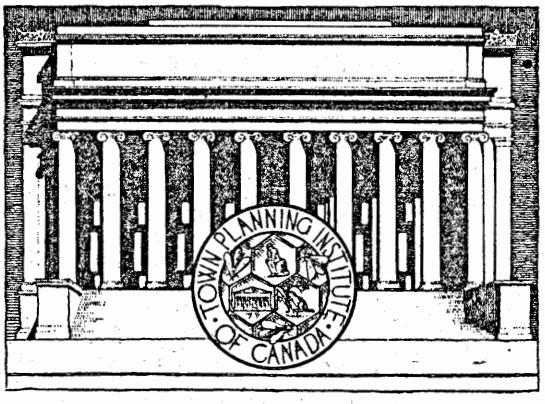
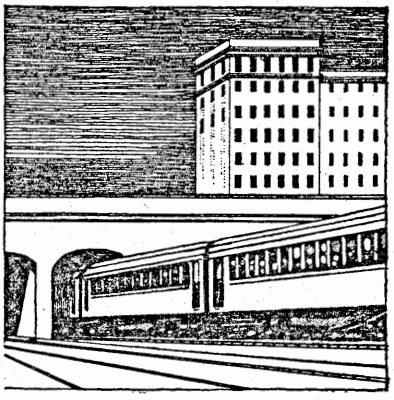
TOWN PLANNING



THE JOURNAL
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OF CANADA

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Town planning may be defined as the scientific and orderly disposition of land and buildings in use and development with a view to obviating congestion and securing economic and social efficiency, health and well-being in urban and rural communities

NEWS AND NOTES

Working for a Town Planning Act in British Columbia

The Vancouver Branch of the Town Planning Institute of Canada and the Vancouver Town Planning Commission are working hard to meet the town planning situation in British Columbia which will be created by the appearance once more before the Legislature of the Town Planning Bill for British Columbia.

This bill has been prepared with great care by the Vancouver Branch of the Institute who are justified in their belief that it is one of the best town planning bills ever presented to a legislative authority. It was published in the *Journal* last January and since that time numerous inquiries about it have been received from many town planning centres and some of the most distinguished town planning authorities have pronounced it a thoroughly wise and excellent bill. The British Columbia Legislature postponed decision on the bill until they satisfied themselves that there was a sufficient demand among the municipalities. The Branch at once set itself the task of creating the demand. They got resolutions passed in its favour by the Vancouver City Council, Board of Trade, Associated Boards of Trade, Trades and Labour Council, Service Clubs—Rotary, Kiwanis, Lions and Gyro, Real Estate Exchange, Fire Insurance Agents Association, Architects Institute, British Columbia Land Surveyors, Provincial Engineers, Women's Forum, Daughters of the Empire and Women's Canadian Club and they persuaded the City Council to appoint a Town Planning Commission in anticipation of the passing of the bill in order that the commission might be ready to take up practical work as soon as the bill was passed—an astonishing piece of enterprise that did credit both to the Branch and to the City Council. They are now distributing all the information available to the mayors and reeves of the various municipalities, including copies of this journal with special demand for the wise and significant address of the Mayor of Boston which appeared in the last issue of *Town Planning.*

Persuading the Municipalities

The members of the Branch and Town Planning Commission know quite well that the persuading of municipal officials to strengthen the demand for a town planning act is simply a matter of education. The first reaction of municipal officials who are unacquainted with the philosophy and practice of town planning is practically always opposition. What they believe they see is limitation of their own authority and it is only by study of the movement that they come to realize that so far from limiting their authority a town planning act extends their authority and gives to every wise local legislator a richer opportunity of working for the prosperity of his community than he has ever had before. With the town planning act as an instrument of progress a mayor of a town can lead his community to new methods and new ideas with a new persuasiveness and new propulsion such as he has never had before. He can lead his community as a whole because he can say to people who have no social sense and are indifferent to public welfare: "This thing you may not do or you must do otherwise because it is against the law of the community." Sooner or later he comes to realize that town planning is the first step towards a science of town development—a first-class way out of the muddle of jumble building which destroys the chances of prosperity of most new growing towns. Even the land dealers themselves, in hundreds of American towns, are realizing that town planning is their best friend. Their zoning laws segregate residential, industrial and commercial areas and so "stabilize" their values—because jumble building pleases nobody and kills interest in the ugly areas it creates.

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Stagnating Towns

There are stagnating towns enough in British Columbia to provide intelligent inquiry as to the causes of their stagnation and to bring the facts into the light of day. And the officials of these stagnant towns should be the first to face the facts. Something more intelligent is needed for progress than a crowd of "realtors" chopping up the land and sitting round in their offices franctically calling upon people to buy raw land at impossible prices—which become still more impossible as soon as a social need arises—which again kills the social need as soon as it arises. Some of the best town prospects in the beautiful province of British Columbia have been ruined by this stupid and obsolete proceeding. Any business run on such lines would smash up in a year. Anything could be built anywhere so long as the land was sold, and nobody had the imagination or public spirit to preserve beautiful sites for public uses or to consider that a pleasant place for children or young people to play in made the whole area more attractive to home making men and women.

The New Science of Town Planning

British Columbia is stirring to the fact—at least its best minds are—that a new science of town building has been born which is spreading beneficent prosperity all over the world because it is based upon knowledge of human needs, human sentiments and emotions and was born of love—born of the desire to spread happiness among men and women by giving them room to live and play in pleasant environment and not packing them in sunless streets and alleys of congested cities or using them simply for purposes of gain. People are flocking to these new towns because they can find there air and sunlight and room to live for themselves and their children, new ideas of social life and some contact with beauty. The homes of the poorest are being grouped and arranged with plenty of garden space and playground and industries are being segregated where they can operate better to their own advantage without destroying the amenities of residential areas.

The tremendous potency of scientific order and knowledge is being applied to town building—to making towns attractive, beautiful, efficient for all the uses of life and prosperity is following the movement—all over the world because it is founded on knowledge and love.

The lack of response on the part of the outlying municipalities to the legislature's invitation to express themselves on the need of a Town Planning Act simply means that their officials are not informed on the subject and do not know what is going on in the rest of the world. But Vancouver and Victoria have suffered enough from bad planning already—especially in their suburbs—to know the cost of it. Their demand is exigent and definite and since their population is about equal to the rest of the province and their opportunities to see what is being done in city planning to the south of them is excellent and special, surely the legislature will pay some attention to their demands.

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The Indifferent Municipalities

It is melancholy hearing that when the British Columbia Government submitted the proposed Planning Bill to the municipalities of the province only twelve took the trouble to answer. Two were in favour, four against, and eight had no interest in the proposal. The bill was introduced in the legislature by a woman, Mrs. M. E. Smith, M.L.A., to whom doubtless future generations who will benefit by the Act will erect a monument on Parliament Square. The obvious fact will doubtless be brought to the attention of the indifferent and opposing municipalities that the smaller the municipality the more it will benefit by orderly development, and if land selling is the objective this too will benefit as the American "realtors" have by this time discovered.

At the town planning conference held in Toronto

in 1914 the Governor General of Canada, the Duke of Connaught, was not thinking about land traffic when he said:

> Considering the terrible lessons that are so forcibly impressed upon one by the experiences of older countries it would be nothing short of national disaster if, for want of proper forethought, a similar state of things were permitted to come into existence in Canada, which is essentially a land of wide spaces, where there should be breathing room not only for the present population but for a nation ten times as large.

This "similar state of things" has been permitted and is being permitted in Canada and is largely responsible for the social ills so eloquently deplored by Judge Emily Murphy at the recent Child Welfare Conference in Ottawa.

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President Coolidge on City Planning

An address by the President of the United States, delivered on the 1st of May, seems to have been broadcasted all over the world. The gist of his address was that palliatives will not cure city congestion and that fundamental planning is necessary to determine the relations of business, residential and industrial districts.

The President comments on the fact that increased facility for transport, due to the motor car industry, instead of leading to a distribution of population, as might have been expected, seems to have led to increased and ever increasing congestion. Following the lead of certain sociologists, engineers and town planners he is inclined to doubt whether the supposed superior efficiency of great cities for business, industry and culture is not an illusion and whether the disadvantages of excessive urbanization are not greater than the advantages. This is what Ebenezer Howard and the English reformers have been saying for a quarter of a century and their movement for making the small country town interesting and efficient is the result of their thinking and experiment. A small book published for a shilling in 1918 by Dent & Co. called "New Towns After the War" contained the developed philosophy of President Coolidge's present thinking and is one of the best books written on the subject.

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Sir John Sulman's Report

Sir John Sulman, who visited Canada last year, was appointed Honorary Commissioner for the Government of New South Wales to attend the International Town Planning Conference at Amsterdam and to make inquiries into matters of town planning in Great Britain, Europe and America. He has presented a comprehensive report to his government covering a wide field, noting the astonishing progress which the movement is making in all parts of the world, and freely recommending to his government the adoption of ideas that met with his approval.

Mr. Saxil Tuxen, of the Melbourne Metropolitan Town Planning Commission, was in Ottawa last month on a similar mission; Mr. Charles Reade, Government town planner of the Malay States is also touring; and within the last few years there have been others from Russia, China, Japan, Czecko-Slovakia and other countries. These delegations seem to show that interest in town planning methods for the re-planning of towns and cities that have grown up indifferent to civic design and the needs of the future, and for the better planning of new areas and new towns and cities is practically world-wide.

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Inaugurate Canberra, Australian Capital

The new capital of Australia, Canberra, regarded for many years as an impossible dream by all kinds of "practical" people has been formally inaugurated and dispatches from Empire Press delegates tell of the near completion of the parliament buildings, of the Hotel Canberra, a beautiful structure in which the delegates were entertained, and of ample evidence that a noble city is to rise worthy of the great Commonwealth.

The extraordinary originality and daring of this enterprise may well cause astonishment. Melbourne, the Federal Capital, had grown up in the usual fortuitous way at the dictates of land speculators and jumble builders. Some years ago the Government decided to go elsewhere for their Capital and to build a new city, "not a monumental city," as one of its ministers said, "but a garden city." They decided that it should not become an orgy of land speculation and boldly adopted the garden city principle of public ownership of land and the leasehold system of land tenure. It was freely prophesied that when the first leases were put up for auction nobody would buy them, but as a matter of fact the leases sold like hot cakes.

These legislators were statesmen who had not disdained to learn some of the portentious lessons of London and New York and most of the great cities of the past. They decided that the kind of thing indicated in the following dispatch from London should not be repeated in Canberra.

> Forty acres of land in the busy west end of London have been sold by Lord Howard de Walden for a price said to be in excess of £4,000,000, making it one of the largest land deals in the history of London.
>
> The property takes in several business streets, and is part of the original tract of land owned by the ancestor of Lord Howard de Walden, who was once a member of the select group of seven men who owned the entire city of London.

And to-day "the average London school child has to spend his holidays in the swelter of a heat wave, foul air and petrol exhaust."

