger recognition of regional facts involves the conception of a larger city region—"Midlandton," as we may perhaps call it; and Greater and growing Birmingham is but the capital of this, though its exact limits may be hard to define. The recent union of the "Five Towns" (Municipal and Parliamentary Borough formed 1910) is thus not only a local event, but a regional pioneering, a noteworthy example of an incipient urban regrouping. And here let us hope that the Duke of Sutherland's generous gift of Trentham may similarly augur a period of better and closer relations of town and country throughout the land than have been those of yesterday.

Pass next to South Wales, where on its magnificent coalfield the same process of development is at work. And, speaking of coalfields, we may conveniently here call attention to the close coincidence of this great centre of population with its magnificent South Wales coalfield and thence note the parallelism of each great conurbation to its coalfield save in the case of London alone.

We plainly see the development of a Greater Cardiff, a veritable (South) Waleston, whose exact limits and relation to the metallurgic centre of Swansea are, of course, for its regional geographer to define.

Pass next northwards to the Tyne towns, with which we must plainly also take those of Wear and Tees, as constituting a new regional community, a natural province—Tyne-Wear-Tees we may perhaps call it. It is interesting to recall that our British Gallery at the Brussels Exhibition of 1910, unhappily burned

down, was adorned with a well-painted perspective of this very region, shown with all its towns connected up by railways and roads, and presented as a bird's-eye view (or, as we may now-a-days say, an aeroplane view) from above the sea-coast. For does not this map clearly suggest that the economic and social unity of such new city-regions, such conurbations as are here described, is already becoming conscious to them?

The preparation and exhibition of such diagrammatic perspectives would be of no little service in making these ideas clear to all concerned, and in enabling the public and the rulers of each to realise the new situation, the new solidarity which are arising towards a fuller integration, a higher unity of the body politic. The great maps of railway systems which are at once a convenience and an adornment of German station-halls, have no little value and educational influence: so, and far more intensively, might enlargements of the conurbation-maps, which we are here discussing, bring before the public the needed conception of a local within a more general citizenship.

In conclusion, let us pass to Scotland. Here, again, the history and geography of popular notions, those of the school books on which we were brought up, and by which our children are still examined, are no longer adequate.

Glasgow, as everybody knows, is the main centre of activity and population in Scotland, far outnumbering and outweighing Edinburgh; it is the real capital in many respects. But Greater Glasgow—in the fullest sense, that in which we speak of Greater London—is something far vaster than the present name and burgh limits at all describe; it includes practically the Clyde ports and watering places, and runs far into Ayrshire, with inland burghs and villages not a few. It spreads far up the Clyde valley, indeed reaches its strenuous hands across the isthmus to Falkirk and Grangemouth, while its merchants have their villas at Stirling and beyond, as far as Bridge of Allan and even Dunblane. Again plainly, old, thinly populated provinces are on the way to be covered with houses.

Edinburgh has no doubt its marked regional individuality; and in its immediate growth is, more than is commonly realised, with Leith and minor towns and suburbs already approaching half a million: it is perhaps destined, with due development of its not inconsiderable adjacent coalfields, to double this within the century.

Though, from historic tradition and from present holiday associations, most people, even in Scotland, still think of the Scots as in the main a nation of hardy rustics, no population in the world is now so predominantly urban, and, as sanitary reformers know, none so ill-housed at that. More than half the population of Scotland is crowded upon this central isthmus; and, with the approaching construction of the Clyde and Forth Canal (which is so plainly a matter not only of Scottish, but even of national, imperial, and international policy), it is clear that we shall have a linking up of these two great cities and their minor neighbours of Scotland into a new conurbation—a bi-polar city-region indeed, which is more and more uniting into one vast bi-regional capital—Clyde-Forth as we may soon learn to call it.

Glasgow and Edinburgh are, of course, far remoter in type and spirit than their now-a-days small railway distance implies; and this difference, even contrast, is natural, inevitable, and so far permanent, for they are really the respective regional capitals of East and West Scotland, and contrasted in many ways—geographical and meteorological, racial and spiritual. To Glasgow indeed the contrast with Edinburgh may seem as great as that between Liverpool and York; while a still larger contrast might be made from the Edinburgh point of view, as that between the main cities of Sweden and of Norway, of both of which Scotland in many ways is a condensed miniature; say a Stockholm with Upsala for Edinburgh, and for Glasgow a greater Bergen and Christiania. Towns so widely distinct in nature and race, in traditions and in social functioning and structure do not easily recognise that even they are but the poles of a vast and growing conurbation: yet here, too, the growth-process is at work, and

tends largely to submerge all differences beneath its rising tide. And, broadly speaking, the main limit of the modern city is that of the hour's journey or thereby, the maximum which busy men can face without too great deduction from their day's work; and hence it is above all with the constant extension and acceleration of the means of communication that each conurbation arises and extends.

> **Thus a veritable New Heptarchy is arising, whose water supplies and coalfields, and kindred local affairs are the essentials of national existence; no longer negligible as the mere "parish pump" and "coal cellar" of metropolitan politics.**

It is interesting now to return to the map and make our main conurbations clear, each upon its coalfield. Running downwards and leaving Clyde-Forth to Scotland, we have (1) Tyne-Wear-Tees, (2) Lancaston, (3) West-Riding, (4) South-Riding, (5) Midlandton, (6) Waleston, each a coalfield with its vast conurbation; while Greater London, without a coalfield, forms the seventh of our series. What is this but a new heptarchy, which has been growing up naturally, yet almost unconsciously to politicians, beneath our existing, our traditional political and administrative network; and plainly not merely to go on as at present, straining and cracking and bursting this old network, but soon surely to evolve some new form of organisation better able to cope with its problems than are the present distinct town and county councils. What are the new forms to be?

Leaving this sphinx-riddle for the present, and turning once more to the map, we recognise plainly enough that our political friend who was "not going back to the heptarchy" will have to go forward to it, indeed is already in it. Let him now observe closely, and in the very middle of our map, a great irregular white patch practically blank of population and separating Lancaston from South-Riding and West-Riding, which, indeed already are well-nigh run together. This white patch represents the heights of the Pennines, and consequently the water supply

of these vast and growing populations on either side. Here, in fact, accurately speaking in synoptic vision, is their Parish Pump, one, however, no longer to be despised; but precisely the most important, the ultimate and determinant condition of population, and the inexorable limit of their growth.

Coal will still last a long time, and cotton might expand accordingly, but water is the prime necessity after air itself; and, unlike it, is limited in quantity. Food can be brought for almost any conceivable population as long as ships can sail the seas, and we have the wherewithal to buy; famine one can survive for months; total starvation even for weeks; but without water we can last barely three days.

Parish Pump indeed! the prime necessity of regional statesmanship, since even of bare survival. For life and health, for cleanliness and beauty, for manufactures too, what more need be said?

Return now to the question—What are the new social forms to be? It is not yet safe for us to speculate upon this until the needful Regional Survey is far more advanced. One suggestion, however, is practical enough; there should be, and that speedily and increasingly, amicable conference among all the representatives, rustic and urban, of the various cities and county regions concerned; and as a matter of fact, various beginnings of this are being forced into existence by the sheer pressure of their common interests. Such meetings will gradually increase in number, in usefulness, in co-operation, and by-and-by take more permanent form.

The old Borough Councils and County Councils can no longer separately cope with what are becoming so plainly yet larger Regional and Inter-Regional tasks, like those of water supply and sanitation for choice, but obviously others also. The growth of London and its County Council, its separate boroughs, is thus repeating itself; and its example merits study, alike for its suggestiveness and for its warnings. While conversely, to the Londoner such regional excursions may be suggestive. The con-

trasts of "London and the provinces," as Spending-town and Earning-towns, again of Taxing-town and Paying-towns, and various others, also arise, and might lead him far.

It may not yet be time to press for political rearrangements: this might too readily come to mean premature disputes and frictions, not to speak of legal difficulties and expenses. But it is plainly time for the co-operation of the regional geographer with the hygienist, and of both with the concrete sociologist, the student of country and town, of village and city; and also for the furtherance of their labours, the discussion of them in detail, in friendly conferences representative of all the various groupings and interests concerned.

3

World Cities and City Regions

City-regions in other countries—France, Germany, United States. City-evolution is still only beginning and existing cities are ever being rebuilt.

So far our New Heptarchy. But if such interpretation of the main groupings of our cities, towns, villages into conurbations overflowing or absorbing the adjacent country be a substantially correct description of the general trend of present-day evolution, then we may expect to find something of the same process in analogous city regions elsewhere; it can scarcely be a mere island marvel.

France, with its slow population growth, and its comparative lack of coalfields to raise towns from, is naturally not producing such vast industrial conurbations as ours, though around Lille, for instance, there is no small beginning. Yet there is a Greater Paris; the vast suburban quarters outside the fortifications of Paris have obvious and general analogies to the dormitories outside the present London County Council area; and any traveller who is patient enough to stay in his through carriage, and endure the round-about north-easterly passage by St. Denis from the Gare du Nord to that of the P.L.M., instead of driving through the city from station to station, will agree that here, at least, is going on an urban growth of confused and labyrinthine squalor, little if at all inferior to any of our own!

Along the Riviera, of late years, the pleasure and health resorts have grown rapidly, and in a great many cases they are running together ; at the present rate our not very distant successors will see an almost continuous town, and of one monotonous type as far as man can make it, for a couple of hundred miles.

Berlin has, of course, rapidly been overtaking Paris throughout the last generation; and the designs of its latest town-

planning competition (1910) show that it is now following the example of Vienna in dealing far more largely and boldly with its outlying suburbs than are Paris, London or other great cities.

For an example of our characteristic British type, the development of a great conurbation upon a coalfield, we have no small beginnings in Westphalia. But here also is rapidly growing up a great, powerful, and, in many ways, magnificent regional capital in Dusseldorf, which was recently but a small "Residenzstadt," not so much bigger than the old village its modest name commemorates; it seems now plainly destined to outdistance Cologne almost as Leeds has done York. Yet the organisation and the civic energy of these German centres so incomparably surpass those of Yorkshire or other cities that such comparisons can only be made in a rough and merely suggestive way.

In the United States with their rapid development of resources and corresponding increase of population there is still ample room for growth; yet even here cities are already growing together; and the Pittsburg region is but a conspicuous example of a Black Country, in which increase and pressure, if not foresight, must soon involve some conurban survey and reorganisation.

How vigorously the problem of linking up a great regional metropolis to its surrounding towns and their province may be grasped is probably as yet nowhere better evidenced than has been shown in Mr. Burnham's bold and masterful planning of the region around Chicago, no less than in his proposals for the city in itself.

Greater New York, now linked up, on both sides, by colossal systems of communications above and below its dividing waters, is also rapidly increasing its links with Philadelphia—itself no mean city—and with minor ones without number in every direction possible. For many years past it has paid to have tramway lines continuously along the roads all the way from New York to Boston, so that, taking these growths altogether, the expectation is not absurd that the not very distant future will see practically one vast city-line along the Atlantic Coast for five hundred miles,

and stretching back at many points; with a total of, it may be, as many millions of population.

Again, the Great Lakes, with the immense resources and communications which make them a Nearctic Mediterranean, have a future, which its exponents claim may become world-metropolitan in its magnitude.

Even of Texas—which Europeans, perhaps even Americans, are apt to forget has an agricultural area comparable to that of France and Germany put together, and a better average climate —it has been claimed that with intensive culture it might well-nigh feed a population comparable to that of the civilised world.

Our Population-Map of the United Kingdom may thus be a forecast of the future of the coalfield areas of the United States: and the Population-Map of the Eastern and Central Regions is thus but a faint sketch towards these coming conurbations which it is time to be preparing for.

Of the needful water-supplies of all these potential conurbations we leave engineers to speak; but food supplies are conceivable enough, and at all standards, from the too generous dietary of the American hotel to those innumerable costermongers' barrows of cheap and enormous bananas, which range through the poorer streets of New York, and grimly suggest a possible importation of tropical conditions, towards the maintenance and multiplication of an all too cheap proletariat.

What, in fact, if our present conditions of food supply and of mechanical employments be tending to produce for us conditions hitherto only realised, and in simpler ways, by the teeming millions of China? And what of China herself, already so populous, when her present introduction of Occidental methods and ideas has developed her enormous latent resources of coal, of cheap water communications, as well as railways and the rest?

Yet in this old country of ours, in so many ways sleepier than we can now think China herself, how many will still tell you that "there is no need for town planning; the cities are all built"; whereas, taking even the Empire, and much more the world

over, the process seems practically but beginning; while have not our existing cities, for the most part, before long to be well-nigh built all over again?

True, town planning schemes, as modest tackings-on, patchings and cobblings, are being considered, even attempted, here and there; yet we assuredly need far more than these if we are even to "muddle through," and in the ever reopening world-struggle for existence: far more as we realise that the supreme arbitrament of social survival and success is ultimately neither that of militarist conflicts, nor of industrial muddles, but of civic and regional reorganisation. In this the broadest views of international struggle and of industrial competition combine into a higher one.

Other forms of industrial aggregation: example of Norway with electric industries from the "white coal" of mountain streams. Analogous case of Switzerland and of French, Italian and other mountain districts.

But from these visions of indefinitely numerous and multitudinous conurbations, each of teeming boroughs, it is a relief to turn away in search of some smaller, simpler, and surely healthier and happier type of social development and integration.

Happily a new and vivid example of that also is not far to seek. Every schoolboy knows something at least of the historic significance of Norway, that poorest of lands which, as Norse children tell, was left altogether without soil at the Creation, and so has for its few upland farms only such few particles of soil as its kindly guardian angels could sweep up and bring thither on their wings from the leavings of the richer world. As some compensation, however, their many rivers were rich in salmon; and these taught their fishermen to venture out along the calm "swan's path" of the fiords as sea-fishers, and in comparative safety to master the art of sailing behind their long island-breakwater.

Thus trained and equipped, their merchant-history, emigration-history, pirate-history, conqueror-history follows, with what effects on Europe everyone knows: but what we do not as yet sufficiently realise in other countries—whose ideas of each

other are seldom less than a generation behindhand, and generally more—is how a new historical development in new conditions and destined to take new forms, may be, and actually in Norway is, arising once more.

The electric utilisation of a single waterfall is now yielding 150,000 horse-power (1910); and though this is certainly one of the very greatest, there are smaller ones almost beyond number for a thousand miles. Norway then which has so long seemed practically to have reached its small natural limits of wealth, industry and population as to have long fallen out of all reckonings of the Great Powers of which it was the very forerunner—has now broken through these limits and begun a development, perhaps proportionately comparable in the opening century to that of our own country in the past one—yet with what differences.

Our Industrial Age in its beginnings, and indeed too long in its continuance, turned upon getting up coal almost anyhow, to get up steam almost anyhow, to run machinery almost anyhow, to produce cheap products to maintain too cheap people almost anyhow—and these to get up more coal, more steam, more machinery and more people, still almost anyhow—and to call the result "progress of wealth and population." Such swift multiplication of the quantity of life, with correspondingly swift exhaustion of the material resources on which this life depends, has been too much—as our coal-economists now and then sternly remind us—like that of the mould upon the jam-pot, which spreads marvellously for its season, until at length there is a crowded and matted crust of fungus-city, full of thirsty life and laden with innumerable spores, but no jam left. The comparison is harsh, is even hideous, yet it is necessary to be realised: for is it not the goal to which our own and every other "Black Country" is hurrying—that of a multitudinous population at too low standards of life; a soil too limited for agriculture, even where not bricked or ashed over; in short, of mean and miserable cities subsiding upon exhausted mines.

From this doleful picture of the logical outcome of one set of conditions, turn now to image that arising on the opposite shores of the North Sea, from the streams of "white coal," each and all inexhaustible while the earth spins, and its winds blow over the sea, and the Norse mountains stand. Yet instead of Norway forming cities like ours upon these unending streams of energy, these for the most part generate but long chains of townlets, indeed of country villages, in which this strongest of races need never decline, but rather develop and renew their mastery of nature and of life again as of old; with everywhere the skill of their ancient dwarf-kings, the might of the hammer of Thor. Are there not here plainly the conditions of a new world-phenomenon and world-impulse—a Norseman aristo-democracy of peace which may yet eclipse all past achievements, whether of his ancient democracy at home or even (who knows?) his aristocracy of conquest and colonisation abroad among older discouraged peoples, and even his settlement of a new patriciate upon their comparatively exhausted lands?

What are the essential applications of these new energies, besides electric lighting, and power for tramways, railways, etc.? These uses are largely metallurgical—that is, on the central lines of the world's progress, from the Stone Age onwards. The electric furnace not only gives an output of iron and steel, greatly cheaper (it is said already as much as 50 per cent.) than heretofore, but of the very finest quality; so that not only our British steelworks, but those of Pittsburg also, must before long be feeling this new competition.

The command of the new metals like aluminium, of the rare metals also every year becoming more important, which the high temperatures of the electric furnace give, involves further new steps in metallurgy. Again, the conditions for labour and its real wages, in the innumerable garden-towns and villages which are springing up in these conditions, each limited in size by that of its stream, and thus continuous with glorious and comparatively undestroyed natural environment, afford an additional factor of

competition, more permanently important than are those of money wages and market prices. The favourable situation of these new towns, mostly upon their fiords, is again full of advantages, and these vital as well as competitive.

Again, the regularisation of streams, with the increase or formation of lakes as power-reservoirs, puts a stop to the spring floodings which are a frequent source of damage in mountain countries; and it further admits of a not inconsiderable by-product, in fish culture.

Again, it may be remembered how, not so many years ago, one of our foremost chemists, Sir William Crookes, called attention to the approaching scarcity of nitrogen for the world's wheat crops, associated with the rapid exhaustion of the nitrate beds of Chile, etc. But now the problem of utilising the nitrogen of the atmosphere for the production of saltpetre has been solved even better than in Germany by the Norse chemists and engineers. In such ways, the country hitherto the poorest of all in agriculture, begins not only to develop more intensively its own soil, but to increase the fertility of all our Northern world.

Such electric development, of course, is not Norwegian alone; Sweden and Finland already begin to share it, and still more Switzerland, which is rapidly undergoing, under the influence of electric industries, a development fully comparable to that by which in the last couple of generations she has adapted herself to the tourists of the Western world. Down from the Alps, along the long mountain backbone of Italy, the same white collieries are opening, and from this main axis of the coming Industrial Europe there run out corresponding lines on every hand. Here France, which it has been so long the fashion of industrial Britain or Germany to think of as having fallen hopelessly behind, alike in industries and population, sees new resources opening before her, in her large share of the Alps, her Northern Pyrenees, even her central mountain mass, with its considerable river courses.

Even Spain, with all its drought, and barrenness, and poverty,

begins to see a new future of internal colonisation, compensating not a little, as her foresighted citizens already realise, for the loss of her colonies, that vast empire she left too undeveloped.

Or pass eastwards. Though Austria of old failed to conquer Switzerland, she has her own Switzerland in the Tyrol, and Hungary her broad girdle of the Carpathians. Similarly, and in some considerable measure, for the new nations of the Danube and the Balkans. So in Asia Minor, as for Albanians and their neighbours, there lies an opportunity for the young Turks beyond their constitution-makings at the centre and repressions at the circumference—that of organising a reconstitution indeed. With the Turkish Empire we are, of course, entering more and more fully upon the region of drought; and here the question arises of the desication of Asia and the evolution of its deserts.

We cannot enter here upon the difficult and still unsettled question of how far this evolution of deserts is a cosmic process, destined sooner or later to bring the world into the condition upon which Mr. Percival Lowell so vividly insists for Mars. There is also much reason for the view that this desiccating process has been due, if not to the neglect of man, at any rate largely aided by this; largely, too, to the mischiefs of ages of war, in destroying irrigation-works and terraces everywhere, of which the vestiges are far more important and conspicuous survivals of antiquity than even are the temples and palaces our archaeologists explore.

Far beyond wilful destruction of irrigation works is their wastage, through that mingling of material neglect and fiscal extortion, to which the decline of the vast Turkish Empire and with it the Persian also, is so largely traceable. It is not necessary here to inquire how far this is due to the ignorance of pastoral and military conquerors like the Turks, and how far to that passive acceptance of the practical unmodifiability of the Arabian desert, which has been so decisively expressed in the philosophy and the faith of Islam. The reason of referring to such apparently far-away matters will become clear if they help us to reflect how

far our own particular racial origins and regional experience, our lack of experience also, and how far our particular established philosophy and its corresponding popular beliefs, may likewise interfere with our needed industrial and social modernisation. For, after all, between the conservatism of the Turk and the conservatism of the Briton there is not so very wide a difference as the latter is given to concluding. And if any wonder how we came to such an opinion, we answer that it has not been formed without some contact, both provincial and metropolitan, with the Turk.

Relative backwardness and danger of Britain and other coal-using countries in realising this advent of a new industrial age, a Second Industrial Revolution.

Yet there is no real pessimism; for with Turkey, Persia, even China showing signs of following the example of Japan in adopting Occidental methods and ideas, there is every hope that our own country may also wake up in its turn. But, it may be said, are we not of all the Occidental peoples that very one whose industrial greatness, and whose correspondingly free political institutions are being copied by all these awakening countries? When we thus so admittedly lead, to suggest here that we lag, may seem not even paradoxical, but flippant—absurd some may say. Yet has not our contemporary industrial majority roundly accused their agricultural predecessors, lords and peasants alike, of failing adequately to recognise the new order which the industrial revolution has been bringing about these hundred years and more? Indeed, is not the thinking Conservative, however much he may regret the diminishing authority of this older ruling class, the very sharpest in reminding it that its defeats have been at least largely due to insufficiently realising the modern industrial situation?

Now, here lies the present point—that nowadays a new difficulty altogether has arisen—namely, that of inducing the leaders of the present industrial world in their turn—Liberal or Radical, Labourist or Socialist here matters little—to realise

that they are in presence of the actual birth and present growth of a new industrial order—one differing scarce less completely from the older one, in which they are so fully engaged, than did their industrial order from the old agricultural one. The present point is that a new order has been again arising within the vitals of this industrial order, to which neither its economic leaders—whether of proletariat or propertariat—nor their respective political exponents are yet adequately awake. Without Arkwright's jenny, and Watt's engine, our coalfields would still be sleeping, without coalmaster or collier, railway director or railway man.

Their line of development is thus clear: first the advance of discovery and of invention, and then the application of the latter on ever increasing scale; with a corresponding development, in strength and in numbers, of the ranks of capital and labour. With these arises and sharpens their conflict of interests, which begins to give us the Labour member, as well as the Capital member; and let us hope sometimes the means of conciliation between them. Along with all this goes the development of wider theorisings in political economy—here orthodox, there socialistic; and finally the clear expression of all these rival interests and doctrines in the field of politics, and by the personalities we know. But while their discussion concentrates public attention, it is too much overlooked by all concerned that a new economic order—a Second Industrial Revolution—is once more arising, requiring corresponding changes in economic theories, corresponding expression in its turn. To outline this more fully is our problem in the next chapter.

4

Paleotechnic and Neotechnic

A new industrial age is opening. As the "Stone Age" is now distinguished into two periods, "Paleolithic" and "Neolithic," so the "Industrial Age" requires distinction into its two phases "Paleotechnic" and "Neotechnic."

Here, again, this same process is beginning—that of a new industrial age. Following JamesWatt, the Prometheus of steam, Glasgow gave us the very foremost of all the Prometheans of electricity in Lord Kelvin. Following upon the locomotive of Stephenson, we have motors and electric cars, and upon the marine applications of Watt's engine, we have had the gas turbine from Birmingham, from Newcastle the turbine of Parsons, already improved upon; next the application of oil fuel, the Diesel engine, and so on (1910).

Now of all the limitations of our predominant middle-class and upper-class points of view, one of the worst is not seeing how widely different are the forms of labour. Not merely in their various products, and in various rates of money wages, as economists have been wont to describe. Far beyond all these, significant in ways far too much ignored, are their effects. First on the individuals who perform these various tasks, as physicians and psychologists now observe them; secondly on the resultant types of family, of institutions and general civilisation, as social geographers have long been pointing out for simple societies, and as sociologists have now to work out for our complex ones.

Take a simple illustration of the first. No one surely but can see, for instance, that the practical disappearance of the legion of stokers, which oil fuel involves, is something, physiologically if not politically, comparable to the emancipation of the galley-slaves, which similarly was brought about through an improvement in modern locomotion. It is, on the whole, well to throw people out of such employment. But finer issues are less obvious, and need tracing. A great idealist, an undeniable moral force like

the late John Bright felt himself logically compelled in terms of his economic creed—that of the then believed final machine and market order—to argue in Parliament against the Adulteration Acts as an interference with competition, and therefore with the life of trade! Whereas, the simplest, the least moralised or idealistic of electricians needs no public enthusiasms, no moral or social convictions, to convince him that adulteration is undesirable; since every day's work in his calling has experimentally made him feel how a trace of impurity in his copper wire deteriorates its conductivity, and how even a trifle of dirt between contact surfaces is no trifle, but may spoil contact altogether.

Such illustrations might be multiplied and developed indefinitely. But enough here if we can broadly indicate, as essential to any real understanding of the present state of the evolution of cities, that we clearly distinguish between what is characteristic of the passing industrial order, and that which is characteristic of the incipient one—the passing and the coming age. Indeed, before many years we may say the closing and the opening one.

Recall how as children we first heard of "The Stone Age"; next, how this term has practically disappeared. It was found to confuse what are really two strongly contrasted phases of civilisation, albeit here and there found mingled, in transition; in arrest or in reversion, sometimes also; frequently also in collision—hence we now call these the Old Stone Age and the New; the Paleolithic and the Neolithic.

The former phase and type is characterised by rough stone implements, the latter by skilfully chipped or polished ones; the former in common types and mostly for rougher uses, the latter in more varied types and materials, and for finer skills. The first is a rough hunting and warlike civilisation, though not without a certain vigour of artistic presentment, which later militarist or hunting types have also striven for, but seldom attained, and certainly not surpassed. The latter Neolithic folk were of gentler, agricultural type, with that higher evolution of the arts of peace

and of the status of woman, which, as every anthropologist knows, is characteristic of agriculture everywhere, and is so obvious save where otherwise artificially depressed.

The record of these two different civilisations every museum now clearly shows, and they need not here be enlarged upon. Their use to us is towards making more intelligible the application of a similar analysis in our own times, and to the world around us. For although our economists have been and are in the habit of speaking of our present civilisation, since the advent of steam and its associated machinery, with all its technic strivings and masteries, as the "Industrial Age," we press for the analysis of this into two broadly and clearly distinguishable types and phases: again of older and newer, ruder and finer type, needing also a constructive nomenclature accordingly.

Simply substituting *-technic* for *-lithic*, we may distinguish the earlier and ruder elements of the Industrial Age as Paleotechnic, the newer and still often incipient elements disengaging themselves from these as Neotechnic: while the people belonging to these two dispensations we shall take the liberty of calling Paleotects and Neotects respectively.

Illustration from synoptic view of Durham.

To the former order belong the collieries, in the main as yet worked; together with the steam-engine and most of our staple manufactures; so do the railways and the markets, and above all the crowded and monotonous industrial towns to which all these have given rise. These dreary towns are, indeed, too familiar to need detailed description here; they constitute the bulk of the coalfield Conurbations we were considering in the previous chapter. Their corresponding abstract developments have been the traditional political economy on the one hand, and on the other that general body of political doctrine and endeavour which was so clearly formulated, so strenuously applied by the French Revolution and its exponents, but

which in this country has gone on bit by bit in association with the slower and longer Industrial Revolution.

To realise, first of all, in definite synoptic vision of a city, the change from the old regime to modern Paleotechnic conditions, there is no more vivid example perhaps in the world than the view of Durham from the railway. We see on the central ridge the great medieval castle, the magnificent cathedral, as characteristic monuments as one could wish to see of the temporal and the spiritual powers of its old County Palatine and Diocese, with its Prince and Bishop, in this case one. Next, see all around this the vast development of the modern mining town, with its innumerable mean yet decent streets, their meaner, yet decent little houses, with their main life carried on in kitchens and back courts, decent too, yet meanest of all: for here is a certain quiet and continuous prosperity, a comparative freedom from the main evils of greater cities, which makes this modern town of Durham, apart from its old cathedral and castle, altogether a veritable beauty-spot of the coal age, a paragon of the Paleotechnic order.

When we have added to this prosperous town life the Board Schools and the Carnegie Library, and to these the University Extension Lectures on Political Economy, and the Workers' Union lectures on Economic History, what is left for the heart of the collier or his "representative" to desire in the way of prosperity and education (happiness, domestic and personal, remaining his private affair), except, indeed, to make these more steady and permanent through such legislation towards relieving unemployment and sickness as may be devised? Wages, no doubt, may still perhaps be improved a little. The cathedral might be disestablished; and so on. But on all received principles of Paleotechnic economics or politics, Durham is obviously approximately perfect.

Similarly for our larger colliery, iron, textile conurbations and towns—American ones likewise. While the coalfield holds out, our progress seems practically assured: our chosen press

shall be that which can most clearly voice this conviction for us, and our politicians must be those who, by this measure or that opposite one, most hopefully promise to assure its continuance.

Interpretation of protests from "romantics"—Carlyle, Ruskin, etc.

With this growing organisation for industry in progress, and with its associated system of ideals expressed in the other industrial towns around us, who can wonder at the little success with which Carlyle, Ruskin and Morris successively fulminated against them?—or even of the criticisms which the politicians and economists have never been able to answer? It was, of course, easier to discredit these writers as "romantic," as "æsthetic," and so on, and to assume that science and invention were all on the Paleotechnic side. But nowadays, thanks to the advance of science and of invention, we know better.

Had Carlyle or Morris but known it (Ruskin had an inkling of this, and more), their view of industry was already far more in accordance with the physicist's doctrine of energy than is that of the conventional economist's even of to-day. For after its prolonged darkening of counsel with economic text-books without that elementary physical knowledge which should underlie every statement of the industrial process—save perhaps at most, a reference, and that often depreciatory, to Prof. Stanley Jevons on solar crises, or on the exhaustion of our coal supplies—it is really only with President Roosevelt's "National Resources Commission" that the fundamentals of national economy became generally recognised. For this Commission began with the national forester, Gifford Pinchot, and included statesmen-agriculturists of the type of Horace Plunkett. It happily included even the economist, albeit as a brand plucked from the burning, and teaching a very different doctrine from that of his youth. These told their countrymen that to dissipate the national energies, as the American Paleotects, of Pittsburg or where you please, have been doing, is not economics but waste; and that to go on dissipating energies for the sake of this or that individual

percentage on the transaction, is no longer to be approved as "development of resources," as the mendacious euphemism for it goes, but sternly to be discouraged, as the national waste, the mischievous public housekeeping it has been all along.

As our studies of the physical realities in economic processes go on, each industrial process has to be clearly analysed—into its physical factors of material efficiency and directness on the one side, and its financial charges on the other. Thus, while we shall utilise more than ever each improvement and invention which can save energy, minimise friction, diminish waste or loss of time in transit, we shall also begin to criticise in the same spirit that commercial process which is implied in the great railway maxim of "charging what the traffic will bear," and which, in more scientific language, may be called "parasitism in transit."

The Paleotechnic mind—whether of Boards of Directors or Workers' Unions, here matters little—has been too much interested in increasing or in sharing these commercial proceeds, and too little in that of maximising physical efficiency and economy all through. And, since all this applies to more than railways, it is scarcely to be wondered at that the vast improvements of modern invention have so largely been rendered nugatory in this general Paleotechnic way, and not by any perversity peculiar to the labourer or to the capitalist alone, as they too cheaply convince themselves.

Passage from money wages to "Vital Budget": this conception needed to build the Neotechnic town.

Again, under the Paleotechnic order the working man, misdirected as he is like all the rest of us, by his traditional education towards money wages, instead of Vital Budget, has never yet had an adequate house, seldom more than half of what might make a decent one. But as the Neotechnic order comes in—its skill directed by life towards life, and for life—he, the working man, as in all true cities of the past aristo-democratised into produc-

tive citizen—he will set his mind towards house-building and town-planning, even towards city design; and all these upon a scale to rival—nay surpass—the past glories of history. He will demand and create noble streets of noble houses, gardens and parks; and before long monuments, temples of his renewed ideals, surpassing those of old.

Thus he will rapidly accumulate both civic and individual Wealth, that is, Wealth twofold, and both hereditary. It will be said—even he as yet says it, paralysed as he still is—that this is "Utopia"—that is, practically Nowhere. It is, and should be, beyond the dreams of the historic Utopists, right though they also were in their day. For their projects of real wealth were based upon the more rational use of the comparatively scanty resources and limited population of the past. But just as our Paleotechnic money-wealth and real poverty is associated with the waste and dissipation of the stupendous resources of energy and materials, and power of using them, which the growing knowledge of Nature is ever unlocking for us, so their better Neotechnic use brings with it potentialities of wealth and leisure beyond past Utopian dreams.

Utopias indispensable to social thought. The escape from Paleotechnic to Neotechnic order is thus from Kakotopia to Eutopia—the first turning on dissipating energies towards individual money gains, the other on conserving energies and organising environment towards the maintenance and evolution of life, social and individual, civic and eugenic.

This time the Neotechnic order, if it means anything at all, with its better use of resources and population towards the bettering of man and his environment together, means these as a business proposition—the creation, city by city, region by region, of its Eutopia, each a place of effective health and well-being, even of glorious, and in its way unprecedented, beauty, renewing and rivalling the best achievements of the past, and all this beginning here, there and everywhere—even where our Paleotechnic disorder seems to have done its very worst.

How can this be put yet more definitely? Simply enough. The

material alternatives of real economics, which these obsessions of money economics have been too long obfuscating, are broadly two, and each is towards realising an ideal, a Utopia. These are the Paleotechnic and the Neotechnic—Kakotopia and Eutopia respectively. The first has hitherto been predominant. As Paleotects we make it our prime endeavour to dig up coals, to run machinery, to produce cheap cotton to clothe cheap people, to get up more coals, to run more machinery, and so on; and all this essentially towards "extending markets." The whole has been essentially organised upon a basis of "primary poverty" and of "secondary poverty" (to use Mr. Rowntree's accurate terminology, explained later), relieved by a stratum of moderate well-being, and enlivened by a few prizes, and comparatively rare fortunes—the latter chiefly estimated in gold, and after, death. But all this has been with no adequate development of real wealth, as primarily of houses and gardens, still less of towns and cities worth speaking of: our industry but maintains and multiplies our poor and dull existence. Our Paleotechnic life-work is soon physically dissipated; before long it is represented by dust and ashes, whatever our money wages may have been.

Moreover, though we thus have produced, out of all this exhaustion of the resources of Nature and of race, whole new conurbations, towns and pseudo-cities, these are predominantly, even essentially, of Slum character—Slum, Semi-slum or Super-slum—as we shall see more fully later—each, then, a Kakotopia as a whole; and in these the corresponding development of the various types of human deterioration congruent with such environment. Within this system of life there may (and do, of course) arise palliatives, and of many kinds, but these do not affect the present contrast.

The second alternative, however, also remains open, and happily has now its material beginnings everywhere—that of the nascent, Neotechnic order. Whenever—with anything like corresponding vigour and decision to that which the Paleotects have shown, once and again, as notably at the coming on of the

machine age, the railway age, the financial age, and now the militarist one—we make up our minds, as some day before long we shall do, to apply our constructive skill, our vital energies, towards the public conservation instead of the private dissipation of resources, and towards the evolution instead of the deterioration of the lives of others, then we shall discern that this order of things also "pays," and this all the better for paying in kind.

That is, in having houses and gardens, and of the best, with all else that is congruent with them, towards the maintenance and the evolution of our lives, and still more of our children's. Then in a short, incredibly short, time, we, and still more they, shall have these dwellings, and with them the substantial and assured, the wholesome and delightful, contribution to the sustenance of their inhabitants which gardens, properly understood and worked, imply.

The old sociologists, in their simple societies, saw more clearly than we; but as we recover their rustic and evolutionary point of view we may see that also for ourselves—"Whatsoever a man soweth, that shall he also reap"—at any rate shall be reaped by his successors if not by himself. During the Paleotechnic period this has been usually understood and preached on as a curse. For the Neotechnic standpoint it is a blessing, manifestly rooted in the order of nature. Then why not increasingly sow what is best worth reaping?

The life and labour of each race and generation of men are but the expression and working out of their ideals. Never was this more fully done than in this Paleotechnic phase, with its wasteful industry and its predatory finance—and its consequences, (*a*) in dissipation of energies, (*b*) in deterioration of life, are now becoming manifest. Such twofold dissipation may most simply be observed upon two of its main lines; that of crude luxuries and sports, and the "dissipations" these so readily involve in the moral sense; and secondly through war. The crude luxury is excused, nay, psychologically demanded, by the starvation of Paleotechnic life, in wellnigh every vital element of beauty or

spirituality known and valued by humanity hitherto. Thus to take only one of the very foremost of our national luxuries, that of getting—more or less—alcoholised, this has been vividly defined, in a real flash of judicial wisdom, as "the quickest way of getting out of Manchester."

Interpretation of war and of the general struggle toward survival from current point of view (1910-15).

Similarly, War and its preparations are explained, we may even say necessitated, by the accepted philosophy and the social psychology of our Paleotechnic cities, and particularly of the metropolitan ones. In the first place, war is but a generalising of the current theory of competition as the essential factor of the progress of life. For, if competition be, as we are told, the life of trade, competition must also be the trade of life. What could the simple naturalists, like Darwin and his followers, do but believe this? and thence project it upon nature and human life with a new authority!

The Paleotechnic philosophy is thus complete; and trade competition, Nature competition, and war competition, in threefold unity, have not failed to reward their worshippers. Thus the social mind, of the said cities especially, but thereafter of the whole nation they influence, is becoming characterised and dominated by an ever deepening state of diffused and habitual fear. This, again, is the natural accumulation, the inevitable psychological expression of certain very real evils and dangers, though not those most commonly expressed.

First, of the inefficiency and wastefulness of Paleotechnic industry, with corresponding instability and irregularity of employment, which are increasingly felt by all concerned; second, the corresponding instability of the financial system, with its pecuniary and credit illusions, which are also becoming realised; and thirdly, the growing physical slackness or deterioration—unfitness anyhow—which we all more or less feel in our Paleotechnic town life, which therefore must more and more make us crouch behind barriers, and cry for defenders.

Hence, in fact, Tennyson's well-known eulogy of the Crimean War, and many other earlier and later ones. For as imagined military dangers become real ones, so far from increasing fear, they at once exhilarate and invigorate our ebbing courage. Of all the "Merrie England" of the past, there was but one town which habitually boasted the epithet; and that was "Merrie Carlisle," just because it guarded the marches, and stood to bear the first shock of Scottish raids or invasions; and first sent out its hardy sons, now to provoke these, now meet them with counter-initiative.

Similarly, it is not in the many coast cities lying open to bombardment, but at London—and this not simply but deeply because it is practically unattackable, besides having the assurance of immediate concentration of all the national resources of defence—that there, of all cities, the yellow journalist can always most readily exploit the popular fears (1910).

On grounds like these, which have been only too obvious in other places and times, pessimism always as naturally arises. Yet here our pessimism is but relative; for it needs no war, but only the appearance of Neotechnic art and science to evoke a corresponding courage. Hence, for instance, the joyousness of the aviator amid his desperate risks.

> **The struggles of war are not essential to the nature of society: at present (1910-15) the major problem is the struggle for existence between the Paleotechnic and Neotechnic orders.**

Since the Paleotechnic war-obsession stands so definitely in the way of city betterment, let us put the criticism of it in a somewhat different way.

Among lagging peoples agriculture declines; and, with the lowering of the rustic life, its cognate skills and arts, its joys and spirit, its very health decay also. A vicious circle arises and widens; drudgeries, luxurious and servile, mean, even abject, appear and deepen, and replace the old simple fellowship in labour; indulgence or indolence, orgies followed by ennui and apathy, replace rest. Classes become fixed as status through

militarism's return; taboos arise and strengthen; and sex, the natural and fundamental spring of the moral life in both sexes, perverts into the dreams and dances of strange sins.

Of all such "progress," such "wealth," such "peace," men weary. The old courage, which in their rustic fathers had faced the chances of life, and mastered them through the courses of Nature, now finds a main outlet in gambling; and this increasingly contaminates legitimate commerce. The ruling class thus becomes increasingly one of wealth, with a corresponding increase of types of populace, submissively ready for any service whatsoever, if only wages be forthcoming, and finding its hope and ecstasy of life in the prospect of also occasionally getting something for nothing, like their betters at that game.

The older rustic castes, high and low, less apt for such modern life, are yet absorbed and enrolled by it. and become guardians and functionaries within, or enter the military caste for external service. Paleotechnic "order" is thus completed, and at the expense of progress; as the history of Russia, of Austria, of Prussia has so often shown us; and, as they tell us, ours is increasingly showing them.

In each such country, and even in its metropolis, though so largely thus created and maintained, the spark of soul which is in every man at length begins to sink within him altogether, or else to flare out into social discontent, it may be with mutterings of revolt. The official orator and bard appear also; as social medicine-men they must at all hazards again arouse manhood, courage, be this even through fear. Thus, fevered with cold and hot, the Paleotects run to and fro; they invent new myths of terror; their guardians new war-dances; these bring forth their treasure, and these build vast and vaster temples to the fear-gods. They carve their clubs, they lengthen and crowd their war-canoes, and one day they sail forth to battle. Be this at the time crowned with victory and glory, with mastery and empire, these have in them no few germs of decay, which also grow towards their ripening.

Is not this, in broadly summarised outline and at its simplest,

the anthropology of half the South Seas, even the history of the old pirate and berserk glories of Scandinavia? The only touch of freshness remaining for such an epitome is that this in its fuller outline as above, is what the Scandinavian peoples are now thinking and saying of us, "The Great Powers." For now the Norsemen are in an otherwise evolving frame of mind, with correspondingly different phase of life, different conception of its defence, different practice towards its survival. Saved by their poverty of natural resources, as we used till lately to think, or by good hap, as it now appears, from the modern industrial crowdings, which we, in our terms of mere magnitude, call cities, they are entering upon the development of culture-cities, which already in terms of quality of life and of civilisation alike, are actually and proportionally in advance of ours, even though comparatively favourable examples be taken.

Some years ago it could be said by one Edinburgh man to another: "There is more music and more science in little Bergen than in big Edinburgh." And now Grieg and Nansen are known along the whole chain of villages and townlets whose electric lights twinkle nightly from Tromsö down and round to Christiania itself, and even to us as well. Once, indeed, our Scottish singers and thinkers also were known throughout their land and beyond, but that was in times of comparative poverty, before these days of "business" and "education," now alike so illusory in their numerical estimations.

In summary, then, the struggles of war are not so essential to the nature of society as many nowadays have come to believe; nor even when they occur are they much a matter of big battalions.

Without entering in detail into the social factors of war, which would expand these few paragraphs into a volume, it is enough here to insist upon the thesis of this chapter that our essential struggle for existence at present demands a viewpoint different from, and larger than, that of militarists.

Let us give them every credit for their measure of encourage-

ment to Neotechnic skill and invention, and for the spirit of sacrifice they inculcate towards the social weal; but let us also realise that the present main struggle for existence is not that of fleets and armies, but between the Paleotechnic and the Neotechnic orders. And this not merely as regards our manufacturing productivity, upon which some, to do them justice, insist, but yet more throughout our rural and our urban life.

Most simply stated, as we rebuild our cities as well as our fleets, as we modernise our universities and colleges, our culture-institutes and schools as we have sought to do our fighting ships, there will be far less fear of war, and far more assurance of survival in whatever issue. And conversely, failing this needed uplift of our general level of civilisation, each added weight of armour may go but to keep it down.

5

Ways to the Neotechnic City

The transition from Paleotechnic to Neotechnic is in actual progress around us: yet need of strongly emphasising these two types of evolution as Inferno and Eutopia respectively.

In Chapter 2 we viewed our immense coalfield city groups, our conurbations, as in the process of indefinite growth; while in the next chapter we presented the threatening arrest of the lower industry and cheaper life of our own and kindred lands, not only by internal exhaustion of coalfields, or by competition upon lower levels, but rather by competition upon a higher one—that of the Neotechnic order, now so plainly arising in other lands—Norway being but the best example, as having no Paleotechnic development to speak of.

Yet as already indicated, and as the reader must once and again have felt—this Neotechnic order is open to us also; we have had no small part in initiating it. Where better may this advance than in a land, one of the best situated of any, still of cheap and abundant coal, of easy communications, of ample and industrious population? not to speak of resources still only opening, like water-courses and peat-bogs, or of those yet untouched, like winds and tides. Each inventor is busy with his part of this complex task; and the integration of such progresses is one main aspect of the civic movement.

Since cities are thus in transition, is a defence needed of this two-fold presentment, this sharply marked forking of the path of evolution—industrial, social, civic? Our general view of the Paleotechnic city has been anything but a roseate one: yet the half has not been said. Its evils—as of its reporters' columns, its realistic novels, its problem plays—are here viewed as congruent with its industrial and commercial level, and thus normal to it, not removable while it persists, whether by statesmen or by philanthropists, who, alike too much, but poultice symptoms.

A view surely pessimistic enough! Yet this pessimism is but apparent; its faith is in the order of Nature; and this, in lowered functions, in diseased conditions, does give us disease. But, as we improve conditions, and with them vitalise functions, Nature gives us, must give us, health and beauty anew—renewing, it may be surpassing, the best records of old.