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Melbourne Begins to Plan

Meanwhile Melbourne, the recent Federal Capital, has appointed a town planning commission "to inquire into and report upon the present conditions and tendencies of urban development in the metropolitan area" — an area that comprises twenty-six municipalities and has a population of 887,000 people—and has published its first report in favour of a comprehensive plan.

It has been said that there is nothing so irresistible as an idea whose time has come. All the same, a vast amount of waste energy is usually expended in resistance to it, especially by those who have the power to give it right-of-way. The officials of Canadian towns who are to-day saying "To hell with town planning" are far more dangerous to their communities than any "reds" can be, because they are creating the conditions in which social discontent is born and bred.

Town planning is now the established science of town building and it is no longer possible for a town to be indifferent to it and reach its maximum prosperity — commercial and social — than it is to reach prosperity by ignoring sanitary science. The epidemic of slums is as bad for a town as the epidemic of disease or crime. Indeed these latter are usually the natural results of land sweating, urban congestion and jumble building.

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The present issue, it is expected, will have a certain circulation among women's organizations and an article setting forth a concept of women's part in town planning in Canada, will be found on another page. While the art and science of town planning are developing appreciably among engineers and technicians in Canada the paramount need is still publicity, education, with a view to creating a public demand which will have to be heeded by civic and other officials who have the power to say yes or no to the growing demand for the better planning of the towns and cities of Canada. The results of bad planning strike women more heavily than men—through their homes and their children and awakening of their intelligence and conscience in this matter is much overdue. It is to be observed once more that the child welfare congress does not seem aware of the revolution in child welfare that is being created by the new science of town building. They know of the lovely work that is being done by the Service Clubs, Rotary, Kiwanis and others—to give holidays to poor boys and happiness to cripples; of the outdoor organizations for boys and girls and of their own fine if pathetic efforts to cope with juvenile degeneracy and delinquency but they do not seem to know that towns have been built where the evils they deplore do not exist because there is no soil for them and because there is ample opportunity for all children to use those millions of spare hours between birth and adolescence wholesomely and happily as the Rotarian beneficiaries know how to do. They see the need for better housing poignantly enough but they do not seem to see that better housing will not come until there is better planning. What is the use of better housing for working families if industry and commerce can rob the families of their fresh air and sunshine and room to live and play? Under such lawless conditions even better houses become slums in a decade, the mellowness and permanence of home life become impossible and nothing remains but the nomadic fever to get "something else" or smash something up. It is in the slums of our towns and cities, said the Duke of Devonshire, when Governor General of Canada, that Bolshevism is born. It is no use yapping at communism if we ignore the causes that have brought it into being. It is commonly forgotten that Christ and his disciples were communistic rebels and that the causes of their rebellion were the tyranny and heartlessness of their Roman masters and their own ruling caste.

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Mr. Purdom's Book on Satellite Cities

Members are recommended to read Mr. Purdom's new book on "The Building of Satellite Towns." It is the first book on the subject with the exception of the late G. R. Taylor's "Satellite Cities" and is the first book to deal with the problem from the English point of view and to give a full and critical account of the English Garden City experiments.

It is also probably a forecast of English policy in carrying out its immense housing projects. The British Government has contributed a million dollars of public credit to aid the development of the second Garden City at Welwyn and there are signs in parliamentary quarters that an increasing number of members of parliament are convinced that the garden city satellite town is the best way out of the national housing problem.

The contribution of public credit to garden city development will not be a "subsidy" but an investment in a great social project whose return is certain, not only in money, but in vast social betterment and national well-being. There are signs that this is manifest to the statesmen of Great Britain. Already the British Housing Act authorises the expenditure of municipal money for the building of garden cities. This will involve municipal ownership of the land upon which garden cities are built since, as the Chairman of Welwyn Garden City says, it is unthinkable that the forces of the State should be utilized to develop new cities for the private profit of dealers in land.

It will be noted that the Welwyn Garden City has decided to conserve for the benefit of the project—that is, for the citizens the "unearned increment" that attaches to business property and have created a subsidiary company to conduct a large departmental store in lieu of the multitude of stores all multiplying overhead expenses and therefore multiplying prices of necessities. The ethical and economic basis of this move will be per-

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"The Building of Satellite Cities" is a significant document, indicating a revolution in the ideal and practice of town building, a revolution to be wrought not by blood and thunder, nor by hate and conflict, but by honest thinking and constructive public service.

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The injustice of the past has been that while the rich could arrange for these "covenants in their deeds restricting the use of property to residential purposes" the poor could obtain no such covenants and have been at the mercy of every junk dealer who chose to settle on the next lot. And even the restricted use of property on the part of the rich often disappears with the change of hands as most of the "blighted districts" of most towns testify. Town planning law will protect the homes of the poor as well as the homes of the rich and help to make it worth while for working families to aspire to homes of their own. The labour unions of Chicago told the "Own Your Own Home" campaigners that they didn't want to own their own homes until they were protected by zoning law. Chicago got a zoning law.

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Town and Regional Planning in England

The Sixth Annual report of the British Ministry of Health shows that the Government paid last year about $40,500,000 in subsidy to private builders to encourage the building of houses for working families. The average rent of state assisted houses was about $10 a month and the average cost of the new houses was about $2,200. Town planning schemes, proposed or in operation, number 433 and of 30 regional planning committees seven have issued reports.

It will be noted that in Great Britain town planning is obligatory on all towns of 20,000 population and all towns receive assistance and encouragement to plan their areas. The compulsion has passed into law and is now no more felt to be compulsion than any other law. This is manifest from the fact that the number of voluntary schemes for planning exceeds those that are compulsory.

It will also be noted that town planning in Great Britain is placed under the administration of the Ministry of Health as a health measure. The report deals first with efforts to combat disease and ill health—infectious diseases, child welfare, inspection of food and sanitary administration and then passes to housing and town planning as the new national provision for the prevention of ill health conditions. When one thinks of the multitude of organizations in cities like Montreal and London for the cure of evil social conditions there would seem to be argument enough for the discovery of means for the prevention of such conditions. When Mrs. Barnett was in Montreal she told the Montrealers quite frankly that the number of welfare organizations for the mitigation of evil social conditions was the measure of failure in city management and government. In Mrs. Barnett's garden suburb and in the garden cities of England these evil social conditions and the organizations to palliate them do not exist and the fine women whose pity and love make them ever ready to serve can spend their time in less heart-breaking pursuits.

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Regional Planning in Philadelphia

Some forty civic and business organizations of Philadelphia have been holding meetings for more than a year to consider ways and means for constructing a regional plan for the metropolitan district of Philadelphia. This would involve the cooperation of 525 administrative units covering an area of 2,000 square miles situated in three states. The committee have "sounded" representatives of out-lying districts and have discovered a "rather unexpected hospitality to the plan.....and a wide appreciation of the fact that many of the individual physical problems of the various centres of the region are in reality a part of the larger regional plan."

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Regional Planning in the Ruhr District

More than 300 German municipalities in the Ruhr district—a region of 1,500 square miles with a total population of over 4,000,000 people, have formed a regional planning board for the carrying out of a plan of the whole district and all these municipalities have agreed to share the cost. Over 20% of the area is being set aside for recreation purposes. Th plan deals with main roads and railways and sets aside definite areas for industrial purposes. Dr. Schmidt, who took so important a part in the recent International Town Planning Convention in New York, has charge of the planning.

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American Schools for City Planning

"The theory and technique of city planning are rapidly developing, "writes Dr. Charles W. Eliot, 2nd, in *City Planning,* "and instruction sufficient for active technical work in the field will soon become a recognized public need." The subject is treated in some fashion in a score or so of American universities and colleges but Dr. Eliot argues that the time has come for all universities to have a special school in the theory and technique of city planning. The Liverpool University School of Architecture, England, has a Department of Civic Design, which also publishes *The Town Planning Review* and other British universities are steadily moving to supply this "recognized public need." The University of Toronto has given courses of lectures on the subject.

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Town Planning in Malay States

Mr. Charles C. Reade, who received his town planing impulse and training in connection with the English Garden City movement, became government town planner in South Australia, and later in the Federated Malady Straits, one of the far outposts of the Empire, has issued his fourth annual report in which he states that government money expended on the planning of the Federated Malay States has been and will continue to be repaid to the government many times over. Both state and public have been benefited by increased values due to planning. Valuable reserves for public use have been secured at low cost before development has inflated values. Mr. Reade recently toured America, Canada and Europe in the interest of his profession and of his adopted country.

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The Helpful and Helpless Rich

What is the psychology of the man who has made a pot of money? He must get tired of the reflection that he has done it all himself, especially

since he must know that he hasn't. It must be rather dull to leave the pot to relatives—since they will probably be well provided for themselves. A multi-millionaire of New York who has spent most of his 85 years importing and selling cocoanuts wants advice as to the most interesting way of spending his fortune. He began life with eighteen cents in his pocket and was buffeted about a good deal by hard masters and has not forgotten. Recently he established a Foundation of $2,500,000 to help poor boys, and now he wants to do some more in that-a-way but doesn't know how.

Well, a rich lady in Cincinnati is building a garden city, where working people can acquire pleasant homes in pleasant environment on easy terms and where an experiment in the better and more orderly and beautiful building of a town may be tried out and she does not expect to lose any cash on the job. Another benefactor, in Illinois, conceived a beautiful park system for his town where he had made his money; established an endowment which yields an annual income to his town of $20,000 which is to be spent on parks, playgrounds, bathing pools, help for crippled children, scholarships for poor students. In one bathing pool a thousand bathers can disport themselves at the same time. The benefactor is chairman of the parks system. These must be jolly ways of spending money and interesting avenues of happiness for the helpful rich.

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Mr. Horace Seymour leaves for Venezula

Mr. Horace Seymour, town planning consultant of Toronto and vice-president of the Town Planning Institute of Canada, sailed from New York on July 10 to undertake development work for the Lago Petrolem Corporation at Lake Maracaiba, Venezuela. Mr. George W. Smith, recently connected with the firm of James, Proctor & Redfern, Ltd., accompanied Mr. Seymour as principal assistant. It is expected that Mr. Seymour will be absent from Canada for about a year. Meanwhile Mr. A. G. Dalzell, consulting engineer and town planner of Toronto will take charge of Mr. Seymour's practice.

It is rather a melancholy reflection that Canadian planners of the experience and qualifications of Mr. Seymour and Mr. N. D. Wilson (who fled to Mexico some time ago) should have to leave their own country and their families to find satisfactory work for their hands to do. It is also noteworthy that the large industrialists of South America are realizing that industrial contentment is worth planning for and that callous neglect of the home life of workers must bring its Nemesis in industrial discontent and labour troubles. There is little doubt in the minds of Canadian town planners that much less would have been heard of labour troubles in Nova Scotia if the great corporations had given some humanistic thought to the home conditions of their workers. "Reform delayed," said Edmund Burke, "is revolution begun."