The Paleotechnic order should, then, be faced and shown at its very worst, as dissipating resources and energies, as depressing life, under the rule of machine and mammon, and as working out accordingly as its specific results, in unemployment and misemployment, in disease and folly, in vice and apathy, in indolence and crime. All these are not separately to be treated, as our too specialised treatments of them assume, but are logically connected, inseparably connected, like the symptoms of a disease; they are worked out, in sequent moves, upon the chessboard of life. They even tend to become localised upon the chequers of a town plan, and thus become manifest to all as its veritable Inferno.

Yet with the contrasted development of the normal life, no less continuous moves of ascent appear, no less clear and definite city development also. Our town plans are thus not merely maps but also symbols, a notation of thought which may concretely aid us towards bettering the towns of the present, and thus preparing for the nobler cities of a not necessarily distant future.

Necessity of ideal conceptions for every science: need, therefore, for a Paradise and an Inferno for sociology and civics no less than for theology and psychology.

It may, again, be said, each of these cities is a logical dream: the city is not so bad as your Inferno, nor is it ever likely to be as good as your Utopia. So far admitted. Every science works with ideal concepts, like the mathematician's zero and infinity, like the geographer's directions—north, south, east and west—and can do nothing without these. True, the mathematician's progress towards infinity never gets him there, nor do the geographer's journeyings, the astronomer's search attain the ultimate poles.

Still, without these unattainable directions, these cardinal points, who could move from where he stands, save to sink down into a hole? So far then from losing ourselves, either in the gloom of the Paleotechnic Inferno, or before the Neotechnic Eutopia of the coming city, these extremes are what enable us to measure and to criticise the city of the present, and to make provision for its betterment, its essential renewal.

> The beauty of cities is of no mere sentimental interest: the aesthetic factor is recognised in war and in medicine as both a sympton of efficiency and health, and an aid to them.

Now, as regards the Beauty of Cities. Those who are most in the habit of calling themselves "practical," to maintain this character are also wont too easily to reckon as "unpractical" whatever advances of science or of art they have not yet considered, or which tend to disturb the Paleotechnic set of working conventions. Hence they so easily say of us town planners and city revivers, "All these prettifications may perhaps do very well for Continental cities; but after all they are mere luxuries, and won't pay us here," and so on.

Now, if any one in that mind considers the argument of these pages, he will find that what they are primarily concerned with is very different from what he expects; and that our problem is—not prettification, not even architecture, mistress of the arts though she be—but what practical men—men of business, men of politics, men of war—consider to be most practical of all: namely, their survival, at once local and regional, national and imperial, in the present intensifying struggle for existence, and this in competition with other countries.

This fiercely practical reader will also find that all this is discussed without any more reference to æsthetic considerations than are given to them, say at the War Office, or at the nearest Public Health Office Bureau. The utmost difference is that at places in such grim earnest as these they do know the significance of cleanliness, good order, good looks. They know these as the best and most obvious of symptoms, as the outcome, the expres-

sion of health and well-being, alike for a child or for a regiment, for a home or for a city; while our manufacturing and our commercial world, and its traditional economists as yet do not, with exceptions still so rare as to be practically little more than individual ones.

Such individuals the practical man as yet fails to understand for what they really are—pioneers of the incipient Neotechnic order. For does he not commonly say: "All very well for them; they can afford it!"—thus missing the fact that their sense of order and efficiency, their desire of fitness and seemliness, and their diffusion of these throughout their whole concern, and not only in but by those who serve in it, are vital factors of their superiority; factors by which their already often conspicuous business success over those of more "practical" competitors, may, as a matter of contemporary history, be often and very largely explained.

Those few great industrialists of the Continent, like Godin at Guise, Krupp in Germany, Van Marden in Holland; of America, like Patterson or Fels; of England, like Lever, Cadbury, and Rowntree—who have done best by their workers, have also been all the better served by them, as their eminence, alike in efficiency of output and in resultant fortunes, plainly enough shows. It has long been known that to get the best work out of a horse, one must not put the worst in. The same has, in comparatively recent times, been discovered to hold good of the soldier, of the sailor, even of the long depressed mercantile marine. So why should the great Paleotechnic world be so slow in learning this lesson, and be so loyal, so sentimentally self-sacrificing to their economic superstitions as to leave the few Neotechnic employers to make their fortunes, not a little through their application of it?

None will deny that the military world has always known the value of æsthetic appeals, and these of many and magnificent kinds, as a means of increasing alike its numbers and the efficiency of these. But it is a main disaster of our modern, *i.e.*, Paleotech-

nic, industry that our practical men are so largely blind to these considerations in their own dealings, and that they even pride themselves upon their limitations.

What they as yet fail to realise, is that, when weighed in the balances of the sciences, their philosophy is found but futilitarian, or worse. For the physicist their "development of resources," their "progress of a district," is too much the wasteful dissipation of the energies of Nature; to the biologist and physician the increasing numbers they boast as "progress of population" are too obviously in deterioration rather than in progressive evolution. Nor are these criticisms of physics or of public health the sternest. The sociologist as historian has still fully to explain the practical man to himself. He has to analyse out the various factors which have gone to the making of him and his philosophy together—the uprooted rustic, the machine-driven labourer, and each as a half-starveling, too much even of the necessary food, and yet more of the good of life—the soured and blighted puritan degenerating into mammonised fanatic—the revolutionary and radical politician fossilising into doctrinaire.

The limitations of past "romantic" criticisms of Paleotechnic cities is thus avoided.

Beauty, whether of nature or art, has too long been without effective defence against the ever advancing smoke-cloud and machine-blast and slum-progress of Paleotechnic industry. Not but that her defenders have been of the very noblest, witness notably Carlyle, Ruskin, Morris, with their many disciples; yet they were too largely romantics—right in their treasuring of the world's heritage of the past, yet wrong in their reluctance, sometimes even passionate refusal, to admit the claims and needs of the present to live and labour in its turn, and according to its lights. So that they in too great measure but brought upon themselves that savage retort and war-cry of "Yah! Sentiment!" with which the would-be utilitarian has so often increased his recklessness towards nature, and coarsened his callousness to art.

The romantics have too often been as blind in their righteous anger as were the mechanical utilitarians in their strenuous labour, their dull contentment with it. Both have failed to see, beyond the rude present, the better future now dawning—in which the applied physical sciences are advancing beyond their clumsy and noisy first apprenticeship, with its wasteful and dirty beginnings, towards a finer skill, a more subtle and more economic mastery of natural energies; and in which these, moreover, are increasingly supplemented by a corresponding advance of the organic sciences, with their new valuation of life, organic as well as human.

The cleansing of the city: starting from mountain and moorland water-supply areas.

Too much lost by our predecessors of the industrial age, and as yet all too seldom realised by ourselves, the returning conception and ideal of Citizenship is offering us a new start-point of thought and labour. Here, in fact, is a new watchword, as definite, even more definite, than those of liberty, wealth and power, of science and of mechanical skill, which have so fascinated our predecessors; one, moreover, transcending all these—one enabling us to retain them, to co-ordinate them with a new clearness, and towards the common weal.

From this standpoint the case for the conservation of Nature, and for the increase of our accesses to her, must be stated more seriously and strongly than is customary. Not merely begged for on all grounds of amenity, of recreation, and repose, sound though these are, but insisted upon. On what grounds? In terms of the maintenance and development of life; of the life of youth, of the health of all, which is surely the very foundation of any utilitarianism worth the name; and further of that arousal of the mental life in youth, of its maintenance through age, which must be a main aim of higher utilitarianism, and is a prime condition of its continued progress towards enlightenment.

At the very outset (Chapter 2) we saw the need of protecting, were it but for the prime necessity of pure water supply, what

remains of hills and moorlands between the rapidly growing cities and Conurbations of modern industrial regions—for those of Lancashire and Yorkshire, for instance, just as for Glasgow the district around Loch Katrine.

Plainly, the hygienist of water supply is the true utilitarian; and hence, even before our present awakening of citizenship, he has been set in authority above all minor utilitarians, each necessarily of narrower task and of more local vision—engineering, mechanical and chemical, manufacturing and monetary—and has so far been co-ordinating all these into this public service.

But with this preservation of mountains and moorlands comes also the need of their access: a need for health, bodily and mental together. For health without the joys of life—of which one prime one is assuredly this nature-access—is but dullness; and this we begin to know as a main way of preparation for insidious disease. With this, again, comes forestry: no mere tree-cropping, but sylviculture, arboriculture too, and park-making at its greatest and best.

Such synoptic vision of Nature, such constructive conservation of its order and beauty towards the health of cities, and the simple yet vivid happiness of its holiday-makers (whom a wise citizenship will educate by admission, not exclusion) is more than engineering: it is a master-art; vaster than that of street planning, it is landscape making; and thus it meets and combines with city design.

Town extensions naturally extend star-wise along main thoroughfares. They can be kept from growing together by placing schools, playgrounds, allotments in the unbuilt rustic areas left between them. Value of opportunities of activity for youth and for citizenship.

But the children, the women, the workers of the town can come but rarely to the country. As hygienists, and utilitarians, we must therefore bring the country to them. While our friends the town planners and borough engineers are adding street beyond street, and suburb beyond suburb, it is also for us to be up

and doing, and "make the field gain on the street, not merely the street gain on the field."

For all the main thoroughfares out from the city (henceforth, we hope, to be boulevards, and even more) and around every suburban railway station, the town planner is arranging his garden village, with its own individuality and charm; but we, with our converse perspective, coming in from country towards town, have to see to it that these growing suburbs no longer grow together, as past ones have too much done. Towns must now cease to spread like expanding ink-stains and grease-spots; once in true development, they will repeat the star-like opening of the flower, with green leaves set in alternation with its golden rays.

The city parks, which are among the best monuments and legacies of our later nineteenth century municipalities—and valuable, useful, often beautiful though they are—have been far too much influenced by the standpoint natural to the prosperous city fathers who purchased them, and who took them over, like the mansion-house parks they often were, each with its ring-fence, jealously keeping it apart from a vulgar world. Their lay-out has as yet too much continued the tradition of the mansion-house drives, to which the people are admitted, on holidays, and by courtesy; and where the little girls may sit on the grass. But the boys? They are at most granted a cricket-pitch, or lent a space between football goals, but otherwise are jealously watched, as potential savages, who on the least symptom of their natural activities of wigwam-building, cave-digging, stream-damming, and so on—must instantly be chevied away, and are lucky if not handed over to the police.

Now, if the writer has learned anything from a life largely occupied with nature-study and with education, it is that these two need to be brought together, and this through nature-activities. But—though there is obviously nothing more important either for the future of industry or for the preservation of the State, than vigorous health and activity, guided by vivid intelli-

gence—we have been stamping out the very germs of these by our policeman-like repression, both in school and out of it, of these natural boyish instincts of vital self-education, which are always constructed in impulse and in essence, however clumsy and awkward, or even mischievous and destructive when merely restrained, as they commonly have been, and still too much are.

It is primarily for lack of this touch of first-hand rustic experience that we have forced young energy into hooliganism; or, even worse, depressed it below that level. Whereas the boy-scout movement triumphantly shows that even the young hooligan needs but some living touch of active responsibility to become much of a Hermes; and, with similar openings and vigorous labours, we shall next make of him a veritable Hercules.

With the dawning reclamation of our school-system, hitherto so bookish and enfeebling, there is coming on naturally the building of better schools—open-air schools for the most part; and henceforth, as far as may be, situated upon the margins of these open spaces. With these, again, begin the allotments and the gardens which every city improver must increasingly provide —the whole connected up with tree-planted lanes and blossoming hedgerows, open to birds and lovers.

The upkeep of all this needs no costly increase of civic functionalism. It should be naturally undertaken by the regenerating schools and continuation classes, and by private associations too without number. What better training in citizenship, as well as opportunity of health, can be offered any of us than in sharing in the upkeep of our parks and gardens? Instead of paying increased park and school rates for these, we should be entering upon one of the methods of ancient and of coming citizenship, and with this of the keeping down of taxes, by paying at least this one of our social obligations increasingly in time and in service rather than in money. Thus too, we shall be experimentally opening our eyes towards that substantial Reabsorption of Government, which is the natural and approaching reaction from the present multiplication of officialism, always so costly at best.

People volunteer for war; and it is a strange and a dark superstition that they will not volunteer for peace. On the contrary, every civic worker knows that, with a little judicious inquiry and management, any opportunity which can be found for public service is not very long of being accepted, if only the leadership for it can be given: that is still scarce, but grows with exercise and service. Thus before long our constructive activities would soon penetrate into the older existing town, and with energies Herculean indeed—cleansing its Augean stables in ways which municipal cleaning departments, responsible to the backward taxpayer, have not yet ventured upon—a degree of washing and whitewashing on which the more bacteriologically informed rising generation will soon insist.

Cleansing of slums: slum gardens and creation of open spaces as larger factories move to environs.

But beyond these mere cleansings, we need both destructive and constructive energy. Nowhere better shall we find the smaller open spaces and people's gardens of the opening decade than in the very heart of the present slums. In the "Historic Mile" of Old Edinburgh, that most overcrowded and difficult of slums, the "Open Spaces Survey" of our Outlook Tower committee showed there were no less than seventy-six open spaces, with a total area of ten acres, awaiting reclamation. Of these an appreciable proportion have since been gardened, year by year—all through voluntary agencies, of course, though later approved, and at various points assisted, by city departments and officials.

Towards this reclamation of the slums, our industrialists and town planners have next their far larger opportunity. The innumerable and complicated muddle of workshops, large and small, which at present so largely and so ineffectively crowd up the working-class quarters of our towns, plainly suggest, and will richly reward a large measure of thoughtful replanning.

Many of our large industries—factories, breweries, and so on, as experience already shows, may with great advantage be moved

to appropriate situations in the country and in this way leave spacious buildings, which may often readily be adapted for the accommodation and grouping of smaller industries. Thus would be set free these minor workshops, largely for demolition, and their sites for open spacing, with a gain to health, to children's happiness, and therefore to civic economy and productivity, which would rapidly repay the city for the whole transaction. Hence of this the expense might, most fairly of all outlays, be charged for redemption during the generation now opening.

For a concrete illustration, let me take the well-known case of the West Princes Street Gardens of Edinburgh. These as yet retain the plan of their former private ownership; but the plan of the aforesaid open-spaces committee for Old Edinburgh shows how, as they already sweep round the castle, they might next become practically continuous with some of our slum gardens—thus bringing public beauty into the very heart of private squalor.

Mews, again, are rapidly becoming obsolete; and are often being utilised as private garages, stores, small workshops, etc. Now, however, is the very time for city improvers. Garages peculiarly lend themselves to concentration, not to dispersion; and private enterprise is already providing facilities for this here and there, though as yet on too small a scale.

Moreover, the hygienist has fully demonstrated the unwholesomeness of mews; and the corresponding groupings, into definite blocks, of such mews as will for some time be required, should thus be insisted on by the municipal authorities; since large collective stables are far more easily, and cheaply, kept in healthy order than are a multitude of small scattered ones.

Some of the existing mews will no doubt afford places for the grouping of workshops, studios, etc., as already more or less in progress; but large demolitions of them would also be possible, with not inconsiderable gain to the needed open spaces.

Again, the throwing together of innumerable yards and drying greens, which at present disgrace the backs of even our best city quarters, should be more and more comprehensively dealt

with; and garden quadrangles should thus increasingly replace the present squalid labyrinth of wasted greens, cut up by innumerable walls. A single central drying-house for each garden-court might at the same time be provided, the whole thus setting free for vital uses over the city an aggregate of many acres, and these far more accessible, and therefore useful, than are the parks, for the daily use of childhood and family life, and for happy garden-activities, both for youngsters and their elders.

Such minor (yet in aggregate considerable) changes need but beginnings; and not a few of these beginnings are in actual progress. Such private initiatives, moreover, gently break down prejudices, and prepare the way for that large measure of municipal reorganisation which the public of our cities will soon desire. When this desire has been developed, there is no fear that people will not be willing to pay—that is, work—for its satisfaction.

The present is the day of small things: our fellow-citizens have first to be persuaded: hence the present emphasis on the view of private initiatives. But by all means let each possible step be taken within the municipality, and in its various departmental offices as well as without; and let public powers be obtained as far as possible, and as fast as they can, utilising precedents wherever these exist.

Editor's Note

Chapters 6, 7, 9, 10 and 11 have been omitted except for two extracts from Chapter 10.

The sub-headings of these omitted chapters are however included as they appeared in the 1915 edition.

6

The Homes of the People

The Biological view of Economics—"There is no Wealth but Life." Contemporary transition from "money wages," through "minimum wage," to "family budget," and thence to Vital Budget.

The Degradation of the Labourer: in Shakespeare, and in subsequent writers. Need of a new "Hodge-iad" and this in terms of Folk, Work, and Place: such an interpretation of the historic depression is largely in terms of the deterioration of housing.

Essential achievement of "Industrial (i.e. Paleotechnic) Age" here defined as—Slum. Slums commonly so called, their origin and their varieties. Application of Veblen's "Theory of Business Enterprise." Slums too much everywhere: middle-class in Semi-Slums. Even wealthy quarters are too much but Super-Slums. Illustrations from modern cities at their best, e.g. Mayfair for London, New Town for Edinburgh.

Cinderella and the looting of her kitchen. Its depression into area-basement. Her approaching deliverance: science the fairy godmother, electricity her wand: Modern Magic and Romance.

The people are still too indifferent to housing: illustrations from Edinburgh and other Scottish cities, with their tenement problem. Hopeful example of constructive initiative headed by Henry Vivian. Concluding appeal to Women.

7

The Housing Movement

What is the nature and character of the mass of housing in great towns? Their nucleus, the historic town, deteriorated with Industrial Age; hence intense housing evils and their results, with palliatives of various kinds and values.

Steps of advance of the housing movement, as from Octavia Hill to Ebenezer Howard, and to incipient recovery of town planning.

8

Travel and Citizenship

Need and uses of travel for civics and citizenship. Travellers and the "synoptic vision" in classic and medieval times—merchant and adventurer, pilgrim and friar, student and prentice.

It is no easy matter to change the habits of a people, and above all as regards their homes. We have now long enough been marching round the walls of the paleotechnic Jericho; we see them beginning to give way; it is time now to be fitting ourselves to help more fully in that vast reconstruction which must follow. For that purpose let us betake ourselves to what has always been one of the greatest factors of education, both of the individual and of the world, and see what is being done in other cities and countries. For the uplift of Citizenship, the renewal of cities, in which we have each a part, no experience of past or present cities can be too great.

Children as we are of an age which was as much astonished and delighted by its new communications by railway and steamship, as we can be with our motors and flying-machines, we have naturally been disposed to think of our forefathers in earlier times as relatively confined to narrow limits, and with but little experience of travel.

Yet travel and commerce are prehistoric; classic history reminds us how the roads and communications of the Roman Empire ranged with unbroken completeness of paying and upkeep throughout the whole Empire, from Tyne to Euphrates, and beyond; not only with legions on the march, and postmen at the gallop, but with long trains of commerce as well. Through the Mediterranean, for so many ages a Roman lake, as before that a Carthaginian, a Greek, a Phœnician one, the lines of communication have exceeded, in number and in variety, the existing web of steamer-lines to-day. Even in amount of goods, in quantity of passengers, some historians suggest a rivalry, or even more; and this is the less improbable when we remember,

or reconstruct from broken olive-terraces and ruined cities, how great in its best days was the agricultural development of these now long deteriorated lands.

But the barbarian broke up the roads; never again to be in good order until Macadam's day, even Napoleon's.

Surely in medieval days travel must have been comparatively rare? Yet recall the great overland trade-routes of Europe, like those through Nuremberg and Augsburg, on which depended not a little the prosperity of the great maritime cities, like Venice and Genoa, like Bruges and Hamburg.

Chaucer's cheery tale-tellers upon the Pilgrim's Way to Canterbury is but the art-conserved instance of what went on in every country, and to all its great national shrines. The magnificence of Peterborough, of Cologne or Compostella, had thus a far greater than any merely diocesan origin; theirs was a national appeal, largely even an international one. Excelling all these in its turn was of course the great pilgrimage, that attracting Christendom to Rome; again, beyond that, the yet greater, to Jerusalem—the Pilgrimage indeed.

As in every town of the Mohammedan world one sees the green turbans of those who have been to Mecca, so in any European townlet we may still search out the traces of their ancient pilgrims: witness for instance the frequency of the very name (commonly as "Palmer") in Scotland or England. To the perpetual call of the two greatest of these pilgrimages, and the impassioning influence of the many who returned despite all hazards, at long last in safety, to stir the town with the news, and thrill its youth with their tales, the world owes, for good and evil, the Crusades, and all that they imply. Peter the Hermit but concentrated and voiced a widespread sentiment which had been long in the making.

As with merchant, adventurer, and friar, so with the students of the universities. The wandering scholars flocked to them from afar each autumn, each returning to his old home or wandering still farther with the return of summer.

Yet none of these manifold threads of travel, nor perhaps all put together, can have equalled, in amount or in social significance, the wander-year of the young craftsman at the conclusion of his apprenticeship. For here was a great process of education; in fact one of the very greatest of democratic movements in the history of education, and this on its truly higher level: one therefore which every democracy worth the name must seek to recover. It was no mere chance individual wandering in search of employment, as in modern times, such as the economist has too much disguised under his shallow euphemism of "the mobility of labour," but a system of education organised and supervised by the craft guilds of cities, with no small degree of correspondence and co-operation; and it was even shrewdly examined upon at its close. Thus when the young man returned to his native town and detailed his journey, mentioning among other places a stay at Freiburg (in Breisgau), the leaders of his craft, as examining board, might ask him—"Where had he seen the devil weeping for his sins?"—thus testing alike his visit to its great minster, and his eye for the quaint sculpture over its portal. The artistic interchanges of Italy with the Germanic lands have here deeply their explanation: Dürer in Italy, Holbein in England, are but supreme examples of the craftsman's wanderings.

Later examples: Erasmus, Adam Smith, Ruskin and Browning.

So with the interchange and development of literary culture. The Greek learning had been coming from Constantinople long before its final flight before the Turkish Conquest, as Florentine history so conspicuously shows: and the university-transforming and history-making journeyings of Erasmus are but the highest expression of the teaching and learning tradition everywhere. Goethe's *Wilhelm Meister* is no mere modern Odyssey of youth: its episode of the strolling players throws thus a vivid light upon the education of Ben Jonson, with his tramp to Hawthornden; while Shakespeare may not improbably have come even further.

Only with that great depression of the people, which is the tragic converse of the uplift of the scholars and gentlemen of the Renaissance, did the culture of travel become at all limited to the upper classes—limiting itself more and more, until we get the characteristic phrase, the "Grand Tour," which my young lord made with his tutor, and often with no small result in culture and thought to them both. Witness for the lords their bringing home of the great picture galleries of England, and for the tutors —and as complemental instances, first studious, then utilitarian —the effect upon the world of Erasmus' journey to Italy as tutor to the young son of James IV of Scotland, and of Adam Smith's stay in Paris, with its physiocrats and philosophies, while tutor to the young chief of Buccleuch.

It is worth noting here that the modern eminence of German universities (1910) which in all countries we have learned so much to respect and profit by, is by no means so conspicuous when we merely compare this and that university in Germany with the corresponding institutions of our own country. The German advantage is a wider one; and lies especially here—that while our youth at Oxford or Cambridge, at St. Andrews or Edinburgh, commonly stay at their one University during the whole of their years of student life, their German contemporaries of the same standing have had, not once but several times over, the vivifying experience, the intellectual stimulus, of the new environment of a great university, a new culture city.

From the pictures of the great mansion-houses the boy Ruskin, as he tells us, largely gained the fundamental preparation of his artistic life, and of his own later familiarity with the treasure houses of Italy; and the analogous Italian culture of the Brownings is again but a conspicuous development of our old tradition of Italian travel. To such artistic pilgrimages are due in no small measure the classicism of Paris—its Prix de Rome, its Villa Medicis; and also that revived interest in classic archæology, which has left so deep an impression in our northern cities; for the neo-classic monuments so characteristic of Munich, Copen-

hagen and Edinburgh are developments from the same root. our British and other schools of archaeology in Rome and Athens are naturally in the main still thought of and maintained as for historical inquirers; but they are also becoming schools in which the town planner of the present, and still more the city designer of the future, may gather not only precedent, or even suggestion, but inspiration anew.

Viewing all countries together, it is of course Italy which most richly rewards her pilgrims, as travellers of all other lands avow.

All this is but a faint indication of the full range and active spirit of our forefathers' travel, and enables us to see, what many a thoughtful traveller at the beginning of the Railway Age realised, and not merely Ruskin—the colossal disadvantage of being swiftly projected from railway station to railway station, and missing all the varied experience, and most of the beauty of the way. The modern cyclist, the motorist, have of late years in some measure been recovering this. We thus see the large elements of reason in Ruskin's apparent madness of protest against railways; but not yet fully enough. Only as that dawn of vital outdoor education, which our boy scouts begin to present, over those cramped in school-rooms or even enclosed in playing-fields, progresses into wider wanderings, shall we again adequately recover the old value and vitality of simple travel.

In the past thirty years or so, the writer must have travelled forty or fifty thousand miles, by express train, between London and Edinburgh, but his educative journeys are still only one or two upon the Great North Road, on cycle, or with stoppage and ramble by the way. The train habit, as we may call it, is to no small extent the explanation of the too common failure of the modern tourist, and has degraded him into mere material for excursion contractors, taken about in droves, nay, in coops, like fowls to market.

The value of travel to France and to the United States of America.

Plainly then we need preparation for travel: an education which will make our youth immune to its evils, alive to its advantages. Nor is this after all so difficult. For a generation the writer has been stirring up the Scottish or London student of his acquaintance to go abroad, to this great continental university or another, according to his professional needs; and above all to Paris. Why there especially? First of all to be awakened, and then educated, in that keenest and brightest, most intellectual, most hard-working, and most productive of universities and cities; first as specialist, but also as generaliser, as man of general culture, alive to the significance of the fine arts of poetry and drama, of criticism and of polite intercourse, and of the place and need of all these in social advance.

Above all other reasons, however, the student should go to Paris—to be moralised—and this for two reasons. First, through general contact with what, with all its faults and blemishes—though these are neither few nor small—is yet on the whole the best, most mutualised, most socialised, as well as most civilised, of great city populations.

Secondly, for the sake of that rare experience, still for a few years obtainable (1910), of direct contact with, and impulse from, characters stirred by the terrible year of 1870-1, tempered in its furnace of affliction, and therefore developed, with a whiteness of intensity, to a continuous stretch of efficiency unknown in our more peaceful cities, our less awakened lands. It is by the effort and combination of such characters, such workers, that there has steadily been worked out that magnificent renaissance of France, which has wellnigh wiped out many of the evils of the decadent Empire, abated others, and increasingly grapples with them all; and which has recovered for her in so many and varied departments of thought and action the veritable leadership of the civilised world. Here was the life secret of Pasteur and of Berthelot, of the brothers Reclus, of Lacaze, Duclaux,

and innumerable others of the great masters and thinkers who are no longer with us.

Yet France, as we noted in the first chapter, has not to any great extent our special problem of vast conurbations upon the coalfields, and of their industries, and minds, too largely paleotechnic. She belongs in the main to an earlier and a later formation; her peasant activity predominates throughout the land, while her metropolis and several of her leading cities are more fully advanced in Neotechnic arts and sciences.

Shall we then go to the United States, with their great and swiftly growing cities? Yes and no. Yes; for in many respects the evolution process of American cities is plainly upon the very greatest scale, no longer merely in output of wealth, in increase of population, but also in quality of civilisation as well. In the fundamental industries, as so notably of iron and steel, America has overtaken and surpassed our output. As regards electrical and other factors of the Neotechnic transition she also advances more rapidly. In matters of higher education she has been swiftly advancing to the level of our older European universities; and in public no less than in private generosity she is in many ways surpassing their utmost material foresight, often even their cultural ambitions. But as she ruefully admits, her citizenship has in the past suffered even more arrest and decay than our own, under the influence of the extreme economic individualism of her still too largely Paleotechnic industry, her too individualistic commerce and finance.

The outburst of city improvement and of town planning schemes (1910), and this from New England to California and back again—schemes always large and ambitious, often comprehensive, even magnificent in conception—affords ample and convincing evidence that before long the European citizen and town planner, of whatever nationality, may have to draw his best examples and incentives to civic reorganisation and evolution, and these not only in material achievements but in the moral

uplifts which must ever lie back of them, from the great cities, the towns, even the very villages, of the United States.

Before me lie the plans of American cities, great and small. Here is Washington, in its renewal, upon a scale rivalling, in some ways surpassing, that of the greatest European capitals. Here Boston, with its magnificent park system; and thus a corresponding example of park rings and nature reserves without number, full of suggestion and of impulse to Europe. Indeed to some of these, the magnificent forest girdle of Vienna is as yet the only adequate European parallel. Chicago gives us its comprehensive vision at once of a mighty metropolis and of a world exhibition returned to stay. The rebuilding of San Francisco at least records its lost opportunities.

Each of these American designs, beyond its impressive magnitude, displays unity of conception, sometimes only too severe. It has architectural ability as well as ambition; and a sense of civic dignity, of national greatness. Yet may not the result, however monumental and reposeful to our generation, as we are seeking to emerge from the confused jostle of modern individualism, be felt by our successors as too cold, too formal, and thus even monotonous?

From ancient Egypt to eighteenth-century London, to nineteenth-century Paris, twentieth-century Berlin, has it not ever been the fault of the generalising and masterful city architect to become so satisfied with his stately perspectives, his massive façades and formal proportions, as to forget the simpler beauties and graces which are needed by the people, above all demanded by the young? And has he not thus provoked their rebound? Hence these disastrous reactions, those outbreaks of confused detail, of childish ornament and of adult vulgarity, by which such sternly architectonic periods have ever been succeeded, as so notably in Victorian London after its stately Georgian days? And is not this disastrous reaction inevitable, so long as such architects continue to derive their inspiration mainly from the majesty of the State and of its Institutions?—and too little from and towards

the human interest of each neighbourhood, the individuality of its homes? Too rarely also from cultural vision and expression, from social and moral enthusiasms, from mystic and creative uplift?

Here lies the attractiveness of the more simple and domestic American town designing, like that of Olmsted for the model borough of Brookline. A younger generation of city designers, of whom the excellent city reports and other writings of Nolan, Mulford Robinson, and others are conspicuous expressions, are no doubt on the way towards reconciling the claims of civic greatness with those of domestic and neighbourhood life.

9

A Town-Planning Tour in Germany

Use of Town-Planning Tours: a typical example. Cologne and its development. This and other German cities as examples of the principle of survival through civic policy rather than militarist spirit.

Architectural characteristics: qualities and defects. Dusseldorf and its architecture and decoration; varied expressiveness of these.

10

German Organisation

German Railway Stations as illustrative of better organisation than in other countries. Frankfort New Docks as a masterpiece of town planning in its co-ordination of port and railway, engineering and commercial activities and above all its systematic provision of housing, with gardens, parks, etc., for its dockers.

General criticism of German methods: their recent progress. Camillo Sitte's rehabilitation of medieval town planning.

Limitation of German methods: advantages of English cottage system (Letchworth, Hampstead, etc.) now being admitted in Germany, and provided at Ulm.

Application to British Cities, and to industrial progress generally. Criticism of the London Docks scheme.

The value and purpose of a Civic Exhibition: the need for buildings that express the spiritual heritage of the community, and replace the Paleotechnic with the Neotechnic city.

(For Extracts from this Chapter see pps. 68-74).

10

German Organisation *(Extracts)*

Limitation of German methods: advantages of English cottage system (Letchworth, Hampstead, etc.).

From Germany, when we come home again, we are naturally asked—Well, what are we to do here? The answer is not easy; there are so many answers. Learn from Germany? Certainly yes! Imitate Germany? Certainly no. With all her plannings, with all her commanding foresight, her public enterprise, it is still from Letchworth and Hampstead, from Woodlands and Earswick, and the like, as of course from the old-world villages they continue to renew, that we may best learn to house our people in moderate numbers to the acre, and with that most essential of conditions of health for children, wife and man alike—that is, of cottage and garden.

In Scotland we forget this. The evil Continental tradition of walled cities and crowded population, and consequent persistence of high site values, still weighs heavy upon our long war-worn land, so that even at new industrial villages—say Duddingston, a mile out from Edinburgh—the brewery workers' tenements are already towering up as high as the malt barns. Here too our workers are still even more ignorant and thoughtless of their own health than are we of theirs.

How many people of any class in our great Scottish cities, though every one has its medical school, know that one of our best Edinburgh gynæcologists was accustomed to point out that there is a distinct stratum of women's ill health, and with this of children's also, on the fourth storey, and of course upwards? Why? Because while a woman will contentedly go up and down one stair or two, or even three, the fourth is the last straw, and when carrying a basket on one arm and a baby on the other a very substantial one. She is thus physically overstrained, and so becomes liable to one class of complaints; and more, she gets at last

into the habit of going out as little as possible, which of course opens the way to new series of ailments, while it enfeebles the children from the very beginning. For similar reasons the high separate family houses of the familiar well-to-do London type can no longer so easily get servants, and so far well.

In every way then high dwellings are to be discouraged. Hence, as our "health-conscience" develops, and as wellbeing, success in life, and so on come to be reckoned less habitually in money-wages, and more in terms of the real environment which these are only of use to buy, the high houses of German or Scottish towns must tend to be abandoned in favour of the cottages of the coming garden suburbs. Still, as the working family under existing conditions cannot afford a new house with adequate number of rooms for its members, they will increasingly find the present small middle class flats in high dwellings—as these become vacated for separate houses, or garden suburb cottages—more readily within their means. Thus also a too disastrously rapid depreciation of such properties tends to be mitigated.

The "Reform Bill Atlases" of 1832 for Scottish and English towns are well worth consultation. On each page we have practically still the little old-fashioned town, much as it was in the Middle Ages, its few and narrow streets still mainly the obvious crossings or convergences of the country roads around. But outside its group of dwellings altogether sweeps a wide red line, sometimes far into the fields, the parliamentary boundary, with its allowance for the then expected growth. Pity that this foresight, like political thinking so largely, was not brought down from its high parliamentary level upon the concrete area it included; for here would have been our town plan two full generations earlier; and with this how much wealth and time, health and happiness, might have been saved?

Not but that there were already beginnings of town plans, even partial realisation of them indeed, far earlier; witness not only the classic case of the New Town of Edinburgh, and much of Bath also, as well as much of the best of London, but examples

in smaller towns as well; notably the stately layout of Buxton, or of the newer parts of Perth to north and south, with their formal terraces overlooking the magnificent Inches. But all these belonged to the spacious and enlightened period of the late eighteenth century.

With the Napoleonic wars, and with the expansion of production and the low state of depression of the producers which accompanied and followed these, all the designs of worthy city development were lost sight of or thrown aside. Thus that main mass of the modern town, which is already our curse and incubus, was swiftly heaped together; mean cottage-rows, or barrack tenements with slummy common stairs, for the workers; ugly house-rows, or desolately respectable semi-sanitary flats for the bulk of the middle classes; and even for the richest the dreariest mansions, the ugliest villas the eye of man has ever seen.

This bulk, then, of these our everyday towns is not normal but abnormal, waiting to be scrapped with other evil fashions of a by-going age. For tradition of towns worth living in, our few medieval or early renaissance houses and monuments, as in Chester, or York, or Old Edinburgh; our eighteenth century dwellings, as in Bloomsbury or New Edinburgh, are, each in their way, far more inspiring and serviceable, more enduring probably also, than is the vast mass of nineteenth century growth.

The value and purpose of a Civic Exhibition: the need for buildings that express the spiritual heritage of the community, and replace the Paleotechnic with the Neotechnic city.

Practically, then, our immediate need is educational—most effectively through a Civic Exhibition, and this twofold. First and most easily realised, a local exhibition in each city; and essentially of its own site and origins, its own best past, its present good and bad alike, its possible opening future also. But beside this we need a great exhibition: of a type better than international ones, which may mean anything or nothing—an Inter-Civic Exhibition—showing what great cities have been, what the best of them still are, above all what they aspire to be.

Upon the irregular and broken ascent of man, though so often sadly turned back and delayed, he has once and again grown conscious not only of his own personal self and family, or of his social group or clan, his tribe or nation, but also of his great social hive, the city: at times again, as lately, as largely still, he has become forgetful of this. But all history confirms in detail of life and art what language preserves in literal word that not only "politics" but "civilisation" itself are essentially products, not of the individual, but of the city.

Too many of our German hosts, and still more, I fear, of us, their guests, are plainly accustomed to think of town planning as an art of compass and rule, a matter to be worked out, between engineers and architects almost alone, and for their town councils. But the true town plan, the only one worth having, is the outcome and flower of the whole civilisation of a community and of an age. While starting from its fundamentals, of port and road, of market and depot; and from its essentials, too, of family dwellings worthy to be permanent and hereditary homes, it develops onwards to the supreme organs of the city's life—its acropolis and forum, its cloister and cathedral.

Now in our day we have again to develop the equivalents of all these. It is, in fact, for lack of these that our cities reek with evils. The psychology and treatment of our besetting sin and national disgrace of alcoholism is no such simple matter as we think. For the individual—the Celt especially—drunkenness is times without number a perversion of mysticism. For the community—Scottish especially—it is the nemesis of the repression at one time by ascetic puritan, or at another by mammonist utilitarian, of the natural joy, the Dionysiac ecstasy of life.

To progress from our recent conditions to public sanitation and housing has been much, and to dream of garden cities and garden suburbs, and here and there to begin realising them, is far more. More important still, however, is the next step, that from such town extension planning towards city development. But where is the movement to be adequately initiated? Well,

why not in Liverpool? in Birmingham? or say in Glasgow where the need is at its very sorest? Its glorious Clyde Valley, its great fiord with its mountain shores, its lovely isles, is an admirable natural region, till lately (and why not again?) of the fairest of the earth. Here too, in rare degree are the resources of population, of intelligence and science and skill, of constructive and organising power, of artistic and architectural originality, even of social feeling and civic statesmanship as well: why then may not the Neotechnic city here most readily replace the Paleotechnic one?

It is not Germany which will save us, not Berlin, nor Paris; not Letchworth nor Hampstead either; though each can give its lesson. Or take Glasgow as worst-housed of modern cities. In that Industrial evolution which is the determinant process of modern history it has been foremost in invention and initiative, and this once and again.

The modern man with Watt's steam-engine as burden upon his back, with Smith's Wealth of Individuals clasped to his bosom, is essentially—that is, both practically and spiritually—the citizen of eighteenth-century Glasgow, though he be now housed in one of its distant manufacturing suburbs, called Birmingham, Bermondsey, or Brooklyn. Again, here is his son, for whom electricity is replacing steam, and for whom some tincture of more social and moral philosophy is replacing the old hard-shell individualism. Be he from Oxford or Cornell or Charlottenburg, is he not still young Glasgow at its best, disciple of Caird or of Kelvin?

Why, then, need we despair of a third movement in which the artistic originality which has stirred all Europe, and this alike in painting and architecture, the yet mightier architecture of the ship in which the Clyde still claims to lead all rivals, may be combined with the civic statesmanship which has won modern Glasgow perhaps her widest and most honourable fame of all? This surely would be the fitting crown of all these repeated initiatives, this pre-eminent world-leadership of the technic age.

Quite definitely in Glasgow to-day there meet—so far no doubt everywhere, yet here in their very intensest form—all the conditions of civic and national decadence on one hand, and all the resources of recuperation on the other. Let us set about fully surveying the problem, meditating and testing the policy; and soon it might be the turn of German town planners to cross from Rhine to Clyde.

At best, however, for years to come, we cannot fully overtake the progress of the German city, with its many years' start of us, its ever-increasing thought and effort (1910). Let us briefly sum up, then, our main impressions of what it has to teach us. To those who were visiting German cities for the first time, and even to those of us who knew them previously, their historic greatness, their characteristic individuality and legitimate civic pride, their vigorous grappling with present-day problems, and, above all, the breadth and boldness of their preparations for an enlarging future, made up a daily lesson which none of us are likely to forget.

At home we have our historians absorbed in the past, our business men in the present, our Utopians in the future; but each is as yet isolated in his own aspect of the moving world. Whereas, to see that your German burgomaster or councillor, official or citizen is much of all these three rolled into one—that I take to be one of the best and most needed lessons of such a journey, one of the suggestions which may be most fruitful after home-coming.

It is much for lovers of the past that historic memories and associations are not, as with us, forgotten, or sneered at as sentimental if revived, but are known and valued as the spiritual heritage of the community; that ancient places and monuments, old-time streets and houses are not swept away wholesale on this or that crude pretext of convenience or of sanitation, but are cleansed and conserved as the very nucleus of the city's material heritage. It is a mental illumination, too, for our "practical man" to see not only education and health held in higher esteem

than with ourselves, but natural beauty preserved, developed, rendered accessible to all, from river-front to mountain-forest; to see, too, that art is not something outside everyday life, something "unpractical," at best to be grudgingly supplied in schools as a reputed aid towards the design of marketable commodities; but something to be viewed and treated as a worthy and social end in itself—in architecture, sculpture and painting, in concert, drama and opera. To us, who so largely belong to towns greater in number of population, and proportionally even richer in monetary wealth than are these German ones, it is the most useful of experiences to see civic greatness estimated in more spiritual elements, and public wealth more applied than with ourselves towards creating an environment of material beauty and general well-being.

11

Recent Progress in Housing and Town Planning

Eutopia in progress: developments over the turn of the century in England, Germany, etc.

Metropolitan improvements of Athens, and next of Dublin. Rise of municipal life and leaders. Constructive progress in British cities and in American ones, yet limitations persistent. The housing situation in Canada and Australia. Phases of progress in India.

Home politics turning towards city betterment: corresponding call for fuller knowledge, and its diffusion.

12

Civic Exhibitions

Exhibitions and their origins: medieval, renaissance and industrial. International exhibitions in London and Paris.

First a word on exhibitions in general. In the Middle Ages each craft-guild had its exhibition of literal "masterpieces," contributed by skilled journeymen, aspirants to the ranks of mastership; and so it seems to have been for a time at the Renaissance, with its advance of many arts into a new and brief perfection. Picture exhibitions have long been pursuing the same purposes of self-expression and mastery, beyond their simply commercial one; and soon after the clear advent of the Industrial Age, general exhibitions began to take form; in Paris, it is said, as early as 1793.

A generation later came the first proposal of an international exhibition of industrial progress. It is worth noting that this fitly came from the discoverer of those early implements and remains in the caverns of Dordogne which proved to Lyell and his reluctant contemporaries the vast antiquity of man; for M. Boucher de Perthes was a true student of the past; no mere antiquary and collector, but a thoughtful inquirer into the progressive control by man of his environment, and thus interested in all that the advance of his appliances might signify in that remote past, or again in his own scarcely less marvellously evolving present. Here in fact he has reached a true, a central, a continuous epic of humanity—"Tools and the man I sing!"

But the period of the Industrial Age, full enough in enthusiasm and hope to carry out such a dream into deed, could only arrive twenty or more years later, when to the comparatively familiar achievements of the steam-engine, of the spinning-jenny and the loom, had been added the impressive magic of railway and telegraph, as fully renewing the wonders of the world. Thus appeared the great International Exhibition of 1851 with its

Crystal Palace as the monument of not only the material uplift, but the spiritual culmination of the Paleotechnic order at its very highest.

After this our British manufactures, despite obvious elements of superiority, found themselves, however, in too many respects outdistanced by those of more incipiently Neotechnic people and cities—hence Paris Exhibitions increasingly assumed predominance for the next half-century, culminating in 1900. This superiority was not a little aided by the intelligent classification and comparison, as museums of industry, introduced by their organiser in 1856 and '67, the social economist Frederic Le Play, whose various influences on sociology and social betterment are alike still spreading; but their super-eminent position was assured by the moral and social uplift after 1870-71, with its artistic, technical, and scientific productivity, which repeated and in its own way even surpassed, that of Germany after 1809. General exhibitions have also been continued in many countries, as notably in the United States; witness especially the architectural impressiveness of the Chicago Exhibition of 1892 towards arousing that concept of "the City Beautiful," or, again, the ambitious "Panama Exhibition" at San Francisco to commemorate the opening of the great canal.

The Civic Exhibition—its importance and fruitfulness in Paris and Germany.

Looking back over the central series of Paris Exhibitions (1878, '89, 1900), we may ask, what was their most significant and fertile exhibit, the real clou of each exhibition? For the first, it seemed the Trocadero Palace; in the next the world-wonder was the Eiffel Tower, since sky-scrapers as yet were not; and, for the third, surely the magnificent "Rue des Nations," unparalleled union as it was of national self-expressions in international amity.

After all, the highest portent and most enduring influence has proved to be the appearance in each exhibition, and on an ever-

increasing scale, of a "Pavilion of the City of Paris." For here was the most organised of all great modern cities becoming increasingly conscious of its own collective life, and striving to express and advance this to and through its people by vivid and graphic methods of every kind. With this also we may take the growing development of a section of new type, instituted by Le Play in 1867, that of Social Economy and Industrial Welfare.

Here, then, we had the advent of a new type—the Civic Exhibition—which was henceforth increasingly destined to replace the older exhibition of technical appliances and details, of products and even masterpieces, as yet but aggregated for rivalry or gain, and not yet integrated and inter-organised towards social well-being and civic use.

Yet French cities remained under the crushing inhibition of their over-centralising and money-exporting metropolis; while German cities have been in course of unprecedental expansion (1914); hence this fertile idea of the Civic Exhibition has since 1900 found its main development and expression north of the Rhine. Thus Dresden, Munich, Berlin, Leipzig, Düsseldorf, and other cities each had its own civic exhibition, and always of value and interest, local and comparative, or both. And generally with even popular success. True, the large "Building Trades' Exhibition" of Leipzig in 1913 had the extraneous and imperial aid of a battle centenary; but the modest and excellent "Old and New Cologne" of the same year not only ran on its own merits for six months, but was repeated for 1914, with additional features contributed by the "Werkbund," an association answering to our own "Arts and Crafts." In such ways the revolution in exhibitions is becoming complete; for instead of mere individual agglomerates, mere heterogeneous products, coarse and fine, we have increasingly the conception of civic life influencing architecture, and this marshalling arts and crafts, and with no small enhancement of individual effect and significance accordingly.