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Engineers and Town Planners Meet

The American Society of Civil Engineers will hold its autumn meetings October 14-16 and will visit the power developments on the St. Maurice river. Mr. Ira W. McConnell, vice-president, will speak on "Some Economic Aspects of Hydro-Electric Development in Canada," Mr. F. E. Field on "The Water Supply of Montreal" and other speakers will deal with different aspects of concrete production.

A joint Session of the Society and the Town Planning Institute of Canada has been arranged for Thursday, October 15, when Mr. James Ewing, vice-president of the Institute, will deal with "The Engineer and the Town Plan" and Mr. Gerard H. Matthes, of the Fairfield Aerial Surveys, New York, will speak on "Aerial Photographic Maps for City Planning." Our eastern vice-president seems to be carrying the major part of the burden of town planning advocacy in Montreal, though there are seventy-eight (we believe) public organizations behind him. When his friends quote Macaulay:

> And how can man die better
> Than facing fearful odds

he does not seem to be comforted. He does not want to die until Montreal has a city plan. Meanwhile Mr. Ewing's "town planning advocacy" will be found on another page and will sustain the hope that plain speaking by responsible men who have the welfare of their country deeply at heart will always be possible and welcome among reasonable men.

Ottawa Zoning

The Ottawa Zoning By-law is now ready for submission to the City Council. Many moons have passed since the work was authorized but a project of such complexity takes time, and Mr. Cauchon has chosen to submit the scheme to various professional bodies so as to insure that a sufficient number of responsible citizens should have really studied the scheme in all its reaches and implications. He has also wished that ample opportunity should be given to city officials to examine the by-law fairly. Many and important amendments have been suggested by the various committees and these have been incorporated wherever they added to the efficiency and cogency of the by-law. Some years ago a comprehensive Town Planning Bill for the City of Ottawa, which had been passed by the Ottawa City Council, was "turned down" in the provincial legislature at the instigation of a Toronto bill-posting agency—so the annual meeting of the Town Planning Institute was authoritatively informed. Since the Ottawa City Council once gave its blessing to the larger project there would seem to be reasonable chance that the Zoning By-law will not be destroyed.

THE ENGINEER AND THE TOWN PLAN

BY JAMES EWING, M.E.I.C.
Vice-President, Town Planning Institute of Canada

The Engineer

The question has often been asked as to why does not the engineer bulk more largely in public life and in the public eye, than do members of other professions. And the answer has been given that he has little inclination that way, is too busy with things of much greater importance and is not given to self-advertising.

All of which may be true, yet these answers only give rise to another question as to whether or not his influence as a power for good in the community and as a shaping, regulating and determining force, is not greatly lessened by the want of interest he shows in public affairs.

In fact the Engineer by his painstaking concentration on details and methods has to a great extent surrendered his grip upon the larger issues and has become the servile instrument, the mere technical tool in the hands of men far beneath him in intelligence, in thorough understanding of some particular problem and in grasp of its essential features.

He occupies a position midway between that of the enterprise promoter and the manual labourer, he is supposed to be the brains of the combination, but is usually allowed less recognition, less say and even less pay than either.

And the result has been that in popular estimation he is held in a position fittingly denoted by a former Canadian cabinet minister when he said "Engineers should be on Tap but not on Top."

All Men's Epitome

Yet the training and education of the Engineer covers a greater field, a wider range of scientific study than that of any other profession.

He must learn as much as possible of the nature and properties under varying conditions of all kinds of matter from the atom up.

He must delve down into the bowels of the earth and know the story of its upheavals and alluvial deposits since the world began.

All the physical sciences must be within his ken, their special manifestations and the laws that govern them, and "The great forces of power in nature" must be captured, tamed and harnessed by him and "Converted, adapted and applied for the use and convenience of man."

And in addition to all this, he must have more than an ordinary acquaintance with business, administrative and financial dealings

In fact the Engineer is supposed to be so much a living embodiment and epitome of all the sciences as must be beyond the capacity of the most gifted mortal effectually to encompass. And the consequent tendency has been to split up and specialize into various branches of expert practice.

Specialism

Thus we have the Railway Engineers, Tramways Engineers, Hydraulic, Municipal, Mechanical, Mining, Metallurgical, Electrical, Chemical, Bridges and Building Engineers; and these in turn have become subdivided into experts in Steel Construction and Re-inforced Concrete.

Thus we have the Railway, Tramways, Hydraulic, Municipal, Mechanical, Mining, Metallurgical, Electrical, Chemical, Bridges and Building Engineers; and these in turn have become subdivided into experts in Steel Construction and Re-inforced Concrete.

So that to-day that brand of engineer which used to be so all-embracing, so well known and at the same time so dignified, termed the Civil Engineer, has almost dropped out of the category and become a thing of the past.

In some respects this is a pity, for while specialisation may offer undoubted advantages, there is grave danger in over-specialisation presenting a detached and only partial side of the case with incomplete and inharmonious results.

Town Planning Engineer

During the last decade or so a new species of engineer has come into the picture and achieved some degree of recognition and success, and that is the Town Planning Engineer.

It is true that hitherto he has found little favour or esteem in the eyes of his brother prefessionals, who are inclined to look askance at him as a sort of hybrid individual,—a combination of architect, surveyor and landscape specialist with possibly a certain percentage of engineering knowledge thrown in.

Yet if the truth were known and appreciated it would be realized that Town Planning is nothing more or less than Fundamental Engineering, — the solid substructure on which ordinary diversified engineering should be based.

Of course, the term Town Planning is a misnomer and is used only for want of a better designation that may prove more apt and at the same time universally acceptable. While it may have originated with special reference to the city or town, it has assumed a much wider significance, embracing Regional Planning and even Country-wide Planning; and who knows, if when perfervid nationalities shall have pooled their fancied differences it may not reach out into World-wide Planning.

Those Natural Resources of Canada

In Canada we have a virtually undeveloped land of wonderful natural resources, of vast fertile plains, of abundant forests, and of prolific oil and mineral bearing regions; and besides this we have an incalcul-

*Address to the American Society of Civil Engineers, Oct. 15, 1925.

ably immense volume of water power either partially harnessed or running to waste.

Excepting for a few of the larger cities we have a far-flung, meagre and attenuated settlement to develop it. In fact, with a population sufficient for a few counties we are attempting to run half a continent, all at once.

Three or four decades ago we conceived the idea that the one thing needful to open the door to all these riches was efficient Transportation.

So we started in to build Railways and we built them with a lavish hand and with sublime faith in a beneficent and overflowing future. We built them not only where they were needed or gave reasonable promise of success; we built them broadcast.

Moreover one railway system was not enough for us, we must have several to break the dreaded monopoly and ensure healthy competition. So, duplication and triplication became the order of the day with lines interlacing and paralleling each other almost within a stone's throw, and positively cutting each other's throats.

And the Engineers,—brave, brawny and brainy fellows, inured to hardship and unafraid of danger or of work, drove these lines through wilderness, swamp and sandy desert, across wide waterway and rocky barrier, along cliff and canyon, and over lofty mountain divide, from ocean to ocean.

They are to-day Monuments of Engineering enterprise and skill, and at the same time, lasting memorials of pitiable judgment and radically bad planning.

So long as the job and their health lasted, the engineers drew their meagre monthly salaries, while their masters, the contractors and company promoters, became wealthy millionaires.

And to-day the nation goes staggering under the burden of a colossal debt for capital account with yearly deficits in operating expenses of many millions of dollars pyramiding one on top of the other.

We are now in the throes of a general election and the partisan politicians are trying to figure out exactly how it happened and what in the world to do about it. They are wrestling with each other in most approved gladiatorial fashion, trying to fasten the blame each on the shoulders of the other, and succeeding only in demonstrating the elemental absurdity of lawyers, doctors and self-interested business men, settling on political lines such economic matters of supreme moment without mature deliberation and expert advice.

Yet, if the engineers were not consulted, as they should have been, whose fault was it?

They did know all about How to build railways, but as to the Why and Wherefore of the whole thing and the Whither it might be tending, that would have been a new one on them.

Engineering plus Planning

They were past-masters in the science of the most economic location and construction, long and short haul, borrow and overbreak, ruling gradients, velocity grades, vertical curves and spiral alignment. But, what did they know or care regarding the utility or necessity for these railways in relation to possible development, proximity to markets and existing or prospective industries, and least of all for the accommodation and convenience of the shipping and travelling public. In other words, they were splendid engineers, but altogether indifferent planners.

Nor is it only in the open country where the ill effects of indiscriminate planning is felt, for when we come to the cities themselves, we find them honeycombed with rival surface lines and terminals, obstructing or paralyzing the street traffic, creating congested conditions, blighted districts and stunted growth, and cramping and binding the very vitals of the city in their iron strangle-hold.

Take the question of level crossings, for instance. It used to be considered good practice and rather clever engineering if these could be put over on an unawakened public wherever possible. And as for the almost inevitable toll in loss of life and limb, well that was something to be lamented, but it was up to the victim themselves to avoid it.

Direct Action

Over a dozen years ago a branch line was projected starting from the main line of a great Railway Company in this city and extending through an adjoining rapidly growing municipality. The plans were prepared and sanctioned by the Board of Railway Commissioners for Canada. For the city portion it was proposed to cross the streets by overhead bridges, but as soon as the city limits were reached it was designed to descend to the surface level of the ground involving a series of level crossings. As construction advanced the people of the district affected realised what was happening and strenuously objected, but to no avail. They then determined to take the law into their own hands, and repeatedly during the night, demolished the work that had been done the previous day, until the projected construction was discontinued, pending an appeal to the courts.

That municipality has since been incorporated within the city and is already one of its busiest and most populous sections: the projected line was never finished, and the light of later experience has shown that the comparatively ignorant men of that municipality were right, and the Railway Company and its engineers together with the Board of Railway Commissioners were entirely in the wrong.

Ill-planned Bridges

Another matter worth noting is the question of Bridges, and let it be understood that reference is made to a prevailing tendency rather than to any particular structure.

In the matter of selecting their location one would think that utility, convenience and directness in relation to the origin, volume, trend and distination of existing and expected traffic would be the primary and ruling considerations.

Too often however we find these left to accommodate themselves, and the determining factor to be initial cost of right-of-way and construction, stability in foundation, length of span, etc.

This may be excellent engineering but it can scarcely be considered good planning or even good business, if, in a year or two a comparatively trivial saving in first cost is to be swallowed up by the incessant cost of unnecessary extra haulage, piling up in the course of a number of years to an astonishing aggregate sufficient to outbalance the entire capital cost of the undertaking.

Why is a Street ?

The question of "Why is a Street ?" is one which might profitably engage the attention of the engineer. Is it merely for access to the houses and buildings thereon or to be used as an arterial thoroughfare for through traffic ? Because it seems axiomatic that a roadway should be proportioned and paved according to the amount and nature of the service it will be expected to render.

When an engineer is called upon to design water distribution or sewerage disposal services he would scorn the absurdity of making the pipes and conduits all of about the same dimension, yet that is exactly what we do about our streets. And while the engineer may not always be culpable in the first place, by his mute, unquestioning acceptance, he is accessory and contributory to the perpetuating of the wrong and in rendering remedial measures impossible.

It is amusing to observe the trouble and care that an engineer will take in the chemical constituents and handling of his paving material to save a few cents per yard off its cost, and straightway set to work and plaster it all over a street of useless and extravagant width.

How Montreal "Grew."

The City of Montreal, with its unrivalled strategic situation in the heart of a continent and at the head of ocean navigation has been singularly endowed by Nature, being bounded on all sides by broad flowing rivers, with gentle slopes rising to a commanding mountain in the midst of the city.

This mountain is of course the pride and glory of the populace and is an inestimable rest and recreation ground. On either side of the mountain east and west extends an escarpment for the greater part of the island.

If the city had been intelligently, systematically and with foresight planned to suit the topography it would have been ideal in every respect. But it was allowed to grow simply by accretion on more or less rule-of-thumb rectangular lines.

The streets as a rule run either parallel to the river or straight up the face of the hill. And what these steep grades have cost the people of Montreal during the last hundred years would probably be enough to buy all the land in the city several times over. Yet no serious or determined effort has been made to deal with this difficulty. except perhaps in one instance some years ago where it was decided to reduce the grade on a certain street by the primitive engineering method of cut and fill. As the work progressed it was found that at one portion the grade of the roadway was level with the chimney tops while at another the houses were perched on a hill over twenty feet high. The city was deluged with threats of lawsuits amounting to more than a million dollars, and it was found that the cheapest way out of the difficulty was to undo the work that had been started and put the street back in its original condition.

Whether this attempted operation was bad engineering it might be unwise to assert, but certainly it was not according to accepted City Planning methods which would have suggested a less expensive and more satisfactory solution of the trouble.

While Mount Royal is a wonderful boon to the people of Montreal, it can scarcely be considered so where the question of traffic is concerned, for all the east and west bound traffic is compressed and forced through a narrow bottleneck with results that are daily becoming more intolerable.

To aggravate this, what may be considered our main thoroughfares are entirely too narrow for the work that is expected of them, and in addition the longest sides of the rectangular street blocks have been set crosswise to the main flow of traffic thus providing fewer channels and creating more stringency.

The Traffic Problem of Montreal

Altogether Montreal has a traffic problem of first class magnitude on its hands, the terrible incessant and ever-increasing expense of which, while it may not appear upon the ledger is none the less real. Downtown property values especially are deteriorating and business centres are shifting, not by natural extension but by tearing away from their moorings and leaving dilapidation and decay behind, while new high buildings are going up elsewhere, effectually blocking even the possibility of improvement.

Hitherto no solution has been found for the trouble excepting the piecemeal, blind and arbitrary widening of highly developed main thoroughfares, at an aggregate cost of over twenty millions of dollars, and altogether incommensurate results. And with the result that, owing to the dislocation and turmoil of the operation, high-class business, that capricious jade, has flitted off to other regions and refuses to return to her old-time haunts.

The Usual Palliatives

On account of little reserves being left in the treasury, latterly we have been confining ourselves to frenzied and practically futile endeavours to ease the situation by traffic direction, regulation and restriction, limitation of parking privileges, one-way streets and so forth. But this sort of thing is nearing the end of its effectiveness, and the question arises as to what we can do next.

It has been suggested by Tramways interests that since they are the carriers of by far the largest number of passengers, they should have paramount rights, and that at least during rush hours motor traffic should be ruled off the highways and relegated to the by-ways.

On the other hand it has been contended by the motor people that the tramcars, by their bulk, unwieldiness and rigidity to the track, together with their many stops and switching operations, are themselves the greatest sinners, and consequently they should be removed from the surface of the streets.

And strange to say, whatever quarrel may exist between these two interests they are at one in their contemptuous and overbearing, 'get-off-the-earth' attitude towards the luckless and defenceless pedestrian, the most multitudinous of them all.

The Solemn Need of Planning

The foregoing may be taken as incidental examples of the general trend of things in this mad rush of modern activity and enterprise, where we seem to be able to see and grasp only one side of one thing at a time, where there is such a lack of calm and careful deliberation and of thorough and conscientious study of cause and effect; where we fail to appreciate the position and point of view of the other fellow and the spirit of co-ordination and compromise is conspicuous by its absence.

Is it any wonder therefore if in such a process there should be so much misspent, thwarted and dissipated effort, with disappointing, confusing and chaotic results ?

Perhaps amid all these clashing, warring and grinding elements we can see in Comprehensive Town and Country Planning the one clear star shining through the murky atmosphere, ensuring or striving to ensure for every interest and every individual the nearest approach to a square deal, a fair show and a decent and fitting place in the sun.

PRESIDENT OF PACKARD MOTOR CO. ON CITY PLANNING

When a prominent business man speaks on the practical problems of city development his audience is assured. Traffic congestion is bad for the motor industry. Mr. Alvan Macauley, president of the Packard Motor Car Company knows this. Any solution of traffic congestion he has to offer will be considered by his confreres, by business men generally and by civic officials. And, if he should step beyond the limits of his particular business and show himself a sociologist, deeply concerned about the destruction of child life and the welfare of the race, his chance of a hearing is much better than that of a sociologist as such. It is the word of a practical man.

For this reason Mr. Macauley's two pamphlets entitled "City Planning and Automobile Traffic Problems" and "Some Aspects of the Automobile Industry"* are here submitted to review. Mr. Macauley first sought the opinions of city engineers of 233 American cities of more than 10,000 population on the traffic problem. He is surprised at "the prevailing sense of hopeless pessimism with which so many technical officials face their problems" and also at the poverty of the suggestions offered for relieving traffic congestion, and his experience is not singular. An English visitor to the recent International Conference on City and Regional Planning at New York has written:

> So far as I could gather it appears to be admitted that the traffic problem is insoluble. All attempts to remedy the fearful congestion that daily grows worse lead to still greater congestion. In this, as in other respects New York is not peculiar. All the other cities follow suit. In one comparatively small city a leading citizen told me that he had practically given up going down town; it was not worth the effort.

Mr. Macauley has carefully considered the various replies received from city engineers and has then set forth his own solution of the traffic problem. He has come to the conclusion that there is no permanent solution of it other than city planning. His first chapter of *City Planning and Automobile Traffic Problems* may be quoted almost entire:

> The result of the survey of traffic and street conditions in the cities of the United States reveals an astonishing situation. Those who have studied traffic problems have long known of their growing complexity but even the closest students would probably be surprised at the inadequacy of the remedies actually put into practice.
>
> The outstanding fact revealed is that the important traffic streets of a large proportion of the 233 cities studied are inadequate for either the moving traffic or stationary vehicles which must use them. The engineers of some cities feel that this fundamental difficulty is due to the automobile; the engineers of more cities feel that the difficulty is due to the street and, fortunately, most feel that it is a problem which challenges their engineering skill and which must be solved.
>
> There is no logical relation between the width of important streets and traffic use of them in the majority of the two hundred-odd cities and this situation is particularly true of the older and smaller cities. In less than a quarter of the cities are the business streets wider than the

*Packard Motor Car Co., Detroit, gratis.

main thoroughfares; in three-eighths the business streets are narrower. In most of the cities the streets are utterly inadequate to provide parking space where it is most needed. Already nearly a third of the cities have widened some of their streets in order to accommodate traffic, and in fully a half, traffic has become congested to such a degree that widening of strees involving enormous expenditures is now urgent.

Mr. Macauley continues:

What these conditions mean in accidents, transportation costs, cost of living, inconvenience, extra policing and many other economic and social burdens cannot be estimated. These burdens comprise a congestion tax, which is borne by every citizen and which increases rapidly each year until it is further augmented by the cost of street widening. What are the cities doing to relieve themselves of these burdens?

It seems, in many ways, unfortunate that cities in this country became interested in city planning when they did—a little too early—a few years before the traffic problem became acute. If the interest in city planning had arisen simultaneously with the pressure of traffic congestion, the whole city planning movement would have been more powerful and more effective. Its inspiration would have been the city practical rather than the "city beautiful." And if it had not been that traffic regulation by policing was so simple and apparently successful in the earlier stages of the traffic problem, it would have been realized sooner that regulation is only a temporary palliative, not a cure.

These reasons are at least partially responsible for the fact that, while about half the cities report planning commissions, very few have taken these commissions and their plans with any degree of seriousness. They also account for the fact that, while about a third of the cities have made some study of traffic conditions, very few have used traffic studies in planning street layout, and only about a fifth have any kind of plan for future street development.

The city engineers who replied to the questionnaire named thirty or forty specific causes of traffic congestion and almost as many remedies. No doubt if their proposals were carried out, traffic congestion would in a number of cases be measurably relieved. Street widening, enlarging, intersections, separating grades, lengthening curb radii at corners, removing obstructions to vision, better pavements, better maintenance—such remedies as these would certainly save hundreds of streets in the country from becoming intolerably congested. So also would regulatory measures such as the establishing of one-way streets, segregating different types of traffic, by-passing through traffic, prohibiting hazardous turns, signal systems and public education in traffic laws. So also would provision for parking—although the parking problem in the busier streets of the older cities is most difficult of solution because of the high land values which prevail.

Cheaper to Plan

But how inadequate such measures are, only the larger cities know. They discuss instead the need for more parallel through streets, for radial streets, for new streets connecting sections, for more rapid transit, for zoning, for limiting building heights, for decentralizing the population—for wholesale replanning and rebuilding, which probably are much nearer the fundamental needs. The smaller cities can still prevent the conditions which must otherwise be inevitable, by making full use of the experience gained by the larger cities. It is cheaper and easier to plan than replan, to build than to rebuild.

It might be said, with justice, that the development of the automobile was too rapid to be foreseen and adequate provision made. But how many cities have adequately foreseen, planned and provided for their growth in other ways besides automobile traffic. To point out that the great majority of the cities have grown up without adequate vision or conscious guidance is commonplace. It is for this reason that the automobile industry and the automobile user should not be expected to accept responsibility for the existence of the present situation. But they certainly should and must accept partial responsibility for its relief.

With adequate funds and public support the city engineers of the larger cities could eliminate the most serious traffic difficulties—at least for some years. In the smaller cities they could probably prevent them altogether. The number and use of automobiles will undoubtedly continue to grow but probably all the general types of traffic congestion and their causes have already been or can be studied and solutions for them worked out. If he had the means and the power, the engineer of any city of any size and type could know what he faces in traffic problems and could prevent them to a considerable degree. This does not mean to infer that all that can be known of city planning and traffic control is known and that engineering skill has solved all the possible problems—there is still much to be learned and much to be solved. But much more would be learned and solved if it were not for the prevailing sense of hopeless pessimism with so many technical officials face their problems. while the country boasts (with justification) of its fifteen million automobiles as proof of happy prosperity, it should not forget that this prosperity requires intelligent control.