Retrospect and criticism of the London Town Planning Exhibition of 1910.

Though the need of Civic Exhibitions in British towns has for many years past been urged, neither the example of Paris nor the influence of group and individual endeavours at home could accomplish their effective beginning, until at home the movement of garden cities and town planning had made itself widely felt—and with this the example of Germany was realised, and the interest in American city improvement also awakened and—above all, until the wide discussion of Mr. Burns's Town Planning Bill, and its successful passage as an act (1909), gave concreteness and urgency to the movement. True, the Sociological Society had at times since its foundation in 1904, discussed the expediency of promoting a Civic and Town Planning Exhibition, and of bringing the idea before other societies —architectural, geographical, statistical, etc. In 1910, however, an effective start of the Exhibition movement was made in London. Co-operation was organised between the Royal Institute of British Architects and the Royal Academy; and leading architects, town planners, and active associations came forward, and were cordially aided from the Continent and America.

For the main significance and lessons of this London Town Planning Exhibition of 1910, the writer may here condense his report upon it to the Sociological Society, since its essential criticisms of much contemporary town planning remain valid, while its practical suggestion has since been bearing fruit.

"This exhibition will be remembered as a date and landmark in our social progress. Avowedly only a beginning, it expresses a great step beyond traditional politics and beyond current sociology also; to a more direct and realistic mode of thought, and to a correspondingly more direct and practical form of action. For here we have done with arguments concerning 'the Individual and the State,' and we know nothing of parties and elections, of votes or the demand for them. We have got beyond the abstract sociology of the schools—Positivist, Socialist, or other—with

their vague discussion of 'Society' and its 'Members,' since we have reached the definite conception in which all these schools have been lacking—that of Cities and Citizens. Thus our corporate government and our individual energies find opening before them no mere remote and deputed activities, but a vast yet definite field of observation and action; and these capable of expression more vivid, of notation more definite, than even speech or writing; to wit, the surveyor's maps of relief models, the architect's plans. Towards this extension and renaissance of the city, this enlarging life-scope of the citizen, our Town Planning Exhibition and its Congress appear, as the appropriate educative agencies of citizenship. Throughout the length and breadth of the land these are beginning to arouse city and citizen from their long torpor; and to bring a new concreteness, a fresh possibility of research and discovery to the still half-metaphysical social sciences; and they are appealing to the press and through it to politicians of all parties, to women of all camps.

"Such an exhibition should be visited and studied by every responsible and thinking citizen; yet not uncritically. An almost unreserved welcome may indeed be given to the plans and projects of garden suburbs and garden villages; as notably also to various specific plans and researches, such as those of hygienic orientation, i.e. of buildings to light, houses to sunshine. More open to criticism are the various designs for the development and reorganisation of great cities: Paris, Berlin, Chicago especially. For under the dark austereness of some designs or the meretricious beauty of others, one main impression appears. All these agree far too much in expressing too little but the imperial, the Cæsarist, type of city; which is essentially the same whether it be imitated from the Paris of Louis XIV or of Napoleon I, or from the correspondingly magnificent designs of Washington: it is not really original or recent. The strategic boulevards of Haussmann and Napoleon III, the pompous perspectives and parade-grounds of Berlin, reappear with too little of essential change of spirit in the proposed transformation of Chicago.

"We may so far call a Garden Suburb a 'Demopolis'; but do not these new cities threaten one and all to become each a new 'Tyrannopolis,' and this however benevolent in intention or republican in name or design: for, despite all their magnificence of public buildings, each is still too much without a true Acropolis.

"The great city is not that which shows the palace of government at the origin and climax of every radiating avenue: the true city—small or great, whatever its style of architecture or plan, be this like Rothenburg or like Florence—is that of a burgher people, governing themselves from their own town hall and yet expressing also the spiritual ideal which governs their lives, as once in ancient acropolis or again in medieval church or cathedral; and we cannot feel that the designers of any of these great plans have as yet sought new forms for the ideals which life is ever seeking.

"In our present phase, town-planning schemes are apt to be one-sided, at any rate too few-sided. One is all for communications, another for industrial developments. Others are more healthily domestic in character, with provision for parks and gardens; even, by rare hap, for playgrounds, that prime necessity of civic survival: but too many reiterate that pompous imperial art, which has changed so little from the taste of the decadent Cæsars of the past to that of their representatives in the present. Such plans mingle both exaggerations and omissions with their efficiency: in their too exclusive devotion to material interests they dramatically present the very converse of those old Spanish and Spanish-American cities, which seem almost composed of churches and monasteries.

"To avoid such exaggeration, yet incompleteness, what is the remedy? Clearly it awaits the advance of our incipient study of cities. For each and every city we need a systematic survey, of its development and origins, its history and its present. This survey is required not merely for material buildings, but also for the city's life and its institutions, for of these the builded city is

but the external shell. Hence the suggestiveness of the partial survey of Edinburgh, one of the most typical of cities, especially as rearranged in completer forms in later exhibitions, with surveys of other cities, great and small, British and Continental.

"Here is a vast field of social inquiry, inviting the co-operating of specialists of all kinds; on the one side this should be organised by scientific societies, and above all the Sociological, next doubtless by schools and universities; but as soon as may be it should be undertaken by the citizens themselves, aided by their municipal representatives and officials, and housed by their museums and libraries. We have already a Geological Survey, and are beginning those of Agricultural Development and Forestry; but yet more urgent and more vital is the need of City Surveys. These are at once the material and the starting-point for the Civic and Town Planning Exhibition, which will soon become as familiar an incident of the city's life as is at present its exhibition of paintings."

Rise of Cities and Town Planning Exhibition: its record and aims. Outline of its plan at Ghent (1913).

Organisers and students of this exhibition could not but feel that its rapidly accumulated collections, despite their value and suggestiveness, had been at once too heterogeneous and too incomplete; and the more orderly endeavour above suggested was resolved upon. From the "Survey of Edinburgh," for many years in progress at the Outlook Tower, a selection had been made and developmentally arranged; so that here, more than elsewhere before, the essential conditions and phases of a city's historic past were shown as determining its qualities and defects in the present. Past and present were also shown as presenting the problems of the city's opening future, and as conditioning their treatment also. This exhibit was therefore felt to present a needed suggestion, and even nucleus for a further exhibition of smaller but more typical and systematic character. Hence, with the help of a small committee, representative both of town-planning practice and of civic and sociological studies, the new

"Cities and Town Planning Exhibition" took form at Crosby Hall during the following winter.

The principle of this new exhibition was no longer simply that of seeking and accepting examples of good contemporary work as it comes, important though this always must be. It involved an ordered design; that of presenting a type-selection of housing and town-planning schemes of suggestive character towards c ty development; and further of working towards the comparative presentment and study of the evolution of cities—historic, actual and possible.

Of this great process, the architecture of a city is but the changing expression, and its plan but the record, say rather the palimpsest. Hence this new exhibition was on the one hand greatly reduced in scale, yet on the other as greatly increased in complexity. From the first it continued the sociological and civic inquiries which had underlain its beginnings in Edinburgh.

The exhibition was next invited by the Corporation of Edinburgh. Thence it was invited to Dublin, from which it went to Belfast. With further growth the exhibition formed the chief element of the "Exposition des Villes," which was a feature of the Ghent International Exhibition of 1913.

A disadvantage of the town-planning movement, as yet, is that people think it merely or mainly suburban, and architectural at best. But its needed renewal of home life and home conditions throughout the industrial world is (and will be) delayed—our admirable, but comparatively few, garden suburbs and occasional central improvements notwithstanding—until the larger civic movement, now plainly nascent, and in well-nigh every land, has gathered strength, and become more clearly intelligible and purposive throughout the world.

That which at present makes the delay and difficulty of the civic movement will become its strength and appeal in the long run. For at present the historian is in the library, in the museum, or the university—in the past anyhow. The builder and architect are in the active present, but in the present too much alone. The

thinker is too often a dreamer, occupied with the future indeed, but a future which to others seems too remote for practical purposes. But a Congress of Cities, a Cities and Town Planning Exhibition, stand for utilising all three types of man and mind. These too seldom meet, and therefore shrink from each other; but such programmes reconcile and bring together not a few of the best of them.

Hence, when each of our exhibitions has closed, after its two or three weeks in any great city, it has been amid a civic atmosphere notably modified in this way. The antiquarian lover of his city's past, whose treasures we have brought before his fellow-citizens, admits an awakening to the Present, and to this as an opening Future. So too the "practical man," hitherto absorbed in the present, confesses he has come to see more of his city's roots in the past, of his responsibilities to his successors. Above all, the exhibition helps some of the best minds of each city to distinguish, in the past, its Heritage (respect for which makes the Conservative at his moral best), from its Burden (revolt from which makes the Radical and the Revolutionary at his moral best). It thus does something towards helping both parties in their quest of a social policy. Of all this exhibits of old towns, like Edinburgh and Chelsea, with old buildings conserved and yet renewed to vital uses, are a beginning and a symbol.

In such ways, too, our exhibition at times even reaches the "utopist" and the "crank," for it suggests applying the idealism of the one, the inventive energy of the other, to the needs of the present; and these also stir up the "practical man," who does not wish to be left behind, to needs and opportunities.

In each city the Town Planning Exhibition has effected more or less of this education of public opinion, and towards practical results. Sometimes this impulse has been a diffused one, as in Edinburgh, with results manifold, but not easy separately to trace. Sometimes there have been immediate definite results to which we could point, as in Dublin: e.g., formation of a "Cities and Town Planning Department" of the National Museum; forma-

tion of a "Town Planning Association of Ireland"; with initiatives of improvement for Dublin itself, and in 1914 a Civic Exhibition on a larger scale than heretofore in the English-speaking world, with Competition for a General Town-Plan of Dublin, involving housing and metropolitan developments alike.

After these preliminary explanations it is time to come to the exhibition itself, conveniently as it was at Ghent; for this exhibition made a beginning, as yet the most clear and definite beginning, of the comparative study of cities; each shown like a living being, in constant relation to its environment; and with the advantages of this, its limitations too. Like the living being it is, a city reacts upon its environment, and in ever-widening circles. It may transcend its limitations, here economically and there educationally; or, first in thought and next in deed. Hence its character and aspect in each age; hence its varied eminence and influence accordingly; until once more it changes, with circumstances or with the times, outwardly, inwardly, or both. At one time it may conspicuously advance, at another show more of arrest and decay, poverty and disease, vice and crime. All these are modified by war and peace, and these have correspondingly varied consequences and reactions, now of deterioration, or again of renewal.

In such historic survey there is no neglect of town planning though in each city we visit the alderman, the borough engineer, the anxious reformer too may sometimes fear this as he enters. Yet when he gives a second look, and gets as far as the gallery of Garden Suburbs, or that of Central Improvement, he sees that these are typical ones, naturally arranged; intelligible and helpful accordingly. He comes to recognise how the garden suburb and the central improvement, in which he may have been interested, are related; and how they gain completeness and value from each other, and from his city's past. Each garden suburb is not merely an escape from the noxious squalor of the merely Industrial Age, or from the dreariness of the merely commercial one, to healthier individual lives, to brighter family existences:

these are growing together, before long to form an expanding ring, of a healthier city in the future.

So with the central improvements also: when rightly managed these preserve the best traditions of the city's past, yet purged of its decay, its active sources of continued evils. In some cities, and these often the most historic and influential (Rome and Paris above all), the central changes have often been too violent and too costly, casting out good with evil. Other cities—too numerous for mention—as plainly remain conservative in the worst sense, too tolerant of evils, ancient and modern, which are blocking the light of better days, past and to come.

Our illustrations of many cities are thus not simply for historic interest and interpretation, but for practical guidance. Whatever the student of cities can observe and interpret, foresee and suggest, the active citizen will not be long to devise and to apply.

Yet " we learn by living"; the student of medicine must go to the bedside as well as to dissecting-room and study before he really understands the working of the human frame; and likewise with the student of cities; he must work in and for his city, were it but to investigate it more clearly. Still, in medicine and public health, it is found best to let diagnosis precede treatment, and not, as with the would-be "practical man" so much hitherto, to adopt the best advertised panacea of treatment, before any diagnosis worth the name. So it is with cities; the rival panaceas of their party politicians have too long been delaying the surveys and diagnoses of the civic sociologist.

The "Survey of Cities," which we thus reach, is a main feature and purpose of our exhibition. This survey must take in all aspects, contemporary as well as historic. It must be geographic and economic, anthropological and historical, demographic and eugenic, and so on: above all, it aims towards the reunion of all these studies, in terms of social science, as "Civics." This youngest branch of science, as yet but a little-noticed bud upon the ever-spreading tree of knowledge, may before long be recognised as one of the most fruitful of all. Its legitimacy and its

interest are still often unrecognised by the sociologist, himself too abstract, or merely anthropological or racial, for lack of civics.

This too general thinker upon human affairs has for some time been seeing that between his long favourite extremes of Individual and State, there lies the Family; but here the City is shown to mould the individual (it may be even more strongly), and—not merely as governing metropolis—to dominate the State. So far we see to-day; hence our civic observations, speculations, and controversies, our emerging theories—in a word, the rebirth of sociology, as above all the Science of Cities.

But as this new or renewed science grows clearer, and its results begin to be made plain, as already in some measure in our exhibition, it begins to appeal to the citizen, and this not only to the thoughtful individual here and there, but to thousands. It is worth noting that these thousands largely belong to classes hitherto not much occupied with municipal politics. The appeal of civics seems as yet rather to highly-skilled workmen and women, to teachers and artists, and to the young rather than to the fixed and old. To the conventional and apathetic minds, still too common in municipal government and administration, as in the larger national machinery, this new fermentation of thought seems of little practical importance, since not appreciable at the polls, not yet formulated into definite programmes. Yet the municipal statesman, who is appearing or preparing in many quarters, must soon organise and voice this deeply changing constituency.

The citizen already comes into contact with science after science: witness Engineering in its many branches, of which but the latest is Electricity; witness Public Health, in no few ramifications. Education likewise, and at all its levels, from Kindergarten to Polytechnic and University, has been coming more and more within the civic view. Economics and Law, older interests still, are now changing and developing ones. Housing, though an old story, is becoming transformed, by conjunction with Town Planning.

At this stage the City becomes again reviewed as a whole, as he who understands a town-plan sees all the town as from an aeroplane. All our activities—industrial and commercial, hygienic and educational, legal and political, cultural, and what not—become seen in relation to one another, as so many aspects and analyses of the city's life. To make this life more healthy and more effective, the unrelated individual activities with which we have been too long content are found insufficient; we need fuller co-ordination and harmony of them, like that of the instruments of the orchestra, of the actors in the drama. We expect this of soldiers in the field, of workers and organisers in the factory, of assistants and partners in the business. Is it not for lack of this orchestration, of this harmonious organisation, upon the larger civic stage which our town-plans so clearly reveal, that our cities, full of detailed efficiencies of many kinds, are still so far from satisfying us as collectively efficient?

The time, then, is ripe; the place is every city; each needs its Civic Survey and Exhibition, its Civic Study and Laboratory. Its municipal departments have elements of all these; and these increasingly, even consciously—witness the four Civic Palaces above referred to. Local consciousness diffuses and intensifies; it also widens into comparison of city with city. Thus, in fact, appear the methods of a Science of Cities—that our cities should be individually surveyed, scientifically compared; as their architecture long has been—cathedral with cathedral, style with style.

Hence our Cities and Town Planning Exhibition (despite incompletenesses on every hand, of which its workers were not less conscious than their most critical visitors) boldly raise the theses of this needed Science of Cities. Its surveys were descriptive—fragments of a "Politography"; but it was also struggling to be interpretative—that is, towards becoming a true "Politology." Of the bearing of civics on the social sciences, from economics in particular to sociology in general, we attempted some graphic outlines. Of its practical bearings and applications—towards

improvements, towards revivified cities, suburban or central—indications were on our walls. It is time briefly to indicate the arrangement of these civic galleries.

(a) Classic Cities and Great Capitals.

First of all, our visitor must be made to feel, and this strongly, the profusion and the confusion of the subject. Hence our Entrance Hall was hung, like a private study or corridor, with a medley of things new and old, of pictures, plans and views, architectural or civic, each interesting, but without obvious relation or association to any mind except the owners. From this opening presentment of the confused beginnings of interest in the subject we entered the gallery of "Modern Civic Administration" without further studies, as the manner of our city fathers had been; hence this had but little systematic arrangement, and that mostly alphabetical at best!

What is the usual alternative to this rough and ready education of the practical man? That of the educationalist hitherto, and of the architect usually also, has been to go forward into the room of Classic Cities. Here, then, are Athens and Rome above all, with some illustration of the glory of the one, the grandeur of the other; and next of Hellenic and Roman influences throughout history and civilisation, as in Constantinople. To these are added indications of Babylon, of Jerusalem, and other distinctive and influential cities of the past.

From this classic gallery not only the scholarly student and architect, but the public they have so long been guiding for good and ill, readily pass on into the next gallery, devoted to "Towns and Cities of the Renaissance." This had examples of initiative historic buildings, and culminating masterpieces of later developments and deteriorations. It included indications of the system of education and life, especially as architecturally expressed which these have transmitted to the present.

Among these Renaissance cities a few have most conspicuously survived in the struggle for existence, through innumerable

crises of war and changefulness of peace. These are now the Great Capitals of Europe; with which were naturally shown cities conspicuously derived from them, at this or that period, *e.g.*, Spanish American (especially from Madrid, at the Renaissance), Washington (especially from Paris, at the close of the eighteenth century). Hence a larger gallery, mainly devoted to the "Great Capitals."

The exaltation of their day of undisputed preeminence has here to be brought out; first through the centralisation due to the wars of generations; next through the rise of railways and telegraph systems, and the administrative and economic concentrations to which these give rise; and, yet more lately and fully, through that intensification of imperial powers and claims of which every great European metropolis gives increasing example. How such imperial considerations have determined the town planning of Berlin, as that of Paris by Haussmann a generation before, are but salient examples of a process manifest everywhere, from Rome or Vienna to Washington or London, witness Kingsway and Whitehall.

Yet when all these supremacies of the Great Capitals are expressed, and even emphasised to the fullest metropolitan satisfaction, there is another process at work, little though the megalopolitan mind yet recognises it. Three or two generations ago, and less, these great metropolitan cities were alone completely organised with all the apparatus and resources of the complete civilisation of their time. In some respects this is still true. There is only one Louvre, one British Museum, one Smithsonian; just as only one War Office for each great country. Still, even war to-day is segregating, decentralising; much more has industry been working out its own strategic points, though finance may still for a time hesitate to follow it. Culture ever refuses to be completely concentrated; nor can the ultramontane ascendancy of Rome be repeated. As even the culture-supremacy of Paris was disputed in the Middle Ages by the rise of universities in every land, so again the supremacy of Paris or Oxford

to-day in their own countries; as renewed universities like Montpellier, and new ones like Liverpool, are increasingly bearing witness.

Every considerable city, in short, seeks to complete itself. It no longer contentedly accepts provincial inferiority; it finds itself with the means, and increasingly with the will, to develop its own civilisation within and not merely draw it from without. Thus Glasgow is not content simply to derive its livelihood from its own characteristic activities, while taking its ideas from Edinburgh, as in the seventeenth and early eighteenth centuries. At the close of that century it stamped its utilitarian philosophy and practice upon the world by producing the characteristic economic thinker in Adam Smith, to match the initiative industrial worker in James Watt. And though till after the middle of the nineteenth century Glasgow took her art from the London Royal Academy or its minor Scottish sister at Edinburgh, her awakening to the best French painting, her contacts with those of the Netherlands have since deeply fertilised her own creative sources; so that to be a simple "member of the Glasgow School" has become a better recommendation to the world's galleries than to be an academician of London and Edinburgh put together. Similarly the most vital and progressive university of Great Britain, in the early years of the twentieth century, has not been Cambridge, London, or even Manchester, but Liverpool.

Of any fuller civic awakenings, beyond such after all partial developments, examples are naturally few. One may be cited here, the rise of Cardiff, from that mere export-centre of the South Wales coalfield which London still thinks it, to deliberate design as a regional metropolis; in fact, as the fourth national capital of the British Isles; and one determined to be even more complete than Edinburgh or Dublin. This ambition has been pressed in the creation of a civic centre far surpassing that of any other British City; in fact, in some respects more comprehensively (though not as largely or subtly) planned as one well known to every town planner, that of Nancy, when the southern

capital of King Augustus of Poland, in his capacity as Duke of Lorraine.

In such ways, without a separation from the Great Capitals, their gallery ran straight on to include Central Improvements, among Great Cities generally.

These typical developments were indicated round the walls, city by city. It was also needful to show how the various problems common to city life were being met and handled by architects and town planners, e.g., Railway Stations, from the squalor and muddle still so characteristic of the land of their initiative to the well-designed order of later German centres, the lucidity and magnificence of the Gare d'Orleans at Paris, and the stupendous achievements of St. Louis and New York. Here we contrasted the crude dock design of London with the admirable scheme of Frankfort; and so on for other elements of the economic world. So too for education, and from kindergartens to universities. Such comparisons obviously need as many galleries as we had screens.

(b) Race, Population and Child Welfare.

Enough here if the main idea be made clear. The cathedral-builders of the thirteenth century viewed Notre Dame itself—consummate achievement and initiative as they saw it to be (the "Paris Exhibition" of the year 1200)—not as an unapproachable wonder, but as something henceforth to be surpassed, and this even for minor dioceses and cities, by new world masterpieces. So, once more, the citizen and the civic designer are coming to think and act. No department of city life, even in the smallest cities, need be provincial, petty, mean, insignificant. To-day, with gathering knowledge and incipient science; tomorrow with arousing imagination and renewing art, a new great age of cities is preparing. Our garden suburbs, our central improvements are mere beginnings.

Hitherto we have travelled along one main line of civic study, that to this day the most authoritative; yet is it not felt that this

series, from old Rome to new, too little considers the citizen as a personality, and misses much of the personality of his city likewise?

A partial answer begins with the indications of Racial Anthropology, which has long been so dear to Teutonic and Anglo-Saxon historians, and is now widely imitated on all sides, from Pan-Slavonic to Pan-Keltic. Following upon this we come naturally to Civic Demography, thence to illustrations of the new-born Eugenic movement, and to a selection from recent Child-Welfare Exhibitions. Past origins, present facts, future developments are thus considered, and for the people's life, as well as for their homes.

Our study of cities will now seem to many as in principle complete, however limited and inadequate in detail. For here, from the current and dominant metropolitan point of view, we have what seems really significant for the study of cities. What need of minor town-studies? Of our visitors, few are interested in the small cities of their own land, much less in those of smaller peoples. Recall how Germany sneers at Krähwinkel, England at Little Pedlington!

Yet, in the study of cities, little Jerusalem counts far more than Babylon the Great; and in many ways Athens even more than great Rome itself. This conception cannot permanently be left out of civics: quality is not so entirely a function of quantity as quantity is apt to think. With those to whom this idea is not too unfamiliar or uncongenial, our explanations of the exhibition must therefore start afresh, and once more from its Entrance Hall.

(c) Geographic and Historic Origins.

Suppose, instead of beginning with the gallery of Civic Affairs, or at the Great Cities, with the body of the public, we follow our children. These are interested in simple natural conditions to start with—in stories of hunter and shepherd, of miner and woodman, of peasant and fisher. So we enter the gallery devoted

to "Geography"; not as mere gazetteer, but as yielding and illustrating the fertile principle of Geographical Control. This conception is of the settlements of men, from small to great, as initially determined by their immediate environment; and, though thence extending into larger and larger towns and cities, yet retaining profoundly, even if obscurely, much of their initial regional character and activity, spirit and type. At one time they may transcend their original limitations, yet at another they may exaggerate their past defects.

Thus local character and history—which have been described at one time as providential, at another accidental, by recent historians again as racial—turn out to be regional and occupational at bottom. Here, then, is a fundamental mode of approach and of developmental investigation for the Science of Cities; and one full of interest, as geographers and sociologists begin to realise. Moreover, from this gallery we may return to that of Classic Cities, as scholars everywhere are doing, and with the new interest of fresh light. Still more is this the case with the gallery into which this one immediately opens, that of "Medieval Towns and Cities"; with their development and history, as widely distinct from that of the classic world, and plainly conditioned by local and regional surroundings.

From this Mediæval gallery we may now revisit that devoted to the Renaissance, and there observe how this destroyed as well as replaced the Mediæval past. Thence, however, let us return to consider, and with patience, the smallest and least familiar gallery of the present arrangement, yet one of the most significant, that of "Wars." Wars of the Reformation and Renaissance, with their destruction of the Mediæval Cities, and, with them also, of the smaller states; and all this by the more favourably situated cities—which thus arose as the Great War Capitals, which we have before considered, but then too independently of their essential origin and history. This proposition, of course not unknown to historians, yet never sufficiently emphasised, is here elaborated and strengthened, until our whole historical perspec-

tive is changed; it alters our view of the Great Capitals, and, of course, of their present civilisation largely with it.

Return once more to this gallery of Wars and their results: it further suggests how all these wars of the sixteenth, seventeenth, and eighteenth centuries prepared populations—depressed, impoverished and embittered—for the coming in of the Industrial Age, and of its various revolutions. Here, then, we enter upon the gallery of "Industrial Cities," and with fresh lights upon their gloom; that of the Paleotechnic industry, already enlarged upon in earlier chapters.

We press on to the larger and brighter gallery of "Garden Suburbs, Villages and Towns"; with their hopeful promises of Garden Cities; for these, albeit as yet mainly in the future, are plainly attainable.

But to assure such Utopias, we must know our ground. Hence follows the next room, that of "Surveys of Towns and Cities." Here begin to appear results of value, to education, to science, and to action. The comparison of towns, small and great, is seen to be fruitful; the smallest may illuminate the greatest; witness the comparison of Tay and Thames, that of Scone with Westminster, and Perth with London.

That the study of historical cities, of Edinburgh or Chelsea, of Paris or of Ghent, may thus yield fresh results, may be readily enough accepted; but it is surprising to realise how even the smallest and obscurest of old and comparatively forgotten towns —say, Saffron Walden in Essex, or some yet smaller, say, Dysart or Largs in Scotland, perhaps above all their many analogues in the Low Countries—or again some small new, manufacturing village, say, in the States—may each throw some fresh and unexpected light upon the shaping of the historic world.

The geologist and the prospector know how regional surveys, and even minute and microscopic inquiries, may be necessary; and so in every natural science, and in public health and medicine. Thus the Study and Survey of Cities—and each not only on

to-day's town-plan, but on those of yesterday and of to-morrow—must before long become as clearly recognised and accredited a branch of science as is nowadays the Geological Survey of every civilised State.

American City Surveys have been already mentioned, and with due appreciation. As regards civic theory and sociological interpretation, however, with all their intensiveness, these seem scarcely as productive as they should be, and doubtless soon will be. For amid the vivid and growing intensity of the American city's present, and its complex interminglings of culture-elements and social types from all regions and cities of Europe, all levels and phases also, the deciphering of social origins and the unravelling of contemporary factors are far more difficult than anywhere in Europe, even in its vastest and most seething capitals. Hence the significance, even for modern American inquirers, of our Surveys of more homogeneous cities, whose past steps in progress or deterioration are more plainly recorded and preserved, whose types are less protean, and whose present conditions are less fluid. From all these, our main thesis becomes clear—that Region and Industry, Place, Work, and People, are reobserved and reinterpreted by such studies; and these in ways far beyond the crude racialism, the empiric demography, or the callow eugenics of to-day. Here are large claims, which cannot be justified adequately here; they must be left to explanation within the exhibition itself.

Of practical issues only a word can here be said, for it is our initial thesis that survey and diagnosis must precede treatment; and in this exhibition we were still in the stage of suggesting and initiating Surveys; we could not yet make too definite promises for them. Thus, when a visitor cared to come beyond the gallery of Survey, he found a "Civic Study," with its diagrams: some clear, others unfinished, and expressing doctrines and theories under consideration. Opposite this a drawing office and workshop, with sketches in preparation, drawings to be framed and hung.

Every city needs its Civic Survey and Exhibition, its Civic Study and Laboratory: the Outlook Tower as incipient Civic Observatory and Laboratory together.

The final gallery contained, on the side of studies, some diagrammatic expressions of the nascent science of civics, and on the other a few such suggestions towards practice as we dared venture upon. Between the two stood the model of a City Cross of antique type; here renewed as symbol of the return of civic idealism, and of unity in social effort. Behind this also a rough model for an "Outlook Tower"—as incipient Civic Observatory and Laboratory together—a type of institution needed (indeed incipient) in every city, with its effort towards correlation of thought and action, science and practice, sociology and morals, with its watchword and endeavour of "Civic Survey for Civic Service."

Thus our gallery adumbrated the conception of a "Civic Centre," one at many points nascent; too often viewed as a mere piling together of monuments, but here with a clearing-house of social science with social action, of vital interaction of thought and deed. Our whole Exhibition of Cities and of Town Planning is now at length seen as leading on into City Design.

From this final (because generalised and unified) outlook over our triple range of galleries—(a) that of classic cities and great capitals, (b) that of race, population and child welfare, (c) that of geographic and historic origins—our surveys and developments may be reviewed in thought. Our initial conception of a needed and possible Science of Cities is so far justified; in principle undeniably so. Can we similarly review the civic activities of the past, the needs of the present, the possibilities of the future, towards worthy Civic Activities of our own? May social feeling and reasoned design find expression in some great re-orchestration of all the industries and arts, recalling, nay surpassing, the Acropolis or the Cathedral of old? How, in short, is Civic Aspiration to be developed, guided, applied to the Art of City-making, which has ever been implied in Citizenship? Of this the past, at its highest movements, reached visions we have again to recover, achievements we have still to rival.

13

Education for Town Planning

A general advance of public opinion on these subjects is in progress, and the technical education of the town planner has correspondingly begun: schools of town planning are being founded. The formation of the Town Planning Institute.

The general education of the public as regards better housing and garden suburbs, though slow and difficult until object-lessons were ready, is now going on rapidly, and in the easiest and most natural of ways, of direct observation and experience. Every co-operative tenant, every new garden-city or suburb occupant, is helping in this, and by example. His associations are actively propagandist; and their exhibitions and conferences are now periodic and successful, alike in great cities and small. Thus the whole group of associated movements are ending their period of inception and sporadic initiative, and entering a new period, one in which civic reconstruction and reorganisation are claiming to occupy the very foremost place in public attention and policy.

Now, if such be discernibly the trend of the times, corresponding educational questions arise, and these twofold, special and general: first, the question of the immediate and technical preparation of the architect and city official in town planning; secondly, of their further social education, also that of the citizen and his representatives in government, municipal and central alike. In a word, then, what of education in town planning, and of education in civics?

The technical education of the town planner has for some time been in progress in Germany, but its effective initiative in this country has come from Sir William Lever by his foundation of a chair in the University of Liverpool, and his gift of a spacious building to house it (1909). Here, under the energetic direction of Professor Adshead, ably supported by Professor Reilly, Mr. Abercrombie, Mr. Mawson, and other colleagues, there has been arising a school of town planning in the best sense, that of a

school of thought as well as instruction, and with its organ *The Town Planning Review*, already widely useful and influential. In Birmingham University Mr. Cadbury has founded a lectureship (1910), fitly held by Mr. Raymond Unwin; while in London, beside a growing attention to town planning, as in the excellent extra-mural atelier of architecture, so largely due to the initiative and devotion of Mr. Lanchester, and also in the Summer School of Town Planning which has appropriately arisen at Hampstead, the University School of Architecture has also acquired the needed department (1910). The recognition of this new subject is thus practically assured, as in every great educational centre, a matter henceforth but of funds and organisation, as these of the awakening of citizens.

Among town planners themselves the need of organisation has been increasingly felt; and, the establishment of town planning as a regular and organised profession may be dated with the incorporation in 1914 of the Town Planning Institute.

The architectural (and traditional) grades of members and associates are themselves of two kinds, the one directly concerned with town planning as a constructive art, and the other with the administrative and legal regulation of it.

The more each class understands of the other's work the better; without technical comprehension the administrator may easily hinder more than help. Yet, for each, town-planning education must be protected from falling into that too external and technical discipline which has been the bane of architectural instruction. How may this be assured? In one way only: by accompanying it with a vital initiation also, that into the life and working of the city; in a word, then, by the study of civics.

Architecture has always rightly claimed to be regulative of the arts; and now town planning makes this claim in turn to be regulative for architecture. If so, there is no avoiding or escaping from a still futher claim, that of civics, as regulative and educative for town planning.

The same holds good, and even more directly and obviously,

for citizen and councillor, for the constituent and for his member, for the minister and for his officials.

Discussion of the nature and scope of education for town planning. If town planning is to meet the needs of the city's life, to aid its growth, and advance its progress, it must surely know and understand its city.

So far, then, the preceding argument will hardly seriously be disputed, that the educational problem before us is a twofold one; not of technical town planning only, nor simply to be viewed as a top-dressing for our schools of architecture. Nor is civics a mere vague discourse of edification, for the citizen, for his servants and rulers. We need to establish educational facilities and opportunities in town planning and in civics together, and these as fully as possible for all concerned. Yet at this stage the practical man may, and actually does, say: "All very well, in theory, no doubt: but when we have as yet scarcely the means to establish the needed technical side, that of town planning, why increase our difficulties by dragging in civics as well? Why not leave it for the present? it will no doubt come in time."

Very plausible. Yet to this two answers may be given: one long, general, and universal; the other brief, immediate, and particular. The first of these may seem theoretic, but it is really derived from the oldest and widest recorded experience of the rise and fall of cities without number. This answer is traditionally ascribed to an ancient writer in one of the most historic and deeply influential of all cities; one near the convergence of three continents, and thus centrally situated for observation of their cities—Mesopotamian, Egyptian, and Mediterranean alike. He and his compatriots were thus uniquely familiar with the spectacle of civilisations and empires, each more magnificent and powerful than its predecessor, yet each failing and falling in turn. So familiar, in fact, that their social thinkers were often able to diagnose such changes, predict such collapses, and this more clearly and boldly than any since have done; and are accordingly remembered to this day as "prophets", even to the predomin-

ance of the predictive significance of the word over its simpler hortatory meaning. In an old-world way our writer's broad-based generalisation has survived, with much other invaluable sociological literature of his people; and it runs to the effect that unless the ideal build the house—and with it the city also—they labour in vain that build it. So much for housing, and for town planning; and throughout their history. But our author does not forget the citizens, nor their rulers, their statesmen's strength or weakness after the city has been built, being himself a good deal of a builder, still more of a planner, for his own city, as to this day its most memorable king. Recalling doubtless also his long military experience, both in attack and in defence, as well as of civic and regional rule, he adds the further generalisation, that unless the ideal keep the city, its police, army, battleships, and watchmen generally, watch in vain.

This, it may be said, is all very fine, and even quite appropriate —on Sundays: but we are now in an age of science, and its professors ought hardly to quote such things: surely they are not going over to the old theological camp? No indeed, as this has too long been standing. With it, each successive science has struggled in its youth, and on the whole imposed its terms—astronomy at the Renaissance, geology and biology in the last century. It is now coming to be the turn of civics to raise this discussion; and no turn-over of conventional and static concepts, as from the geocentric astronomy, the non-evolutionist geology and biology, such as our friends, clerical and lay, of all denominations admit as having been effected in the past by these preliminary sciences, has been so serious or so thoroughgoing as that which must soon be insisted on by civics and sociology.

This insistence is indeed already begun by our scientific allies the psychologists, and particularly by the social psychologists, who are our very scouts and pioneers. These have already been discovering that many of the spiritual experiences, the moral changes—or, in their terminology, the arousal of ideals in individuals, and the conception and application of them by

groups—which have been considered as unique and sacrosanct in every theological body, and are commemorated, even inculcated, accordingly on one day of the week (with a regrettable, yet apparently unavoidable, relapse to Paleotechnic "civilisation," and its practices upon the other six days) are not so simply past or done with. On the contrary, for individuals and for groups alike, these individual experiences are now seen to be in principle still psychologically latent, and those group-enthusiasms and changes socially practicable; and this throughout all seven days of the week.

What the psychologists are thus seeing for individuals and groups, we are learning to see also for cities, and for present and future cities as well as for the past ones generalised by King David of old.

To mitigate the city's evils, it needs diagnosis before treatment. For its highest ambitions to be expressed, the town planner must appreciate and share these.

An all-important thesis of civics therefore appears. With, and in the measure of, such eupsychic change, such idealism, social and personal, and of its expressions and application in civic development and in individual citizenship, our existing Paleotechnic city and region are transformable. If so, the ideal of the city and region can so far be progressively realised; and even to renewing the achievements of past cities, or surpassing them. Otherwise not.

Without these changes, specialised schools of divinity and philosophy here, specialised laboratories of research and invention there, or newly specialised schools of town planning and architectural design anywhere, must all remain ineffective; each as but a further enlargement of that dominant university and educational system which has been defined by a keen American critic as "the creation of a well-endowed moral vacuum." But with the arousal and upgrowth of the "University Militant," as the same writer states the positive ideal of education, and with that Civic Revivance which it aids and requires, the long-broken

civic unity, of social life and industrial energy with constructive thought and vital education, correspondingly reappears.

What is it that we most value in our Occidental civilisation? Recent writers, of the Prussian school especially, have insisted upon the importance of racial and barbarian origins, of militant aristocracy and conquering migrations (or as philosophers, upon all this, more or less thinly disguised from themselves, as the Hegelian "State").

Since Le Play, however, we have been learning to do far fuller justice to the significance of occupational and regional elements. But while these are rightly discerned as fundamental, the civilisations which all such races and regions have long ago accepted as supreme are thereby more clearly justified, however our valuations of these may differ in detail, according to our various indebtedness, individual and regional.

First the moral unity of ancient Israel, and then the spiritual intensity and human appeals of the later faiths, of which it has been the prepotent parent, have been justified in their survival, since exceeding our Western uplifts of idealism. So the intellectual search and grasp of Hellas, its power and charm of artistic creation, are but the more realised as we renew universities, and recover skill. The solidarity, justice, and peace of Rome at her best have given inspiration to each new endeavour of social organisation; and this whether imposed by the State from above, or renewed by revolutions from below. There in the past still stand Jerusalem, Athens, Rome: here in the present we progressive Americans, Germans, Anglo-Saxons, carrying on the torch as best we may—what are we after all but the old barbarians, with our men of genius ever and anon rekindling our constantly failing lights from these old cities and their morninglands of our civilisation? Those who do not see and feel this indebtedness to the past, are they not for the most part but dulled in the smoke-cloud of Paleotechnic industry which overpowers their overgrown working villages? With this view, which we take it no one in his moments of reflection seriously differs

from, of the Paleotechnic city as in the main but neo-barbarian, we have the explanation of the severity with which our social critics have long been judging it. Widely though they may disagree between themselves—as do Carlyle and Arnold, Gobineau and Marx, Ruskin and Kropotkin, Meredith and Hello, Nietzsche and Tolstoi—they differ but little in their estimates of the Paleotechnic city.

To discern, then, the ideals which build cities and which keep them, is thus the supreme problem of civics as history; and civics as science. To interpret them is civics as philosophy; and to renew them, city by city, is its quest, its task, its coming art—with which our 'politics' will recover its ancient and vital civic meaning. These lights that flash from the past upon our Paleotechnic gloom are but from crystal faces shaped long ago by ancient group-idealisms. Yet our schemes of instruction—"religious" and "classical" alike—have proved and are still proving futile; and this must necessarily be while they too simply seek to impose these venerable forms upon us as authoritative from without, or even expect us strictly to reproduce them from within. Only as group-idealisms awaken anew among ourselves, can our modern towns become recivilised into cities worthy of the name. There is no essential disharmony between these past developments, and such as these incite us towards: after all, the flowing of cities has ever gone on like the intercrossing of flowers.

How, then, may this enhancement of social life be effected? That is the question. The Paleotechnic economists, to do them justice, have elaborated the conception of the division of labour: and it has long been recognised as the urgent task to promote its better organisation. It is, in fact, in the measure of their endeavours towards this that tory and whig, liberal and radical, imperialist and socialist, financier and philanthropist, syndicalist and even anarchist, have each by turns the public ear; and correspondingly it is in the measure of their failures to find the secret of social renewal that they lose it also. Church and State, town-house and college, business and philanthropy, bureaucracy

and compulsion, labour and revolution, each is tried, and each fails and goes on failing. Meanwhile everywhere, despite our suburb endeavours, our central replanning, slum and super-slum are still growing on and polarising apart, towards stagnation or catastrophe.

Is it not time, then, for civics to have its hearing? We cannot here venture into its many possible lines of policy: enough if it be granted that there is some virtue and value in that reconstructive effort especially urged in these pages—with its growing reunion of citizens with planners, builders with gardeners, labourers with craftsmen, and artists with engineers; and all towards the betterment of the city's homes, the corresponding future of its children. With this element of group-idealism, others will follow, and find expression, in time even comparable to those of old.

The study of civics and town planning must be advanced together. Arguments against their separation.

This general argument for civic education has been a long one; but the second and particular answer to the objection against its urgency may be brief: that demand is arising, and this at many points. Every civic survey involves further civic studies. But a more urgent instance may be given. As we have seen above, here are the town planners constituting themselves into a profession; a new Institute, like that of architects and engineers; like them with aims of education for their successors, and also that frank recognition which responsibilities ever awaken, of fuller and wider access to knowledge for themselves. It is unanimously felt, therefore, that they must aim at nothing short of a metropolitan reference collection and bibliography, of adequate professional and studious completeness. What does this need of completeness involve? Obviously, in the first place, to collect, as fully as knowledge and means admit, all that deals directly and technically with town planning. But the general problem of this renewing art—what is it but the material expression of the growth and

life of cities, and at every level; from the simplest problems of engineering and housing to architectural ones as great as ever in history.

Economisation of energies and time, improvement of communications, of industrial and domestic conditions, all these are plain; public health and recreation too; but what less immediately obvious elements of the life and functioning of cities can their planner afford to ignore? To deal with health one must be something of a hygienist; must it not be the like with other things?

Though always working with the best intention, the town planner, in the measure of his lack of foresight, has in each age been creating new evils. Mediæval city walls have long been seen to have compressed the population they were made but to defend; but not yet, as our "War" gallery of the Cities Exhibition shows, has even the historian realised that multiplication of civic evils which were brought about by the tremendous town-planning movement of fortification, as developed in the sixteenth and seventeenth centuries, and of which modern boulevard-rings are but superficial mitigations.

Haussmann, cutting new interior boulevards through Paris at the expense of gardens and working-quarters, was of course consciously and strategically providing for internal city control by his imperial master's artillery and dragoons; but to do emperor and edile justice, neither they nor their public had a suspicion of how the new and stately architectural perspectives with which they lined these boulevards, and which evoked such unqualified admiration in their day—and this not only Parisian and provincial, but world-wide and with corresponding imitation accordingly—were soon to be socially and economically operative.

At first all seemed perfect, all was prosperity, Everything that Napoleon and Haussmann had dreamed, planned, and worked for came to fruit, and beyond the brightest anticipation. Unprecedented demand for labour, both skilled and unskilled, with influx and growth of population, yet regularity of employment;

rents and value rising for the landlord's prosperity, and yielding increasing taxes for the city's growing budget; and this spent in new public works, or in multiplication of steadily salaried functionaries; while in both these classes of expenditure the State was proceeding no less merrily also.

Fortunes were quickly made in building and contracting, still more in land speculation, and in finance generally: and these gains were as freely spent in increased luxury-expenditures of every kind, in foods and wines, in servants and equipages, in costumes, jewels, and artistries. Hence an ever-increasing attractiveness of Paris for French and foreigners alike, with further growth of shops, hotels and cafés, theatres and music-halls. Never had town planner such success before; what wonder, then, that other cities have since been following Haussmann's splendid precedent beyond all others?

Yet how all this megalopolitan development was connected with the debacle of 1870-71, how it led up to and through the Commune, and even helped to prepare the tragic disorder and ruthless repression with which it closed, are no less matters of historic reproach, and of lessons still far from exhausted.

Return to more everyday results, say those on public health. The physicians point out how the wholesale substitution of dusty boulevards and airless interior well-courts for gardens and playing-nooks told upon the health of children and mothers, and spread drink, tuberculosis, and other evils among men. Economists record how the high and costly new tenements raised house-rents, with depression of the family budgets in other respects, and with increase of social discontent, and instability in ways manifold—and how, above all, the standardising of small flats with tiny rooms has pressed on the limitations of Parisian families, as in turn their example on that of the strength and growth of France.

Such are but the simplest and most obvious examples of the many indictments which French social critics of all schools have made of Haussmann and his work.

Of Berlin, too, so dramatically the victor and the imitator of Paris, the kindred criticism has begun (1913). Behind its monumental perspectives the student of town planning must not forget its innumerable working-class courts, well packed out of sight between the boulevards. Of their perfect internal order a town-planning poster gave a glimpse, one so unsettling as to have provoked its prompt destruction by the redoubtable police-president, von Jagow. Yet this simply reproduced the woeful daily spectacle of a group of children standing forlorn under the notice of "play is forbidden": and for its revolutionary appeal it gave only the plain statement, "six hundred thousand children in Berlin!"

Paris and Berlin are assuredly not the only great cities of empire which are stunting their imperial race: but enough if our present point be clear—that in town planning, as in less widely important matters, every error, be it of commission or omission, soon tells upon our city's life.