Citizens and their elected officials generally lag behind the municipal engineers in matters of city development—and, quite naturally, perhaps it will always be so, as the physical growth of a city generally precedes its civic growth. That is why the solution of many traffic problems is still in the thinking rather than in the acting stage. The city beautiful idea appealed to civic pride, it is true, but civic pride only infrequently arouses itself to more than lip service in the cause of civic beauty.

Fortunately, however, all the economic interests of a city can be appealed to on its practical needs. Certainly the man in the automobile as well as the man in the street can understand the need of improving traffic conditions and a city plan on which to base such improvements.

Every City needs a Planning Commission

Every city, large and small, needs a planning commission—with not only a planning function but also a realizing function. And on this commission there should be representatives of all the interests concerned—and men who can arouse such interests. Not only should the mayor, the council's head, the city engineer, the superintendent of streets and the police chief be active members, but so also should representatives of civic organizations, of automobile dealers and of automobile users. Public interest should be awakened and continuously maintained until adequate provision is made for correcting any conditions which cause trouble. When the engineer has worked out a plan to relieve congestion at some particular point that plan should be "sold" to the public—even to the extent, if necessary, of having the traffic policemen at that particular point distribute explanations of the plan and petitions to all motorists inconvenienced.

In intelligent city planning and conscious control of city development lies the principal hope of preventing and ameliorating the traffic difficulties of the future.

The traffic problem is, therefore, but a part of the larger civic problem of city planning. Knowledge, vision and will are needed—the first two can be provided by the engineer, the architect and the practical sociologist—the last can be provided only by the citizen.

Thus Mr Macauley. He sees as clearly as any observer of the traffic mess in New York and London that frantic police control is inadequate to solve the problem, "the end of such measures is near." "What is now needed is engineering ability and not police power." "It is clear from reports that the traffic tragedy of American cities will be that the smaller cities will repeat the history of the larger ones—unless they learn the lesson from the experience of others." Though motor car companies, says Mr. Macauley, cannot be held responsible for the present traffic congestion they certainly should take a prominent part in the solution of the problem and if research and experimentation are adopted, he is confident that, so far as the motor car companies are concerned, "the funds will be there to make these things possible." Here is, without doubt, a very fruitful suggestion.

In "Some Aspects of the Automobile Industry" Mr. Macauley states that economically saturation of the automobile industry—that is, all needs met—may come next year or fifty years hence, but physical saturation is already here—that is, certain main thoroughfares will hold no more. He suggests that the time is at hand when New York may prohibit the use of automobiles in the streets. Already traffic conditions are forcing voluntary limitation of their use. Many suburban residents have stopped bringing their cars into the city and the waste of time of motor trucking has become a scandal. The problem of public safety has become so acute that no humane person can overlook it. Mr. Macauley reiterates the opinion that traffic difficulties in the great cities are apparently teaching no lessons to the small cities. "There are scores of cities being built up and developed blindly and inevitably into impossible traffic-tanglers." "Streets are being prepared by the hundred for a long list of future casualties. Everything but the license numbers of the cars and the names of children are picked out." "Repetition of New York's traffic difficulties can be avoided—and must be. The fundamental traffic problem is a problem of city planning. Traffic crowding, delays, accidents, high taxes for police purposes and relief of streets, high cost of deliveries of food—all these problems and many others can be traced in large measure to the planlessness of our cities..... But few public officials and public bodies realize what is needed. They do not see yet that it is cheaper to plan ahead than to cut new avenues through big buildings or rear bridges many miles long over crowded streets."

Traffic deaths have multiplied about five times in New York during the last twenty-five years. There are now 2,000 policemen—one-sixth of the force—engaged in traffic duty. Millions of dollars are added to the cost of food by inefficient transportation. Wide and deserted streets in some of the residential sections are signs of the need of better planning as well as the narrow choked streets in business sections. "We may grin broadly at the story of how New York was planned but with children killed every day and millions of dollars spent in street widening and changing, we wonder on whom the joke is." "Every town—no matter how small—needs a city plan. Cities between one hundred thousand and five hundred thousand population need it more than others and at once. Every city of this size has for a living lesson the twelve cities of larger population..... The very conditions which are driving city officials to desperate methods, which are killing and maiming increased numbers, which are taking the joy out of driving and the economy out of trucking, are growing up day by day in every one of the smaller cities." "With the increase in urban traffic the streets which offer the most direct route through the city become important. Little attention has been paid to them. Good roads leading into a city are often traps from which the motorists cannot escape, or else they pass right through the business centre of the city and the stranger has to suffer the same traffic sufferings as the natives." "There are 56 bustling, thriving cities which are getting trouble ready for the automobile industry. These cities can be saved if the automobile owner, the automobile dealer and the

automobile manufacturer want to save them. Every year means less chance and a greater toll of life and money. City planning used to be only the social workers' business—now it is very much the automobile industry's business."

It will be seen that the burden of Mr. Macauley's pamphlets is the need of city planning to cope with the increasing tragedy of traffic congestion. So far as the older and bigger cities are concerned he can no more escape than any other writer from the conclusion that the re-planning of these cities can only be done at considerable expense, and that some conditions are well-nigh irremediable. His appeal, therefore is largely directed to the smaller cities not to repeat the mistakes of the greater ones and not to make these greater cities models for their own, and to begin their own planning at once before mistakes have been made that are too costly for remedy. His repeated advice to these cities is to get the city plan and get it into operation.

So far as these two pamphlets are concerned Mr. Macauley does not seem to have reached the British way out, which is the satellite city, of which something is said on another page of this issue.

Mr. Noulan Cauchon's way out is the hexagonal block for residential purposes which would supply refuges for children in the centre of the block and by means of the Intercepter or express highway would relieve traffic congestion. Mr. Cauchon's comments on Mr. Macauley's pamphlets are appended.

Critique by Noulan Cauchon

There are so many points upon which I agree with Mr. Macauley that there is not much room for criticism apart from emphasis.

The traffic problem is certainly the basis of the city plan. Congestion is the cancer of our urban organism. Our problem is how to obviate it and how to eliminate it. There is great need of a Foundation for research into the organic planning of community growth. It is an economic and social necessity. Motor brains and wealth may come to see this as an opportunity to protect the future of the industry—to sound and teach the science of environment and how to keep the ways of communication free for the motor and the truck.

The momentum of progressive forces in mechanical congestion will, if uncontrolled, cause disruption. A city is a machine in which men live. It is devoid of biological consciousness. It must, therefore, be regulated in accordance with mechanical laws and principles.

Mr. Macauley says: "It is up to the automobile industry to face this new saturation problem frankly and intelligently and to do all in its power to help plan and build our cities so that our industry can safely and effectively serve them."

It is the opportunity for safety survival. It has been the dream of my best years to induce our succeeding governments to establish a Federal District for Ottawa and surroundings and to make the comprehensive planning and development of it a national school of town planning, but the idea still awaits realization.

Its population of about 120,000 seems just about the proper entity of assured growth that can have its future profitably moulded for its own benefit and to serve as an example to others. The powers and funds of our Town Planning Commission are much too limited to make timely headway.

One can only plan economically a machine for a given purpose and capacity. Zoning is, therefore, indispensable to determine required capacity and permissible saturation and the ratio of business to homes.

There is no reason for our one "standard" lot, block and street for different purposes. There should be variety in the numbers, shape and dimensions of lot, block and street, making them ideal to the measure of their fitness to purpose.

Hexagon Planning

In the June number of the Canadian *Town Planning* the hexagon diagram shows a small dotted triangle in the lower right hand corner, which is not referred to in the text. This indicates the comparative distances between points located diagonally to each other. One gets the advantage of diagonal direction as the hexagon gives a succession of straight lines as with the checkerboard but advantageously alternating with short stretches of diagonals. The average of distances from a point on a plan to all other points is ten per cent shorter in a hexagonal plan than in a checkerboard, as would be experienced by a postman going his rounds. The checkerboard really offers a straight road in only two directions. The indirection of the hexagon is an advantage in that it discourages through traffic in residential streets, long distance traffic naturally being induced to take the through Intercepter referred to in the article.

Children and motors would have the advantage of the round interior playgrounds provided in the centre of the hexagons, larger playgrounds for older boys and girls being specially provided at intervals.

Hexagonal planning should, of course, be adjusted to topography, limited to residential use and, of course, implies of necessity the accessory Intercepter.

The wider streets are required in the business heart of a city, and with proper planning residential streets can be made comparatively narrow, if not too long.

Centres

Centres, civic or otherwise, are to be limited as much as possible. My idea is that traffic should converge towards an objective *central area* but be diffused, baffled, short of any central point. This, with the limitation of density by zoning implies de-

centralization to sub-centres or satellites as saturation is approached.

Parking

Parking is a privilege, not a right, to be withdrawn at the demands of free traffic circulation. A city cannot be expected to provide a motorist with free street parking space as valuable, or more so, than his own home lot. Future development should force business, store and office buildings to provide parking accommodation in their own basements, for their customers. There is an example of this in Boston.

Three Main Conditions

To obviate congestion of traffic, and the many evils that come of it, there are three main conditions to be solved.

1. The distribution of population in its homes.
2. Transportation between home and work.
3. Routing the process of "work".

In respect of the first and second conditions I submit (a) that hexagonal planning with the residential hexagon overcomes the many disadvantages or rectangular planning; (b) that "through" transportation should be held free of local accretion if it is to retain its properties of throughness in speed and freedom from interruption.

The principle of the arterial traffic intercepter answers these requirements; as similarly the intercepting water main and intercepting sewer meet the problems of relief and expansion in their respective spheres.

As to the third condition, the problem of routing the process of work at the heart of a city, of weaving the threads of local and "through" movement into free organic functioning is not yet solved.

A study of the application of the principles involved in factors one and two has given some satisfactory results with promise of further progress, in plans for layouts of centres and sub-centres with the intervening development.

As regards developed cities the intercepter is advantageous to the extent that it can be applied, but is limited by the cost of construction circumstances.

A fortuitous exception in Ottawa is in the opportunity of utilizing some of the railway rights-of-way which have been rendered superfluous by the amalgamation of two railways, making it economic for them to eliminate duplication of railway entrances.

THE EXPRESS HIGHWAY AND THE HEXAGONAL CELL

Mr. Cauchon's proposal for intercepting arteries or express highways, to relieve traffic congestion, and Hexagonal or honeycomb planning of residential blocks to provide interior parks and playgrounds for residents and children has been reprinted in the British *Journal of the Town Planning Institute* and in a number of American magazines.

The following criticism of the proposal was written by an English town planning expert. Mr. Cauchon's reply to the criticism is appended.

The Intercepter and Hexagonal Cell

There will be general agreement with Mr. Cauchon's advocacy of the intercepting street reserved solely for passing traffic and therefore having no use made of its frontages. He points out that arteries calculated for an initial purpose obviously cannot be widened from generation to generation and he suggests as an alternative the intercepting artery and recommends that the distances between the adits and exits of an intercepting artery should be about one-half mile apart. His theory is illustrated by a diagram, which includes the hexagonal form of development for residential areas. This idea is of course not novel, but has much to commend it. The principal points that Mr. Cauchon makes in its favour are as follows:—

1. If pointed to the North it provides universal access of sunlight.
2. The interior playground provides safety for child life and provides for community life.
3. The street intersections provide only three collision points against four in the rectangular block.
4. The safety of traffic is increased by the wider angle of vision.
5. There is less street length to serve a given area.

With reference to point 3, it is true that each crossing only provides three collision points, but as there are 6 junctions instead of 4 as in the rectangular plan, it may be said that 18 collision points are provided in place of 16. On the other hand, the wider angle of vision is undoubtedly an advantage which should counteract the greater number of collision points in the aggregate.

For the purpose of comparison Mr. Cauchon takes a rectangular block and a hexagonal block, each of which provides for 40 houses, and one wonders whether the same comparison applies whatever the size of the block.

The author perhaps overlooks the fact that the interior playground can be provided equally well with the rectangular form of development. In the diagram in each case a back street is provided, but no notice is taken of the fact that the length of a back street is greater in the hexagonal plan than in the rectangular. After studying the plan one feels that the hexagonal form of development is not suitable for very large areas, as where it is cut into either by through streets or intercepting streets, the

land that is left is not economically divided as regards development.

The article rather suggests an interminable accretion of the hexagonal, but one hopes that Mr. Cauchon would in fact limit the amount of accretion to the centre, putting the balance in satellite towns. For a plan comprising a central town or satellites, the hexagonal form does not lend itself well to the main outline of development, and if imposed without regard to contours would be just as objectionable as the rectangular plan similarly planned.

Mr. Cauchon's Reply

In such work, one is not inventing so much as searching for the resultant of traffic forces as they affect congestion.

The properties of rectangular planning and its limitations in theory and practice have been pretty well explored. The diagonal came as a corrective of the rectangular limitations, bringing some relief from "the long way round", but adding its limitations to those already existing from the "grid-iron."

The hexagonal gains by having all single frontage and no side streets.

The intercepter, whilst denying accumulative access along its frontage, nevertheless contributes open spaces for sunshine and air to the windows of that frontage.

The conventional collision point diagram gives three collision points to a three-way junction of roads, and sixteen collision points to one cross intersection of two streets. Therefore, the four corners of a rectangular block contain 4 x 16—64 collision points, while the six three-way junctions at the periphery of the hexagon "cell" display 6 x 3—18 collision points. The safety of the three-way junctions are therefore individually as 3 is to 16, and collectively with the hexagon as 18 is to 64 in the rectangular block.

Further, the street length around the rectangular block is 1,420 feet, i.e., an average collision point for every 22.19 feet, whilst the length around the hexagonal block is 1,284 feet, i.e., an average collision point only every 71.33 feet of street length. Besides this there is ten per cent less street length in the hexagonal street planning system.

An interior garden can of course be provided perhaps equally well though with less sunlight in the rear yards of rectangular blocks, but I submit that the practically circular playground in the interior of the hexagon is much preferable, as affording better angles of sunlight and freer circulation of air.

The interior lane in the hexagon (not a street) is an integral part of the playing space and is free from the speeding automobile. Such lanes are for service purposes only and, in this country, are rarely paved.

The hexagon system is held aplicable to large residential areas, provided the necessary intercepters are afforded.

The hexagon, where cut into an intercepter, is deprived of a fraction of its playground area, but still leaving it far ahead of the rectangular block. All hexagon cells, like blocks, are not necessarily full of children.

It was emphasized in the original paper that there need not necessarily be any fixed standard of shape or dimension for lot, block or street, but that these were ideal to the measure of their fitness for purpose. Owing to the unfortunate obsession for standardizing everything in this country, one-hundred feet has come to be regarded as the normal depth of a lot of whatever width or for whatever purpose—anything larger being a multiple of this. It would seem desirable to escape this limitation.

The author certainly believes in the principle of limiting the size of main centres and their density by zoning; also in decentralizing towards subcentres or satellites.

It was also emphasized in the original paper that the diagram was merely schematic and subject to topographical adjustment and opportunity.

I may say that Sir John Sulman, of Sydney, Australia, who has done much for the Canberra project, has called my attention to the hexagonal plan of Detroit, made in 1807 and known as the Governor's and Judge's Plan, a copy of which appears in the 1924 report of the City Planning Commission of Detroit. The Detroit plan has little relation to my proposals. In the fraction that was carried out the hexagons are enormous and serve simply as a traffic frame for the city. The individual blocks enclosed within these enormous hexagons are either rectangular or triangular and have no relation to the angles of the sun, which ensure the even distribution of light.

It has been my endeavour in the scheme submitted to make the *individual* block hexagonal and so pointed northward as to ensure even distribution of sunlight and also to obtain approximately circular playgrounds with wide angles of sunlight. What I have in mind is basically different from the Detroit plan. The use of the individual hexagon blocks in any quantity implies the co-existence of the intercepter or express highway, which is not the ordinary arterial highway of local use but a *through* feature.

A Des Moines Planner says:

Profiting by the experience of the Old World, and touched by the spirit of the Renaissance, which is immortal and belongs to the race, may we not rebuild our American cities, fusing the eagerness of that great period with the daring and initiative of the Twentieth Century?

And there are signs that this is exactly what is taking place. We are fast acquiring the technique and the trained leaders. A hunger for civic beauty is permeating the nation. A deeper purpose and determination are abroad in American cities. The conviction is spreading in all ranks that civic beauty is a cause of infinite importance, to which men and women may worthily dedicate their lives and fortunes, as to a great public service.

SATELLITE TOWNS

Review of C. B. Purdom's New Book entitled
"The Building of Satellite Towns" *

Mr. Purdom's book gives the philosophic fruit of the English Garden City movement insofar as that fruit can be gathered—after twenty years of cultivation—by a writer who has been with the movement from the beginning, who is deeply concerned with the sociological implications of the project and is much too sincere and courageous to suffer mental paralysis when he runs against the vested interests which are largely responsible for the present mess of town and city building.

The book is also a record of what was attempted by a group of English sociologists who believed that Mr. Ebenezer Howard's book "Garden Cities of To-morrow" showed the way to scientific method in the building of towns and cities; of what was done and what is still being done at Letchworth and Welwyn — the two Garden Cities founded by these reformers—and, finally, it contains a statement of what will need to be done in the future if the lessons of the movement are to be learned by the British and other nations.

The book says in effect: these men have toiled for twenty years, with no thought of personal gain, to prove that most of the social ills that are now apparently inseparable from the haphazard method of town building—traffic congestion, slum development for millions of workers, jumble building, industrial paralysis, increased cost of living due to a wasteful system of distribution of commodities, divorce of urban and country life, with congestion of the one and depletion of the other, the vast and stupid creation of needless ugliness and squalor and the equally needless destruction of beauty everywhere and, finally, general national inefficiency and depresion of human energy, hope and happiness—that these things are not inevitable but are due to the fact that hitherto there has been no science of city building, no considered co-relating of the various factors that make for success or failure in town building and no grappling with the tendencies that have created the present confusion.

The book shows that these men have given of their resources, their time, their thought and their energy to justify a social faith that was in them; that they have also persuaded others to take financial risks; have built two towns where their principles have been exemplified; where slums will be forever impossible and where the poorest families will have room to live in pleasant and wholesome surroundings; where industries can operate under the best conditions without devitalizing the life of the people; where urban and agricultural life are in the closest touch and will be for all time, since urban development will be limited and the agricultural section of the town will be permanent, and have preserved the land values created by their own activities and by the very presence of their communities for the benefit of those who have created them, an achievement, it must be admitted, of the greatest social significance.

They now say to the British Government—at least Mr. Purdom does in this book:—We have proved that this method of town building is economically sound and is socially beneficial. We propose it as a national policy and the solution of many of the most pressing problems of the country. Millions of money are being spent on the more or less indiscriminate housing of the people and much of this work is merely adding to the unwieldiness and congestion of towns and cities. The financing of these admittedly successful projects — Garden Cities—has been the chief disability and hindrance to their quick development. The holders of money power demand quick returns for their money and quick returns are impossible in the building of new towns on Garden City principles. The time has come when public credit should be placed at the service of the movement. The security for this public credit consists of the land values that are created and we have proved this security to be sound. It is not proposed that the development of new towns on Garden City lines should be a Government undertaking as such. It should always be in the hands of disinterested experts, but the Government has the power to supply credit and has supplied credit for other undertakings that were believed to promote national prosperity and well-being.

Mr. Purdom's summing-up of the situation and his scheme for a national policy of garden city development will be gathered from the following excerpts:—

> The development of satellite towns by private enterprise has already been exemplified at Letchworth and Welwyn. Under the Housing Act, 1921, an "authorized association" for the development of a garden city, as defined by section 10 of the Housing (Additional Powers) Act, 1919, may receive loans for the purposes of a scheme. Section 10 of the Act of 1919 also provides for compulsory purchase of land on behalf of such an association. The Letchworth and Welwyn companies are both "authorized associations"; loans have been granted to the latter but not to the former; the powers for compulsory purchase of land have not been exercised in connection with either scheme. Apart from these legislative provisions the two garden cities exist as unaided private enterprises without any special statutory support or control. In the present writer's opinion, as already explained, the initiation of schemes under similar conditions

* J. M. Dent and Sons. 25s. net.

is not likely to be repeated. Both the undertakings are being carried out by private individuals who carry the financial risks upon their own shoulders and accept the whole burden involved, while voluntarily depriving themselves of any private profit or advantage. Such public spirit was required in those responsible for experimental undertakings taken in hand to convince the public generally of the feasibility of the garden city idea. It is, however, hardly to be supposed that the self-sacrifice which has been cheerfully exercised by the promotors of Letchworth and Welwyn is capable of being translated into a final system. If those schemes satisfy reasonable people that undertakings of the sort are financially sound and can be carried out to the public advantage, they come within a category of public utility undertakings which should be given statutory recognition, for which public responsibility should be accepted, and from which the performance of public duties should be required. The garden cities of the future should not be carried out as mere private ventures, for they need larger financial resources than can be provided by private persons, and should be brought into conformity with some kind of national plan.

It is not desirable that the establishment and control of such enterprises as satellite towns should be placed directly in the hands of a Government department. The lack of initiative and the absence of desire to accept responsibility characteristic of State departments would be as great a disadvantage to satellite town developent as it is to any other business. At present an "authorized association" for the development of a garden city applying for a loan is brought under the control of the Ministry of Health and the Public Works Loan Board. The Minister of Health has to approve the scheme in general, which means that the officials of the Ministry examine and report upon the town-planning, road construction, drainage, sewage disposal, water supply schemes, etc., in somewhat the same way as they do in the case of schemes submitted by a local authority. At Welwyn Garden City, which is the only scheme to which these legislative provisions have been applied, it has been found that the suggestions and criticisms of the Ministry of Health have been helpful; at the same time there are indications that the requirements, administration and financial conduct of the enterprise as a practical business undertaking are matters outside official experience. The Public Works Loan Board has sought to apply the same procedure that has been adopted in connection with loans for entirely different purposes, and the absence of precedent and the reluctance to create any new precedents have caused certain difficulties. It is clear that an entirely new system is needed for the proper exercise of authority over such schemes and for the provision of financial assistance. With that in view the following tentative proposals for a Garden Cities Commission are made.