And what of the arrest or the decline of cities?—arrest, as in Edinburgh or Dundee; decline, as in Dublin. In what ways may the town planner here usefully intervene? In many, provided he be willing in each case to consider the respective cases and causes with the civicist before venturing upon treatment. And the many positive evils of cities, may he not more safely design changes towards abating these, with some deeper understanding of them? At no point of this deeper hygiene of cities dare we limit our studies without yet more limiting our efficiency, or perhaps negating it.

Must not therefore the town planner's reference collection and library, which is plainly needed, and not only in London, but for each and every conurbation, embrace the essential literature of civics, as well as its wealth of plans and technical reports? Thus no one who sits down to consider this problem but will come to aims as comprehensive as those of our Cities and Town Planning Exhibition—an aim dual yet unified, as its name implies.

Before long, then, the School of Civics, with its observatory and museum of survey, its drawing-offices and business office, must become a familiar institution in every city, with its civic library in rapid growth and widening use, and all as a veritable powerhouse of civic thought and action.

14

The Study of Cities

How best can we set about the study of cities? Personal endeavours of the writer, and examples of the many approaches to civics.

We have seen that many, and in all countries, are awakening to deal with the practical tasks of citizenship. Indeed, never, since the golden times of classic or mediæval cities, has there been so much interest, so much goodwill as now. Hence the question returns, and more and more frequently, how best can we set about the study of cities? How organise speedily in each, in all, and therefore here and there among ourselves to begin with, a common understanding as to the methods required to make observations orderly, comparisons fruitful and generalisations safe? It is time for sociologists—that is for all who care for the advance of science into the social world—to be bringing order into these growing inquiries, these limitless fields of knowledge.

The writer has no finally formulated answer, since his own inquiries are far from concluded; and, since no bureaucrat, he has not a cut-and-dried method to impose meanwhile: nor can he cite this from others: he may best describe his own experience. The problem of city study has occupied his mind for thirty years and more: indeed his personal life, as above all things a wandering student, has been largely determined and spent in restless and renewed endeavours towards searching for the secrets of the evolution of cities, towards making out ways of approach towards their discovery. And his interests and experiences are doubtless those of many.

The nature lover's revolt from city life, even though in youth strengthened and reinforced by the protest of the romantics and the moralists, of the painters and the poets, may be sooner or later overpowered by the attractions, both cultural and practical, which city life exerts. Studies of economics and statistics, of history and social philosophy in many schools, though each

fascinating for a season, come to be felt inadequate. An escape from libraries and lecture-rooms, a return to direct observation is needed; and thus the historic culture-cities—classic, mediæval, renaissance—with all their treasures of the past—museums, galleries, buildings and monuments—come to renew their claim to dominate attention, and to supply the norms of civic thought.

Again the view-points of contemporary science renew their promise—now doctrines of energetics, or theories of evolution, at times the advance of psychology, the struggle towards vital education, the renewal of ethics—each in its turn may seem the safest clue with which to penetrate the city's labyrinth. Geographer and historian, economist and æsthete, politician and philosopher have all to be utilised as guides in turn; and from each of these approaches one learns much, yet never sufficient; so that at times the optimist, but often also the pessimist, has seemed entitled to prevail.

Again, as the need of co-ordination, of all these and more constantly makes itself felt, the magnificent prosynthetic sketch of Comte's sociology or the evolutionary effort of Spencer reasserts its central importance, and with these also the historic Utopias. But all such are too abstract constructions, and have as yet been lacking in concrete applications, either to the interpretation or to the improvement of cities; they are deficient in appreciation of their complex activities. Hence the fascination of those transient but all the more magnificent museums of contemporary industry which we call International and Local Exhibitions, centring round those of Paris on 1878, '89 and 1900, with their rich presentments of the material and artistic productivity of their present, alike on its Paleotechnic and Neotechnic levels, and in well-nigh all substages and phases of these.

As we return from these, at one time the roaring forges of industrial activity of Europe and America must seem world-central, beyond even the metropolitan cities which dominate and exploit them. Yet at another time the evolutionary secret

seems nearer through the return to nature; and we seek the synoptic vision of geography with Reclus, or of the elemental occupations with Le Play and Demolins, with their sympathetic study of simple peoples, and of the dawn of industry and society with the anthropologists.

And thus we return once more, by way of family unit and family budget, to modern life; and even to its statistical treatments, to Booth and Rowntree for poverty, to Galton and the eugenists, and so on. In such ways and more, ideas accumulate, yet the difficulties of dealing with them also; for to leave out any aspect or element of the community's life must so far lay us open to that reproach of crudely simplified theorising, for which we blame the political economist.

One of the best ways in which a man can work towards this clearing up of his own ideas is through the endeavour of communicating them to others: in fact to this the professoriate largely owe and acknowledge such productivity as they possess. Well-nigh every writer will testify to a similar experience: and the inquirer into sociology and civics may most courageously of all take part in the propaganda for these studies.

Another of the questions—one lying at the very outset of our social studies, and constantly reappearing—is this; what is to be our relation to practical life? The looker-on sees most of the game; a wise detachment must be practised; our observations cannot be too comprehensive or too many-sided. Our meditations too must be prolonged and impartial; and how all this if not serene?

Hence Comte's "cerebral hygiene," or Mr. Spencer's long and stoutly maintained defence of his hermitage against the outer world, his abstention from social responsibilities and activities, even those faced by other philosophers.

Yet there is another side to all this: we learn by living; and as the naturalist, beside his detached observations, and even to aid these, cannot too fully identify himself with the life and activities of his fellow-men in the simple natural environments he wishes

to investigate, so it may be for the student of societies. From this point of view, "when in Rome let us do as the Romans do"; let us be at home as far as may be in the characteristic life and activity, the social and cultural movements, of the city which is our home, even for the time being—if we would understand its record or its spirit, its qualities and defects, its place in civilisation.

Still more must we take our share in the life and work of the community if we would make this estimate an active one; that is, if we would discern the possibilities of place, of work, of people, of actual groupings and institutions or of needed ones, and thus leave the place in some degree the better of our life in it; the richer, not the poorer, for our presence. Our activity may in some measure interrupt our observing and philosophising; indeed must often do so; yet with no small compensations in the long run. For here is that experimental social science which the theoretic political economists were wont to proclaim impossible; but which is none the less on parallel lines and of kindred experimental value to the practice which illuminates theory, criticising it or advancing it, in many simpler fields of action—say, engineering or medicine for choice. It is with civics and sociology as with these. The greatest historians, both ancient and modern, have been those who took their part in affairs. Indeed with all sciences, as with the most ideal quests, the sample principle holds good; we must live the life if we would know the doctrine. Scientific detachment is but one mood, though an often needed one; our quest cannot be attained without participation in the active life of citizenship.

In each occupation and profession there is a freemasonry, which rapidly and hospitably assimilates the reasonably sympathetic newcomer. Here is the advantage of the man of the world, of the artist and art-lover, of the scholar, the specialist of every kind; and, above all of the citizen, who is alive to the many-sidedness of the social world, and who is willing to help and to work with his fellows.

Moreover, though the woof of each city's life be unique, and this it may be increasingly with each throw of the shuttle, the main warp of life is broadly similar from city to city. The family types, the fundamental occupations and their levels may thus be more readily understood than are subtler resultants. Yet in practice this is seldom the case, because the educated classes everywhere tend to be specialised away from the life and labour of the people. Yet these make up the bulk of the citizens; even their emergent rulers are often but people of a larger growth, for better and for worse. Hence a new demand upon the student of cities, to have shared the environment and conditions of the people, as far as may be their labour also; to have sympathised with their difficulties and their pleasures, and not merely with those of the cultured or the governing classes.

Here the endeavour of the University Settlements has gone far beyond the "slumming" now happily out of fashion, but the civic student and worker needs fuller experiences than these commonly supply. Of the value of the settlement alike to its workers, and to the individuals and organisations they influence much might be said, and on grounds philanthropic and educational, social and political; but to increase its civic value and influence a certain advance is needed in its point of view, analogous to that made by the medical student when he passes from his dispensary experience of individual patients to that of the public health department.

In all these various ways, the writer's ideas on the study of cities have been slowly clearing up, throughout many years of civic inquiries and endeavours. These have been largely centred at Edinburgh (as for an aggregate of reasons one of the most instructive of the world's cities, alike for survey and for experimental action), also at the great manufacturing town and seaport of Dundee, with studies and duties in London and in Dublin, and especial sympathies and ties in Paris, and in other continental cities and also American ones—and from among all these interests and occupations a method of civic study and research, a

mode of practice and application, have gradually been emerging.

Each of these is imperfect, embryonic even, yet a brief indication may be at least suggestive to other students of cities. The general principle is the synoptic one, of seeking as far as may be to recognise and utilise all points of view—and so to be preparing for the Encyclopædia Civica of the future. For this must include at once the scientific and, as far as may be, the artistic presentment of the city's life: it must base upon these an interpretation of the city's course of evolution in the present: it must increasingly forecast its future possibilities; and thus it may arouse and educate citizenship, by organising endeavours towards realising some of these worthy ends.

An author of the beginnings of the needed civic observatory, museum, study and laboratory in the Edinburgh Outlook Tower.

Largely in this way, yet also from the complemental side of nature studies and geography, there have been arising for many years past the beginnings of a Civic Observatory and Laboratory in our Edinburgh Outlook Tower. A tall old building, high upon the ridge of Old Edinburgh, it overlooks the city and even great part of its region; and of the educative value of this synoptic vision every visitor has thus a fresh experience. Hence, for at least two generations before its present use, it has been the resort of tourists; and its camera obscura, which harmonises the striking landscape, near and far, and this with no small element of the characteristic qualities of modern painting, has therefore been retained; alike for its own sake and as an evidence of what is so often missed by scientific and philosophic minds, that the synthetic vision to which they aspire may be reached more simply from the æsthetic and the emotional side, and thus be visual and concrete. In short, here as elsewhere, children may see more than the wise. For there can be no nature study, no geography worth the name apart from the love and the beauty of Nature, so it is with the study of the City.

Next, a storey below this high Outlook of the artist, and its

associated open-air gallery for his scientific brother the geographer, both at once civic and regional in rare completeness, there comes—upon the main platform of the level roof, and in the open air—the "Prospect" of the special sciences.

Here, on occasion, is set forth the analysis of the outlook in its various aspects—astronomic and topographical, geological and meteorological, botanical and zoological, anthropological and archeologic, historical and economic, and so on. Each science is thus indicated, in its simple yet specialised problem. This or that element of the whole environment is isolated, by the logical artifice of science, from the totality of our experience. The special examination of it, thus rendered possible, results in what we call a "science," and this with a certainty which increasingly admits of prevision and of action. Yet this science, this body of verifiable and workable truths, is a vast and wholesale suppression of other (and it may be more important) truths, until its reintegration with the results of other studies, into the geographic and social whole, the regional and civic unity before us.

Here in brief, then, is our philosophy of civics, and our claim for civics in philosophy. Thus upon our prospect, the child often starts his scientific studies, the boy-scout his expedition. Yet to this the expert must return, to discuss the relation and applications of his own science with the philosopher as citizen and the citizen as philosopher.

The storey below this prospect is devoted to the City. Its relief-model maps, geological and other, are here shown in relation to its aspects and beauty expressed in paintings, drawings, photographs, etc.; while within this setting there has been gradually prepared a Survey of Edinburgh, from its prehistoric origins, and throughout its different phases, up to the photographic survey of the present day. In this way the many standpoints usually divided among specialists are here being brought together, and with educative result to all concerned.

The next lower storey is allotted to Scotland, with its towns

and cities. The next to Greater Britain, indeed at times to some representation of the whole English-speaking world, the United States no less than Canada, etc., the language being here taken as a more sociological and social unity than can be even the bond of Empire.

The next storey is allotted to European (or rather Occidental) civilisation, with a general introduction to historical studies and their interpretation, and also with the work of a Current Events Club, with its voluminous press-cuttings on many subjects, largely international and general; and furthermore to the comparison of Occidental cities.

Finally the ground-floor is allocated to the Oriental civilisations, and to the general study of Man, departments naturally as yet least developed.

The general principle—the primacy of the civic and social outlook, intensified into local details with all the scientific outlooks of a complete survey; yet in contact with the larger world, and this successively in enlarging social zones, from that of the prospect outwards—will now be sufficiently clear; and of course be seen as applicable to any city. It may be experimented with in any city, in anyone's study, even begun upon the successive shelves of a book-case, or, still better in the co-operative activity of a Current Events Club; and this again, if possible, along with a Regional and Civic Survey Committee. On any and every scale, personal or collective, it will be found to reward a trial.

What now of practical applications? Returning for the present purpose to the top storey, the City's storey alone, though the main presentment is that of a survey, an exhibition of facts past and present, a Civic Business-room adjoins this. Here has been for many years in progress the main practical civic work of this Tower—its various endeavours towards city betterment. Largely the improvement of those slums, already referred to as the disgrace and difficulty of Old Edinburgh; a work of housing, of repair or renewal, of increase of open spaces and when possible

of gardening them; of preservation of historic buildings, of establishment of halls of collegiate residence with associated dwellings and so on.

Each piece of work has been undertaken as circumstances and means allowed; yet all as part of a comprehensive scheme of long standing, and which at an increasing rate of progress may still be long of accomplishment. Briefly stated, it is that of the preservation and renaiscence of historic Edinburgh, from the standpoints both of town and gown; that is, at once as City and as University, and each at their best. This demands the renewal—and within this historic area especially, dilapidated and deteriorated though it at present be—of that intimate combination of popular culture and of higher education, and of that solidarity of civic and national spirit, with openness and hospitality to the larger world —English, Colonial, American, Continental—which are among the best traditions of Edinburgh, indeed of Scotland, with her historic universities and schools.

But all this, it may be said, is too academic, too much the mere record of a wandering student, and of his changing outlooks and view-points, his personal experiments and endeavours. What of other than university cities? How are civic surveys and endeavours to be applied more generally? A fair question, to which an answer will be attempted in the next chapter.

15

The Survey of Cities

How are civic inquiries and city surveys to be made more general, thorough and efficient? An appeal to City Museums and Libraries.

How are city surveys and endeavours to be applied more generally, brought thoroughly before the public, made effective, complete, accessible, intelligible? That is the question from the last chapter, which we must attempt to answer in this; and on several convergent lines.

Like other professional bodies, the Museum Curators of Great Britain have their Annual Congress: this took place in Dundee in 1907; and was appropriately in the gallery of the city's museum devoted to "Old Dundee." Having listened to the natural and proper lamentations of the curators as to the deficient support of their institutions, and to various expressions of their anxiety to increase public interest accordingly, the writer threw his paper into the form of a practical proposition, which may be summed up somewhat as follows:—

"You lament that you have not sufficient funds adequately to maintain your museums and still less to increase them. Is it not needful to discover some way adequately to advertise your institutions—of course properly and legitimately, in due curatorial fashion—by making them interesting to a larger proportion of your community? At present your antiquities attract few save the antiquarians, a dwindling class. Thus we have here our admirable city-history collection, our town in 1800, 1700, 1600, 1500, and yet beyond, to the primitive Keltic hill-fort and its Roman transformation; and this does naturally attract the antiquarians. But the value of this collection depends upon each of these exhibits having had actuality in its day. It is its authenticity which gives it interest.

"Why should this collection now lack actuality in our day? Why no adequate exhibit of this city in 1900, in 1907? Why

not give it this, and add to our Museum of the Past a corresponding exhibit of the Present? How can this be done? Easily. Obtain more pictures and photographs of its present beauty and ugliness; obtain statistics and other particulars from the town-house, the registrars, and so on, so that any and every active citizen shall henceforth find in the museum the most ready and convenient place for getting up all he wants to know about his city.

"In this way your museum will gain a new set of frequenters, each a future friend, for you will soon find that you can count on their support, and that increasingly.

"Nor is this all you can do; besides the few antiquarians and the many more practical men, who are interested in the past and the present respectively, you have a third class, small, yet important and increasing, those who are beginning to dream of the future. These wish to see more progress in their town, some actual betterment, the cleansing of its slums, the erection of new buildings and institutions, the supply of open spaces, and above all, the planning of its future extensions—its practicable Utopia—Eutopia in fact.

"Add, therefore, to your galleries of the Past and of the Present a third room, or at least a screen or two for this concrete exhibition of your City's Future, and you will thus bring to the museum a third and new class of supporters. Hence, even if you do not care for your city, if you do not yet feel its impulse to citizenship, consider this proposal as at least of a new attraction, a legitimate form of public appeal; and see whether it does not before long reward you to carry it out."

This proposal, almost in so many words, was warmly encouraged by the president of the Congress; and was actively discussed at a special meeting, at which a large number of the museum curators of the United Kingdom spoke warmly in its favour, and decided to see what could be done towards carrying this out for their respective cities and in their museums. The preceding

proposal applies, of course, to public libraries and city librarians, no less than to museums and their curators.

How, then, are we as civic sociologists at once to aid in this movement as well as learn from it? Is it not time that curators and librarians, geologists and naturalists, local historians and antiquaries, architects and artists, business men and economists, clergymen and social workers of all denominations, politicians of all groups, were uniting their forces, at first no doubt largely as individuals, but also bringing in their respective societies and organisations as far as may be, towards this creation of their Civic Survey and Museum?

As suggestive examples of the many-sided progress of this movement, we may take one of the small towns—Saffron Walden. Here was organised an active co-operation between the Museum Curator and the National Science Department of the Training College; thus was initiated a Survey Society open to citizens as members, and to young folks at work, at school, or college as associates (and at the moderate annual subscriptions of 1s. and 3d. respectively).

Interest was successfully aroused; the museum was improved, and not simply in various of its collections, or by forming this new regional one, but above all in public sympathy and educational usefulness. A photographic survey was undertaken; with the help of a town-planning architect the ancient town was more clearly mapped and interpreted, and even reconstructed in vivid perspective at various phases of its past.

The preservation of the town's monuments and buildings, the planting of trees and shrubs, the encouragement of gardening on every scale—from child's flower-pot and home window-box onwards—has been a natural development, as also an increased interest in public health and housing. Best of all, a new tide of civic feeling has arisen; pageantry and festivals are more readily undertaken, the atmosphere of citizenship can be more fully breathed, and life at various points is brightened, as community and individuals thus learn anew to interact. There are notable

beginnings, and still more materials, in many other cities. The movement may therefore be considered as secured in principle; but the less time now lost the better for advancing it locally and in execution. Even apart from the urgency for civic development, for town planning and housing already emphasised, every curator and librarian knows how increasingly hard it becomes every year to collect the objects and illustrative matter, which not so long ago were cheap and relatively abundant.

School Surveys as educational processes and products. Higher significance of surveys in education and in philosophy.

Beside the agencies just named, there is another, weakest and least specially prepared hitherto, yet fullest of hope and possibility of all—the primary school. Could we but convince a single one of the Education Departments—English, Scots, or Irish, that of an American city or a Continental country—that in this movement of town study we have the complement of the nature study (which these departments have more or less recognised), and a means of correlation and vitalisation of studies even more widely potent and easily applicable, as from "school journeys" and boy-scouting onwards—a national survey would soon be in progress with its regional and civic division of labour.

Meantime there are excellent beginnings, and at many points: as notably, for instance, by Mr. Valentine Bell in a Lambeth primary school, where his boys have effectively aided him in making a borough survey which was at Ghent and Dublin a delight and impulse to teachers from all lands; and of which the educational value and result at home is also manifest and fruitful. Here, in fact, are beginnings for a "Know your City" movement which may spread through our towns as of late through American ones; the more since, in the rise and growth of the boy scout movement, we have beginnings of regional survey; and from this to real beginnings of city survey is a natural step.

One final word, of education now at its highest, of its very philosophy, and this at university levels; and why not beyond?

What if the long-dreamed synthesis of knowledge, which thinkers have commonly sought so much in the abstract—and by help of high and recondite specialisms, logical, metaphysical, psychological, mathematical, and the rest, all too apart from this simple world of nature and human life—be really more directly manifest around us, in and along with our surveys of the concrete world?

What if Aristotle, that old master of knowledge, turns out to have been literally and not merely metaphorically speaking, in urging "the synoptic vision"? For surely "general views" may well be helped by—general views. What if philosophic aims may be served, better than in the study alone, in course of an experience again literally peripatetic? And, if it be claimed that beyond the highest speculative education is the active, the ethical, may we not add to our surveys, service? And to our going about, doing good?

It may well be among the less specialised and least municipally powerful members of the community that the civic enthusiasm and energies of the opening future may be most vitally awakening. And this not only among the workers, and the artists who at their best most truly voice them, but also among women, and among the children of our schools.

Nor can the churches of all denominations much longer delay that comprehensive dealing with the field of civic renewal which has been promised and urged on all sides as in papal encyclicals, bishops' charges, and moderators' addresses, and in the Citizen-Sunday discourses which these encourage or inspire. It is but bare justice to recognise that fundamental and vital civic endeavours have never been lacking from their remotest past, and that modern developments and adaptations of these are springing everywhere.

The disunion of the churches and their supersession by the State are, of course, older than the Paleotechnic dispensation, but their long ineffectiveness in dealing with it has proved its potent influences upon them. Yet as their entrance upon social renewal grows clearer in thought and more definite in action,

their emancipation must progress accordingly; and before long they may be dealing more vitally with many civic problems than can the State and its administrators. It is ever a group-emotion, a group-enthusiasm, which makes and remakes the cities: and the cry, "O Jerusalem! Jerusalem!" will never fail of echo and response throughout the ages.

16

City Surveys by Municipalities

All these surveys are but preliminary to action upon the municipal and the national scale. Recommendations of the Sociological Society (Cities Committee).

Hitherto we have been occupied with the preliminaries of town planning, through regional and civic surveys and civic education generally; yet merely with the occupation of strategic points, like the public museum and library, preparatory to the reduction of the town-house; and of the primary school and training college towards a march upon Whitehall itself.

We come now to the need of City Surveys and Local Exhibitions as preparatory to Town Planning Schemes. It may but bring our whole argument together, and in a way, we trust, practically convincing to municipal bodies, and appealing also to the Local Government Boards—which in each of the kingdoms have to supervise their schemes—if we here utilise with slight abbreviation, a memorandum prepared in the Sociological Society's Cities Committee, and addressed to the authorities concerned, local and central alike.

"We welcomed and highly appreciated the Town Planning Act of 1909, and we early decided that it was not necessary for this Committee to enter into its discussion in detail, or that of its proposed amendments. We have addressed ourselves essentially to the problem of Town Planning itself, as raised by the study of particular types of towns and districts involved; and to the nature and method of the City Survey which we are unanimously of opinion is necessary before the preparation of any Town Planning Scheme can be satisfactorily undertaken.

Schemes, however, are in incubation, alike by municipal officials, by public utility associations, and by private individuals, expert or otherwise, which, whatever their particular merits, are not based upon any sufficient surveys of the past development and present conditions of their towns, nor upon adequate know-

ledge of good and bad town planning elsewhere. In such cases the natural order, that of town survey before town planning, is being reserved; and in this way individuals and public bodies are in danger of committing themselves to plans which would have been widely different with fuller knowledge; yet which, once produced, it will be too late to replace, and even difficult to modify.

We have therefore, during the past few years, addressed ourselves towards the initiation of a number of representative and typical City Surveys, leading towards Civic Exhibitions; and these we hope to see under municipal auspices, in conjunction with public museums and libraries, and with the co-operation of leading citizens representative of different interests and points of of view. In Leicester and Saffron Walden, Lambeth, Woolwich, and Chelsea, Dundee, Edinburgh, Dublin, and other cities progress has already been made: and with the necessary skilled and clerical assistance, and moderate outlays, we should be able to assist such surveys in many other towns and cities.

Our experience already shows that in this inspiring task, of surveying, usually for the first time, the whole situation and life of a community in past and present, and of thus preparing for the planning scheme which is to forecast, indeed largely decide, its material future, we have the beginnings of a new movement—one already characterised by an arousal of civic feeling, and the corresponding awakening of more enlightened and more generous citizenship.

The preparation of a local and civic survey previous to the preparation of a Town Planning Scheme, though not actually specified in the Act of 1909: first included as an obligation in the Act of 1947, is fully within its spirit; and we are therefore most anxious that at least a strong recommendation to this effect should form part of the regulations for Town Planning Schemes provided for the guidance of local authorities by the Local Government Board. Without this, municipalities and others interested are in danger of taking the very opposite course, that of planning before

survey. Our suggestion towards guarding against this is hence of the most definite kind, viz.:—

> Before proceeding to the preparation of a Town Planning Scheme, it is desirable to institute a Preliminary Local Survey —to include the collection and public exhibition of maps, plans, models, drawings, documents, statistics, etc., illustrative of Situation, Historic Development, Communications, Industry and Commerce, Population, Town Conditions and Requirements, etc.

We desire to bring this practical suggestion before local authorities, and also to ventilate it as far as may be in public opinion and through the press, and in communication to the many bodies whose interest in Town Planning Schemes from various points of view has been recognised in the Third Schedule of the Act, as lately amended by the Government in response to representations from our own and other societies."

Dangers of Town Planning before Survey.

What will be the procedure of any community of which the local authorities have not as yet adequately recognised the need of the full previous consideration implied by our proposed inquiry, with its Survey and Exhibition? It is that the Town Council, or its Streets and Buildings Committee, may simply remit to its City Architect, if it has one, more usually to its Borough Surveyor or Engineer, to draw up the Town Planning Scheme.

This will be done after a fashion. But too few of these officials or of their committees have as yet had time or opportunity to follow the Town Planning movement even in its publications, much less to know it at first hand, from the successes and blunders of other cities. Nor do they always possess the many sided preparation—geographic, economic, artistic, etc.—which is required for this most complex of architectural problems, one implying, moreover, innumerable social ones.

If the calling in of expert advice be moved for, the Finance Committee of the Town Council, the ratepayers also, will tend to discourage the employment of an external architect. Moreover, with exceptions, still comparatively rare, even the skilled architect, however distinguished as a designer of buildings, is usually as unfamiliar with town planning as can be the town officials; often, if possible, yet more so. For they have at least laid down the existing streets; he has merely had to accept them.

No doubt, if the plan thus individually prepared be so positively bad, in whole or in part, that its defects can be seen by those not specially acquainted with the particular town or with the quarter in question, the Local Government Board can disapprove or modify. But even accepting what can be thus done at the distance of London, or even by the brief visit from the Local Government Board advisory officer, the real danger remains. Not that of streets, etc., absurdly wrong perhaps; but that of the low pass standard—that of the mass of municipal art hitherto; despite exceptions, usually due to skilled individual initiative.

Town Planning Schemes produced under this too simple and too rapid procedure may thus escape rejection by the Local Government Board rather than fulfil the spirit and aims of its Act; and they will thus commit their towns for a generation, or irreparably, to designs which the coming generation may deplore. Some individual designs will no doubt be excellent; but there are not as yet many skilled town planners among us. Even in Germany, still more in America (despite all recent praise, much of which is justified), this new art is still in its infancy.

As a specific example of failures to recognise and utilise all but the most obvious features and opportunities of even the most commanding sites, the most favourable situations, Edinburgh may be chosen. For, despite its exceptional advantages, its admired examples of ancient and modern town planning, its relatively awakened architects, its comparatively high municipal and public interest in town amenity, Edinburgh notoriously presents many mistakes, and even vandalisms, of which some are

recent ones. If such things happen in cities which largely depend upon their attractive aspect, and whose town council and inhabitants are relatively interested and appreciative, what of towns less favourably situated, less generally aroused to architectural interest, to local vigilance and civic pride? Even with real respect to the London County Council and the record of its individual members, past or present, it must be said that this is hardly a matter in which London can expect the provincial cities to look to her for much light and leading as a whole, while her few great and monumental improvements are naturally beyond their reach.

In short, passable Town Planning Schemes may be obtained without this preliminary Survey and Exhibition which we desire to see in each town and city; but the best possible cannot be expected. From the confused growth of the recent industrial past, we tend to be as yet easily contented with any improvement: this, however, will not long satisfy us, and still less our successors. This Act (1909) seeks to open a new and better era, and to render possible cities which may again be beautiful: it proceeds from Housing to Town (Extension) Planning, and it thus raises inevitably before each municipality the question of town planning at its best—in fact of city development and city design.

Methods and uses of survey, with outline scheme for a City Survey and Exhibition.

The needed preliminary inquiry is readily outlined. It is that of a City Survey. The whole topography of the town and its extensions must be taken into account, and this more fully than in the past, by the utilisation not only of maps and plans of the usual kind, but of contour maps, and, if possible, even relief models. Of soil and geology, climate, rainfall, winds, etc., maps are also easily obtained, or compiled from existing sources.

For the development of the town in the past, historical material can usually be collected without undue difficulty. For the modern period, since the railway and industrial period have come in, it is easy to start with its map on the invaluable "Reform Bill Atlas

of 1832," and compare with this its plan in successive periods up to the present.

By this study of the actual progress of town developments (which have often followed lines different from those laid down or anticipated at former periods) our present forecasts of future developments may usefully be aided and criticised.

Means of communication in past and present, and in possible future, of course need specially careful mapping.

In this way also appears the need of relating the given town not only to its immediate environs, but to the larger surrounding region. This idea, though as old as geographical science, and though expressed in such a term as "County Town," and implicit in "Port," "Cathedral City," etc., etc., is in our present time only too apt to be forgotten, for town and country interests are commonly treated separately with injury to both. The collaboration of rustic and urban points of view, of county and rural authorities, should thus as far as possible be secured, and will be found of the greatest value.

The preparation of this survey of the town's Past and Present may usually be successfully undertaken in association with the town's library and museum, with such help as their curators can readily obtain from the town-house and from fellow-citizens acquainted with special departments. Experience in various cities shows that such a Civic Exhibition can readily be put in preparation in this way, and without serious expense.

The urgent problem is, however, to secure a similar thoroughness of preparation of the Town Planning Scheme which is so largely to determine the future.

To the Exhibition of the City's Past and Present there, therefore, needs to be added a corresponding wall-space (*a*) to display good examples of town planning elsewhere; (*b*) to receive designs and suggestions towards the City's Future. These may be received from all quarters; some, it may be, invited by the municipality, but others independently offered, and from local or other sources, both professional and lay.

In this threefold Exhibition, then—of their Borough or City, Past, Present, and Possible—the municipality and the public would practically have the main outlines of the inquiry needful before the preparation of the Town Planning Scheme clearly before them; and the education of the public, and of their representatives and officials alike, may thus—and so far as yet suggested, thus only—be arranged for. Examples of town plans from other cities, especially those of kindred site or conditions, will here be of peculiarly great value, indeed are almost indispensable.

After this exhibition—with its individual contributions, its public and journalistic discussion, its general and expert criticism—the municipal authorities, their officials, and the public are naturally in a much more advanced position as regards knowledge and outlook from that which they occupy at present, or can occupy if the short and easy off-hand method above criticised be adopted, obeying only the minimum requirements of the Act. The preparation of a Town Planning Scheme as good as our present (still limited) lights allow, can then be proceeded with. This should utilise the best suggestions on every hand, selecting freely from designs submitted, and paying for so much as may be accepted on ordinary architectural rates.

As the scheme has to be approved by the Local Government Board their inspector will have the benefit of the mass of material collected in this exhibition, with corresponding economy of his time and gain to his efficiency. His inspection would essentially be on the spot; any critic who may be appointed would naturally require to do this. His suggestions and emendations could thus be more easily and fully made, and more cheerfully adopted.

The selection of the best designs would be of immense stimulus to individual knowledge and invention in this field, and to a worthy civic rivalry also.

The incipient surveys of towns and cities, above referred to, are already clearly bringing out their local individuality in many respects, in situation and history, in activities and in spirit. No single scheme of survey can therefore be drawn up so as to be

equally applicable in detail to all towns alike. Yet unity of method is necessary for clearness, indispensable for comparison; and after the careful study of schemes prepared for particular towns and cities, a general outline has been drafted, applicable to all towns, and easily elaborated and adapted in detail to the individuality of each town or city. It is therefore appended, as suitable for general purposes, and primarily for that Preliminary Survey previous to the preparation of a Town Planning Scheme, which is the urgent recommendation of this Committee.

The survey necessary for the adequate preparation of a Town Planning Scheme involves the collection of detailed information upon the following heads. Such information should be as far as possible in graphic form, i.e., expressed in maps and plans illustrated by drawings, photographs, engravings, etc., with statistical summaries, and with the necessary descriptive text; and is thus suitable for exhibition in town-house, museum, or library; or, when possible, in the city's art galleries.

The following general outline of the main headings of such an inquiry admits of adaptation and extension to the individuality and special conditions of each town and city.

Situation, Topography, and Natural Advantages:—

(*a*) Geology, Climate, Water Supply, etc.
(*b*) Soils, with Vegetation, Animal Life, etc.
(*c*) River or Sea Fisheries.
(*d*) Access to Nature (Sea Coast, etc.).

Means of Communication, Land and Water:—

(*a*) Natural and Historic.
(*b*) Present State.
(*c*) Anticipated Developments.

Industries, Manufactures, and Commerce:—

(*a*) Native Industries.
(*b*) Manufactures.
(*c*) Commerce, etc.
(*d*) Anticipated Developments.

Population:—

(*a*) Movement.
(*b*) Occupations.
(*c*) Health.
(*d*) Density.
(*e*) Distribution of Well-being (Family Conditions, etc.).
(*f*) Education and Culture Agencies.
(*g*) Anticipated Requirements.

Town Conditions:—

(*a*) Historical: Phase by Phase, from Origins onwards. Material Survivals and Associations, etc.
(*b*) Recent: Particularly since 1832 Survey, thus indicating Areas, Lines of Growth and Expansion, and Local Changes, under Modern Conditions, e.g., of Streets, Open Spaces, Amenity, etc.
(*c*) Local Government Areas (Municipal, Parochial, etc.).
(*d*) Present: Existing Town Plans, in general and detail.
Streets and Boulevards.
Open Spaces, Parks, etc.
Internal Communications, etc.
Water, Drainage, Lighting, Electricity, etc.
Housing and Sanitation (of localities in detail).
Existing activities towards Civic Betterment, both Municipal and Private.

Town Planning: Suggestions and Designs:—

(*A*) Examples from other Towns and Cities, British and Foreign.
(*B*) Contributions and Suggestions towards Town Planning Scheme, as regards:—
(*a*) Areas.
(*b*) Possibilities of Town Expansion (Suburbs, etc.).
(*c*) Possibilities of City Improvement and Development.
(*d*) Suggested Treatments of these in detail (alternatives when possible).

A fuller outline for city activities in detail would exceed our present limits; moreover, it will be found to arise more naturally in each city as its survey begins, and in course of the varied collaboration which this calls forth. The preparation of such more detailed surveys is in progress in some of the towns above mentioned; and is well advanced, for instance, in Edinburgh and Dublin: and though these surveys are as yet voluntary and unofficial, there are indications that they may before long be found worthy of municipal adoption. The recent example of the corporation of Newcastle-on-Tyne, towards establishing a Civic Museum and Survey, may here again be cited as encouraging, and even predicted as likely before long to become typical.

The question is sometimes asked, How can we, in our town or city, more speedily set agoing this survey and exhibition without the delay of depending entirely on private and personal efforts? Here the services of the Cities and Town Planning Exhibition may be utilised, as notably in the case of Dublin. In this way the city's survey is initiated in consultation with the local experts of all kinds; and the broad outline thus prepared is capable of later local development in detail, with economy of time and convenience of comparison with other cities. The Exhibition, with its civic surveys from other places, is also suggestive and encouraging to local workers: while the variety of examples of town planning and design from all sources are of course helpful to all interested in the preparation of the best possible local schemes.

17

The Spirit of Cities

After our Civic Survey and Exhibition are undertaken, and the preparation of our Town Plan begun, what next? Each is but a preparatory study of the city, a draft towards its improvement and extension. Beyond these we have to keep in view the spirit and individuality of our city, and to enhance and express this if we would not further efface or repress it.

We may now suppose our Civic Survey has been brought up to date, and prepared for planning beyond it. It is at any rate in progress, and upon all levels of age and responsibility, from primary school and college, museum and library, to the town-house itself in its various departments; and thus on many lines it is reaching the mass of homes, the body of citizens.

May we now leave this hard-pressed subject, and with confidence that all has been done that need be? Yes and no. The exhibition over, the Town Planning Committee (if it has waited so long) may then instruct their borough engineer to make out his town plan; but he had doubtless been sketching this out already in his own way, well or ill. True, he and his committee may now accept from the Town Planning Exhibition what ideas of the city's growth and structures and needs their majority permit, or an active minority impose; and thus the trouble will not have been wholly wasted. Still, this done, the plan, after due correspondence with the Local Government Board and adjustment to its criticisms, will obtain official approval, and the town's future for a generation (and in part for ever) is thus simply settled on; perhaps even proceeded with.

Yet all we have so far been accumulating are but materials towards our history, studies towards our picture, drafts towards our design. Of this first exhibition it is a main success to have demonstrated its own incompleteness; our present documentation is but a beginning, and our needed comparisons with other cities are little more than broached.

For all this the practical man will now say he cannot wait, and so far rightly; though he has waited long and without complaint before. So while work begins, research should continue; and beyond this, the need arises of reconstructive imagination, and this for past, for present, and for future alike.

We visualise and depict our city from its smallest beginnings, and its immediate and wider setting, as of valley, river, and routes; we spread it upon its plain, tower it upon its hills, or throne it more spaciously by the sea. Our synoptic vision of the city, for each and all of its growth-phases, thus ranges through region to homes, and back again, and with pictured completeness as well as plans; first a rough jewel on the breast of Nature, then the wrought clasp upon her rich-embroidered garments of forest, vineyard, or orchard, of green pastures or golden fields.

As with geography, so with history: we design or renew the city's pageant, scene by scene. No minuteness of local archæologist and antiquarian can be spared, no contact with the outer world of which the general historian tells; yet the main task is too commonly missed between these—the problem of presentment of its characteristic life at each period. We have to see it as it lived in pre-Roman, Roman, and barbarian times, in early and later mediæval days, and at the Renaissance, as well as in its modern industrial growth since the steam-engine and the railway.

> **How may this spirit be brought out and expressed? Our survey may be helpful to the city's Pageant; beyond this to its more interpretive Masque; beyond this again literature and all the arts combined must utilize our civics and sociology towards its veritable Epic.**

The too purely spectacular pageant of a city—with its loosely strung succession of incidents, themselves too often of external contacts—despite its splendour, has failed to satisfy the public. But here we come in sight of its next development—that of the more interpretative masque of the city's life; the seven ages, as it were, of its being—though happily not too closely corresponding to Shakespeare's individual ones, themselves sadly degenerate

from a nobler tradition. And though at many points our masque must still be eked out with pageant, at others it may well rise towards epic. Here, in fact, a new form of epic begins to appear; that of each and every city and region throughout the ages.

We are thus reaching the very portal of literature; yet, thanks to our outdoor survey and its exhibition, we can look back from it upon life, which everywhere creates it. We realise for ourselves how this dull town has had beauty and youth. We see how it has lived through ages of faith and had its great days of fellowship; how it has thrilled to victory, wept in defeat, renewed its sacrifices and strifes, and so toiled on, through generation after generation, with ever-changing fortunes, and in mind and spirit more changeful still. But since in the mass of prosperous English and American cities we too readily forget our historic past, and think only of our town in its recent industrial and railway developments, we have come to think of this present type of town as in principle final, instead of it itself in change and flux.

It is a blind view of history, as something done elsewhere and recorded in books—instead of being, as it is, the very life-process of our city, its heredity and its momentum alike—which delays the perception of civic change among the intelligent, and still retards comprehension of it among even the progressive. Where even the theologian has too much failed to awaken to the current judgment-day, with its inexorable punishments, its marvellous rewards, we cannot wonder that the economist should have been slow to realise the limitations of his Paleotechnic age; to analyse, yet correlate its complex of evils, its poverty—and luxury—diseases, its vices and crimes, its ignorances and follies, its apathy and indolence; or conversely, to appreciate and to support its Neotechnic initiatives and quests.

From past romancers to modern realists—Sir Walter to Zola, Reade to Bennett—the stuff of literature is life; above all, then, city-life and region-life. Ideas, as Bergson rightly teaches, are but sections of life: movement is of its essence. This life-movement proceeds in changing rhythm initiated by the genius of the place,

continued by the spirit of the times, and accompanied by their good and evil influences. How else should we hear in our survey as we go, at one moment the muses' song, at another the shriek of furies!

Our survey, then, is a means towards the realisation of our community's life-history. This life-history is not past and done with; it is incorporated with its present activities and character. All these again, plus such fresh influences as may arise or intervene, are determining its opening future. From our survey of facts we have to prepare no mere material record, economic or structural, but to evoke the social personality, changing indeed so far with every generation, yet ever expressing itself in and through these.

Here, in fact, is the higher problem of our surveys, and to these the everyday purposes of our previous chapters will all be found to converge. He is no true town planner, but at best a too simple engineer, who sees only the similarity of cities, their common network of roads and communications. He who would be even a sound engineer, doing work to endure, let alone an artist in his work, must know his city indeed, and have entered into its soul—as Scott and Stevenson knew and loved their Edinburgh; as Pepys and Johnson and Lamb, as Besant and Gomme their London. Oxford, Cambridge, St. Andrews, Harvard, have peculiarly inspired their studious sons; but Birmingham and Glasgow, New York or Chicago, have each no small appeal to observant and active minds. In every city there is much of beauty and more of possibility; and thus for the town planner as an artist, the very worst of cities may be the best.

Hence at the end of this volume we are but at the beginning of the study of cities in evolution. We should now pass through a representative selection of cities. We need to search out sociological interpretations of all these unique developments; indeed, it is for lack of such concrete inquiries that sociology has been so long marking time, between anthropology and metaphysics, and with no sufficient foothold in social life as it is lived to-day in

cities. We need to search into the life of city and citizen, and the interrelation of these, and this as intensively as the biologist inquires into the interaction of individual and race in evolution. Only thus can we adequately handle the problems of social pathology; and hence again rise to the hope of cities, and with clearer beginnings of civic therapeutics, of social hygiene.

In such ways, and through such studies, the incipient civic renaiscence is proven to be no mere utopia; and its needed policy may be more clearly discerned, even devised. Thus we return, upon a new spiral, to town planning as City Design. City by city our civic ideals emerge and become definite; and in the revivance of our city we see how to work towards its extrication from its Paleotechnic evils, its fuller entrance upon the better incipient order. Education and industry admit of reorganisation together, towards sound mind and vigorous body once more. This unification of idealistic feeling and of constructive thought with practical endeavour, of civic ethics and group-psychology with art, yet with economics, is indeed the planning of Eutopia—of practical and practicable Eutopias, city by city.

Such then, is the vital purpose of all our surveys: and though their completion must be left to others, fresh chapters for city after city—indeed sometimes a volume for each—might here be added, with their Surveys, of things as they are and as they change, passing into Reports, towards things as they may be.

Every town planner is indeed moving in this direction more or less; no one will now admit himself a mere procrustean engineer of parallelograms, or mere draughtsman of perspectives; but long and arduous toil and quest are still before us ere we can really express, as did the builders of old, the spirit of our cities. Spiritually, artistically, we are but in the day of small things, however big be our material responsibilities. Hence the justification of the inner rooms of our Outlook Tower, and of the Cities and Town Planning Exhibition, with their drafts, sketches, and sometimes beginnings towards the realisable Eutopia of cities, as of Edinburgh and Dunfermline, of Chelsea or Dundee, of Dublin or Madras.

Without such increasing, deepening, and generally diffusing realisation of the character and spirit of our city, our town planning and improvement schemes are at best but repeating (though no doubt in better form and upon a further spiral) those "bye-law streets" with which the past generation was too easily content, but with which we are now becoming so thoroughly disenchanted, as but slums after all, and in some ways the worse for being standardised.

> **In every way, then, a School of Civics is needed in every city, and in some this is already arising. The single example here chosen for brief and partial outline is that of Chelsea, past and possible.**

At this point more than ever we require concrete illustrations, and these from city after city. But space forbids: for, say, Edinburgh or Dublin alone one would need this whole volume and more; indeed, for the far smaller and necessarily less complex Dunfermline, the writer has already found a doubly crowded one insufficient.

Still, some example must be given, though of the briefest. As a mere indication of the fields of inquiry and of reflection needed to disengage the spirit of a city, and of the forecasts, initiatives, and endeavours which even a glimpse of this spirit will awaken, as the School of Civics in any city or borough works and grows, may be submitted the following brief and much abridged sketch towards opening a discussion of Chelsea—past and possible.

The exploration of Chelsea is crowded with interest, full of significance; and detailed instructions for setting about this, in ramble after ramble, are to be found in no mere summary as of Baedeker, but in the admirable guide-book of Mr. Reginald Blunt.

Chelsea Church (destroyed in air-raid 1941) and its memorials, Church Street and its associations, are more or less known to every Chelsean, and so with each of our main assets. But it is easy to undervalue the secondary ones; thus the reverent visitor of the Old Church often passes by the new Parish Church with utter indifference, if not with a remark upon the tameness of its

modern Gothic. Yet this is one of the notable buildings not only of the borough but of the nineteenth century, since it is the first modern church with a stone-vaulted roof—that is, the first real attempt to construct a Gothic edifice since the close of the Middle Ages. No wonder it is not completely satisfactory; it is rather a wonder it is so good; and even if we may no longer feel our fathers' enthusiasm for modern Gothic, we see that this edifice has none the less its place, and that an initiative one, in one of the influential movements of recent history.

Even in the nooks of Chelsea, in its retreats from the general stream of local and national life, we find points ranging from individual interest to world significance, to history in its largest aspects, temporal and spiritual. Thus the Cavalier associations of Chelsea are familiar to all its citizens; but from Lindsey House, once Count Zinzendorf's chateau, it is but a step in thought to the Thirty Years' War—and from the quiet little Moravian meeting-house with its austere cemetery, to one of the greatest and best of Puritan movements in history. Even their tiny disused schoolhouse, dingy though it be, is more than a mere surviving landmark for progress. It has a tradition of its own, older than that of any of our schools and colleges; for among the educators of history there are few more significant and perhaps none at this moment more vividly modern, more directly indicative of the twofold needs of progress of sciences and humanities together, than the Moravian pedagogue and bishop Comenius, author of the Orbis Pictus (seventeenth century) yet also of the Pilgrimage of the Soul.

The historic houses are well known. There Turner spent his last year and died, there Rossetti, there Whistler, and each after revolutionising his generation. Fill in minor names, at least of the thirty mighty men who attain not unto the first three—say, from Cecil Lawson onwards and back—and see what a wealth of artistic associations. Here in our own day are more painters than ever, and though none be a prophet in his own borough, and the old excellences be gone, new excellences are surely appearing.

We may regret the vanishing of the old Pottery with its dainty figures; but we have now in progress, and in more studios than we can number, the expression of a higher idealism, of a more varied realism than that of old, upon a far greater scale and in more enduring forms. It is time to recognise that even now our Chelsea sculptors are initiating an Art movement which may before long be recognised thoughout the land as not less vital and significant in its way than those of the great painters we are wont here to recall.

In Chelsea (and in Sir Thomas More's garden of all places) our local memories of the Renaissance are not likely to be forgotten, nor how the advent of the New Learning in England would have had a far less easy progress but for the convinced and persuasive ally whom Erasmus found in the hospitable Chancellor. But hardly less significant, though less remembered, is the later, yet completer development (since including also the scientific movement of the later Renaissance), which we owe to More's successor in the same home and neighbourhood, Sir Hans Sloane. Many beyond Chelsea know his Botanic Garden; but it is sometimes forgotten that to his collection the British Museum itself owes its origin; and more often forgotten still how stately and generous was Sloane's design—for had that been carried out, his historic mansion would even now be in existence; and this as the centre of the nation's treasure-houses, not crowded out of sight in Bloomsbury, but displayed like the Louvre, perhaps indeed better, in park as well as on river. Hence, perhaps, through the inward fitness of things, a vast group of museums has returned to our immediate neighbourhood; so that we need now no longer refuse morally to incorporate into at least the outer court of our sacred enclosure South Kensington itself, albeit so long the mere hinterland of Chelsea.

This tracing of traditions, as all Chelseans, all historians, know, might be continued and amplified. I need not even speak of the local record in literature, in criticism, in affairs; it is time to draw to our conclusions. First, that we are here well on in the

fourth century of a focus of thought, a cloister of meditation, a centre of learning, a creative home of art, and, above all these, a radiant centre of moral and social idealism, arising in the joyous sunburst of the Utopia, but never wholly dying away. To recall once more only a few of the greater names of Chelsea, who can doubt but that this local association of imagination and humour since More, and since Erasmus's Encomium Moriæ, must have stirred in turn the passionate imagination, the fierce humour of Swift, and the heroic visions, the blazing satire of Carlyle. Or, again, after these first three, has not the same Utopian tradition aroused the generous ardour of Kingsley?—and strengthened the lucid optimism of Thomas Davidson?—whose whilom Chelsea Brotherhood has grown into what has been one of the most potent groups of Utopians of our day and generation, the Fabian Society; and whose later teaching is so manifest in that renaissance of educational and civic idealism which withstands the omnipotence of mammon even in New York.

Next, our civic conclusion. Here in Chelsea, albeit one of the minor boroughs of London as regards area, wealth, population, and other crude quantitative measurements, we have a city in its own way second to none, and in general view claiming to be reckoned after the City and Westminster themselves as making up the main triad of Central London. True, the City stood for commerce, for material wealth, financial greatness, and Westminster for sacred traditions and for governing powers, when this was but a country village. Yet when the Reformation closed the story of Westminster as a mediæval cloister of thought, the history of Chelsea opened; as in its turn the cloister-city of ideals those of the Renaissance. Since then it has afforded, once and again, a needed subjective counterpart of the material and political greatness of the two metropolitan cities. This position, in Chelsea but individually and sporadically realised, has been more fully and more consciously taken as well as educationally applied by Oxford; but while that has been mainly a citadel of the causes and ideals of the past, the record of Chelsea lies essentially in its

initiatives, of new ideals, of constructive movements. Here in fact has long been established, not indeed More's "Utopia," yet another and practically contemporary one, that "Abbey of Thelema" in which each lives his own life to such purpose as he may.

Our record of local history and achievement is no mere retrospect of sporadic genius, but a perpetual renewal of certain recognisable elements. Though to historians and their readers the past may too often seem dead, a record to be enshrined in libraries for the learned, it is of the very essence of our growing sociological re-interpretation of the past to see its essential life as continuous into the present, and even beyond, and so to maintain the perennity of culture, the immortality of the social soul. The definition of culture in terms of "the best that has been known and done in the world" is but half the truth, that which mourns or meditates among the tombs; the highest meaning of culture is also nearer its primitive sense, which finds in the past not only fruit but seed, and so prepares for a coming spring, a future harvest. History is not ended with our historian's "periods"; the world is ever beginning anew, each community with it, each town and quarter. Why not, then, also this small town of ours, this most productive cloister of thought and art in what is now the vastest of historic cities?

How, then, shall we continue the past tradition into the opening future?—that is now the problem of Eutopia. A civic union, a Chelsea Association, has for years past been struggling into existence; and may yet unite our scattered endeavours and feelings after more active citizenship, and this in no mere limited sense, of gas and drains and taxes. We are surely as capable hereof aspiring to more Athenian ideals of Citizenship as to cultural efforts, like our recent pageanting, our arts balls, our marvellous flower-shows. Why not also a more associated yet correspondingly more individual life? We have the tradition of many culture-activities, the essentials of a University City in the general sense; for as the community in its religious aspect was the

Church, as the community in its political aspect is the State, so also the community in its cultural aspect will be the University. Here and beside us, moreover, in our own day, has been developing a university quarter in the literal sense; why not now bring these two beginnings together? Might not that be a fresh impulse to ourselves in Chelsea—and why not one of value to London by and by—as at once to its University, which has its collegiate growth before it?

Towards all this, the re-erection of Crosby Hall, well-nigh the last surviving relic of Old London, upon More's garden, is no mere act of archæological piety, still less of mere "restoration," but one of renewal; it is a purposeful symbol, a renewed initiative, Utopian and local, civic and academic in one. It is first of all a renewed link with the past and its associations; it is also of daily uses, both public and collegiate; and these above all as preparing the future, not simply dignifying the present and commemorating the past. Here, then, is a new link between Chelsea past and Chelsea possible; a centre at once studious and practical, uniting thought and action, civic retrospect and civic future.

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Economics of City Betterment

Criticism of preceding treatment of Chelsea and its answer: corresponding yet divergent development of other cities with Neotechnic progress; a hopeful augury.

Of the suggestion towards the development of Chelsea with which the previous chapter closed, the criticism may be made that this was but a poor example, since too academic to be of much general interest. To this there are several answers. First, that one may best speak of what one knows, and has worked at: second, that even in our existing order there are cities such as Oxford, Cambridge, St. Andrews, to which the university is a main asset, and more to which it is a not inconsiderable secondary one: third, that as Neotechnic culture advances, wealth more and more takes the form of educating the younger generation towards skill and efficiency, and this of many kinds; and that this can and must go on, till higher education and specialised skill become common instead of rare. Again, that the obviously associated and already not inconsiderable higher industries, such as printing, etc., must naturally increase; and so on.

Yet even for Chelsea the suggested collegiate development was but one among several important elements also more or less capable of increase, as notably its eminent horticultural tradition and present efficiency, or yet more its two thousand artists. So, for Edinburgh again; we might readily enter the current discussion of its industrial future, as to which there are two fairly distinct schools—the first simply clamouring to Jove for "new industries," of any or every sort (and not getting them); the second more disposed to consider the whole situation—the existing place, work and people, with their existing advantages and aptitudes, limitations and possibilities; and thence thinking out the further development and better correlation of these.

The same inquiry seems more urgent for Dundee; more urgent

still for Dublin; and so on; yet the lines of development most promising will be found to be largely different, indeed this increasingly as our surveys and studies of these cities grow more and more clear. Even for purposes of strictly economic development (if strict economic development there be) the Paleotechnic view of cities, as nowadays broadly similar, and with their differing pasts alike practically negligible, turns out on examination to be deeply unpractical, wasteful, and unproductive; and that the future developments of cities will be again upon lines of divergence and Neotechnic differentiation, may be boldly affirmed.

Here, in fact, is a great and opening field for civic statesmanship in association with civic sociology; and it may be fairly hoped that as these advance together their substantial fruit may become as manifest as that of the association of wise practice with sound theory on simpler levels of science, both pure and applied; while of the superior spiritual fruit here can surely be no question. Hence Edinburgh is not permanently destined to professional fossilisation, legal and other; Dundee need not accept ruin by Oriental competition at the lowest level of subsistence; Dublin will not further subside into squalor, nor Belfast into bitterness; but each and all revive, through fuller appreciation of their respective possibilities and cultivation of their advantages, and towards completer and higher inter-civic co-operation.

How far can housing and town planning be considered as a business proposition? How far must they depend on political action? Main steps of past progress have involved initial idealism, costly to their promoters, but have in time become economic.

But it is time to return to the more simple and immediate problems of the present volume; and to make at least some beginning of an answer to the questions the reader may once and again have been asking. How far can all these fine things of housing and town planning survive?—how can they be made to pay?—are they to be considered as a business proposition, or are they not? Let us see.

It is not a little significant to note that the various steps of housing progress have arisen automatically, as so many natural and profitable developments one from another on ordinary economic lines; nor yet as political advances; though these are the two alternatives between which most modern minds are confined, even of those who desire further housing and city improvement.

The actual development has not been so simple. Each main advance has arisen with outcry or protest against the prevalent state of things; and has developed from dreams and schemes which have invariably aroused counter-protest and outcry, those of "unpractical" and "Utopian." Yet these "unpractical dreams" have none the less become resolve and effort, and those "Utopian schemes" have developed with the toil and sacrifices of some one or two or more, but at first few individuals.

It is time that this history of pioneering was adequately written, for it is still needed to arouse our cities and our fellow-citizens to-day. But here can only be set down a few notes and suggestions. Among the first who attempted the arousal and up life of the Paleotechnic city from its complacent progress into squalid overcrowding, and this appropriately in Glasgow, we must recall Dr. Thomas Chalmers (1780-1847), with his "Christian Economy of Cities"; as also his practical endeavours, from one of which, for instance, what is now known as "the Elberfeld system" was directly derived. Within the same industrial region of the Clyde, Robert Owen's (1771-1858) rare union of speculative and practical endeavours for a time exercised a world-influence. As among the foremost pioneers of labour betterment through legislation, Lord Shaftesbury's (1801-1885) strenuous life story has been well told. As Owen was Communist, so Godin (1817-1888) was a Fourierist. Thomas Carlyle (1795-1881) was himself for a time half St. Simonian, and his vigorous attacks upon the futilitarian economists and paleotechnic order generally, as, for single instance, on "Hudson's Statue," were continued by Charles Kingsley

(1819-1875), our English Lamennais, and later by John Ruskin (1819-1900), who was also largely aroused by Sismondi; and all these idealists have aided the growing disillusionment, the still slower reconstruction, long though these have been of coming, and still imperfect though they be. Octavia Hill's (1838-1912) work for housing arose too in factorship for Ruskin as her first property owner; and his "St. George's Guild," though unsuccessful, was none the less a project whose ideas and ideals are still suggestive.

Return to the early hygienists, Simon, Parkes, and others, whom we have to thank for pure water, public cleansing, domestic sanitation, and the lowered death and disease-rates which these imply; and consider what idealism carried them on for their generation of ardent toil, through towns of material filth and grime unparalleled in history; and against apathy and opposition even denser. So even the decent dullness of our bye-law streets expresses more idealistic efforts against heavy odds than we nowadays remember; while of the succession of model tenements and improving suburbs and artisan villages and philanthropic endeavours have been already mentioned. Ebenezer Howard (1850-1928) with his Garden City is thus but a culminating type of this long succession of practical Eutopists; while his faithful band of Garden Cities Association shareholders, who, like all other true experimentalists, have waited years for the modest dividend only at length beginning, must also not be forgotten.

Yet the torch must ever be kept alight and passed on, if we would not lapse anew, as has so often happened already; as, for instance, after what was in its day the no less world-wide renown and influence of Robert Owen. True, the torch is now in the hands of a hundred architects and town planners; and, after finding its first statesman in John Burns, it is now and henceforth a matter of practical politics. Yet "all things achieved and chosen pass"; and in matters of housing and town planning, even more literally than in others, we have no continuing city.

What, then, of further ideals and ideas do we still require?

Example from Irish Agricultural movement: better housing, better living, better business.

Are better housing and town planning, then, always to remain enterprises of idealism and sacrifice, or are they settling down to solid business and profitable return? In short, will they pay? And how? Assuredly yes, as there are yearly more dividend-paying concerns to show—Co-operative Tenants doubtless for choice, but many others as well. It is as with Sir Horace Plunkett's (1854-1932) Irish Agricultural movement; there are, and always must be, idealists at the front, with little or nothing beyond their trouble for material reward; but what they have sown, others already reap. Plunkett's watchword, of "better farming, better business, better living," though for a time incredulously sneered at, now appeals to the Irish peasant by tens of thousands: so why should not "better housing, better living, better business" appeal even more widely in its turn, since true for townsfolk everywhere?

True, there are none of the brilliant inducements of a really popular City prospectus of the familiar Paleotechnic type, with its fluent promises of great and speedy returns to investors, and its promoters' too frequent performance, of division of their spoil. In sound and steady agriculture, no man makes speedy fortune, be he labourer, farmer, or squire; and but few any fortune to speak of: yet each looks to have congenial and honourable occupation, with healthy home, and effective family; each leaves the land better than he found it; and so in every way helps to make the nation's fortune, and this at its best, place and people together. In short, then, he has a livelihood, which is at the same time a life. So precisely it should be with bricklayer and builder, architect and planner: in the past it has been so; and already it sometimes is (Paleotechnic housing-scandals and building-disputes notwithstanding). As country and town are in these ways maintained, renewed, improved, real wealth steadily increases, and in ways far more material than those of the "City,"

with its financial utopias, its pecuniary notations, so largely of debts and dreams.

Beginnings of Social Finance, Civics and Eugenics: their necessary association. Cities in Evolution with People in Evolution.

The dawning economic practice and theory of the Neotechnic city thus recalls that of the old physiocrats, upon its modern spiral; but this does not delay the working out of new and appropriate forms of finance. Constructive Consols, as we may fairly call such growing schemes as government building-loans, are an obvious beginning of this; and their development affords no small opportunity for the Treasury, at present and for a generation to come.

The principle of organisation and growth of an agricultural bank remains a mystery to the true "City" mind, often too sunk in the cult of personal gain to grasp even the possibility, let alone the rationality and the prosperity of such banks everywhere, with their awakening of social solidarity towards the constructive rural uses of capital. But as the re-organisation of cities becomes seen as an urgent and vital line of policy, the banker must either adapt such methods to urban use, devise better ones, or give place to better bankers who can. The Civic Bank is coming, and the Civic Trust might here be enlarged on as by far the brightest inspiration of Mr. Carnegie's many philanthropic endeavours. In fact new forms of socialised finance without number, and all in friendly co-operation and rivalry towards the common weal. All this social finance is of course not simply a matter of sentiment (though that is needed to win battles), but of science also, and with new types of bank directors accordingly—the engineer and physicist with their economy of energies, the hygienist with his economy of life, the planner with his economy of cities.

In Paleotechnic finance, the financier with his "credit" reigns supreme, and lends where the immediate return is highest and more and more without a thought of social results; the accountant, that public analyst of industry and commerce, is but the

doctor who looks after him, if not, as sometimes, the detective. But as Neotechnic activities and experience advance, we constructive workers will increasingly discern that financial resources, and credit, too, are essentially of our own making; and that the banker, whom we accordingly need, is above all the clear and statesman-like accountant of our complex mutual co-operation and division of labour on the creation of the city wealth as weal.

After so much sentiment of cities, so much talk of the future, is it still needful to answer the "practical" Paleotect who is convinced that "sentiment doesn't pay," that "human nature is fixed" (in his image), and so on? But the future is already here, as plainly as are next spring's buds; and though he may probably never have noticed these either, that blindness will not prevent their opening.

This Eutopian, constructive, and Neotechnic re-organisation of industry, in city and country alike, is shaping, on plan and in place alike; it is even beginning to survive against the Paleotechnic confusion, and this in terms of its own doctrine, that of struggle for existence, and survival of the fitter; in this case the more socially and vitually organised.

To turn wheels for hire as labourer, and to turn pence for profit as a capitalist, has no doubt been going on so long, and in such large crowds, as to hypnotise their members from seeing what better things are now waiting to be done, and how much more life as well as livelihood may be had from doing them.

But let those laugh who win: will it not here be those of direct mind who are set on making better homes and surroundings for wife and weans, and thus get them more speedily? Not those of indirect mind, who at best set out towards these better conditions through money-wages or profits; and have thus been going on for generations in bad or worse conditions for all their pains.

Along with the coming in of civics we shall have that of social finance, based on the creation of real and material securities, but with it individual and family survival, and this in increasing health. Here, then, we have come to eugenics: and this eugenics

proper, free from those elements of fatalism, of crude Darwinism, if not reactionary sophistry, which from time to time reappear to discourage the uplife of the people with the improvement of their conditions.

The ideal of Civics and Eugenics in association, and no longer studied apart, as separate specialisms, nor advocated as if they were rival panaceas, might well occupy a new chapter. Suffice it, however, to state two or three main points of experience and conviction without here arguing them.

First, that many of those whom eugenists are apt to think of and to tabulate as "degenerates" in type and stock are really but deteriorates, and this in correspondence to their depressive environment. Next, that such types and stocks, which our wholesale Paleotechnic experiment of slum-culture has proved most sensitive or adaptive to its evils, should correspondingly no less respond to better conditions, and thus rise above average, as they now fall below.

These are not, of course, new hypotheses: they are doctrines experimentally confirmed throughout history, and at least as old as the gospels and prophecies, which (even their exponents seem sometimes to forget) came largely to express them. The only freshness of treatment now possible (apart from the greatness of the scale of endeavour that slum and super-slum provide) is to restate these doctrines, independently of feeling or tradition; and this in the teeth of the crudely Darwinian eugenists above referred to, and on fuller scientific grounds than theirs, biological, psychological, and social, and of observation, experiment, and reasoning alike; and to appeal for that fuller experiment accordingly, which no scientific antagonist can fairly refuse.

Added arguments may appeal to different outlooks; to some the economy of hospitals and asylums, of board schools, public schools, and barracks, of reformatories, police courts, and prisons, and so on; and to others that of sport and gambling, of drink-shops and vice-shops; and to others again of the lower press, of the idling-clubs, of the bureaucratic institutions, and

of course of the professions, all, though variously, concerned with the preceding.

A complemental line of argument is also to be derived from the moral or material values and productivities of individuals and stocks thus transplanted in course of civic and regional renewal.

If further economic considerations be desired, one more may be offered, and with no less confidence and emphasis. Recall for the last time our too largely Paleotechnic working-towns with their ominous contrasts of inferior conditions for the labouring majority, with comfort and luxury too uninspiring at best for the few.

Contrast again, with these working-towns, the deeper and more deteriorating correlation of the crude and crowded luxury of the great spending-towns, with the yet more deteriorative labour-conditions which such luxury so especially cultivates and increases. In both these predominant types of our modern community the conditions are thus tending towards deterioration—deterioration obviously more comprehensive and complex than that which military recruiting statistics so tragically express.

Hence the Housing and Town Planning movement must at all costs be speedily advanced, our existing cities, towns and villages improved, with new garden villages and suburbs where need be, and small garden cities as far as possible. This vast national movement of reconstruction must be faced, were it but to create the needful sanatoria of our Paleotechnic civilisation; but, happily, it is also superior in productive efficiency and survival value in itself, and thus demonstrable by the accountant and banker as he escapes from the city and learns his work. Healthy life is completeness of relation of organism, function, and environment, and all at their best. Stated, then, in social and civic terms, our life and progress involve the interaction and uplife of people with work and place, as well as of place and work with people. Cities in Evolution and People in Evolution must thus progress together.

Summary and Conclusions

The Evolution of Cities.

We set out in the first chapter to effect our escape from the current abstractions of economics and politics in which we all more or less alike have been brought up: and we returned to the concrete study, from which politics and social philosophy actually arose in the past, but have too much wandered—that of cities as we find them, or rather as we see them grow.

The Population Map and World Cities.

To recognise the present-day growth of our cities, their spreading and their pressure into new and vaster groupings or conurbations, and to realise these as vividly as may be, first upon the map of our island, and then as it is also discernible abroad, was the continued endeavour of the next two chapters. Thus there emerged the conception of the intersocial struggle for existence, as dependent no longer mainly, as so many suppose, upon the issues of international war, or even as pacifists assume, upon the maintenance of the present stage of industry at its present level, by amicable negotiations. Peace and prosperity depend above all upon our degree of civic efficiency, and upon the measure in which a higher phase of industrial civilisation may be attained in different regions and by their civic communities.

The Industrial Age: Paleotechnic and Neotechnic.

Thus we came, in Chapter 4, to the criticism of the too loosely expressed, too vaguely described "Industrial Age" of our historians and economists; and to its analysis into two main phases, rude and fine, old and new, Paleotechnic and Neotechnic; with conclusions frankly critical of our modern times, as still

predominantly Paleotechnic, yet not without the initiatives of the higher phase, nor the means of advancing into it more and more fully.

Yet the conditions which delay our acceptance of the Neotechnic order are not to be dealt with too simply. Instead, therefore, of deducing from these considerations some simple policy, to be debated and adopted forthwith, as is the method of politics, the need was urged of arousing observation and extending it, of knowing our regions and cities in detail, and of making ourselves more competent practically to share in the arousal and development of our own home-city, instead of merely deputing our responsibilities to others through the political or municipal voting apparatus.

Foreign Travel.

Towards meeting this need of civic knowledge and comparison, travel is far more interesting and instructive to begin with than can be any more abstract discussion. Hence the chapters (9-11) summarising notes of a recent and typical Town Planning Tour in Germany; Germany being selected not as the country of late years popularly viewed as the most alarming of business competitors, or of naval rivals, but as the region of Europe whose civic progress and development have been most instructive to her neighbours, and from which impulses to the British and American Town Planning movement have been as yet most largely derived.

Cities and Town Planning Exhibition.

In the accumulation of experience, from foreign travel or from observation at home, all may share; notes and impressions may be accumulated; pictures, plans, models and other graphic records may be pooled together. Thus there gradually arise Town Planning Collections, and from these again Town Planning Exhibitions. These were first initiated in Germany; but are now also being held in this and other countries, witness the "Cities and Town Planning Exhibition."

In its growing mass, orderly departments differentiate, and sections of these arise so that the various contributors and organisers are fairly on the road towards thoroughness for each division of the field. In short, increase of expert knowledge, accumulative of its necessary material for comparison, reference and illustration, are going on; and these together with a wide and growing appeal to the public. In city after city there is being aroused a new interest in its historic and social past, a fresh criticism of the advantages and defects of its present state, and a discussion of the possibilities of its improvement and development.

City Survey and the Spirit of Cities.

At this stage City Improvement and Town Planning comprehensively appear; and yet in the face of so much tradition of the past, so many suggestions from the contemporary world, a new danger arises, that of imitating what we admire, too irrespective of its differences from our own place, time, or manner of life.

We are satiated with the existing medley our cities show of pseudo-classical feebly romantic buildings, supposed to revive the past, and of the mean streets or conventional villa suburbs, which represent the generation of their builders. Yet the piercing of characterless perspectives and boulevards through this past confusion or beyond it, which would seem to satisfy too many town planners, or the endeavours of too many schemes, to repeat, here, there and everywhere, bits of Letchworth or Hampstead Suburb (excellent as these are in their own place and way) are but poor examples of Town Planning; and in fact, they are becoming fresh delays and new obstacles to City Design.

True Rustic Development, true Town Planning, true City Design, have little in common with these too cheap adaptations or copies. On pain of economic waste, of practical failure no less than of artistic futility, and even worse, each true design, each valid scheme should and must embody the full utilisation of its

ocal and regional conditions, and be the expression of local and of regional personality. "Local character" is thus no mere accidental old-world quaintness, as its mimics think and say. It is attained only in course of adequate grasp and treatment of the whole environment, and in active sympathy with the essential and characteristic life of the place concerned.

Each place has a true personality; and with this shows some unique elements—a personality too much asleep it may be, but which it is the task of the planner, as master-artist, to awaken. And only he can do this who is in love and at home with his subject—truly in love and fully at home—the love in which high intuition supplements knowledge, and arouses his own fullest intensity of expression, to call forth the latent but not less vital possibilities before him.

Hence our plea for a full and thorough survey of country and town, village and city, as preparatory to all town planning and city design; and thus as being for the opening Neotechnic order (see population-map on p. ooo), all that the geological survey has been for Paleotechnic cities; indeed far more.

Indications towards orderly methods of preliminary survey are therefore offered; for museum, and library, school and college, city and its authorities, which the reader may find helpful, at least suggestive, in his own town. The essential matter for all of us is to become more and more of surveyors ourselves; it is to vivify and rationalise our own experience, which is always so far unique. Such growing knowledge is the true and needed preparation towards the needed uplift of Country and Town.

The "fresh eye" of Art and Science.

As this ever fresh and fascinating interest in our immediate surroundings gains upon the too common apathy, the citizen upon his daily walk and in his long familiar streets may gradually or suddenly awaken to a veritable revelation—that of the past and present interest, and the unexhausted possibilities of the

everyday social scenes around him, as of their actual or latent beauty also.

The business and industrial toiler, the mechanical voter and member, the administrative mandarin and routinist—who all, to do them bare justice, have been vaguely striving, however sunless and indoor their lights, to make something a little better of our Paleotechnic disorder—may thus be rejuvenated, one and all, aroused, enlivened by a fresh vision, the literal "fresh eye" of art, and that of science also. The vital union and co-ordination of these two eyes is the characteristic of the Neotechnic order, the fuller advent of which only our sluggishness or hopelessness delays.

The discouragement and cynicism, so common in the past and passing generation, and still affected by the rising one, are not normal attitudes of mind, but are easily explained—even cured. Why the insufficiency of nineteenth-century science? Mostly too static and analytic to come in touch with art. Why that of artistic and other romantic movements? Too retrospective to come in touch with science. Each involved the failures of both in social and civic application, hence their too general lapse into personal pre-occupations, or into mechanical and commercial ones.

But now the sciences are becoming evolutionary in their views and presentments, more co-ordinated and social in their application. The artist is escaping from the mere futile endeavour to reconstruct the shell and semblance of the vanished past: he sees that as its artistic virtues lie in its expression of the vital emotions, ideals and ideas of its day, so it must be his task to express the best of his own age, and with its fresh resources, its new constructive methods.

As scientist and artist make these advances, they begin also to understand and trust each other; a true co-operation begins. And as this incipient union of science and art becomes realised, our discouragement and our cynicism abate; before long our inhibitions and paralysis will pass away. Thus a new age, a new

enthusiasm, a new enlightment are already dawning; and with these the City Revivance is at hand.

Regional Survey and its applications—Rural Development, Town Planning, City Design—these are destined to become master-thoughts and practical ambitions for the opening generation, not less fully than have been Business, Politics and War to the past, and to our passing one. In and through these constructive activities, all the legitimate and effective elements which underlie business, politics and even war in its best aspects, yet in which these so sadly come short, can be realised, and that increasingly.

Already for thinking geographers here and there, for artists and civil engineers, for town planners also, the Neotechnic order is not only becoming conscious, but generalised, as comprehensively geotechnic; and its arts and sciences are coming to be valued less as intellectual pleasures, attainments, distinctions, and more in the measure in which they can be organised into the geographical service, the regional regeneration of Country and Town.

In all these ways we are learning to realise more fully the spirit of our city and town; and we thus are able to distinguish, beyond the general improvement more or less common to all cities of our day, those characteristic developments of which our opening future may be best capable, and by which the spirit we have learned to value may be yet more fully or worthily expressed.

The Rise of the Neotechnic Age in the Revival of Cities.

Such regeneration is not merely nor ultimately geographic alone: it is human and social also. It is eugenic, and educational —eupsychic, therefore, above all. Eutopia is thus every whit as realisable an ideal for the opening Neotechnic phase of the Industrial Age as has been that "material progress," that of "industrial development"—of the existing black and squalid Kakotopias amid which the Paleotechnic disorder is now approaching its close. Upon its ashes the planting of future forests is already here

and there beginning; among its worst slums, upon their buried filth and decay, our children are already rearing roses.

As this material and intellectual reconstruction, this social and civic transition, becomes realised by the rising generation, it will proceed more and more rapidly; and this whether the cynic relax or harden, whether he come with us or bide. His own recovery from the blight of disappointments above reviewed, his revival from their prolonged chill, is not to be despaired of. Contemptuous as he may be in this day of small things, his tone will change wherever this better civic and social order can show, beyond its mere weedings and sowings, some earnest of flower or fruit.

So too with the politician, and of each and every colour. For the ideals of each school, the aims of each party—each richer than its rivals admit in men of insight and good will—could not have arisen without some foundations on the past or present life of our communities, some outlook towards their continuance.

In that fuller vision and interpretation of the past and present life of cities, towards which we are searching as students—in civics, that last-born of the sciences, yet before long to be the most fruitful—and in the clearer forecasts and preparations of the possible future lying before each community, which the corresponding art of civics will also bring within reach—the prevalent discords of parties and occupations may be increasingly resolved. Competition may be mitigated, often transformed into co-operation. Even hostilities and egoisms may be raised into rivalries towards the promotion of the common weal; and thus find their victory and success and self-realisation through service.

In civic science the task of each acquires a directness of responsibility exceeding that of politics, with a significance and a value which money economics missed. Though in an age of science we no longer expect that abstract level of perfection which has been dreamed and phrased by the age of politics, as it waxed and waned, we are compensated by a more concrete vision—that of opening possibilities, of social betterment and uplift—day by

day, year by year, generation by generation—of folk, work, and place together.

Within these actual conditions, social harmonies may now and increasingly be composed; harmonious endeavours recalling, even exceeding the aspirations of the past, and carried up to and beyond its historic heights of achievement.

Such are the Eutopias already dawning—here, there, everywhere. Despite the set-back of European war, with its more than materially destructive consequences, the generation coming into activity must henceforward all the more apply its best minds to re-synthetic problems, to reconstructive tasks. Hence the Tangled Evolution of Cities will be more clearly unravelled and interpreted, the Revivance of Cities more effectively begun.

CITIES EXHIBITION

Illustrations selected from Geddes' second exhibition assembled in India after the first (1910) exhibition had been sunk by the Emden en route for India during the first World War.

Text drawn from Geddes Catalogue to the first exhibition.

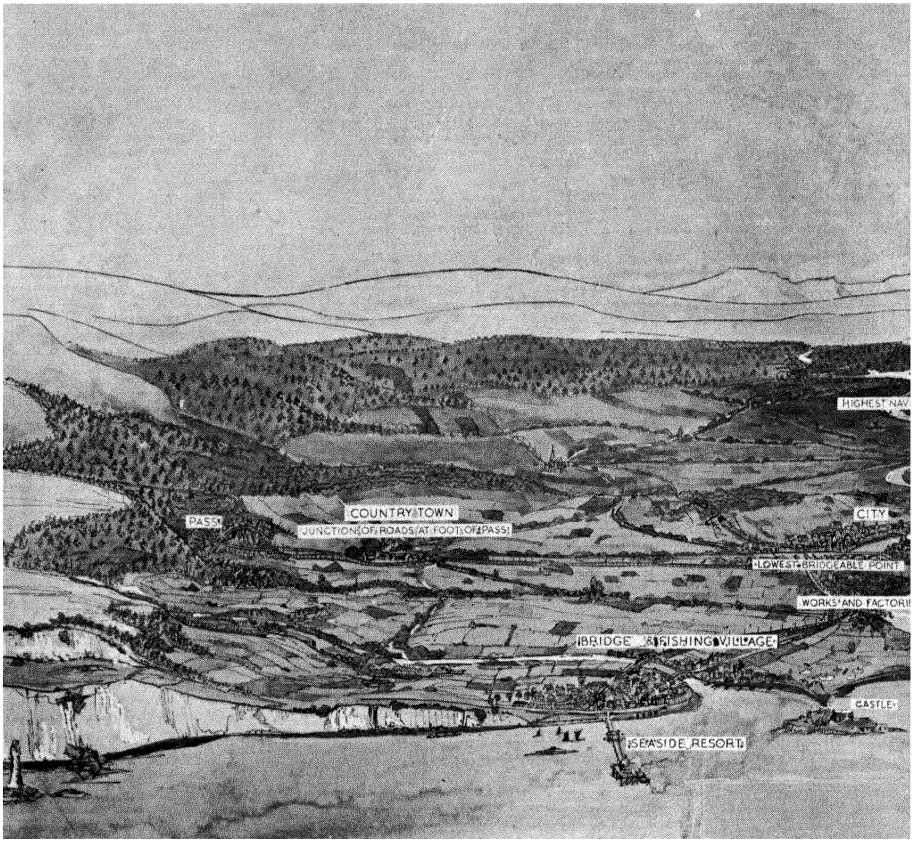
There are six parts :—

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Introduction

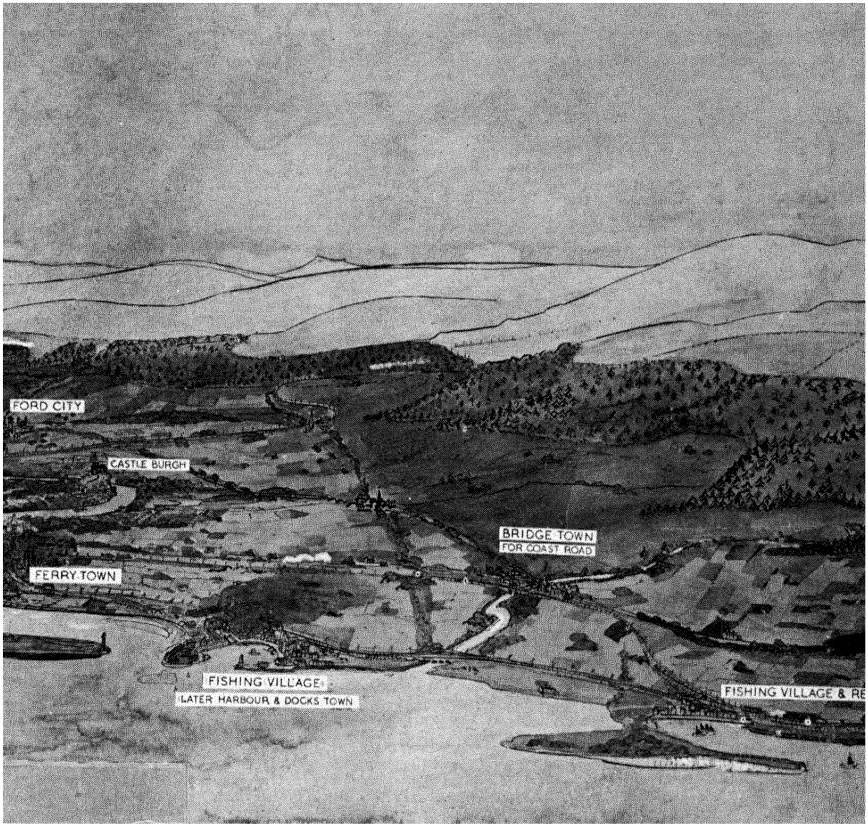
A Preliminary Enquiry, a City Survey, is essential to adequate Town Extension Planning, and still more to City Improvement and Development upon any considerable scale. But those occupied with each and every department of such a survey, whether they are primarily interested in their city's past, its present, or its opening and possible future, will soon find themselves in need of a fuller understanding of other cities, and next of city life in general. The processes of city life and growth, and those also of its disease and poverty, its vice and crime, its deterioration and decay, will next force themselves upon their attention, and the adequate treatment of these evils will be seen to be delayed for lack of interpretations clearer than heretofore. In short, if our projects for improvement are not of merely make-shift or merely utopian character, they must be based upon a sounder and deeper knowledge of conditions that we commonly possess or seek. Even in their beginnings, such surveys will be found suggestive, since they point towards fuller social comprehension and warmer civic impulse ; and further towards the application of this comprehension, the guidance of this impulse towards useful and constructive purposes, point by point, city by city.

The principle of the Exhibition is that of an Index-Museum. The arrangement may briefly be described (*a*) as opening with a graphic outline of the geographical and historical origins and development of civic life and thought ; (*b*) as outlining the general place and usefulness of each of the main components of the community, their limitations and dangers also ; and (*c*) as suggesting the possible contribution of each of the main occupations and professions, with their essential points of view, to the service of the city and Town Planning. Despite its unfamiliar aspects, its relative difficulty accordingly, such an Exhibition will be found of service to the active worker no less than to the studious enquirer into social questions. The one in his immediate tasks, the other in his survey of their largest bearings, may here find common ground—towards the needed revivance of the City, the arousal of the Citizen.



How shall we set about the interpretation of town in relation to country? Neither country nor town mouse can help us. Far more helpful than modern Atlases, despite their superior exactitude of detail, are the old maps of the golden age of Geographic science, that of the two centuries after Columbus. Hence we show a perspective map of that natural position and origin of towns and cities which essentially determines their subsequent development, and underlies their conscious laying out. After a little study of this we may turn to the outline generalization, the "Valley Section."

This Valley Section is almost everywhere, in Western Europe at least, the

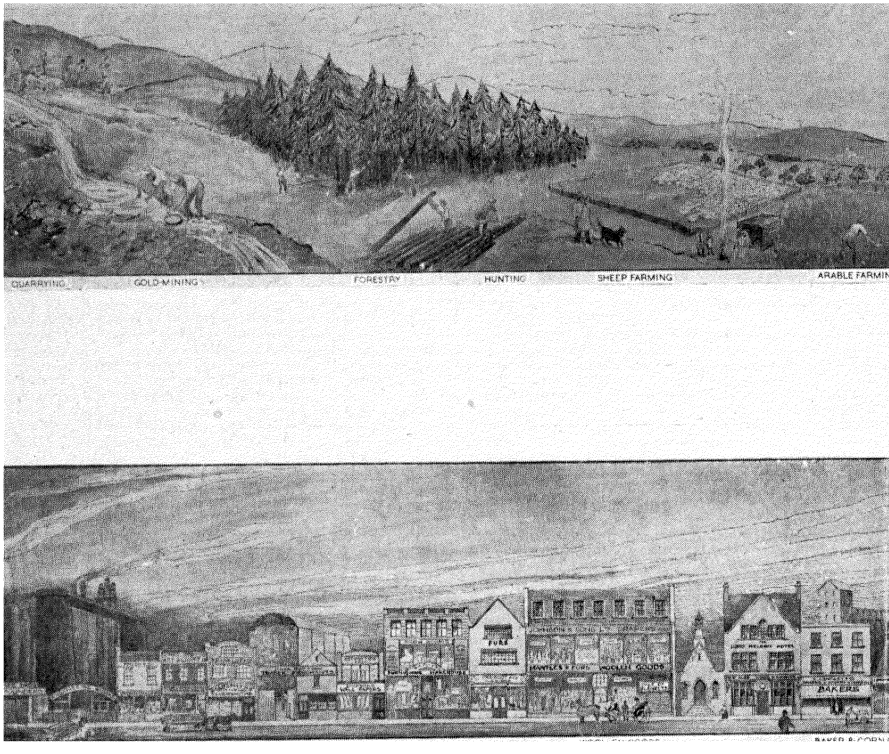


A perspective map of a European Valley Region

characteristic geographic unit, the essential Region, and peculiarly so in Britain. This will be found a suggestive mental picture for Scotland, West and East, and similarly for Norway and Sweden, for Wales and England, even for North America, from the Rockies west and eastward—for South America even as well ; a convenient mental picture, therefore, for much of our familiar world, in its main reliefs and contours.

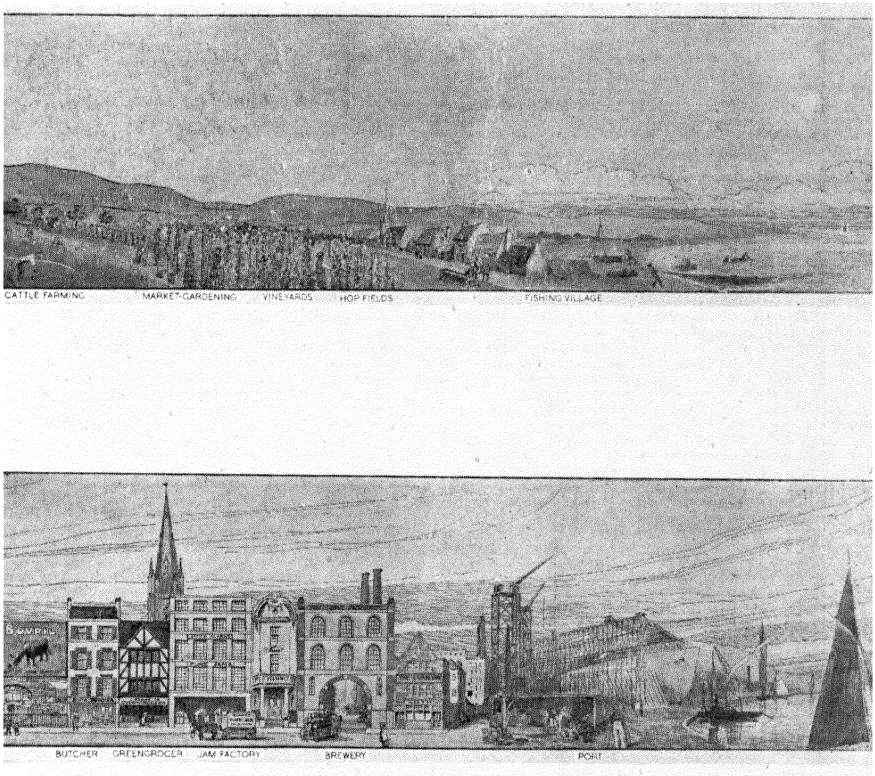
This relief and contour is also associated with a kindred Diagrammatic picture of the Primitive Occupations conditioned by this relief.

This serves as an introduction to Rational Geography of Cities, in terms of their Regional Origins. These are best studied and understood, to begin



with, by beginning with the Valley Section and its resultant occupations and corresponding types of settlements. Note the Miner, the Woodman, and the Hunter on the heights; the Shepherd on the grassy slopes; the poor Peasant (of oats or rye) on the lower slopes; and the rich Peasant (with wheat, and in south it may be wine and oil) on the plain; finally, the Fisher (sailor, merchant, etc.) at sea-level. For thus it is that cities have arisen and still arise. As the merchant nobles of Venice sprang from the fishing-boat, or the millionaires of Pittsburg now arise beside the forge, so surely also do their cities retain the essential character, that conditioned by their environment and occupation.

This principle of "Geographical Control" is vital alike to the understanding of old cities, or to the laying-out of new ones; and its disastrous



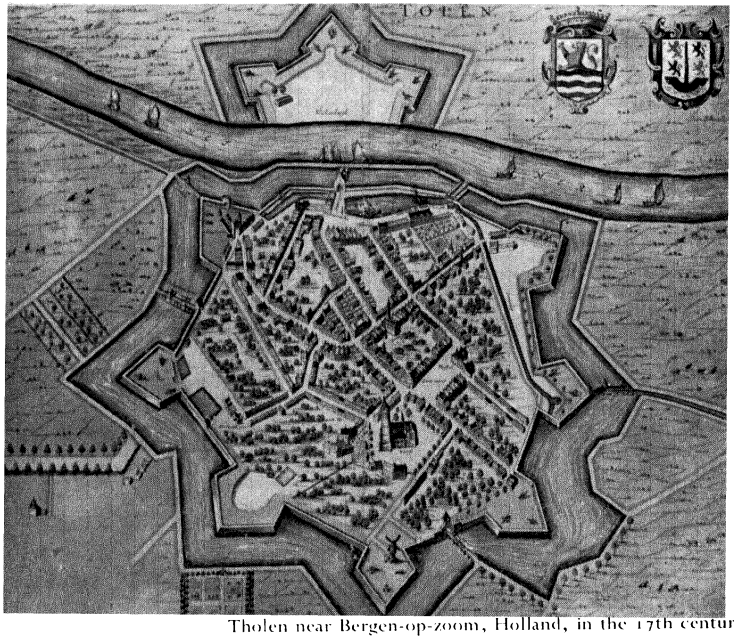
The Valley Section and its social types: in their native habitat and in their parallel urban manifestations.

violation, perhaps especially in the cities of the United States, with their monotonous gridiron-plans, but in Canada and in other British countries also, is a main source of daily economic waste as well as of æsthetic ruin.

The visitor may, however, more easily make out for himself in these towns, or any he knows, the influence of pastoral elements upon the economic life, the education and the religion of their communities. In shop or market and exchange, the wool and cotton, wheat and rice, oil and wine, differ only in money terms of price and profit ; but as their uses are different, so also do their social effects sum up and work out into widely different effects upon the communities producing them. The varying qualities and defects so characteristic of all historic towns are widely different, but are still largely traceable to their rustic origins.