PROPOSED GARDEN CITIES COMMISSION

Constitution and Objects

A Garden Cities Commission to be formed by Act of Parliament charged with the duty of reporting upon garden city schemes, assisting in their preparation, supervising their construction, and helping in their finance. The Commission to consist of five members including a chairman, each of whom should undertake specific duties and give his whole time to the duties of his office. The members of the Commission to be appointed by the Minister of Health and to hold office for three years but be eligible for reappointment, two to retire each year except in the third year, when the chairman only would retire. The Commissioners to appoint a secretary and other officers.

Consultative Council

A consultative Council to be appointed to advise the Commissioners, consisting of one member nominated by each of the following bodies: Royal Institute of British Architects, Town-Planning Institute, Surveyors' Institution, Institute of Civil Engineers, Municipal and County Engineers, Institute of Transport, Country Councils' Association, Federation of British Industries, Trade Union Congress.

Approval of Schemes

All schemes for garden cities to be submitted to the Commissioners for report thereon, the report to be submitted to the Ministry of Health, Board of Trade, Ministry of Transport and Ministry of Agriculture. If the scheme is approved by these Departments and by the Commissioners, a company to be formed under the Companies Acts to cary out the scheme. The company to have its own board of directors and officials and be responsible for its scheme. The constitution and capitalization of the company to be approved by the Commissioners.

Finance of Schemes

Each garden city company to raise its own capital; or alternatively an issue of garden cities stock should be made under the auspices of the Commissioners. The capital required for the following objects to be raised subject to a State guarantee as to principal and interest for a period of fifty years; purchase of land, preparation of town-plan, construction of roads, drainage scheme, water, gas and electricity supplies and workmen's houses.

The guarantee to be given subject to Treasury regulations and for expenditure previously approved by the Commissioners. The guarantee to be secured by a first charge on the company's property. The balance of the capital required for development expenditure and other purposes to be raised by the company without guarantee, the Commissioners to be satisfied that such capital is available as required; the amount of such capital to be at all times not less than ten per cent .of the total issued capital. The accounts to be subject to audit by the Commissioners. One half of the balance of net revenue after paying interest or dividend on capital and providing for reserves for depreciation of plant, etc., to be paid to the Commissioners. If any interest or other payment is made by the Commissioners under the guarantee, the amount so paid is to be treated as an advance to the company, to be repaid out of revenue before payment of interest or, dividend on the capital not benefitting by the guarantee, and before providing for depreciation, etc., or, alternatively, to be paid out of capital. The company to be empowered to pay interest on its shares out of capital for a period of years, subject to conditions to be laid down by the Commissioners.

Expenses of the Commissioners

The expenses of the Commissioners to be met by fees paid by the local companies (on a scale approved by the Treasury) and by Parliament. (After a few years the work of the Commissioners should be self-supporting.) The amounts paid under guarantees should be provided out of a special fund for the purpose.

Acquisition of Land

The Commissioners to have power to acquire land for the purpose of garden city schemes subject to the same conditons as are applicable to the acquisition of land under the Housing Acts by a local authority.

Mr. Purdom must have spent a good part of the last twenty years in urging the sociological advantages of towns built on garden city lines. In this book he is mainly concerned with the financial problem connected with their building. He believes that if the world could be satisfied that, properly conducted, such schemes would pay—not incredible fortunes to one or two landowners, but a reasonable return on money expended and involve no great risk of failure, there would be a strong opinion created in their favour, doubtless because much study of the slum problem and its tragic influence upon national well-being and, later, the traffic problem brought chiefly by the motor car, has built up a case against the traditional form of town building and the housing of the people that no statesman can ignore.

The two garden cities already built have proved the sociological argument, in that they have provided pleasant homes for working people at low cost, on easy terms, with plenty of unimpeded sunlight and air and gardens about them, room to play and some touch with beauty and better conditions for industry. They have also proved that investments in these undertakings are safe, for the capital values created are in both cases many times greater than the amounts expended. But so far investors have been willing to wait for long periods till the projects got under way before demanding accumulated interest on capital. What is needed now most urgently, says Mr. Purdom, is some means of providing a return upon the capital invested from the start. Dividends are restricted to five per cent or six per cent and no speculative interest can therefore arise. Ultimate profits will come to the citizens in the enhancement of the values of life, the reduction of taxation and escape from the everlasting exploitation in rent and common necessities to which most of us are subjected.

Mr. Purdom is not without support in urging that the time has come for State credit to be applied to the housing of working families. Mr. Clarence Stein, in his Report of the Commission of Housing and Regional Planning for New York State sees and courageously says the same thing over and over again in the very heart of a *laissez-faire* country. A parliamentary committee on unhealthy areas over which the present British Minister of Health presided definitely recommend that garden cities should be established and that financial assistance should be given them by the State in their first stages. In its interim report the committee said:

> The difficulty in starting such settlements is that industries can hardly be expected to move out to them in any number before housing accommodation and amenities have been prepared for the employees, or before adequate facilities of power and transport are available for factories. On the other hand, local authorities are not likely to consider providing houses, etc. in advance of immediate requirements, nor will manufacturers bear this cost themselves so long as they can find suitable accommodation within reach of existing labour centres.
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> It would therefore appear that the only way of escape from the vicious circle is by the intervention of the State, and that the investment of a considerable amount of capital must be contemplated in the building of houses and the general development of estates, the return upon which must be delayed for a considerable period. A good deal has been done already by private enterprise to develop garden cities, but in the opinion of your Committee, development along these lines would be greatly stimulated and quickened if further facilities and encouragement were given by the State.

Effect was given to this recommendation in the housing legislation of 1921 which provided for loans for the development of garden cities and Welwyn has benefitted by this loan to the extent of a million dollars.

In Mr. Purdom's judgment, however, the real difficulties and needs of the garden city promoters have not been properly apprehended by the government and he has this to say about it:

> But the granting of such loans, under the terms at present laid down by the Treasury, is not sufficient; for they are inadequate in amount when most needed and the interest and repayment of principal, which falls as a first charge on the undertaking, constitutes a heavy burden. The loans are restricted to three-quarters of the amount of a valuation of the estate (which in practice is made on an extremely conservative basis), and have to be repaid over a period of from twenty to thirty years. The expenditure upon which the loans are granted is the purchase of land and the construction of roads, drainage and water; the expenditure has to be approved by the Ministry of Health prior to being made, and the works have to be passed when completed. The valuation, however, has no relation to the actual amount of the expenditure, and during the early period, when the loans are most necessary, the amount of the loans tends to be a sum much less than that expenditure.
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> Another point is that the early revenues of the property upon which the loans are charged are small, yet the Pubilc Works Loan Board expects the half-yearly payments of interest and principal to come out of them, and regard with extreme displeasure the fact that it cannot be done. To be of real assistance the loans should represent the actual amount of the approved expenditure, and the interest and repayment should in the first instance be met in some other way than out of revenue. With a view to overcoming this difficulty, the proposal was made in the preceding chapter that the State should guarantee the principal and interest upon approved expenditure, as an alternative to finding the money out of the Local Loans Fund as at present; the garden city enterprise itself being made responsible for raising the money, which should present no difficulty on the State guarantee. If any interest were payable by the State under the guarantee that interest should be repayable by the garden city company out of capital, if desired, or alternatively be a debt due to the State, payable out of future revenues. Garden city companies should also have the power to pay interest on shares out of capital, and the provisions of the Companies (Consolidation) Acts, 1908, s. 91, should be extended to cover it.
>
> When the undertaking is established a large part of its revenues should be of a kind to bring its capital within the category of a trustee security; the difficulty that has to be overcome is the provision of capital until the towns become a self-developing unit. The assistance required from the State is not capital for the building of a complete town but credit for the period required to enable the town to get established. In other words, external credit support is necessary until the town has developed its own credit powers. That period might reasonably be estimated to be from five to ten years, perhaps longer in some instances.
>
> There is a great deal to be said for the Garden Cities Commission itself being in the position to raise capital for a number of schemes, for, spread over a group of towns, the risk would be negligible. The security for capital is the certainty of creating land values, given sound management and the choice of suitable town sites.

It does not seem necessary to argue at any length that the establishment of new centres of population and industry is a proper use to which to devote State credit. Under the Trade Facilities Act national credit has been used for the building of factories and the extension of railway enterprises in this country and for industrial activities abroad. Recently the operation of the Act has been extended to actual contributions of public money in the form of an amount not exceeding three-quarters of the interest payable in the first five years of the currency of a loan raised by or on behalf of any public utility undertaking in any part of the British Dominions, provided that the loan was raised and expended in Great Britain. This financial assistance is considered to be right because "it is to be granted to perfectly sound public utility projects which were being held up for the time being for financial reasons, but which would be carried out at once if some financial help were given in the shape of payment of part of the interest on the money required." (*The Times* Financial Correspondent, 9th September, 1924).

The operations under the Trade Facilities Act provide a valuable precedent for the proposal that is made here (though not quite parellel with it), and all the reasons that can be urged in support of such financial assistance from the State apply to garden city enterprises. Employment is found for a large number of people in a great variety of trades:

Navvies and unskilled labourers in road-making, laying sewers, water, gas and electricity mains, sand and gravel working, etc.

Gardeners and unskilled labourers in laying-out open spaces, planting trees, etc.

Building trades in erecting houses, shops,

workshops, factories, etc.

Foundry workers, engineers, iron and steel trades, etc., in construction of water and gas mains, sewers, valves, meters, cables, builders' hardware, pumping plants, etc.

Agricultural workers in intensive cultivation of the soil.

The Linlithgow Committee, dealing with the need of credit for agriculture, said, "It is our conviction that British Credit should be made available for the development of British Agriculture with at least the same ease as for enterprise abroad." The same remark might be made to apply to the establishment of new towns. The State has spent enormous sums of capital and is bearing a large annual burden in the form of subsidies for the building of workmen's houses. On the choice of sites for these houses practically nothing has been spent, yet on the choice of sites the ultimate national value of this expenditure largely depends. Under the proposed scheme for guaranteeing the capital for garden city enterprises State credit would be devoted to national development, and the creation of wealth by the establishment of new centres of production; and by its means expenditure of both public and private monies upon building would be better secured from a business point of view.

WOMEN' PART IN TOWN PLANNING

The time has come to broaden still further the conception of the term "natural resources of Canada," and this may well be the mission and achievement of the women of Canada. The term for many years was largely confined to the products of the mine and of the soil. With the beginning of the movements for the conservation of wild life and of the nation's unrivalled scenery the connotation of the term was extended and warmed by spiritual elements. Nevertheless, most of the best masculine brain power of the nation, illumined by the wonderful discoveries of science and its machinery, has been spent upon the development and exploitation of the "natural resources" of Canada in the first and restricted meaning of the term. It may be said generally that for some time to come this work, demanding the utmost concentration and conservation of time, will be in the hands of men. National amour propre, the stimulus of neighbouring nations and the economic incentive will ensure for it continuous progress.