Irregular Plans

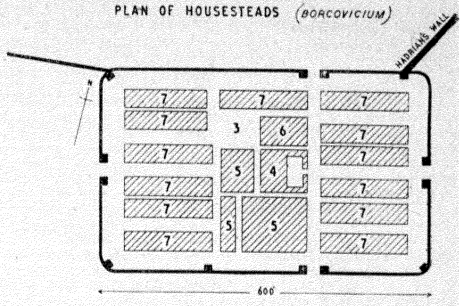
Many large towns have grown up around some fair-green or trysting place, some meeting of roads ; or again at ford, bridge or river mouth. In many cases the old tracks, of days long before wheeled vehicles, have fixed the form of the present town. There are many roadside towns, cross road towns and others in which the intervening spaces have become irregularly built over, producing an effect of some confusion on plan, but none the less an arrangement admirably suited to the simple agricultural requirements of the original inhabitants. A stage nearer planning is found in the circular peasant towns of the plain, with their central open space surrounded by dwellings and farmyards. This type of town may expand in a series of more or less concentric rings instead of star-like, as in the case of roadside towns. Note how old prints show an enormous proportion of open space and garden even within walled towns, a state of affairs in direct contrast to much of the teaching of modern history and romance.



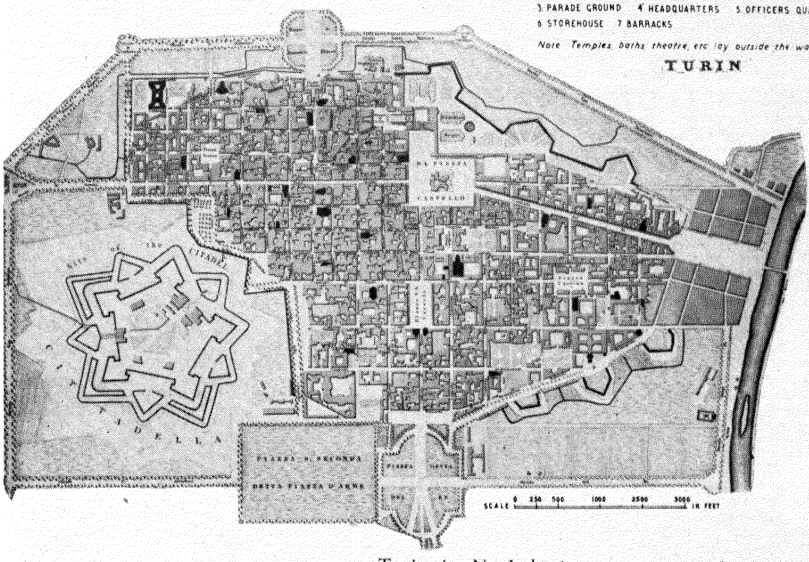
Tholen near Bergen-op-zoom, Holland, in the 17th century

Regular Plans

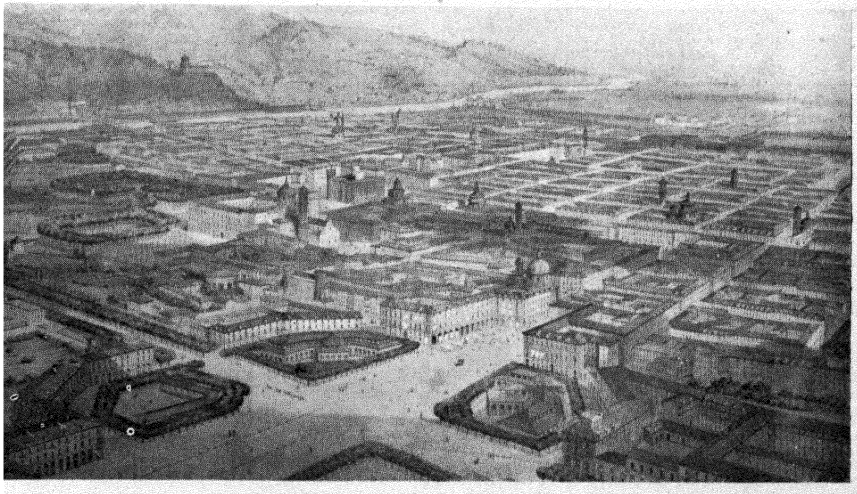
One main example of a regular plan is afforded by the plan of the Roman Camp and the engraving opposite. This may be at once compared with the pictures illustrating Paris, as germ and in full development respectively (p. 24-5). Note the Plan of Turin, as the best example of a great modern city which has retained its Roman lay-out unbroken, and which still continues steadily upon its historic lines. Realize now the importance of this camp in the Alpine foot-hills of Piedmont, and its long and warlike history as a regional capital, culminating in the rise of its dynasty to the throne of re-united Italy. Thus the lay-out of Turin as an outpost camp of expanding Rome more than 2000 years ago and the conquest of Rome by Turin scarce



Typical Roman camp site of 2nd century A.D. Hadrian's Wall, Northumberland.



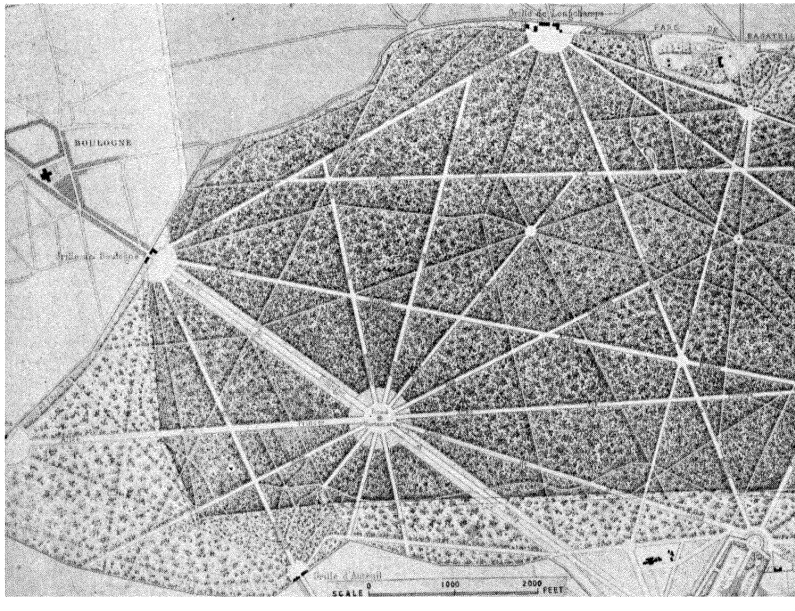
Turin in N. Italy in 1833, retained its Roman lay-out almost intact.



half a century ago, viewed in face of a series of plans, from camp to capital may be seen as a single oscillation of the tide of history.

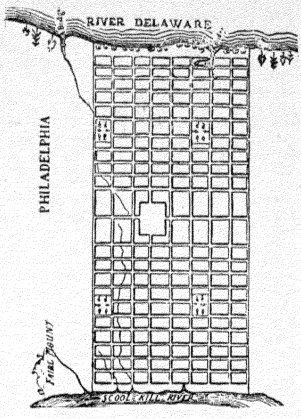
Town plans are thus no mere diagrams ; they are a system of hieroglyphics in which man has written the history of civilisation, and the more tangled their apparent confusion, the more we may be rewarded in deciphering it. The plan of Turin is a simple and unaltered, though growing record, but the plans of more historic cities, Rome, Paris, London, Edinburgh, are each a palimpsest, harder, yet more interesting to decipher.

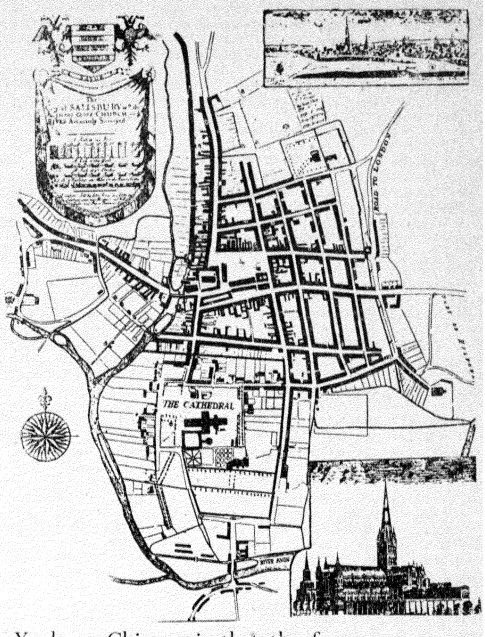
The above military explanation of the formal rectangular town plan is satisfactory so far as it goes, but is it fundamental ? Is there not an earlier origin in the straightness of the plough-furrow, involving rectangular fields ? And if so, how far is the average size of the street block related to the varying areas of the day's ploughing ?



What now of the radiating plan so dear to modern French architects ? Note here the obvious illustrations of its origin in forest rides laid out for the safety, convenience, and pleasure of the hunt, and radiating from the door of many a French chateau as plainly as, and long before, that at the great entrance at Versailles, as that in its turn preceded the Place de l'Etoile in which Napoleonic planning culminates.

It is interesting to note the persistence of the so-called " Gridiron " type of plan in all ages and countries, from the heavenly Jerusalem to New York. A short examination of old prints will show that this arrangement is not necessarily squalid and ugly, and that the arrangement of Salisbury, or Philadelphia as laid out by Penn, or the theoretical Jerusalem of the old print, was so made because it seemed the best possible. The essential difference

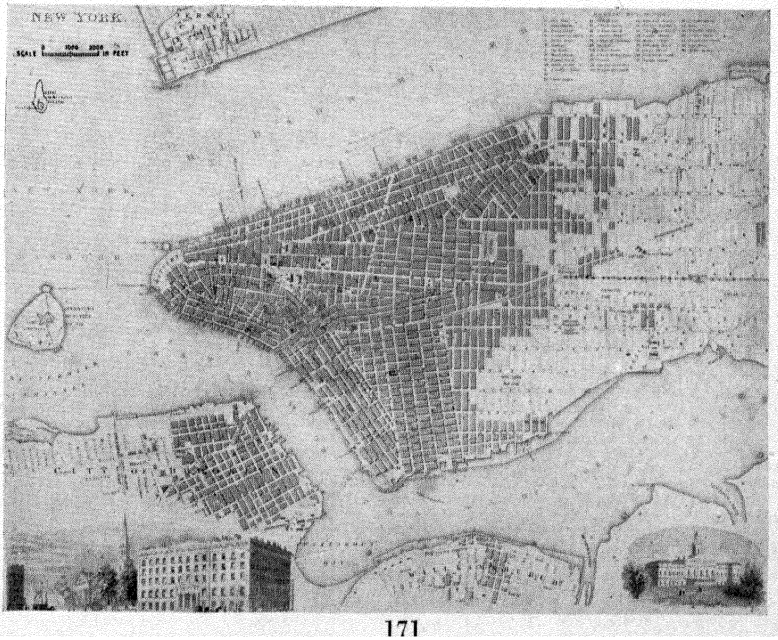


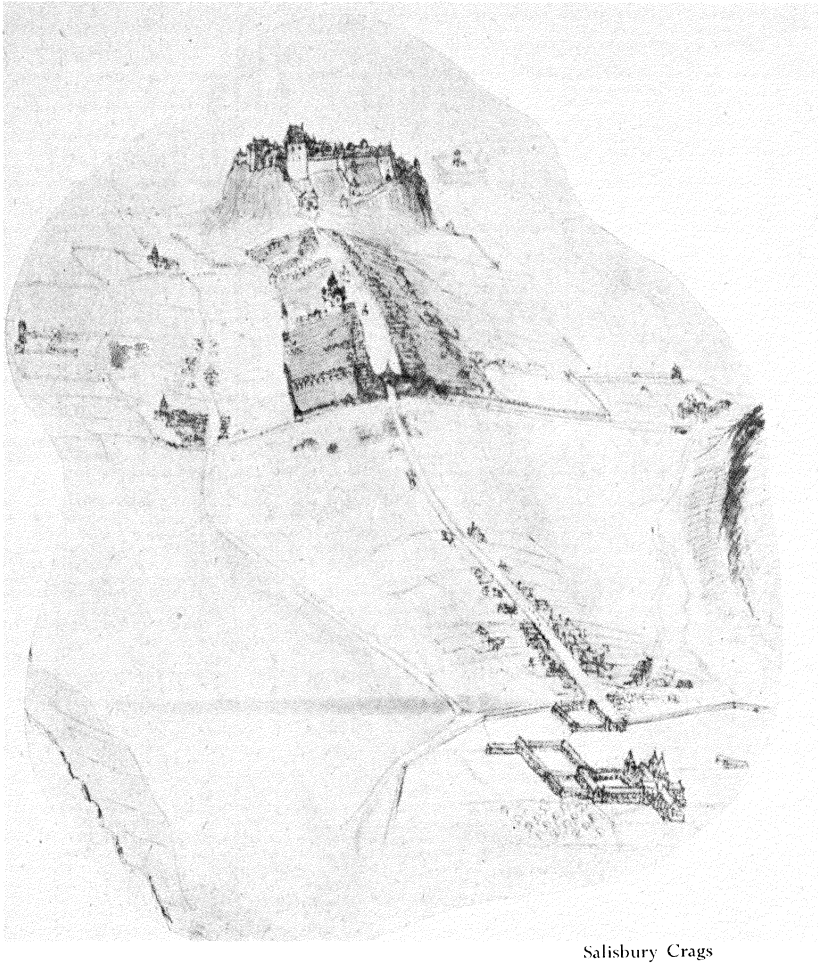


Above: Philadelphia 1682
On the right: Salisbury 1726

between mediæval Salisbury and New York or Chicago is that the former (beautiful to this day) was not simply laid out as a spacious garden town, with small detached houses, but that, in addition, and to be seen from every point, they raised the great cathedral, standing aside yet to be central and essential in the life of the place ; while the endless grid of an American town, with no centre, no gardens, and no limits horizontally or vertically, can but produce confusion of soul and unfitness of body.

New York 1840





Salisbury Crags
Frank C. Mears

The City and the Castle

Observe a view of mediæval Edinburgh, here used as a convenient general diagram and key to study of mediæval cities generally. There are few greater castles, though many greater towns; there are greater cathedrals, greater abbeys, and abbey towns, but probably no city which more conspicuously illustrates all these essential elements. Note above the existing borough upon its gentle ridge, with its noble town-church, the reconstruction of the mediæval castle, now destroyed. Below is similarly presented the mediæval abbey, now replaced by a great mansion-house.

Then note, in an old map (Segusium), the admirably clear and normal relation of country and town, often better realized in these old times than by ourselves.

Rothenburg is then chosen for fuller illustration as an example of a free

city. To this day it is among the most attractive to either European tourist or town student, on account of the peculiarly complete and fortunate preservation of its mediæval aspect, with its healthily democratic civic life expressed in well-planned streets and open spaces, with beautiful and roomy dwellings, and with public monuments. Rothenberg has never been other than a minor provincial town. Note, however, its private and public buildings, its towers and fountains, and its mediæval town-hall and belfry, magnificently extended at the Renaissance.

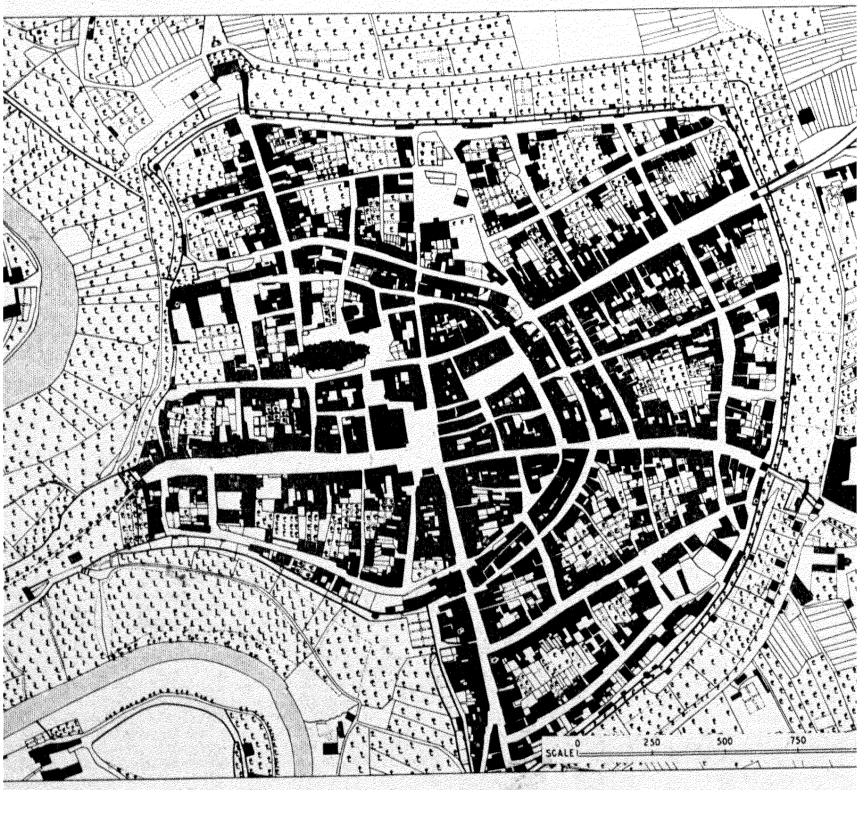
The above description has been given in some detail, because it differs so largely from the eighteenth and nineteenth century misrepresentations of the Middle Ages, in which so many of us were brought up. In Ireland, in Scotland, as well as in England, with no great exception save London, such great Free Cities as those of the Continent did not arise. Hence Sir Walter Scott, who was not only a supreme romancer but the herald of a new historical movement, so richly developed the tradition of castle and monastery, familiar to him from Edinburgh and from Scotland generally, but not adequately those of city and cathedral. Nor have the professed historians, whom his vivid revival of the past awoke in all countries, by any means always corrected him in this. With rarest exceptions, in fact, they have similarly failed to re-create for us the past of cities. Hence the useful contrast of the essential past of civilization in this Exhibition, with that more customary in the historical study and lecture room.



Susa, Italy in 1660. A clear relationship between town and country



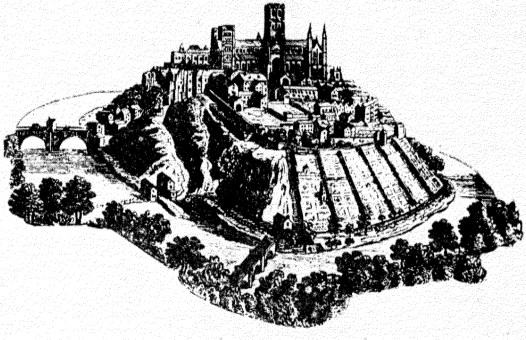
Rothenburg, Germany 1634



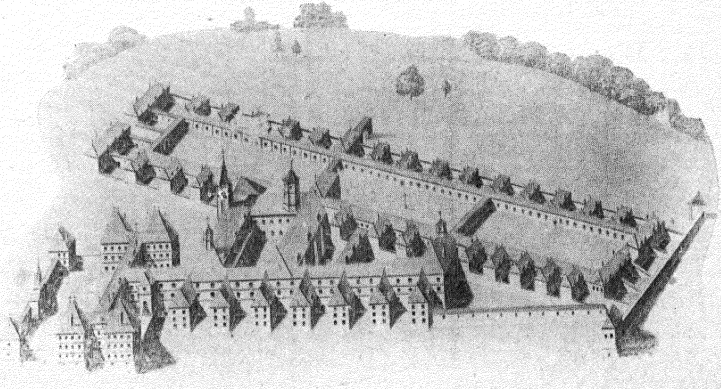
Plan of Rothenburg 1884

The Cathedral and the Abbey

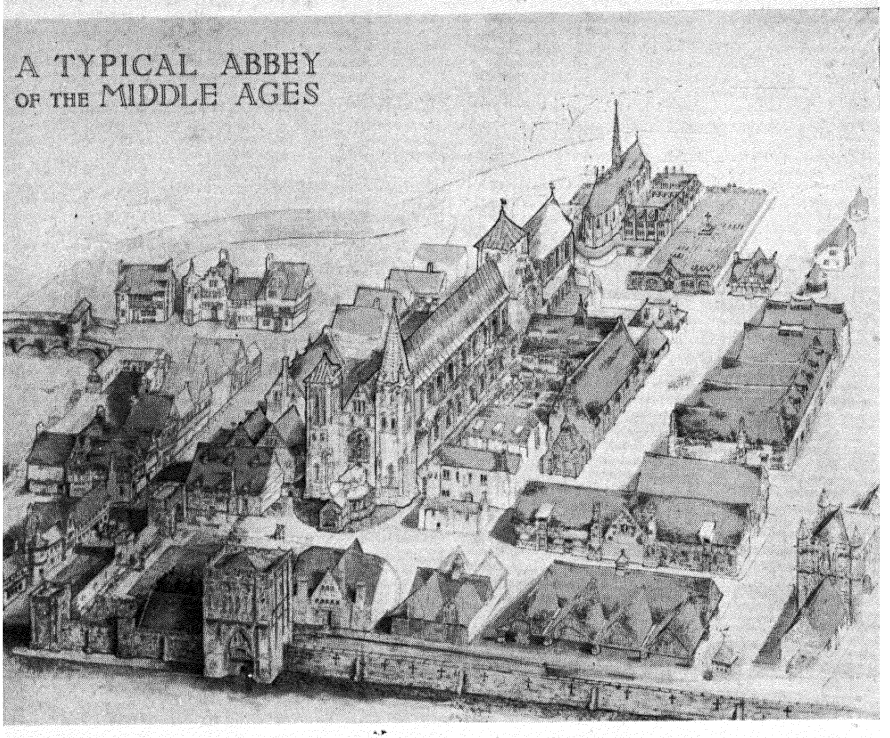
Leaving now the Burghers in their cities as well as the Nobles in their castles, we pass to their respective spiritual powers and their expressions in the City. Here among the many great English cathedrals, Durham is chosen for illustration, supreme in its own way. The English cathedrals, however, are largely of monastic origin and arrangement, and hence too isolated above their towns, but on the Continent we more frequently and fully find the democratic type of cathedral, that which arose as the highest expression of the idealism and hope of a great city, the individuality of its artists, the generosity and devoted labour and sacrifice of its people. In the mediaeval cathedral we had a secular clergy, largely of plebeian origin and busied with pastoral duties; but in the Abbey we have to realize the regular clergy, in their cloistered life, retired and devotional, meditative and studious. The Abbey was thus of more patrician type and character, more distinctively intellectual also, while the secular church made the wider and warmer appeal to the emotional and social life, to women and to workers generally.

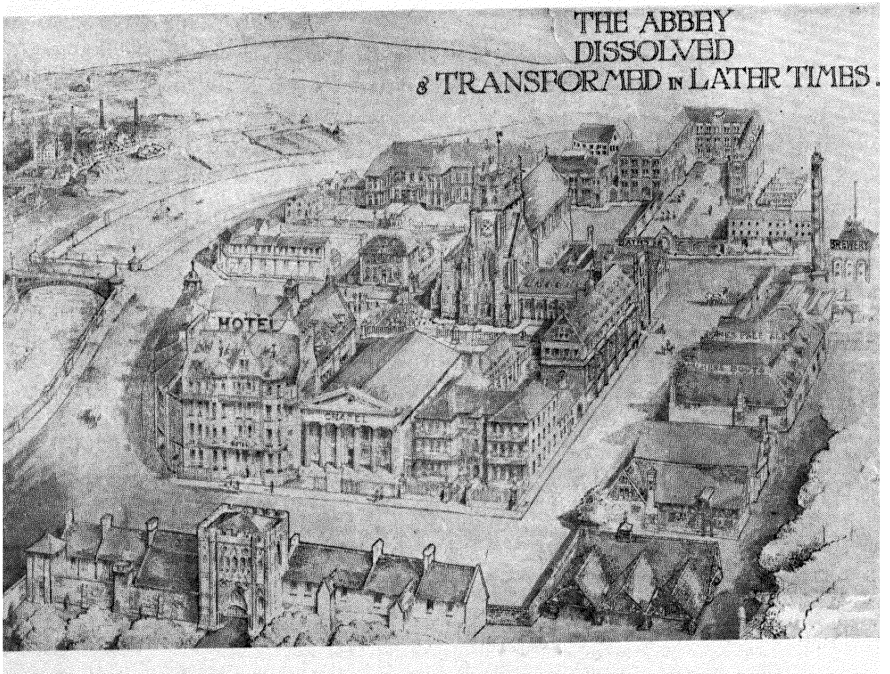


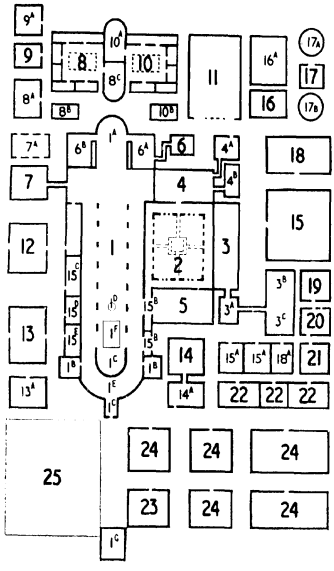
Durham Cathedral in 1133: its secular clergy close to the life of the city: the working world.



Chartreuse Abbey 1791: the meditative clergy secluded from the life of the people: the governing world.


A TYPICAL ABBEY
OF THE MIDDLE AGES


THE ABBEY
DISSOLVED
& TRANSFORMED IN LATER TIMES.
HOTEL
BREWERY



	BECOMES IN LATER TIMES
1 The Abbey **1a** presbytery **1b** western towers **1c** exedra **1d** font **1e** western paradise **1f** entrance and vestibule **1g** gateway	**1, 1a The Parish Church** **1b, 1c, 1d, 1e, 1f** chapel **1g,** gateway
2 Cloisters	**2 Modern College**
3 Refrectory **3a** kitchen **3b** brewhouse **3c** bakehouse	**3 College Hall** **3a** kitchen **3bc** applied science laboratory
4 Dormitory **4a** closets, urinals **4b** bathroom	**4 College Rooms** **4a, 4b** public baths and lavatories
5 Wine and Beer Cellar	**5 Wine and Spirit Merchants**
6 Preparation of Holy Bread and Wine **6a** Sacristy **6b** Scriptorium and library	**6 Vestry** **6a Sacristy** **6b** stationers' shop and library
7 Abbots House **7a** kitchen, bath, cellar, etc.	**7, 7a Rectory**
8 Infirmary **8a** blood letting house **8b** bath and kitchen **8c** Chapel	**8, 8b, 8c General Hospital** **8a** outpatients
9 Doctor's House **9a** physic garden	**9 Doctor's House** **9a** chemist
10 Convent **10a** Chapel **10b** bath and kitchen	**10 Women's College** **10a** lecture hall **10b** high school
11 Cemetery	**11 Recreation Ground**
12 School House	**12 Grammar School**
13 Hospitium for distinguished guests **13a** kitchen, etc.	**13 Hotel** **13a** cook shop
14 Hospitium for poor guests **14a** kitchen offices	**14 Workhouse** **14a** kitchen offices
15 Workshops **15a** for coupers **15b** cloister room and almoner **15c** monks' room **15d** schoolmaster **15e** porter	**15 Shops** **15a** business premises **15b** poor law guardians **15c** casual wards **15d, 15e** workhouse master
16 Gardener's House **16a** garden	**16 Horticulturist** **16a** garden
17 Fowl Keeper's House **17a, 17b** fowl houses	**17 Poulterer** **17a, 17b** fowl houses
18 Threshing Floor **18a** small threshing floor	**18 Brewery** **18a** business premises
19 Mills **20 Mortars** **21 Malt Kiln**	**19, 20, 21 Chandlers**
22 Grooms **23 Stables** **24 Oxen and Sheep**	**22, 23, 24 Stockyard and Auctioneers**
25 Lodging for retinues	**25 Suburban Houses**

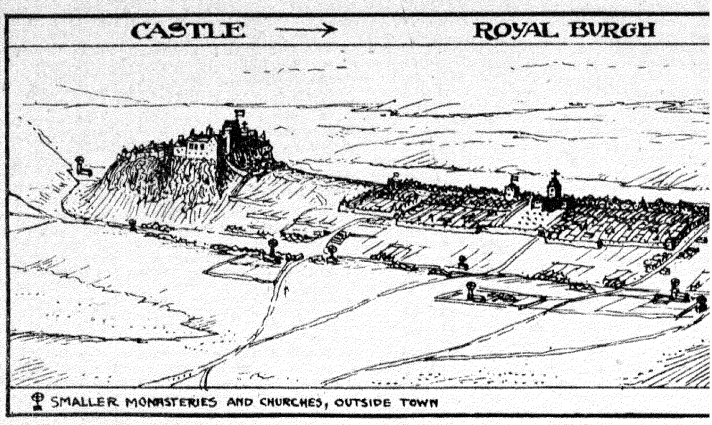
Summary

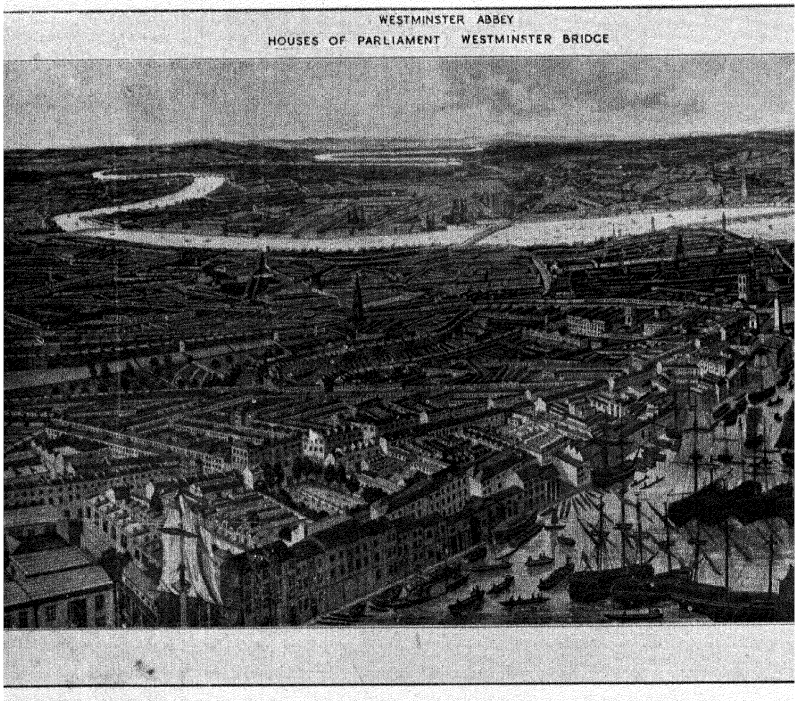
In summary then our study of mediæval cities prepares us to realize and understand their two most prominent types, one characterized by the working world and their secular clergy and the other by the governing world and their regular clergy. The representation of all these elements occurs in varying measure in the mediæval University.

Henceforth we are in a position to understand more clearly than before the modern world around us (as notably from these two contrasted mediæval town types—the City with its Cathedral ; the Castle and Abbey) the many contrasts which survive between London and Westminster, Glasgow and Edinburgh, Belfast and Dublin.

The Middle Ages are not past and gone. Their cities and monuments have been mostly shattered, but their influence continues, and this not as mere romantic retrospect, but as historic filiation, as social momentum, largely determining our lives to this day.

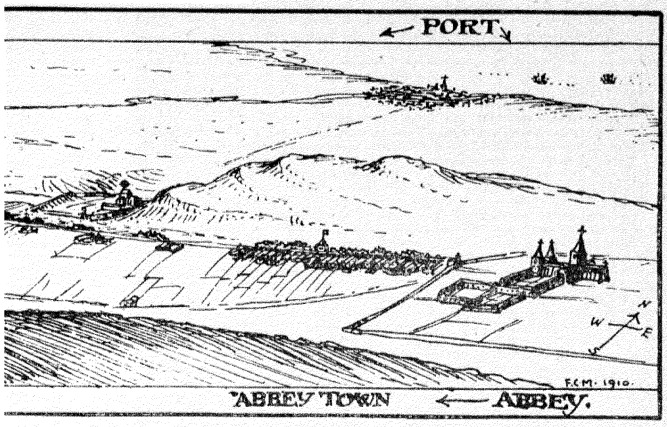
Returning, then, to Old Edinburgh, we may increasingly realize the value of its heritage, after all a fourfold one, expressed by the Castle and by Holyrood, as well as by the Old High Street and St. Giles. We see more clearly that upon the upper portion of the ridge, with its Castle and Burgh (not forgetting its adjacent port, though now the separate City of Leith), we have





an analogue of the Tower of London, the City and St. Paul's, while in Holyrood and Canongate we have a little Westminster. Hence once more the significance and interest of Edinburgh as in principle a complete and metropolitan City and, though indeed the smallest of great cities, also one of the greatest of small ones.

Our Mediæval Survey thus brings out what may be called the fundamental



Edinburgh with the Royal Burgh. Fortified early in the prolonged wars for independence.
Frank C. Mears



London 1821

conceptiion of Civics, viz., that institutions and buildings are not imposed from above nor constructed from without, but arise from within. The essential types of social life develop as normal and necessary expressions of their particular ideals; the dreams of each age and each of its social types thus creating their characteristic deeds. The city transformations of each age thus become intelligible.



St. Stephen preaching: early 16th century painting by Carpaccio

The principle thus emerges that Town Planning is the product of Town Thinking, Town Feeling, and is no mere material resultant of geographical situation and occupation, of government or defence.

In England, still more in Scotland, though historically the Renaissance was far advanced before the Reformation, it is with the latter than people are more generally familiar. The art of printing can be recalled by Gutenberg, the new learning by Erasmus. The first is the unconscious initiator of a new line of seculars, the ever increasing press ; the second—monk, scholar and proof-reader—is the representative intellectual as critic, a type also increasing up to our own times.

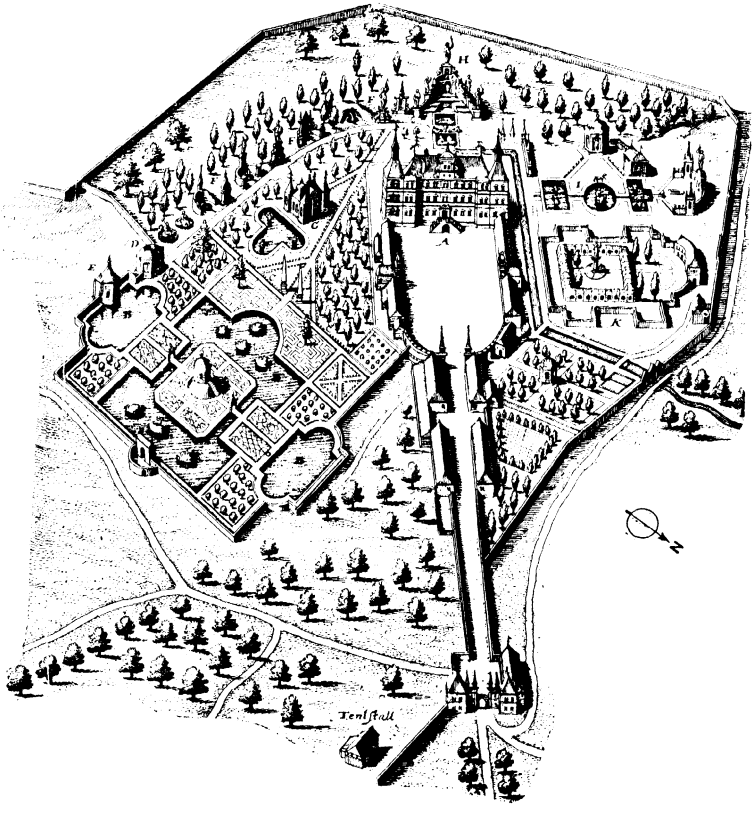
Here we show an example of religious painting, still mediæval in doctrine, but expressing the Renaissance method and spirit.

From the point of view of the nobles, the Reformation turns essentially on the appropriation of the long-increasing wealth of the abbeys, not only by the sovereigns and the old nobles, but by a new noble class thus suddenly enriched. With this gain of wealth came also the rise of culture. The merchant nobles of the great Italian cities then became the types of wealth and culture, of refinement and connoisseurship, for the hitherto ruder nobles of northern lands, the rugged barons thus giving place to a new type, the gentlemen and scholars of the Renaissance. This change is very marked in the history of England, and of Scotland also, despite its lesser wealth, thanks to a fuller and more sympathetic contact with the Continent, and to the distinguished culture and sympathies of the Stuart Kings. Hence a fundamental transformation in planning—a change from massive castles near towns to magnificent mansions in the country. Hence the examples of great English houses—such as that of Hatfield House, built by John of Padua for Elizabeth's Cecil.

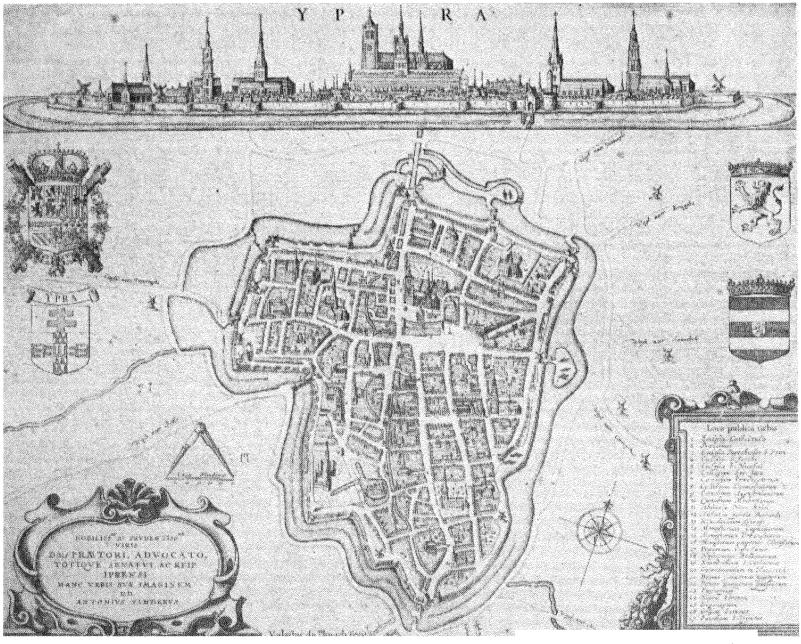
Here, then, we have a new and contrasted state of ideals from those of the Middle Age, and with different singers—Shakespeare, of course, above all. Similarly, a different art, and a different type and ideal of womanhood—full of a new and invigorated sense of the joy of life, of the magnificence of bodily adornment, and the beauty of the body unadorned.

All this has to be realized to appreciate the new movement in the arts, with architecture transformed accordingly, yet leading more than ever. With the abandonment of Gothic, the architect supposed himself to be strictly imitating classic forms ; and although, as the result soon proved, he was really inventing a new style, that of the Renaissance, it was long before he himself recognized this. This classic vogue is thus suggested in the fantastic magnificence of the Fane of Diana and the Fountain of Neptune, and other symbols of which that age was so fond. Yet, at the same time, the past of mediæval feudalism was not abandoned, but also renewed into the fantastic splendour of the romance of chivalry. Hence the splendour of armour, the mock tournaments, and those later orders of chivalry which have not yet by any means lost their glamour for modern minds.

Note again the splendour of the great mansions, and their accompaniment by a new feature, that of the most magnificent gardens, the most spacious



A country house and garden at Hellenbaum, Salzburg, in the 17th century



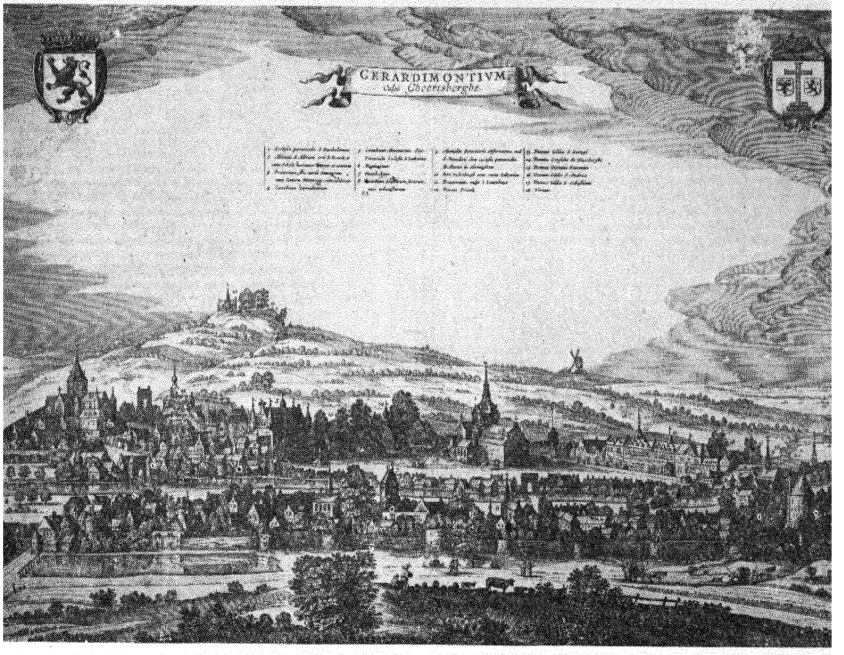
Ypres, Belgium in 1660

parks the world had seen. Bacon, himself a great planner, has said nothing truer than that "men build stately before they garden finely, as if gardening were the greater perfection."

Hence new generations of architectural magnificence, first utilizing and developing the Italian peasant tradition of cultivation-terrace and garden, and adding to this the Dutch tradition of the straight canal. From these two simple elements of labour, Northern and Southern, and on land and water respectively, all this magnificence evolves; and first largely in the Low Countries. To this again is added the wooded park, derived from the vast hunting forests of the French nobles. Through the forest straight rides had to be cut; and from all these elements again in turn come not only the glories of Versailles, but the lay-out of modern Paris, e.g., the Champs Elysees and the Place de l'Etoile.

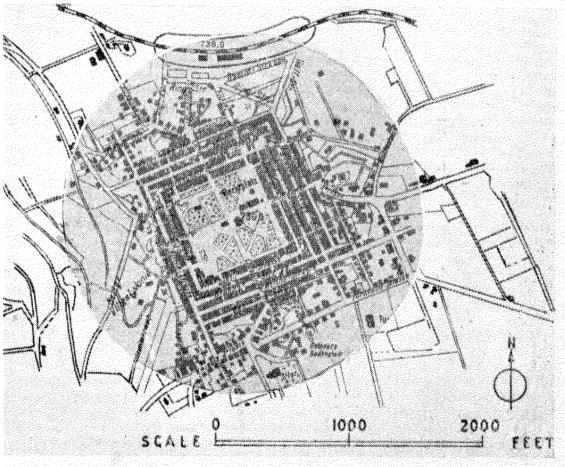
The main space is here given to illustrate historic cities of the Netherlands. Old wars and jealousies have too much prevented us in other countries from recognizing the importance of this long-civilized delta of the main river of Northern Europe, and its eminent place in the history of civil democracy and of culture, its influence, too, upon ourselves. One can observe the old wealth and prosperity of these cities, and then the in-roads upon the national wealth and prosperity, the love of peace, by the Wars of the Reformation with their Eighty Years' War of Independence. Along with these may be taken the map of Freudenstadt, a city of Protestant refugees, of which the plan will reward study.

To these generations of intensifying war we mainly owe the misery of overcrowding and material dilapidation which have so largely discredited the architecture and town planning of the Middle Age, of the Renaissance also, in



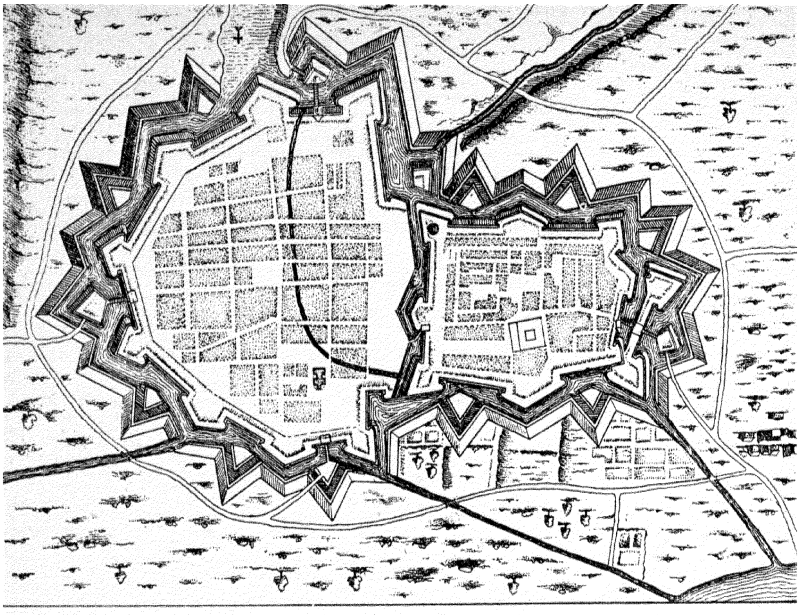
Oudenarde, Holland in the 18th century

These examples show the civic magnificence of the democratic cities of the Netherlands.



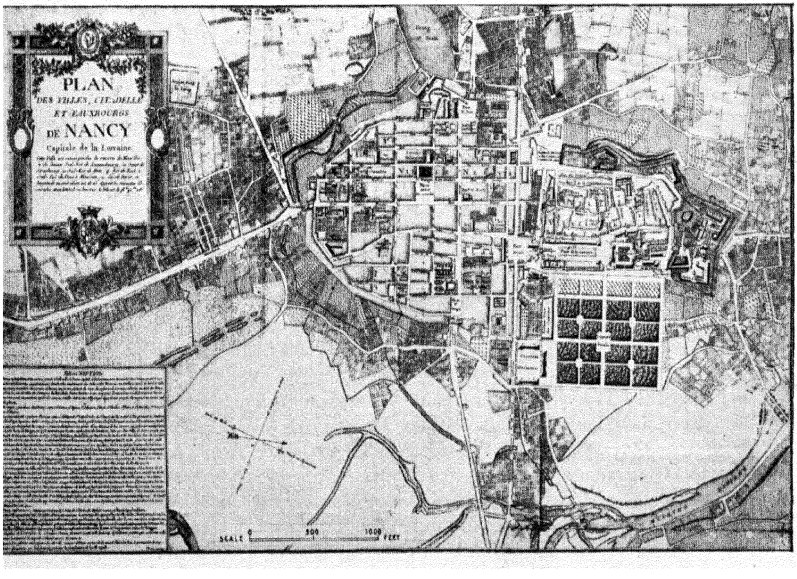
Freudenstadt in Germany in the 19th century, a city of protestant refugees.

the opinion of the eighteenth and nineteenth centuries. Note, too, the increasing magnitude of fortifications. This was in fact practically a new form of town planning, and in its way the greatest in history. Almost every Continental city thus became a colossal fortress, or rather a fortress group—the whole dominated by a stupendous citadel, until the town became too often the mere appendage of this, and at length became ignored altogethe.



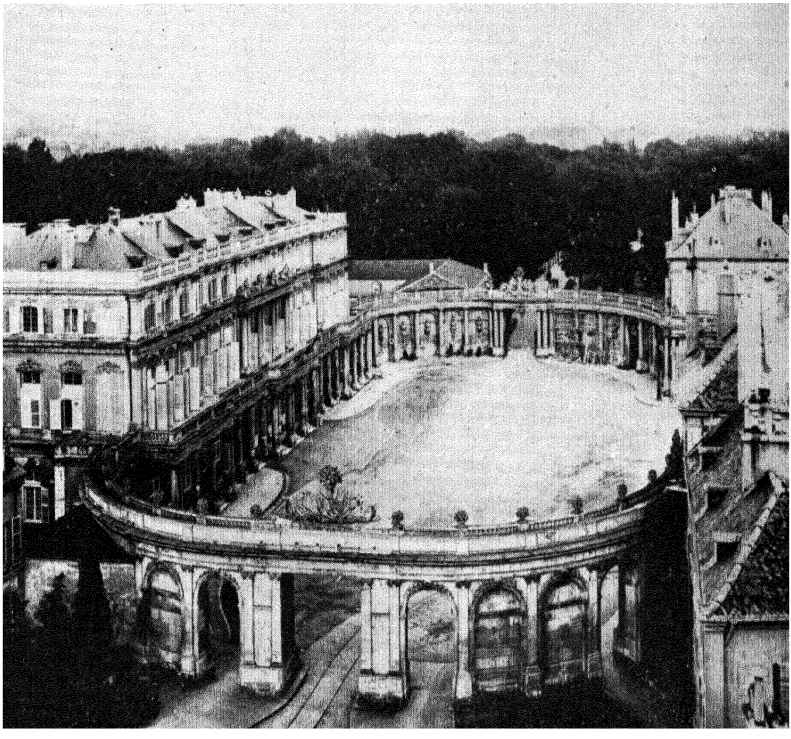
lancy 1633

Nancy 1778



The progress of war, and the war spirit, not only devastates regions, but ruins their minor cities, in many cases never to recover.

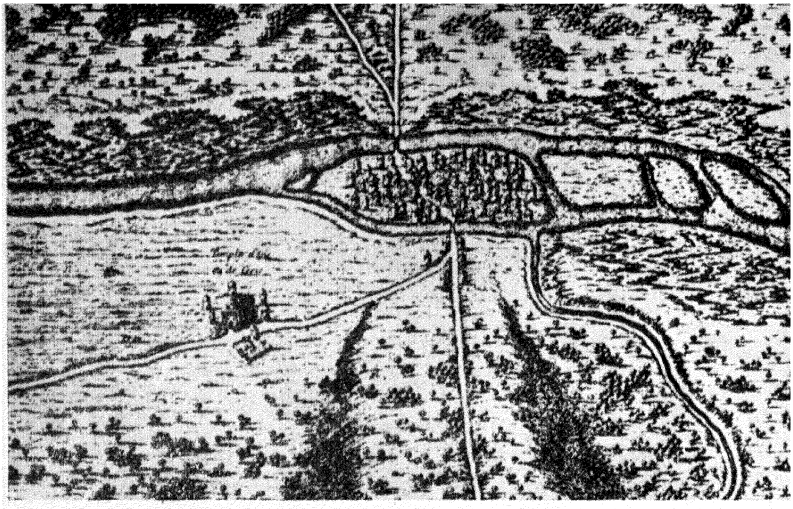
These woeful influences are plainly traceable in the traditional squalor of our own cities. But, on the other hand, war centralizes. Not only does the War Lord become increasingly imperial and imperious, but ultimately despotic ; and his importance, wealth, and prestige become shared by his



Palais du Gouvernement, Nancy 1784

capital, which grows increasingly at the expense of its own country, as well as that of others. Hence the culminating magnificence of Versailles or of Nancy ; and hence, too, the Metropolitan greatness, successively, of Paris, of Vienna, and of Berlin—each in its way a new Imperial Rome. In the early years of this century we see the same transformation at work in the psychology of London, her growing consciousness of imperial greatness, while this, as always through history before, manifested itself in monumental town planning. Witness Kingsway ; witness, too, the new Admiralty, War Office, etc., and The Mall, from the Queen Victoria Memorial at Buckingham Palace to Trafalgar Square.

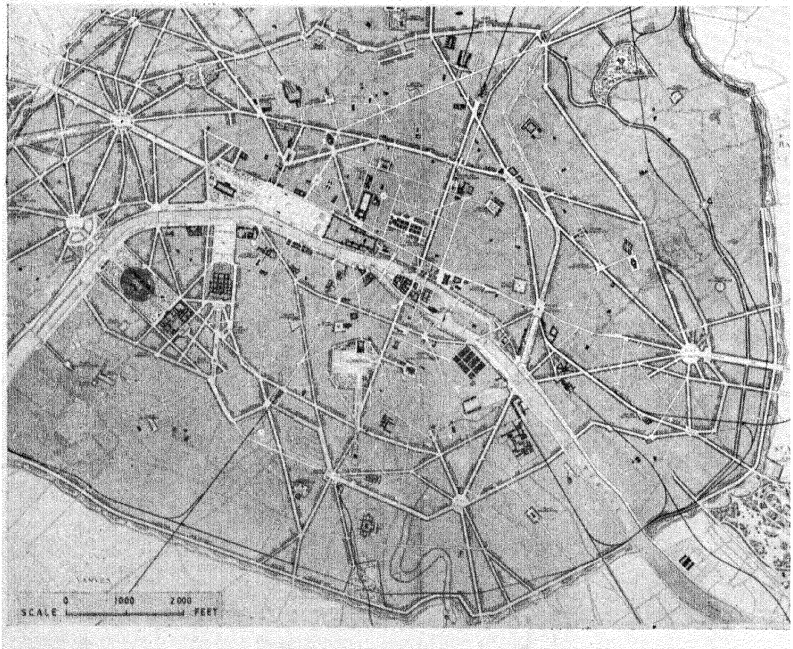
All this long survey is thus needed to bring us to the astonishing development of the great capitals.

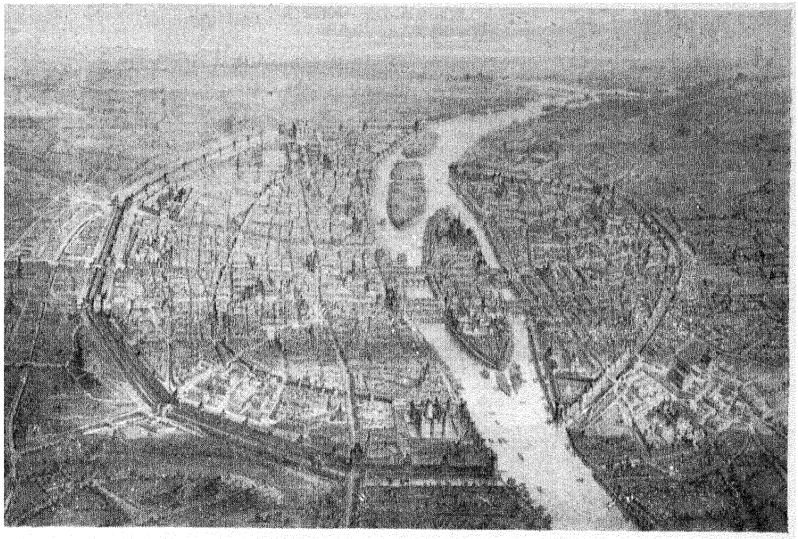


Early settlement of Paris

Paris, on the whole, has been much the most influential exemplar, especially in modern and more recent times. Here observe maps from Roman to modern times, with the rise of metropolitan magnificence. One map shows the development of new thoroughfares between 1854 and 1870, illustrating the extensive changes of Haussmann under Napoleon III.

General plan of Paris 1870

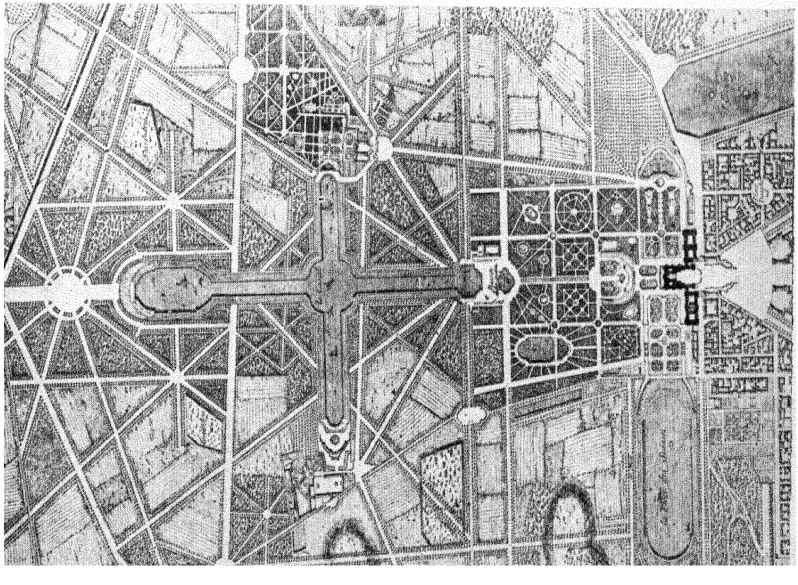




Paris 1540

Note the significance of Versailles. Itself but a small city so far as numbers go, it has been yet in influence one of the greatest. At the close of the period we have been studying it was not only the governing Capital of France, but practically of Europe, all other sovereigns and their courtiers looking to the "Roi Soleil" as their social and spiritual exemplar, even when at war with him.

Versailles 1624





Above: Vienna 1830 with its two rings of fortifications.

On the right: Plan of modern Vienna 1910, showing the famous ring of boulevards replacing fortifications, also a proposed "green belt."

To the town planner, therefore, even more than to the historian, our study of Versailles, taken along with the corresponding development of modern Paris, is of the highest importance, since these have set, and are still setting, their stamp so deep upon the modern world, and have become the cynosure of all the ruling and imperial cities as well as of many minor ones.

Modern Vienna, outside its mediæval nucleus, which happily escaped the fate of mediæval Paris, owes its famous Ring to the example of Haussmann and Napoleon III.

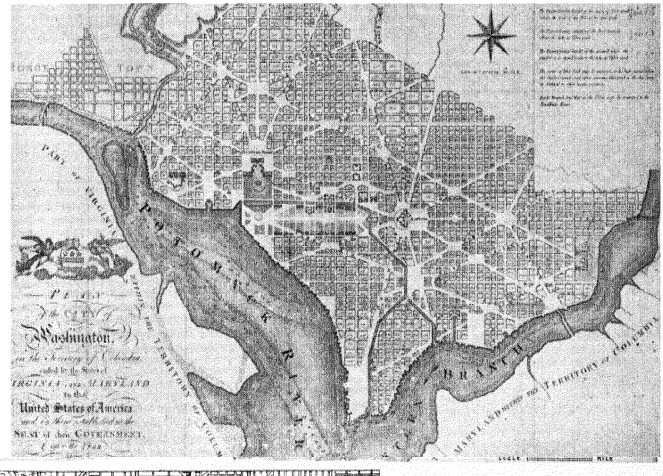
Nor is it otherwise in American Cities, now, 1910, so fully passing into the Imperial phase of development.

George Washington brought over from Paris an admirable city planner of this school, Major L'Enfant, and the main lines of his plan still essentially determine the "City of Magnificent Distances." Very soon, however, the art of town planning was forgotten; and L'Enfant's stately design, like that of Edinburgh New Town, was arrested, even obscured, by the usual "practical compromise," in too many cases of utilitarian makeshift with futilitarian bungle.

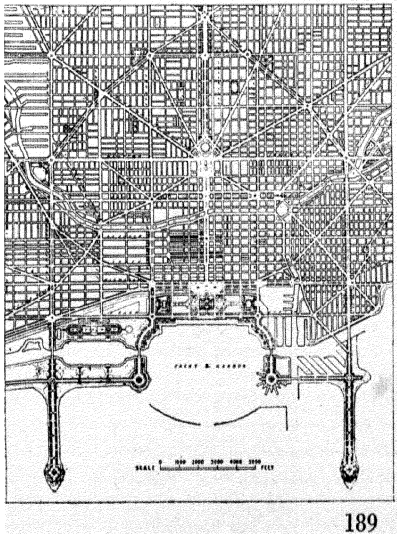
Thus Americans at home have long had a secondary Paris as their national example. The leading American architects have also mainly been trained in Paris in the strictest tradition of the "Beaux Arts," and the movement of American cities, from commercial confusions and industrial squalor towards metropolitan and imperial magnificence, is thus in all essentials Parisian—how far satisfactory to the Parisian himself being sometimes another matter, into which we do not here inquire. This whole

movement can be seen in the grandiose designs of Mr. Burnham for the reorganization of Chicago. Their grasp and clearness of communication remains plain. Their limitations also, from the standpoint of a fuller study of civics, will be appreciated by whoever has the patience to undertake a fuller inquiry into the vital and social life of cities, let alone their cultural and spiritual possibilities.

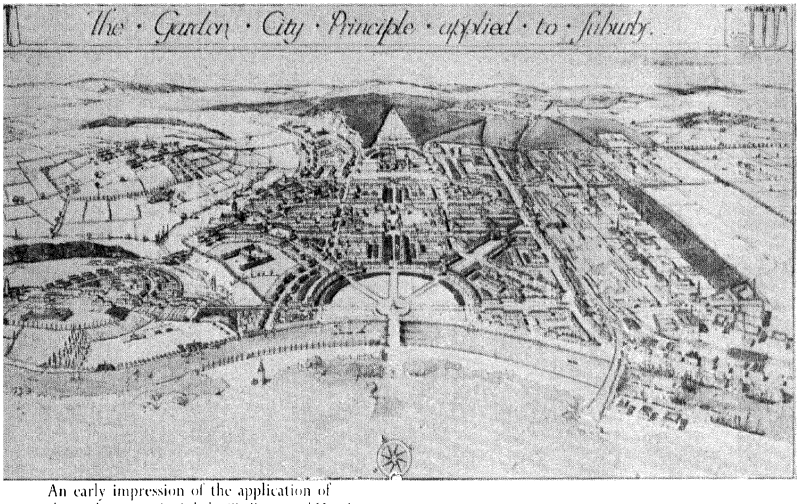
So far then the influence of Paris and Versailles has been for the formal Town Planner at least, the compendium and world-centre of imperial magnificence from the Roman Empire, through the Renaissance, to our own day. But the question has to be asked—How far do these imperial plans whether in old Versailles or new Chicago really meet the needs, either of industrial life on the one hand or of the industrial worker on the other? And above all—granted that they fully express the greatness of Cæsar, what do they provide for the coming Child? P. Geddes 1910



Washington 1800



The Burnham Plan for Chicago 1907



An early impression of the application of the garden city principle by Sir Raymond Unwin 1909

In the nineteenth century Great Britain led the world in the development of industry and where factories were built there were rows of mean houses erected for the 'hands.' At the beginning of that century Robert Owen, with his practical plans for Lanark, and J. S. Buckingham, with his paper scheme for an ideal town, raised their then unheeded voices against this monstrosity; and in the fifties Charles Dickens scathingly exposed it in "Hard Times" and Sir Titus Salt founded Saltaire as a model village for the workmen at his Alpaca Mills—to be followed, towards the end of the century, by Lever, with Port Sunlight, and Cadbury, with Bournville.

It was not, however, until the end of the century that the problem was envisaged as a whole, when, in 1898, Ebenezer Howard published a little book called "Tomorrow" which was to have a profound and world-wide effect upon planning thought and practice.

In it he outlined, in practical form, illustrated by plans, the idea of the Garden City, "a town designed for healthy living and industry; of a size that makes possible a full measure of social life, but not larger; surrounded by a permanent belt of rural land; the whole of the land being held in public ownership or held in trust for the community."

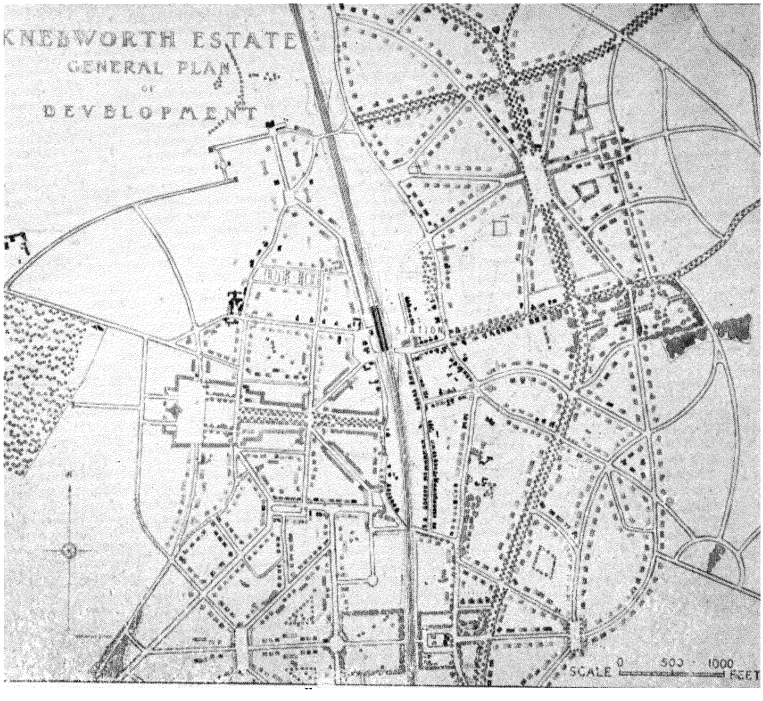
Howard not only planned diagrammatically an ideal Garden City, he also indicated how its construction should be provided for, how its services should be supplied, how it should be financed and how administered.

He also showed in diagrammatic form a central city, with a population of 58,000, surrounded by six Garden Cities, each with a population of 32,000, with a clear gap of open country two miles wide between the central city and its satellites and a rather wider gap between each satellite. He entitled it "A Group of Slumless Smokeless Cities," with a total population of 250,000, and covering (with surrounding belts) 66,000 acres of which only 8,000 acres would be built upon.

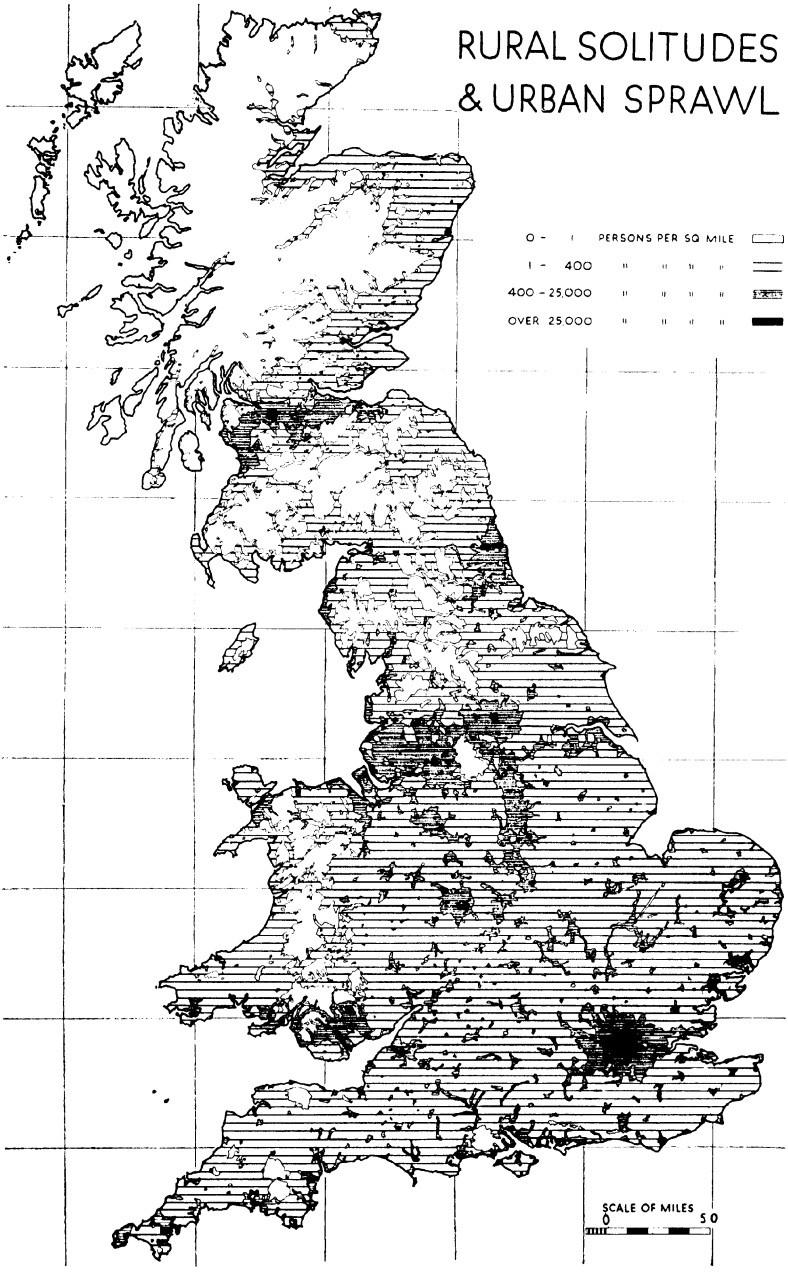
Howard's idea captured the imagination of a number of enlightened people and in 1889 a Garden City Association (now the Town and Country Planning Association) was formed, to be followed quickly by First Garden City Ltd., which in 1903 purchased an estate of 3,800 acres at Letchworth, Herts.

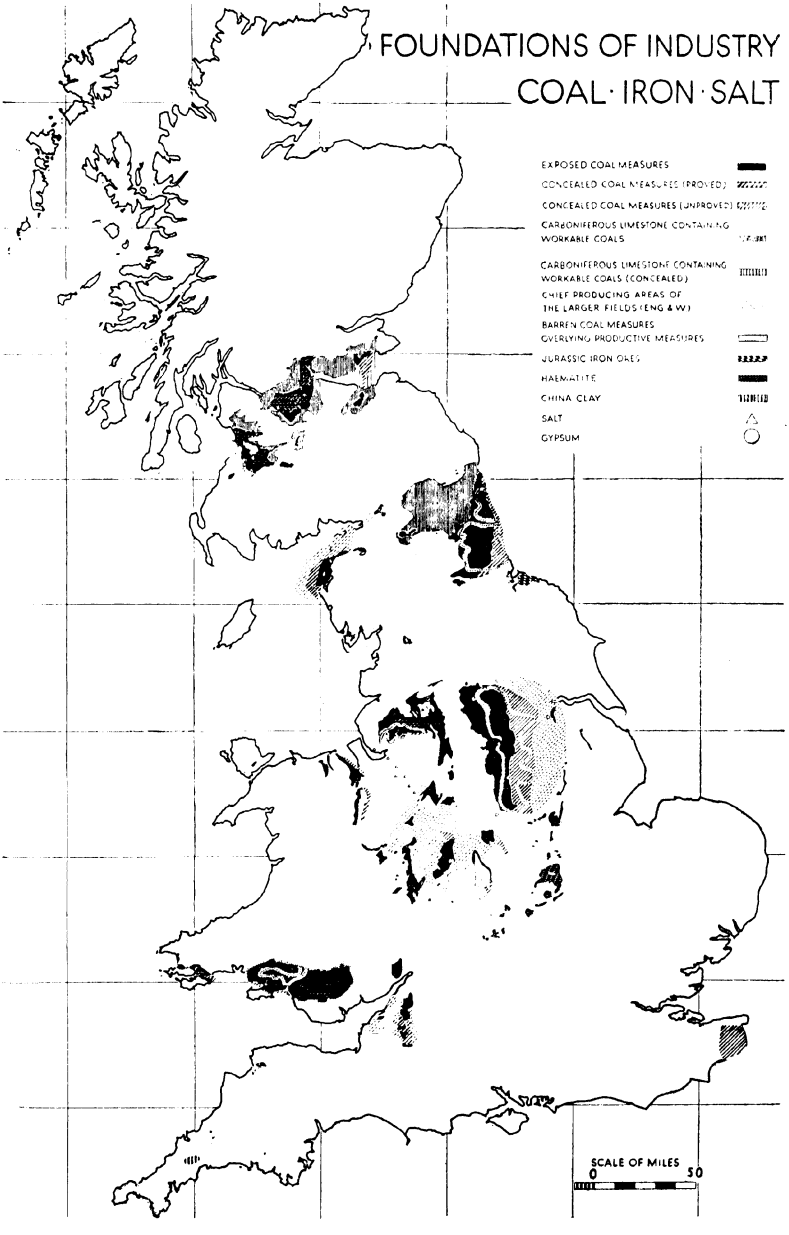
Parker and Unwin prepared the plans and the first Garden City was launched. Welwyn Garden City was founded immediately after the first World War, and today a number of Garden Cities are being put in hand under the New Towns Act, 1946.

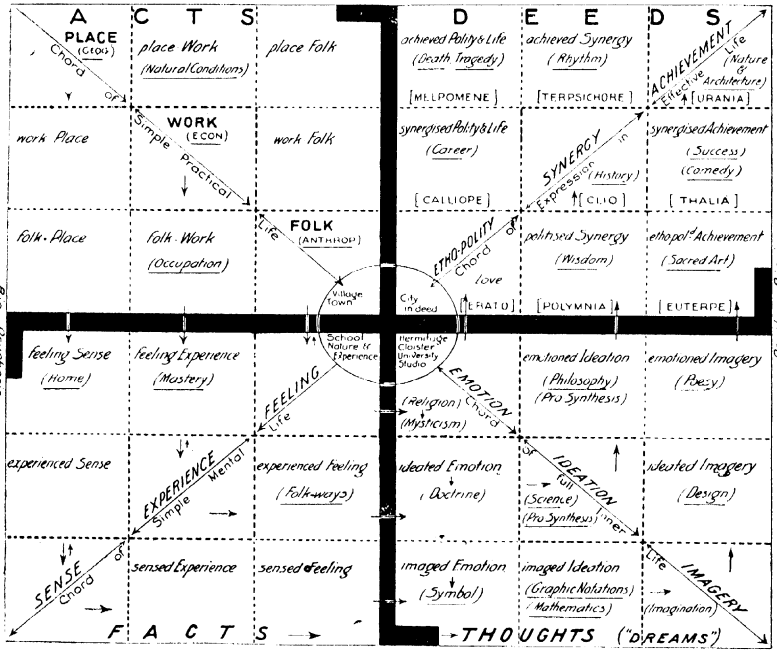
At the beginning of this century, Raymond Unwin, who in partnership with Barry Parker had planned Letchworth, saw that at that moment the majority of new development was more likely to take the form of suburbs than of garden cities. He therefore prepared a diagram to illustrate how the garden city principle could be applied to the suburb, and he and Parker, in collaboration with Edwin Lutyens, provided a practical example in the plan for Hampstead Garden Suburb. Unfortunately numerous speculators cashed in on the idea but, alas, with scant regard to its principles. On the other hand, several enlightened landowners wished to apply the principles to their own estates and had plans prepared. One such landowner was Lord Lytton for whom Thomas Adams initiated a plan (later, when Adams went into Government service, developed by Pepler and Allen) for his estate at Knebworth.



The New Town is infinitely preferable to the suburban sprawl of the overgrown city which was such an unfortunate phenomenon of the inter-war period; but towns of moderate size may be properly increased. What is essential is that the increase shall be planned not as a mere collection of houses but in communities, and this, as Raymond Unwin has shown, is where the principles of Ebenezer Howard can be applied. Since Unwin prepared his diagram there have been considerable advances in the technique of community planning, but the principles still stand. G. L. Pepler, 1948.


RURAL SOLITUDES
& URBAN SPRAWL
0 - 1 PERSONS PER SQ MILE
1 - 400 " " " "
400 - 25,000 " " " "
OVER 25,000 " " " "
SCALE OF MILES
0 50


FOUNDATIONS OF INDUSTRY
COAL · IRON · SALT
EXPOSED COAL MEASURES
CONCEALED COAL MEASURES (PROVED)
CONCEALED COAL MEASURES (UNPROVED)
CARBONIFEROUS LIMESTONE CONTAINING WORKABLE COALS
CARBONIFEROUS LIMESTONE CONTAINING WORKABLE COALS (CONCEALED)
CHIEF PRODUCING AREAS OF THE LARGER FIELDS (ENG. & W.)
BARREN COAL MEASURES OVERLYING PRODUCTIVE MEASURES
JURASSIC IRON ORES
HAEMATITE
CHINA CLAY
SALT
GYPSUM
SCALE OF MILES
0
50

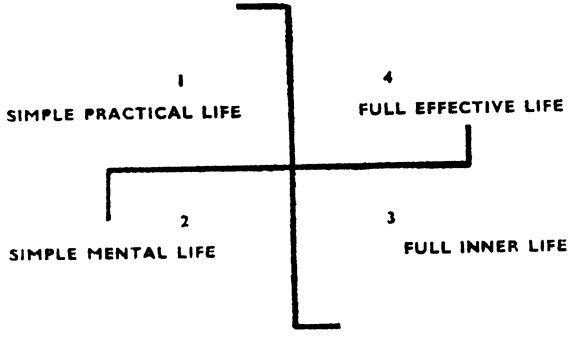

A C T S
D E E D S
PLACE (ECOG)
Chord of
place Work (Natural Conditions)
place Folk
achieved Polity & Life (Death Tragedy)
[MELPOMENE]
achieved Synergy (Rhythm)
[TERPSICHORE]
ACHIEVEMENT
Life
Effective
(Nature & Architecture)
[URANIA]
work Place
WORK (ECON)
Simple
Practical
work Folk
synergised Polity & Life (Career)
[CALLIOPE]
SYNERGY
Expression
(History)
[CLIO]
synergised Achievement (Success) (Comedy)
[THALIA]
folk-Place
folk-Work (Occupation)
Life
FOLK (ANTHROP)
ETHO-POLITY
Chord of
Love
politised Synergy (Wisdom)
[POLYMNIA]
ethopol^d Achievement (Sacred Art)
[EUTERPE]
Bio-Psychosis
Psycho-Biosis
Village Town
City Indeed
School Nature & Experience
Hermitage Cloister University Studio
feeling Sense (Home)
feeling Experience (Mastery)
FEELING
Life
EMOTION
Chord
(Religion) (Mysticism)
emotioned Ideation (Philosophy) (Pro Synthesis)
emotioned Imagery (Poesy)
experienced Sense
EXPERIENCE
Simple
Mental
experienced feeling (Folk-ways)
ideated Emotion (Doctrine)
IDEATION
Full
(Science)
(Pro Synthesis) Inter
ideated Imagery (Design)
SENSE
Chord of
sensed Experience
sensed feeling
imaged Emotion (Symbol)
imaged Ideation (Graphic Notations) (Mathematics)
Life
IMAGERY
(Imagination)
F A C T S
THOUGHTS ("DREAMS")

The Geddes Diagrams

PART 1. THE NOTATION OF LIFE

The Notation of Life (see diagram on page 194) at first sight looks complex enough, with its 36 squares, but we can easily produce it by folding an ordinary sheet of double note-paper.

Take this double sheet of paper for our ledger of life; the left side is for the more passive aspects, or man shaped by place and his work, while the right side is for action; man guiding his daily life and remaking place. Now fold this ledger in half horizontally; we thus get four quarters, one for each of the main chambers of human life; the out-world both active and passive, and the in-world both passive and active. In each of these quarters belongs a nine-squared thinking machine, but before introducing them let us make clear the general structure and relationships of the chart. Here it is:



The movement from one quarter to another corresponds to facts easily verifiable, for everyone in some degree goes through

these four steps of life. How full and rich each step might be and ought to be will become apparent as we fill in the subdivisions of the main squares. But one further general observation. Where does the fourth quarter lead? To the first again, or a fifth if you prefer. That is, the world as remade by effective men of action becomes in turn the environment that shapes other men, stimulates their mental life, which in turn leads them on to change the world still further. Thus we may diagram the whole process of history, the succession of human generations by means of lines symbolising this unending interplay of the four parts of life. Thus also is it vividly shown how history both ever and never repeats itself.

1. *Now let us start with the passive objective life of the upper left hand group of nine squares.*

Here the study of Place grows into Geography; that of Work into Economics; that of Folk into Anthropology. But these are commonly studied apart, or in separate squares, touching only at a point. Witness the separate Chairs and Institutes and Learned Societies of each name. But here we have to bring them into a living unison. Place studied without Work or Folk is a matter of atlases and maps. Folk without Place and Work are dead—hence anthropological collections and books contain too much of mere skulls and weapons. So too for economics, the study of Work, when apart from definite Place and definite Folk, comes down to mere abstractions.

But what do these side squares mean? Below our maps of Place we can now add pictures of the human Work-places, i.e., of field or factory: next of Folk-places of all kinds, from farmhouse or cottage in the country to homes or slums in the modern manufacturing town. Our geography is now fuller and our town planning of better Work-places, better Folk-places, can begin.

So again for Folk. Place-folk are natives or neighbours; and Work-folk are too familiar at all levels to need explanation.

Our anthropology thus becomes living and humanised and surveys the living town.

Work too becomes clearer. For Place-work is a name for the "natural advantages" which determine work of each kind at the right place for it; and Folk-work is our occupation, often tending to accumulate into a caste, not only in India.

Our geography, economics and anthropology are thus not simply enlarged and vivified; they are now united into a compact outline of Sociology.

From these three separate notes of life we thus get a central unified Chord of Life, with its minor chords as well.

We so far understand the simple village, the modern working town. But thus to unify geography, economics and anthropology is not enough. Social life has its mental side; so we must here call in the psychologist.

2. *Let us turn to the lower subjective group of squares.*

Sense, Experience, Feeling. Can we not relate these to Place, Work and Folk? Plainly enough. It is with our Senses that we come to know our environment, perceiving it and observing it. Our Feelings are obviously developed from our folk in earliest infancy by our mother's love and care. And our Experiences are primarily from our activities, of which our work is the predominant one.

Thus to the Chord of Elemental and Objective Life in village and town, there now also exactly corresponds the Elemental Chord of Subjective Life, and with this chord we must evidently play the same game of making nine squares as before.

How can we go further? Can we penetrate into the world of imagination in which the simple natural sense impressions and activities, which all observers can agree on, are transmuted in each separate mind into its own imagining?

3. *Let us turn to the lower group of squares on the right hand side.*

How indeed has it come, as it so often has done, through individual (and even social) history, to seek for the transcendant

and divine, to reach all manner of mystic ecstasy? Without asking why, or even here considering exactly how, we must agree that all these three transmutations are desirable. From the present viewpoint, let us call them the three conversions, or, in more recent phrase, three sublimations: Emotion, Ideation, Imagination—the essential Chord of the Inner Life.

Ideation of Emotion—thought applied to the mystic ecstasy, to the deepest and the most fully human emotions—from that process comes the Doctrine of each Faith, its Theology, its Idealism. But Ideation calls for Imagery, and this in every science, from geometry onwards. Mathematics, Physics, Chemistry have long had these notations and the historian condenses his annals into graphic "rivers of time". Thought of all kinds was first written in pictorial hieroglyphics, and it is from these that have come even the printed letters of this modern page.

So far then this cloister of thought with its ninefold quadrangles: and here for many, indeed most who enter it, the possibilities of human life seem to end. Yet from this varied cloister there are further doors; and these open out once more into the objective world; though not back into the too simple everyday town-life we have long left. For though we have outlived these everyday Acts and Facts, and shaped our lives according to our highest Dreams, there comes at times the impulse to realise them in the world anew, as Deeds.

4. *So we turn to the last upper group of squares.*

Not every thought takes a form in action; but the psychologist is ever more assured that it at least points thither. With increasing clearness and interests, with increasing syntheses with other thoughts, ideas become emotionalised towards action. Synthesis in thought thus tends to collective action—to Synergy in deed: and Imagination concentrates itself to pre-figure, for this Etho-Polity in Synergy, the corresponding Achievement which it may realise.

Here then is a new Chord of Life—that in which the subjective

creates its objective counterpart. We thus leave the cloister. We are now out to re-shape the world anew, more near the heart's desire. Here then is the supreme Chord of Life and its resultant in Deed—that is in fullest Life.

This is no small conclusion; that from the simplest chord of the Acts of everyday life, from the Facts of its ordinary experience, there may develop not only the deep chord of the inward life and Thought, but that also of life in Deed. And is it not now a strange—indeed a wholly unsought for but now evident—coincidence that, in this continuously reasoned presentment of life in everyday, modern, scientific terms; first as geographic, economic, anthropological, next as psychological, elemental and developed; there should emerge this unexpected conclusion—that the Greeks of old knew all this before, and had thought it out to these same conclusions, albeit in their own nobler, more intuitive way. For our diagram next turns out to be that of Parnassus, the home of the nine Muses; and their very names and their symbolisms will be found to answer to the nine squares above, and to connect them with those below, and this more and more precisely as the scheme is studied. Not indeed that there are not one or two difficulties at first sight, but these can easily be cleared away by a little psychological and social reflection.

Condensed from notes and a paper written by Geddes when in India and quoted in "The Interpreter Geddes," by A. Defries, Routledge, 1927.

PART 2. THEIR CONTRIBUTION TOWARDS A SYNTHETIC FORM OF THOUGHT (1948)

One of the first conscious attempts to relate fields of scientific investigation was Le Play's co-ordination of Geography, Economics and Anthropology in terms of a simple interaction between Place, Work and Folk.

Geddes saw this in terms of his formula for the life-process which, expressed in terms of Environment, Function, and Organism, became:

Environment acts, through **Function**, upon the **Organism**: and the **Organism** acts, through **Function**, upon the **Environment**.

$$\frac{E\ F\ O}{O\ F\ E}$$

i.e.,

E	F	O	O	F	E
PLACE Holland	WORK makes	FOLK the Dutch	FOLK the Dutch	WORK make	PLACE Holland

Geddes perceived, however, the inadequacy of Le Play's formula as it is forced to express the active side of the equation in the same terms as the passive, i.e., 'Folk' being acted upon is the same as 'Folk' acting; whereas, of course, Folk passive (being acted upon) will reflect different properties to Folk active, although it will be the same 'organism' in both cases. Consequently Geddes extended the formula:

PLACE WORK FOLK : POLITY SYNERGY* ACHIEVEMENT

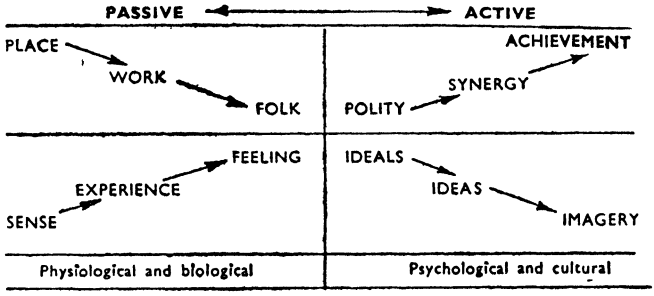
(* = literally, 'synthesis of energy,' or work willed to a specific end; work in action).

In fact, the concepts remain intact but they display two sides:

Passive side	and an	Active side:
PLACE		ACHIEVEMENT
WORK		SYNERGY
FOLK		POLITY

Geddes saw still another 'side' to this, namely the subjective or internal aspect. As a biologist he was aware that the physiological and biological factors were missing; as a sociologist he

was aware that the psychological and cultural factors were also missing. Consequently he extended the diagram still further:



The importance of Patrick Geddes' work is its contribution to the development of a new form of thought and so to the establishment of new principles. Geddes' work is the expression of a new universality; his thinking is only one aspect of the whole man and cannot be fully understood apart from his feeling.

The static and analytical basis of the still generally current way of thinking has been falsified by recent developments in art and science. But the dissociation of thought and feeling, the split in the mind of man that has paralleled the development of analytical thought and which has become manifest in the period of specialism, will not be healed until an appropriate, a synthetic form, of thought is found, accompanied by a new universality.

Geddes' diagrams are a means of vitalising and synthesising the static and dissociated images of our present thought. But these images, or rather the habit of mind represented by them, are as deep rooted within us as the processes of conscious thought themselves. An analytical approach to the diagrams would be as disastrous to their appreciation and understanding as it has been to life. The diagrams must be seen as a medium of expression and not as formulæ. They are used to illustrate the contrast between two ways of thinking: the understanding of this fundamental polarity is the sole function of the diagrams. Analytical minds

will find no meaning in the forms themselves nor will they be helped by applications of them.

The analytical mind sees a world of objective facts, it understands happenings in that world as interactions between entities. The analytical method isolates parts or properties treating them singly and separately.

Approached analytically, A exists in relation to B in that

(1) A acts on B — A ——► B — A active; B passive

(2) B acts on A — A ◄—— B — A passive; B active

A is concerned in relation to B in that

(1) A is seen from B — A ◐ B — A objective; B subjective

(2) B is seen from A — A ◑ B — A subjective, B objective

(the aspect is shown by the direction of the eye ◔)

Incorporating these further properties, the relationship A———B is further differentiated:

A ——►◔ B — B: subjective-passive

A ◑——► B — B: objective-passive

A ◑◄—— B — B: objective-active

A ◄——◔ B — B: subjective-active

Since the Quantum Theory* proved the inadequacy of the casual world of interaction it has been realised that A and B must be treated as a whole system—AB; and therefore the only valid expression of the properties we have analysed becomes : AB

Analytical thought has broken down this unity into separate interactions but, without the complementary principle of synthesis, thought has lost the dynamic unity of relationship. Because this method of thought is exclusively analytical the sense of wholeness is lost, the vital principles of integration and co-ordination are ignored. Reality is identified with the analysed, static parts and this inevitably leads to the mechanical and totally unrealistic conceptions which form the tottering structure of contemporary thought and opinion.

*The Quantum theory recognises explicitly that all observation and measurement refer necessarily to the complex of the 'system-being-measured' since the act of measurement must disturb the system's previous (unobserved and so unknown) state. This disturbance by observation is appreciable in atomic and sub-atomic systems with which quantum theory deals, since they are of comparable scale to the most delicate perceiving apparatus theoretically possible—a photon or single corpuscle of light, makes every measurement to a certain extent indefinite.

For the implications of this uncertainty of observation and its relationship to causality see for example Reichenbach 'Philosophic Foundations of Quantum Mechanics', (University of California Press: 1946).

Relatedness is the parent of reality; objects by themselves have no meaning, they only become real when understood in *relation*. Plato gave this an intellectual expression and it is ironical that he was the founder of a tradition that has sought reality, not in relationship or change, but in permanence; that is, in the things themselves.

Separated from one another, the aspects of the System AB (which is a relationship and as such has meaning) become interactions between the now static (because separate) entities A and B (which as unrelated parts have no meaning). Thought on an exclusively analytical foundation necessarily lacks the power of integration, of reinstating the whole which was broken down for analysis. Lacking co-ordination this one-sided and unbalanced form of thought gives rise to an ever increasing multitude of fragments, disintegrating the universe. Since the assumed interdependence of reality and permanence has been discarded the whole artificial structure of an analytical interpretation of the universe is collapsing. Without an opposite principle of synthesis analysis can only dissipate itself in formless expansion.

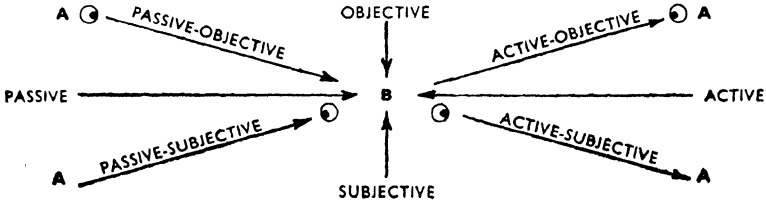
'Thought is born of failure'. . . For example, one might say: across my path there is a stream I cannot leap; only when action fails to satisfy is there the material for thought. I have met with a problem and I must think about it; I must *analyse* it. Analytical thought is the technique by which we can expand our knowledge and therefore gain power to recognise and overcome our problems. As I observe the width of the stream and the tendency of my body to sink in water, my imagination conceives an ideal solution; of a form to support my weight while I cross the space between the banks of the stream, or I lose heart and the stream remains uncrossed. Knowing what materials I have available I can now bring together my knowledge of gravity, of the dimensions of the stream, of the properties of the materials available, and so realise a bridge. I have synthesised the components of the problem to realise its answer to create a new form.

This is the complete creative process which can lead to a

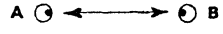
complete solution, contrary to the more usual practice of going to see how someone else has built his bridge (at a different place and time, where the conditions and therefore the form demanded, were different) and imitating that form. But if the faculty of co-ordination is lacking, if there is no complementary technique of synthesis, this arbitrary use of dead forms is inevitable, and, in consequence, the spirit goes out of life.

The synthetic form of thought is the opposite and not the reverse of the analytic; it is not provided for in the analytical way of thinking; it is not only necessary for performing a dynamic synthesis but also for integrating and co-ordinating the analytical expansion. The synthetic form is complementary to the analytic form and the two work together as one unified form of thought.*

Geddes understood the need for synthesis and evolved a simple technique for expressing the lost but essential unity of the analysed factors by means of his diagrams. The principle of integrating differentiated aspects, too often dissociated, underlies his diagrams.



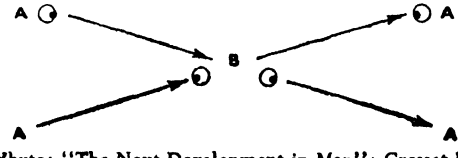
In this way the analysed and separated components of x:



which lead to the static and causal interpretation of the process in terms of entities and interactions:



are unified without losing their differentiation:



* See L. L. Whyte: "The Next Development in Man": Cresset Press 1944.

From the first Geddes was aware of the formlessness and chaos of the academic world and sought to break down the barriers that existed, and which largely exist still, between all disciplines. His contribution in the search for an underlying principle of unity is essential to the growth of a synthetic form of thought.

We are skilled in analytical thinking which has allowed for a tremendous expansion. Expansion without integration is disintegration; without the opposite and complementary principle of synthesis growth becomes formless deterioration. The synthetic and the analytic will work together to provide the life-motion of a unitary form of thought.

By John Turner and
W. P. Keating Clay, 1948.

PART 3. THE WORLD WITHOUT AND THE WORLD WITHIN

From "Sunday Talks with my Children."

Well, what we call work is in this everyday outer world, the "Out-world," let us call it; while schools and lessons are meant at least to open up the thinking-world, the inner world—the "In-world," let us say. Out-world and In-world thus make up our whole world; so let us enter them each in turn, and learn to travel in them both. For there have been two sorts of great travellers. First, of course, those who sail round the world, or climb higher and higher upon its mountain peaks, who venture farther into the icy north, deeper into the tropical forest than any who have gone before. Yet the other kind travel also, and that far further, in their chairs and in their dreams. For which has been the greater traveller—Nansen, or Shakespeare? Who has seen most—Sir John Murray from the deck of the world-circling "Challenger," or blind Milton in his Paradise? Look up Keats' sonnet:

"Oft have I travelled in the realms of gold
And many goodly states and kingdoms seen."

You will see how the poet's world needs all the traveller's,

yet englobes it. Both worlds then are well worth seeing—yet "we see only what we bring the means of seeing." Hitherto education has been too often trying to fit people to live mostly in the one world or in the other; seldom in both. That is how in old days it formed the soldier or the monk; and how nowadays it trains the man of business or the student. But the true, the complete education, the coming education—yours, therefore, I hope in some measure—must fit for both; its educated man will again be like the Admirable Crichton, in the picture you know, standing with book and sword in either hand, and with his eyes looking forward above them both, resolute yet serene.

First, then, the Out-world: What do we know about that? Out we go from home and garden, through village and town, country and city; over the Border and beyond the Channel; and when we have travelled Europe; Asia, and Africa, America and Australia are still to see.

Next the In-world. This has never been seen with bodily eye, yet is no imaginary world for all that. In a very true and thorough sense it is more familiar, more real than the other; for all we know, or can ever know of the Out-world, or of each other; is in our minds. "I think, therefore I am," said a great philosopher long ago; while another is famous for having puzzled people by seeming to deny that there was any matter at all. But when you think a little, you see something of what he meant—that all we know of matter is in mind.

In your Out-world, for instance the garden, what can you do in it? "Work in it, and play in it." Yes, but when play means simply ball, or hide and seek and run, the field and the lawn, the hedges and the wood would do better; indeed, they are what you mostly use. To *play* in the garden, as a garden—that is *with* a garden, and with what it gives you—takes a lot of looking at, does it not? "Yes, as we did this morning." Quite so, watching still some late things grow, seeing the buds already formed, and finding here and there a green nose peeping, the last flowers opening—our friend the robin, too, not far away.

What do you do with me in the garden so often on week-day afternoons? "We work; and on Sunday we rest and play." Yes. Your Sunday in this sense is a real Sabbath. It ends the week. When we have laboured, then, like the Creator, we look around and see that it is very good.

What can we do with our garden beside working in it and looking at it? What becomes of the garden for you when we come in in the evening and pull down the blinds, or when you go to bed? "We can still see it." Yes, and again the sun shines, the flowers open, and the birds sing; all in some ways more beautifully than before. That is another sort of looking, is it not? The garden has come in with you; it is in your In-world now.

What else can we do about the garden? "We can think about what we'll do next; and design and plan." Yes; you remember, for instance, how we looked at our garden early last spring, and saw it was very poor in bulbs, so we dreamed of it rich and bright with snowdrops, crocuses, and daffodils for another year. Then as autumn came on we planned how to arrange these. Gradually the plan developed in our heads, with its patches of white and lines of gold, with its circles and groups of varied colours, its dotting over the lawns and its massing under the trees. And so we planted them, and in spring they will begin to come. Indeed, they are already coming; scrape away a little earth, and you see there is the crocus-bud piercing its way already.

Here you see in a whole circle of operations, which we may put down in its two halves, and still better in its four quarters:

OUT-WORLD	1	4	FACTS	ACTS
IN-WORLD	2	3	MEMORIES	PLANS

First, the outer world we see; second, the inner world we remember. But we are not content merely with seeing nor with remembering: we went deeper into the In-world. We made a new step in this when we began actively thinking and planning; and then in carrying out our plan we came back into the Out-world once more. So with this coming Spring the new garden-

scene you have prepared will begin for you. You see the need then of being able to live and be active in the In-world as well as the Out-world; not merely to dream there, but to be awake and all alive, if you ever mean to do anything. From the hard World of Facts to the no less real World of Acts, you can only travel by this In-world way. In school (and in college too) we stay too much, I think, in its first division—the second of our fourfold scheme. So my thinking lessons are largely intended to help you on into the next, the third. From this is the true way up into the world of action again: those who stay behind, in the house of memory, may become more and more learned, but they will never do very much. That, in fact, is what is wrong with too many educated people; that is why they feel paralysed, and can neither speak nor act though the occasion calls.

Read in the story of St. Peter how the angel took him out of prison. That angel is ready to come for anyone who can call him in the right way. And were I in prison, though I do not say I know St. Peter's secret, I would make thinking-ladders of my prison-bars, and so climb away up into the skies of thought, and away down into its strange dim depths, where no jailer, himself a prisoner, could ever follow. For it is literally true that

"Stone walls do not a prison make,
Nor iron bars a cage."

Some day I must tell you how I first learned this, and found out for myself how to make thinking-machines (inventors will come to these after flying-machines; they are a better sort) in weary months of literal darkness, to which I now look back as the worst yet best experience of my life.

You know parents are anxious to do their best for their children. Some work hard and save money to leave them when they die; and others give their children what is called "a good education," generally when they are almost grown up. Others are more inclined to give them a good time when they are young, to help them to have an Out-world to live in and work in, and an In-world to think in with the best. And this is what your mother

and I want for you. Even though we shall some of these days have to leave this bonny garden, and go back and live in town, you will be able to take it with you in your In-world more fully than we older ones can do. The garden that has made my life what it is, is my father's garden—the one I lived in as a boy. This one, much bigger, much nicer though it really is, much though I value and enjoy it, can never be the same to me—it can never mean half what that did. Make the most of this one then while you can—a happy world complete in all the four quarters; that is, lovely in sight; and therefore bright in memory; yet brighter still in the hope and the purpose of the coming year; then glorious again in its assured fulfilment.

To be at home in the Out-world and in the In-world, and to be active as well as passive in each by turns; that is what we have seen you can aim at in your education. Not only to enjoy more but to do more, plan more, carry out more. These are the four chambers of your life. Or we might think of them as the four steps in the dance of life; for your life is, indeed, like a sword-dance, with its four divisions. Yet these four make up one rounded whole—the circle of life. Let us call it rather the spiral of life, and think of it as a growing spiral—widening with the years. Or once more, shall we change the image? and think of life as the living spiral in my watch you used to look at breathlessly, widening and narrowing again every second. Take any of these images, or all by turns; make new ones, too, for yourselves—only see that they are moving. Life is like childhood—it can't be still.

Dreams—memories, reveries—we saw are in the Passive In-world. Plans and designs—visions, dreams if you like, but of a higher and more enduring sort—are the Active In-world. The one comes after looking at the garden; the other has to be before working in it again.

Science, you see, looks mainly at the Out-world; she observes the thing as it is, at least she wishes to; then she tries to understand. So, of course, it is often necessary, and always very good

for her, to draw "exactly what she sees." But art, real art, probably never begins in copying things; even when we are asked to copy we should feel the need of designing. The real artist works from his inner vision; only, as for the time a scientific draughtsman, will he try to copy. If you ever really learn to draw, it will be to draw from within, and by drawing from within; as your artist friend takes up your drawing-book, and makes it into a picture-book, page after page, all out of his head without any copy.

Here are some sayings we are ready for. See how well each puts its In-world and Out-world before us—

"As a man thinketh, so is he."

"Keep thy heart with all diligence, for out of it are the issuesof life."

"Every spirit makes its house, but afterwards the house confines the spirit."

The thought of revenge makes the murderer, that of gain the miser or the thief, the delight of power the oppressor. It is dreaming of Beauty that makes the Artist; dreaming of Truth that makes the Philosopher. Dreaming of one kind of Love makes the Poet, of another the Statesman, of another the Saint. Do not think of those merely as wonderful, as "geniuses," as "great men," or even as "grown-ups," and therefore unlike little children. Even we sedate old folks are more children still than you give us credit for; but the Science of Mind, which is what we are beginning to peep into, is trying to find out something about the very best mind, that of genius, and, behold, it turns out to be the most childlike of all. Think of this as clearly and as boldly as you can. These great men were only children of larger growth; and every one of them at his best is still at heart a little child. You scarcely believe this? Then begin the opposite way, yet with Mind-science still. Every child is something of a genius at heart also; he has in himself much of the very stuff that the best selves are made of. And this comes very plainly to the front when he is quite small, just beginning to find his way about the world, and

think and ask questions; and again when he is big, in the last years of school, or beginning to seek his fortune in the larger world.

Doesn't he ask questions, and wonder about things? That is seeking bits of knowledge; this is asking for the whole—the truth; and no man of science, no philosopher can do more. Doesn't he like pretty things; perhaps collect them? No great museum but was once a boy's pocket! Doesn't he draw, and model, and build and fortify when he gets to the sands? These have been the first workshop of many a great engineer or architect; and the sculptors, the painters, all start in as simple ways. Doesn't he like stories, and tell them, or "make believe" and act them? What more has Sir Walter, or Shakespeare, or Homer done than that? "But if he isn't a bit clever, and can't do so much as other children of any of these things?" Well, doesn't he seek love, and give it? The Saints, the Blessed Mother, the All-Father but do the same.

Watch baby brother growing. See how he is growing in all worlds by turns. Sometimes he is quietly looking at flowers, sometimes eagerly watching the birds, sometimes he is dragging with all his might at the cart, or digging in the sand-heap or breaking up his toys. Again sometimes, as you see by his face, as indeed he tells you, he is dreaming, making believe; he pleads to you—"just pretend!" Sometimes you see him resolutely making up his little mind that he will or will not do something. So with big people; it is just the same, no more. Life is a spiral—working for week and resting for Sundays—enjoying, dreaming, planning anew. Those whose minds have large coils, or many in their spiral, are the larger lives. Sometimes, alas! the spiral gets broken: but now you may amuse yourselves designing different sorts of spirals.

The different life-spirals of individuals, men and women, may often be drawn out. When this is well done for past lives, you call it Biography. When you try to do it carefully and fairly for people still living and working in the present, it is called

Criticism. But when you do it hastily and carelessly, it is called Gossip.

People used to try to do it for the future; indeed, so much that it was called Fortune-telling. Why should not Fortune-making be a better word, a more useful, a more realisable one?—so long as we can keep our minds clear of the popular arithmetical illusion of the banks, that we can all make money, or at any rate save it, the delusion of those goody-goody books of the religion of getting-on, which were commoner when I was a boy than they are now. Be you practical, avoid these poor idealists of money, the kind of marks the business school thinks so much of. Aim at what you can be sure of—at getting on with your affairs, your spiral in real life—at making your fortune a turn larger every day as you wheel it along. Then you can say—

"Fortune! I do not seek fortune—I am Fortune."

Or, as your spiral grows—

"Seek nothing; Fortune seeketh thee."

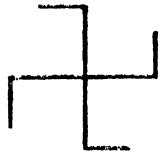
"Qu'est ce que c'est qu'une grande vie? C'est une pensée de la jeunesse, executée dans l'age mur."

That is all the wisest has ever done; he may have been able only to carry out his thought to expression or execution in very ripe age indeed; perhaps not fully at all—time is so short. Then be beginning; you will be big children soon.

You are getting tired; only one word more to sum up, and we have done.

Long ago a father was going a journey, just as I am now, to the very middle of the world and back; and, of course, he could not be sure that he would come back at all. Like every prudent father, he had to consider what would become of his children if he should never come to them again, and what he could leave for them. Money? He had very little; they would soon spend that. Friends? These had cares and children of their own; and their lives were mostly as far spent and as uncertain as his. So they could not be depended upon. What had he then to leave behind? So he bethought himself of an ancient, yet inexhaustible,

talisman, indeed, an ever-strengthening one, which had been his own best possession, too late though he had found it, too little use though he had made of it. But how his children could carry and use this all through their lives; the magic wand, say rather the key, the sign which should open each of the four worlds—the Out and the In, the Active and the Passive in each—Life in its many aspects or possibilities. That talisman is simple. It is before you; it is one of the many meanings also of the Celtic Spiral, of the world-old Cross.



Now if you will faithfully try this, and with each opening year try to see more and more fully into the In and the Out-world, you will find that you can work better; remember more; dream more delightfully; plan more actively and skilfully; carry out your ideas better too.

Away now into the garden; then when you lie down to-night and shut your eyes, and your inner world appears more plainly, you may see old beauty come anew. Plan boldly what you would like to see, to show; choose the best, and see if you cannot carry our your planning. Do what you can while I am away. Think, too, of this talk; draw out this four-warded key, and put it into the different locks of life; try it at work and play and lessons. Some Sunday, before long, we may talk more about it; we may go together a good deal further into each of the four world-chambers. And without me you can always be finding the way by yourselves. Nature is waiting without and within to lead you —if you also seek her. "We are only children?" It is the children that she loves.

Part of a chapter from Patrick Geddes' "Sunday Talks with my Children," George Allen: 1905.

APPENDIX II

Geddes' Final Dundee Lecture

A BOTANIST LOOKS AT THE WORLD

Arthur and I had helped the Professor to carry plants and range them on each side of the lecture desk, before his farewell to his students—his valedictory address after thirty years of work.

Slowly the people filtered into the lecture room, a miscellaneous audience, dotted with many sturdy, khaki-clad figures.

The chair was taken by a splendid young fellow, who—my neighbour told me—had won the Military Cross in France as the surviving officer of a Black Watch attack.

A good many townspeople were there, but the faculty of the College was absent, and its governing body, too; and this was commented on around me. I got no clear reason, but I gathered that Geddes was felt as a sort of truant professor, who ran about the world and only returned in Summer-time; and then more to lead his students through gardens and woods, than to lecture indoors with customary propriety . . . Though reporters were present, there was nothing in the papers next day of any use to help out my own notes.

Speaking quietly, but not inaudibly, he began his Dundee Swan-Song, the title of which had been announced as "Biology and its Social Bearings: How a Botanist Looks at the World."

"To begin with botanists: even at their driest and worst, they were more reasonable than they seemed, and more practical also for 'all knowing is classifying.'

"The herbarium of Linnæus of dried plants, well arranged and labelled—and his System of Nature is the first great landmark in the modern history of the Natural Sciences, botany and zoology. Librarians have adapted their card catalogues from this herbarium. Men of letters, administrators with their papers well arranged,

owe much of this order to Linnæus, who showed the way. Thus, even from science at its driest, we get order and system—and good catalogues need clear minds, and make them clearer.

"Botany has thus led in disciplining the concrete ordering of the mind, well nigh as definitely as mathematics for its abstract order. Mill, Bentham, and others, actually thus trained themselves with their plant-collections. Modern thought thus stands not only upon mathematics, but is being more and more coloured by biology; and this concrete, that abstract, are vitally inseparable in a true and full education.

"It is this dryness of past teaching which leads people to imagine botany a dead, dry thing, and its excursions mere week-end airings conducted by a sort of academic nursemaid given to pedantic language. But what if these airings be an introduction to travel at its best; even initiation into world-travel: how if in this way we learn not only to know life we find by the way, but to understand and map the landscapes we travel through, and, what is more, to interpret them? What if by such two-fold training to observe, we also get trained to think, and this by turns in detail and in general views?

"In this simple way, we botanists learn to see the great world, and try to make each student his own traveller, gaining his own widening vision of the world. Thus it has been that from our little Dundee School of Botany, with its ever-widening ramblers, have come the best maps, as yet, of Lowlands and Highlands, initiating the best maps yet made for Britain, and now continued by the Ecological Society; and by Herbertson's regional work at Oxford, and by Hardy's Atlas of World-Vegetation.

"In the war, various students from this little school of botany have won distinctions, one as 'the best observer in the British Army,' another as a responsible cartographer: and another is similarly employed and appreciated in the War Office at Washington. For through keen observing in peace, they were prepared to be the same in war.

"People are afraid of science, and often think themselves too ignorant to understand it; but these people are not really so innocent as they imagine! As a matter of fact, they turn out to be full of the accumulated errors of two thousand years—and more—and this not in any one science only, but more or less in all! It is not that the public are ignorant, but that they are so full of the obsolete errors of the past that they cannot learn from the fields, or even from their own garden, poor things.

"Thus the newcomers from any school to any college have learned (really from the alchemists) that there are 'three kingdoms of nature: animal, vegetable and mineral"; whereas, from Linnæus two centuries ago to Bose to-day, we know more and more clearly that there are but two, the organic and the inorganic, and these deeply related. Even by their chemistry masters they have been taught that the oxygen of the air is a matter of 'inorganic chemistry' whereas the whole of it is but the ever-increasing waste-product of plant-life. They have barely heard of Aristotle, much less read him; yet their comprehension of living plants has been made worse than nothing; largely because they have all inherited his mistaken comparison of the plant to an animal with its head in the ground, getting its food there; and his idea that the hairs of animals, the plumage of birds, and the foliage of plants are mere outgrowths, and thus alike not of the essence of life. And so on, through a score of errors, which the prevailing and increasing superstition of 'science'—as only of mechanics, chemistry and physics—but exaggerates into a worse and worse misunderstanding of the realities of the world and of life in it, upon which the evils of war and of so-called peace alike flourish, and indeed largely depend.

"For an example: How many people think twice about a leaf? Yet the leaf is the chief product and phenomenon of Life: this is a green world, with animals comparatively few and small, and all dependent upon the leaves. By leaves we live. Some people have strange ideas that they live by money. They think energy is generated by the circulation of coins. Whereas the world is

mainly a vast leaf-colony, growing on and forming a leafy soil, not a mere mineral mass: and we live not by the jingling of our coins, but by the fullness of our harvests. Moreover, the leaves made the coal: coal is but plant-life fossilized; and hence the coal-miners are the modern masters of Energy. Not so long ago these men were literally sold with the mines—they were thus actually serfs, if not slaves, until the nineteenth century; but now, in the twentieth, they are claiming a directive share in the energy they set loose. From the fossil-leafage, which they deal with, has come the past industrial revolution, and now is threatened another."

Running thus easily from botanical excursions to politics, the lecturer went on to say that sociology is not—as so many think—some new, separate, remoter science; it is first of all the widening outlook of biology; and with this come freshening outlooks of economics. The world is escaping from the conventional political economy of the futilitarians, with its money obsession of the market-place and " the City" into an economics of energy, and of this in the service of life, not vice versa, as to-day—for tools and machines are but extended hands. The economics of the leaf-colony, and its fossil plants, and the economics of metals are coming into conflict; thus the first will again have the largest significance, as in the rural world of old.

"Contrary to the vulgar economics, as Ruskin rightly called it, it is the artists who have been the producers of the most enduring forms of individual and national wealth: yet here" (taking a big leaf from among the plants on the table) "is one of the staples of art-production, and a story of art-education too. An Assyrian sculptor admired this Acanthus leaf, and modelled it; and it has been copied ever since, and by all the schools, till we are weary of it. In each great period of design, new plants have been observed and used by artists; but here in the garden around us there is a whole world of beauty for designers to choose from —only the edge of which has been touched. Yet the poor tame art schools go on in their traditional limitation—and their would-

be designers fail to find these springs of originality. There they are, around them—outside in the garden, in the woods, by the rivers, even in the sea—where you will in Nature. Here you may draw endless beauties, find fresh symbols, make new conventional designs. With opening eyes, imagination starts anew, and hands work wonders.

"But this is not a school of art—of course not. There is hardly a school of art in any university, nor yet anywhere such a school as a Nature-lover might desire. Perhaps we are afraid to let an artist into a university: he might do something!

"This is a school of medicine—most of you are to go out into the world as doctors. Why not sometimes artist-doctors—or even doctor-artists, H'm?

"Botany is taught you only in your first year—and you are not supposed to return to it. There are even doctors who grudge that as wasted time for their immediate work. Yet once the botanist was a doctor, indeed the only doctor, the herbalist. But now we who gather and cultivate herbs, leave them to the professor of materia medica, to understand their drugs and their action. What, then, is left for us poor botanists? What is the use of us now? In this faculty of medicine, of which we once were masters, we seem—to many—to have become of the least importance. Yet in each age of medicine this has happened already: still, we went on anew. Thus in our schools of botany, we have, in the last generation, studied and greatly cleared up the famous and terrible 'germs' in the fight with which modern medicine and surgery have been so mainly concerned. We have shown, too, that germs are not mere destroyers of life, but mostly beneficent —they are vitally necessary to the soil and to all life, since they remove decay. Thus in the main they keep life going, even though some kill by attacking it at weak spots. But now again they have hived off the bacteriologist from us: so we seem—to many—old-fashioned, and useless again. Yet we botanists, whom they suppose never get beyond the first year of medical studies, are again getting beyond the fifth and sixth years

—in fact, beyond the modern departments of Public Health.

"How so? Doctors are far too easily satisfied when their patients are out of pain, and call them cured when they are able to get out of bed and move about again. But this freedom from pain and release from inactivity is not yet health. Health, in fact, has all but disappeared. Most people—indeed, most of whole nations—are more or less neurasthenic to-day; even though Public Health has as yet failed to realise and deal with this. Modern medicine thus needs to be renewed and reorganised afresh from current biology, just as from our germ biology in the recent past. For we are coming to a conception of higher standards of life, to conceptions of health, physical and mental, comparable to that of the rose and the lily, the peacock and the song-bird, and thence to ideals expressed of old by the Greeks, and in their Gods and Muses. And what is more, we evolutionary biologists begin to see how to get towards understanding this perfect health of leaf and flower, of horse and hound and athlete; and, becoming bio-psychologists too, we are on the way to recover and the re-create the very Gods and Muses.

"So much, then, for a statement of these medical aims: say even our renewing claims for the very leadership of medicine. But now a word on the place of biology in the social sciences.

"Beyond this little garden I have practically failed to make any real impression upon this great industrial city. In darkest, narrowest, windiest alleys of this college garden, in what you can see are slum conditions about as bad as they make them, you find roses and full-laden apple-trees, albeit those of hard climates—Japanese roses and Siberian crabs. Yet I have failed to move either citizens or city to plant these in the slums, or at most I have induced only a school here and there to do so. Yet in Edinburgh and in Dublin our slum-gardens have taken root, succeeded and spread; and so, too, in other towns, before the war made gardening popular—even necessary. Go, presently, and look at the Janitor's garden. In his backyard, left as a builder's slum, he has made a bright little paradise—and all his own, without a word

from me, and at most a few plants from the gardener. Men like these I call our best students.

"In this 'Bonnie Dundee,' as it once was, you can make the floral beauty-feasts of Japan, and in this City of Marmalade," continued the Professor, warming up, "each home might make apple marmalade from its own crabs, and grow wild Japanese roses too, besides having other fruits and vegetables and flowers. Most of such simple cultivation as this is open to every back-yard; and, as you see here, laburnums, and more, will do well in practically sunless ones.

"And if you say children will steal flowers, and you will need to call in the police to guard what you grow, I say: Nonsense, we lose nothing here to speak of; and it is but a reason to give them flowers, and fruit as well, when the poor bairns try to take some. In France, or in Nova Scotia, and other sensible places, too, they grow so many cherry-trees that they neither fear thieves nor birds: there are so many that these cannot make any impression on them. There is no limit to the possibilities of such gardening, even here. That would be real wealth, real economics, vital industry.

"Here, too, is the best of medical treatment towards individual health. Thus you see how gardening comes to town, 'making the field gain on the street, and not merely the street on the field,' as Ruskin put it. True town-planning begins with thus simply amending the surroundings of the people; and it may soon get inside their homes, as I have found these many years in Edinburgh, and in other cities too. It grows on from small gardens to semi-public ones like this, and thence to parks and boulevards, and so to better houses for all. That is, indeed, the way in which planning has actually grown: even the magnificent circles and avenues of Paris are but the outcomes of clearings through the forest. It is only one of the mechanical superstitions of the times that confuses town-planning with the destructive (or at best, mechanical) activities of engineers."

He told rapidly of his town-planning in Dublin during his Ex-

hibition in the summer of 1914. First how the people even of the slum streets round the Exhibition had appreciated its beginnings of clearing up the neighbourhood around it, and had cleansed and white-washed and gardened, too. Next how, with his host's (the Viceroy's) permission, he had tackled the formidable James Larkin, the leader of the big dock strike then in progress, and had found him most reasonable, and not a little conciliated by the hope of a garden village for miserably housed (indeed practically homeless) dockers; and so how the Corporation had offered their estate just at the City's edge, and only a mile from the docks, on which he had planned "the biggest of workers' garden villages as yet and, albeit necessarily the simplest and poorest, a garden village still." Then, too, how he had gone to the Catholic hierarchy, and offered them "a plan for their needed new Cathedral, in line with the two mediæval ones, Christ Church and St. Patrick's, which they lost at the Reformation, so making a via sacra unparalleled in Christendom; and this is the best monument for Home Rule (the Act then just passing) and for the Cathedral of the Irish Race, in which was to be sung the High Mass of Peace and Reconciliation." The Archbishop adopted the scheme, and bought the site from the Corporation accordingly; and its association with a great school, and even perhaps with the new art-gallery, and more, were all being considered. Encouraged by all this, Lord Aberdeen accepted his next suggestion, of an International Town-Planning Competition for greater Dublin, and gave a substantial prize; so not a few excellent sets of plans were sent in from Britain and America as well. And so on: in fact, a complete scheme for meeting, in positive and constructive ways, at once material yet idealistic, all the varied and divergent aims and ambitions with which Dublin seethes, of ecclesiastics and of laity, of rich and poor, and from insurgent dockers to critical intellectuals. But with the war, men's hearts failed them, and all these civic schemes were dropped by all concerned, and Geddes had to leave to fulfil engagements in India. But at this point he thundered out: "With a hundred thousand pounds well spent in

carrying out the beginnings of all this—aye, even half of it—there would have been no Sinn Fein Revolution of 1916. I do not merely suggest this: I know it! And from both sides, from all concerned."

While the British public failed to grasp the stern significance of Darwinism, and thought this great scientist a quaint old country gentleman, with odd theories about "ancestors probably arboreal," the Germans used his "struggle for existence" theory in its strongest sense, and said: "Well, if struggle decides life, you shall have it." And they certainly had given it us—fired Darwin back at us these four years and more, had they not?

The Germans, like the machine and money worshippers at home—for this Darwinism is really an economic theory—say the world is one of "tooth and claw"; but there were some of us who had tried also to "consider the lilies, how they grow." "I sincerely believe," said Geddes passionately, "that the author of that saying knew and meant what he was saying, and that as literally as we do!"

After a pause, he continued: "You see, the Catholic reads this verse, so he cuts the lilies, and puts them on the altar; then the Protestant comes along and throws them out! That is too much, as yet, the history of Christianity. But this very science of Botany, in which both types of would-be Christians have seen so little, is left alone in its centuries of endeavour seriously to obey this counsel, to consider the lilies and find out how they grow. See here" (he took one by one the plants from his desk), "how tall and strong this one is growing, seeming to be using all its energies for itself. But next see how this one is going through a conversion, for there are the buds; and this one in bloom is now living for its species—flowering magnificently, and so also only now fully individualising itself, in blossom. And its 'purity' is the very opposite of the sexless misunderstandings of the past. It is the fullest splendour and frankness of sex in nature, naked and not ashamed.

"You will find more and more," proceeded the lecturer,

"that botany is a key to many things: even the great books of history have largely failed for want of science, and by trying to unriddle the secrets of human life, in its struggles and progress and failure, without study of simple life in nature and in the garden.

"And so with economics and its manifold occupations. For instance, take once again this simple diagram of any river valley, like the Tay here, or the Thames, the Seine, or Tiber, the Mississippi, Amazon, or what you will, from source to sea.

"You start with its relief and its vegetation; thence come the nature occupations in relation to these—the miner, woodman, hunter, shepherd, crofter (or poor farmer), the rich farmer (and the gardener) and the fisherman. It is as these occupations go wrong that the hunter turns man-hunter, the shepherd nomad and invader, and the woodman and miner become military engineer and munitioneer; it is this combination, in its frequent ascendancy, that means militarism and war; while the crofter, the farmer and the gardener in their increasingly peaceful occupations are the very opposite of militaristic, and so the last to be militarised. The age-long peace of China lay in its intensive culture. The League of Nations doesn't half know this yet, and there is little hope of real peace until it does.

" For an instance of the current confused thinking and crude generalisation, we may single out for contempt our attitude to the 'Textile Industries,' which economists, who know so little of the realities—if any of them—lump all together."

But here, rather than report from the lecture, I quote a passage from one of his town-planning volumes:

"Beyond this nineteenth century economics, restricted as it has been to money and market place, to machine and workshop, we have now to recall the older economics of India, of Israel, and of Hellas; or again, in more recent times, of France and Scotland, whose scientists have peculiarly founded the science, and contribute to its later developments. . . . Thus the contrast of linen towns, like Belfast and Dunfermline, with the Jute town of

Dundee, is wide and tragic. . . . The Jute mill and its workers are still only emerging from general poverty and too frequent squalor. . . . linen has long been at a higher civilisation level than cotton. Wool industries have throughout history yielded greater civilisation values than even linen. But the highest place among textile towns in modern times is that of Silk Lyons, with its weaver-artists. For here are workmen and masters comparable to those of Silk Florence at the Renaissance."[1]

. . . He went on: "Since social types evolve from industries, hence the jute civilisation is everywhere poor, that of cotton less so; that of linen richer in material prosperity, and still more in civilisation values. Wool brings with it a yet more vital grasp of life, at once a fuller and more idealistic society—while silk has in some ways given the highest development of all; and should still more do so in the future. Thus not mere politics, nor even religions, determine social forms so simply as they think. Fundamental work first of all determines types of society capable of this or that political and ethical development, and is to be planned for accordingly.

"The current text-books of Citizenship sometimes do not even mention cities; yet these, after all, are no more unreal than are the other generalities of politics. Or again, those of moral philosophy, of which the current university lecturing contains no guidance for youth, for life or for sex, and which is shocked if you suggest these. No wonder it has its rebounds, as in the current horrors told by the pathologists—Freud and his school, dealing with sex and its disorders and immoralities, but with too little relation to normal health or knowledge of its real nature and possibilities.

"Turning now to philosophy in general, we may be thankful for Bergson, his ideas and outlook. For from it we may look back on the great war as a culminating dispute between the German philosophers of the State, and the French philosophers of freedom and life, in the course of which their audiences fought, as

[1] Town Planning for City Development (Indore 1918).

audiences so often used to do in the debates of old. Yet what is Bergson's *Elan Vital* but an appreciation of how flowers grow? Our older theories were more of how artificial flowers got put together, or of how anglers' flies were dressed—mechanically beautiful, no doubt—but not real live flowers or flies!

"Here in this garden the collection is small, as gardens go; for we keep nothing here which will not actively grow. Some, as you see, grow here till they make a wilderness—but this, too, is 'life more abundantly.' Thus, too, you can see in the garden outside, how Bergson's doctrine of 'Duration' is an escape from thought of time as mechanically told by the clock, to appreciation of the phase and quality of growth to which each living thing has come.

"But growth seems slow: and people are all out for immediate results, like immediate votes or immediate money. A garden takes years and years to grow—ideas also take time to grow; and while a sower knows when his corn will ripen, the sowing of ideas is, as yet, a far less certain affair. See on one hand all over Europe the governing classes with their tendencies towards repression, and the governed tending to unrest, if not revolt; and realise that both in their haste alike are missing the growing reality of life. Yet at last we are coming into a renaiscent philosophy of growth and of life."

He then sketched on the blackboard his graphic notation of life with its many squares:

"Life like a dome of many-coloured glass
Stains the white radiance of eternity."

Let the soul, he exhorted, escape from the mere external and authoritative control of administration, and find its controlling impulse within. The great thing is not so much to control and to administer things or people, as to inspire, to arouse youth to carry out its aspirations towards life at its best, life more abundant.

"Study our universities, and you will find that they are more concerned with Death than with Life—so their psychological

side oscillates between mechanisms and phantoms. And are not the schools of theology too much like our museums, with bottled specimens, dogmas labelled and pinned to the wall?

"And our classics—largely wasting time: yet classics are history—necessary when we see this as living heritage. And so with the art of the past, and everything else that we are not doing *now:* but ancient history as merely past!—h'm?

"What if we educationalists should now study history as heritage, and mind as continuing it in life, and putting it to freshened uses? Suppose, in fact, we take the vital and synthetic view—instead of the dead and analytic, and dis-specialised? This has been, in the main, the German University view. At present education with us, as so conspicuously in Oxford, is mostly Pre-Germanic; though, like Cambridge, we are also becoming Sub-Germanic—and American Universities mainly too. In the next few years, even in India, we may liberate education anew, and make it Post-Germanic, and, in the following generation, develop it yet further, as Germans, too, will be doing."

Beaming upon us genially, he said: "Star-wonder, stone and spark wonder, life-wonder, folk-wonder: these are the stuff of astronomy and physics, of biology and the social sciences. Hence the fundamental place of Nature Study, and of our Surveys. To appreciate sunset and sunrise, moon and stars, the wonders of the winds, clouds and rain, the beauty of woods and moon and fields—here are the beginnings of natural sciences.

"Set the child observing Nature, not with labelled and codified lessons, but with its own treasures and beauty feasts—as of stones, minerals, crystals, of living fishes and butterflies, of wild flowers, fruits and seeds! Above all, the cultivated plants and the kindly domestic animals, which have domesticated and civilised man in the past, and have now to be brought back to civilise him to peace again.

"We adults have all been more or less starved and stunted; in schools we were even made artificial defectives, for want of such observations; and with our intelligence unawakened through

nature's work and play. Each child needs its own plot in the school-garden, and its own bench in the workshop; but it should also go on wider and wider excursions, and these increasingly of its own choice. We need to give everyone the outlook of the artist, who begins with the art of seeing—and then in time we shall follow him into the seeing of art, even the creating of it. In the same way the scholar and student may be initiated, as in our Edinburgh Tower, into the essential outlook of the astronomer and the geographer, of the mathematician and the mechanic, the physicist and the chemist, the geologist and the mineralogist, the botanist and the zoologist, and thence more generally, of the biologist. Next, too, the anthropologist, from these simple occupations; and thus, too, the economist.

"We may know the outlook of the theatre of events, not only as current events, but also as historically influenced, often determined. Eventually opens, often even in childhood, the outlook of the philosopher, both general and abstract; and in adolescence normally, too, that of the poet—with his emotional interpretation, his appeal and significance. Yet all this without being unduly learned: indeed with far less time than is usually spent on (not) learning Latin. Some realisation of all these gives the main elements of a general survey, and the further development of each outlook may then go to those who can best deal with it. But this general and educational point of view must be brought to bear upon every specialism.

"The teacher's outlook should include all view-points. Individual realisation of these, and choice of life-interests and of occupation thus go to form the personal outlook of the student, with which he descends from this Tower of Initiation, to the special institutes and departments of the university, yet returns to these general outlooks from time to time. Each, then, may grow and widen through life, in personal evolution; and the resultant personal outlook will determine his main life's service. The naturalist pupil, then, sets out for his education by way of Nature-studies, widening out to regional and general survey. He

grasps the essentials as far as may be of all the simple occupations within his reach; first helping mother, for that is the best basis of primary education; next helping father, with a good deal of secondary education accordingly: and then he may go to higher education, with its helping the world; and in time as fathers and mothers, too. All this is in contrast, no doubt, to the current Nature-starvation of school and college, with their verbalism and empaperment. This means also moral starvation, whence too often perversions of all kinds, or at best that paralysis of 'good form,' the real meaning whereof is the utmost possible inhibition—in fact, the shamming dead—which is so marked a fruit of 'the best education' and thus the delight, so often, of the British parent, pedagogue, snob and fool!

"Madame Montessori has shown how writing and arithmetic can be far more rapidly taught than at present, still more all subjects of vital interest, and so of education proper. Instead, then, of starting with the three 'R's' we substitute the three 'H's'—Heart, Hand and Head—for in that order they develop.

"But the mistaken and perverted order is still prevalent, and still authoritative; and beginnings like Madame Montessori's, or our own at the Outlook Tower—of course with its complemental Inlook—are still far too few.

"People laugh at Madame Montessori's sense-training: but it has to go farther yet. The eye is predominantly important for this intellectual life (*Do you see?*) and the ear for emotional appeal (He that hath ears to hear. . . .). Odour is deeply related to memory and taste to good taste, and thus to character, and touch to realism and sympathy. The muscular sense is related to mathematics and also to music; and the orientation sense is related to morals and character—'steady' and 'well-balanced,' 'giddy' or 'unbalanced,' as we commonly say. And as senses are thus deeply related in life, so with our ideas, our whole personality and powers.

"Hence we must cease to think merely in terms of separated departments and faculties, and must co-relate these in the living

mind; in the social life as well—indeed, this above all. Thus emotional education involves Re-religion, and this Re-politics, of which Civics is the best beginning. Intellectual education involves general and sensory, imaginative and artistic education: Re-education, Re-creation, and thus Re-construction and the conception of Culture in its literal sense, of 'to cultivate.' Thus, then, we are reaching a re-classification of our ideas and our ideals with them. Each science is thus associated with its related arts and crafts, from simple occupations to complex ones: thus" (here he drew on the blackboard):

a	Physics Aesthetics	to	Mechanical Industries Arts and Crafts
b	Biology Psychology		Hygiene and Medicine Education
c	Sociology Ethics		Government Religion

"Language, literature, and the fine arts express all the shades of experiences and emotions of these.

"In this way we escape alike the extremes of the materialistic and the idealistic position. The one is redeemed from its Philistinism, and the other roused from its usual ineffectiveness. Both may then be developed in harmony, and thus become social, vital, creative. Do we still so far seem of materialistic bias? So far truly: yet we may best read the series upwards, and from the idealistic arts, and these co-ordinated with their corresponding subjective sciences. In such ways again we come to see that material and spiritual becomes at one! And abstract and concrete also are at one! Ethics and politics thus unite into Etho-Polity, which, despite all discouragements and setbacks and appearances to the contrary, is none the less the coming polity. So with education, not merely with bio-psychology; but psycho-biology, the

sound mind maintaining the sound body. And so with art inspiring industry, and developing the sciences accordingly. Beyond the attractive yet dangerous apples of the separate sciences, the Tree of Life thus comes into view."

There was silence for a moment as the lecture ended on this note, at once picturesque and practical. All so old, yet here renewed! Obstacles and stumbling-blocks to understanding had been swept away, and we felt as on a mountain-top. I remembered what an American (Earl Barnes, I think) had remarked to me of Geddes: That he was "a very wise man, with his feet on the ground, and his head in the air."

Then the young soldier-chairman rose, and said: "The Professor has given us a method by which to live and teach and work, and a fuller comprehension of life as a whole." Cheers followed this declaration. An old lady beside me said: "He has been talking to the next generation—it is too much for us."

And we all filtered out into the pale light of the long midsummer evening."

Chapter VII from
"The Interpreter, Geddes,"
by A. Defries, Routledge, 1927.

APPENDIX III

Brief Biography of Patrick Geddes

BASED ON "PATRICK GEDDES," BY PHILIP BOARDMAN, UNIVERSITY OF NORTH CAROLINA PRESS, 1944

1854 Born October, youngest by 11 years of four children. Childhood in Perth, Scotland (County Town of 25,000 people). A delicate boy. Close companionship with father, a retired army captain, interested in natural history.

1867-70 Attended Perth Academy.

1870 With National Bank of Scotland.

1871-4 Self-education with local tutors in geology, botany, physiology, drawing and painting and cabinet making.

1874-8 Studied zoology under Professor Thomas Huxley at Royal School of Mines, London.

1879 Illness and recovery at marine biological station, Roscoff, Brittany. Studied at Sorbonne, Paris. Introduction to theories of Le Play and Comte.

Grant from British Association for the Advancement of Science for year's geological and biological research in Mexico.

Eye trouble: blind for 3 months, during which time Geddes invented "thinking machines" or folded paper diagrasm.

1881 Demonstrator of Botany and lecturer on Zoology, Edinburgh University. Lectured to Royal Society of Edinburgh on the "Classification of Statistics."

1884 Lectured to Royal Society of Edinburgh on "An Analysis of the Principles of Economics."

1880-8 Published numerous articles in Encyclopædia Britannica and Chambers' Encyclopædia on botanical andzoological subjects mainly dealing with sex differentiation and evolution. Also series of nine pamphlets on statistics, economics, art criticism and industrial exhibitions.

1886 Married and went to live in part of Edinburgh that had degenerated to a slum. Re-generated this.

1887	Founded University Hall, first student hostel in Scotland.
1888-1919	Appointed Professor of Botany at Dundee University, after having been passed over as too unorthodox at Edinburgh. Dundee appointment only required one term in residence. Rest of year Geddes was free to write and travel.
	Active in University Extension Movement, then starting.
	Organised series of International Summer Meetings at Edinburgh over period of 12 years. This was period before "summer schools" were known.
1889	Publication of "The Evolution of Sex" with J. Arthur Thomson (former pupil of Geddes at Edinburgh).
1892	Founded Outlook Tower, on Castlehill in Edinburgh.
1895	Founded publishing firm with William Sharp ("Fiona Macleod").
1897	Carried out practical regional planning in Cyprus.
1899	Lecture tour to U.S.A.
1900	Ran International School at Paris during months of Paris International Exhibition.
1903	Appointed by Andrew Carnegie to work with T. H. Mawson on report on Town Planning of Dunfermline, Scotland. Its publication as "City Development: A study of Parks, Gardens and Culture Institutes." Founding of "Sociological Society" in London by Victor Branford, friend and admirer of Geddes.
1908	Geddes saved and organised rebuilding of Crosby Hall, Chelsea former home of Sir Thomas More, as University Hall.
1909	First British Town Planning Act passed, promoted by John Burns, M.P. under stimulus of Geddes and others.
1910	London Conference on Town Planning and Exhibition at Royal Academy. Geddes' Edinburgh Exhibition from Outlook Tower occupied an entire gallery and had great influence.
1911	"Cities and Town Planning Exhibition" founded and opened at Crosby Hall, Chelsea. Then travelled to Edinburgh, Belfast, Dublin.
1912	Offered Knighthood, but refused "for democratic reasons."
	"Masque of Learning," a pageant of history, staged first in Edinburgh, to mark 25th year of founding of University Hall. Following year put on in London with over 500 actors.

1913	"Cities and Town Planning Exhibition" at Ghent, Belgium, where it won an international prize.
	Geddes designed Zoological Gardens at Corstorphine, Edinburgh.
1914	"School of Civics" at Dublin.
	War.
	Geddes sailed for India to demonstrate Town Planning principles. "Cities and Town Planning Exhibition" sunk en route.
1915	Publication of "Cities in Evolution."
	Exhibition of second "Cities and Town Planning Exhibition" in Madras.
1916	Brief return to Paris and Dundee.
1917	Publication of "The Coming Polity" and "Ideas at War" as first o the "Making of the Future" series of books by Geddes, Victor Branford and Gilbert Slater.
1916-19	Publication of many Town Planning Reports on Indian Cities.
1919	Return to Scotland: his wife dead, his elder son killed, his first great exhibition (the result of 20 years' work) destroyed.
	Final address to students at Dundee University.
	Commissioned by Zionist Federation to design new University at Jerusalem.
1920-23	Organised Institute of Civics at Bombay University.
1923	Visit to U.S.A. lecturing at Universities. Close association with Lewis Mumford.
1924	Built Scots College at Montpellier University in south of France.
1928	Second marriage (aged 73).
1931	Publication in two volumes of "Life: Outline of General Biology' by Geddes and J. Arthur Thomson.
1932	Knighthood offered and accepted for "services to education.' Death of Professor Sir Patrick Geddes.

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