Waste of Life

But the greatest of all the "natural resources" of Canada after all is the life of its people, for this is the creative energy upon which depends the usufruct of all other natural resources. The depression of this life by ill-health, misfortune, economic discontent, gloomy surroundings, unhappy home life and the exaltation of it by hope, happiness and beauty—these great facts of social life challenge the inquiry of educated women because their sympathies are quicker and freer and their temptation less to think of people as mere machinery for making money or to suffer mental paralysis at the small cost of making and enforcing a plan for the better building of towns and cities.

The Social Science of Town Planning

Within the last twenty years a new field of social service has been opened to women in the creation and extension of town planning and the time has come for them to enter upon it. Already the City of Boston has an energetic woman secretary of the official City Planning Commission, and the Town Planning Bill for British Columbia has been "mothered" by Mrs. M. E. Smith, M.L.A. The physical part of town planning is the tecnique of sociology and though this technique may still be for a time in the hands of men, the philosophic basis of the movement is throbbing with that social passion which has built up the thousands of welfare societies that are the special creation of women. And it is here, in the education of public opinion to the need of better town building, that the influence and activity of women can operate to the best effect. The difference of this movement from others is that it reaches down to the roots of social misery and destroys them. Two-thirds of the time of the people is not spent in workshops but in some places that are called "homes". Canada is a big country and these home areas can just as well be permeated with sunlight, fresh air and warmed by beauty of surroundings as they can be clouded in gloom and depressing ugliness,. When Mrs. Barnett, the creator of Hampstead Garden Suburb, asked herself what was the cause of the squalid home conditions of thousands of families in the towns and cities of England she found her answer in the fact that towns were not built with the care devoted to factories and that the social organization of the life of the people had not become a science. Towns had simply "happened" and houses had been built for sale and not for the best purposes of life. Mrs. Barnett threw into her work just that dynamic and understanding sympathy which are the special gifts of women and she built a new suburban town that has become the Mecca of social reformers from all parts of the world.

A World Wide Movement

And now town planning is no longer a local movement confined to a few enthusiasts in England. It is a world-wide movement, because the nations have

seen that it reaches down to the causes of social inefficiency and is not content to operate on the pathological results of social life, which will continue and must continue so long as towns and cities are at the mercy of the real estate speculator and have for their creative impulse simply the passion of money gain.

The Call to Women

The women of Canada should enter upon this new field of work for if they cannot make it their own at present on its strictly technical side they can make the public opinion that will be the driving force towards a better system of town building.

How can they do this?

They can first of all choose at their centre and then in the different provinces and towns special students who will study such books as "Town Theory and Practice", by Purdom, Lethaby and Unwin (London, Benn Brothers, 5s) and "The Building of Satellite Towns" by C. B. Purdom (Dent, 25s.) and supply to the members of their organizations the salient facts contained therein. These students would then undertake inquiries such as the following:

1. What is being done in town planning in different countries, especially in Britain and America?

2. What is being done in Canada? How many provinces have town planning acts? What provinces have appointed executives to carry out the acts? Which provinces have mandatory acts and which permissive?

3. Has the town in which the student lives a town planning commission and if not, why not?

Canadian Town Planning

It would be found that some provinces have town planning acts; some provinces have town planning acts with no executive and the acts are dead letters on the statute books. And some provinces have acts that are defective and obsolete. Women's organizations could create the public opinion that will demand the enactment of town planning laws and the appointment of executive officials to carry them out. These steps are now beyond the range of discussion. They are being taken all over the world. Town planning is now so thoroughly established as a social policy that in provinces, cities, towns and villages the "Why not?" of the women of Canada can receive no satisfactory answer and its repetition will create the public feeling for a better social order without which little can be done in social reform.

HOUSE PLANNING

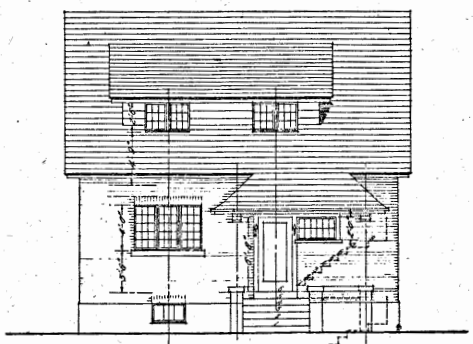
BY THE EDITOR

House planning is as old as Adam and Eve and will remain an enduring joy to those homemakers who are not compelled to take what shelter they can get and pay what terms are demanded. Town planning is old, too, but ancient town planning was chiefly practised for the benefit of kings and princes and the devoluting aristocracy and plutocracy. Modern town planning is concerned with the home life of the poor as well as of the rich and insists upon a "square deal" for them. Town planning control is preventing and will prevent the herding of working families in sunless streets and airless boxes. The time for some improvement in this direction is surely overdue if social revolution is not to surprise even this generation.

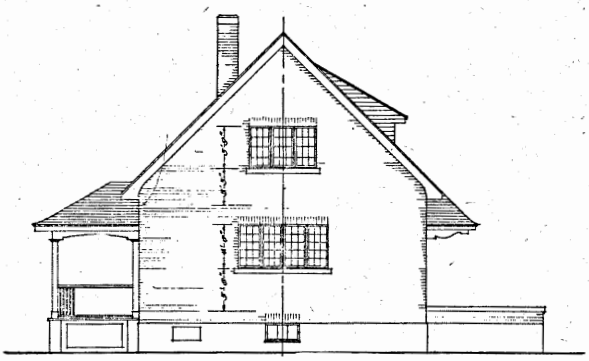
When town planning law is established, a new lease is given to the joy of house planning. The homemaker knows then that his whole environment is protected and that he will not wake up some day to find his neighbourhood a "blighted district", or a "Chinese quarter".

Mr. J. M. Kitchen, our Honorary Secretary, has studied what he calls "organic house planning" i.e., planning houses for use and not for sale only, such as the derelict houses of Lindenlea. You remember how Lindenlea, the Ottawa Garden Suburb, was to be a "model settlement"? Well, it didn't so turn out because so many houses were built for sale and not for use and homemakers wouldn't have them. Those who knew what they wanted and planned their houses for living purposes are all right. And they have trees to protect them — to some extent, from the sight of those that were merely built for sale—the slum quarter of the "model suburb". The commercial motive is very powerful — very. But sometimes it is enormously stupid and defeats itself. Anyhow, there was so much squabbling about Lindenlea that it couldn't possibly be a success as a model housing experiment and it has done a thousand times more harm than good to the cause of municipal housing in Ottawa and Canada. Now, one is afraid to mention the subject of municipal housing lest he be referred to Lindenlea.

In Canada we have much to do yet in securing town planning law, for the purpose of civic design, for the proper *disposition* of buildings—houses, stores, industries, warehouses and offices, to prevent jumble building, which means slum building. Aside from the destruction of order, beauty, convenience and health the annual property loss in Canada by fire of $45,000,000 is largely due to jumble building. You see that junk shop there and those handsome houses? When the junk shop gets on fire the houses will go, too. See those women and children shivering outside their blazing houses in night attire in the middle of winter? Of course the expensive fire brigade may do something but it would cost the city much less to have a civilized zoning plan so that these things may not "happen". The relation



SOUTH EAST ELEVATION



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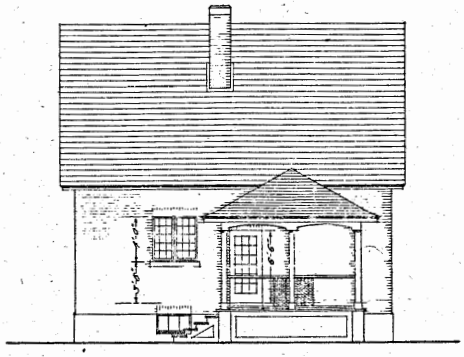

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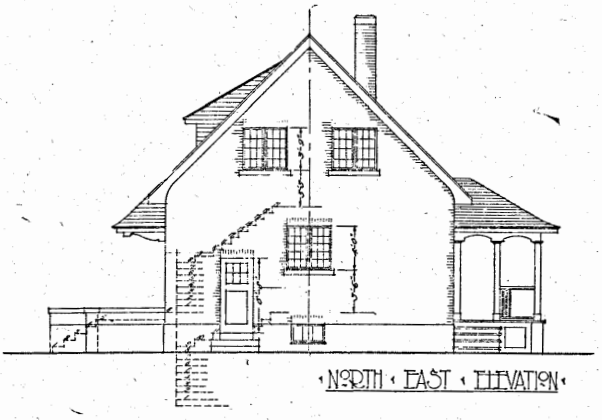

NORTH EAST ELEVATION

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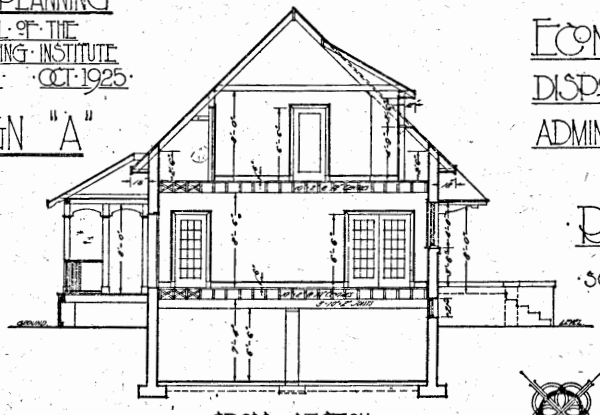

CROSS SECTION

ECONOMIC HOUSING RESEARCH

DISPOSITION OF ORGANIC FUNCTIONS

ADMINISTRATIVE MOTIVE

ALIMENTARY RECREATIONAL

RESIDENCE AT OTTAWA.

SCALE OF FEET

J.M. KITCHEN
SEC-TREAS TOWN-PLANNING INST OF CANADA
DESIGNER & OWNER
R. WELLINGTON WHITE OTTAWA
GENERAL CONTRACTOR

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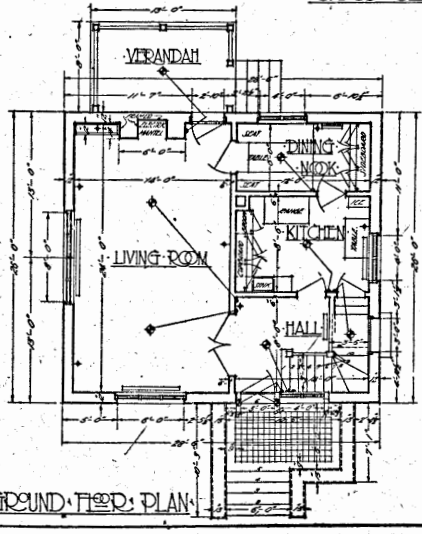
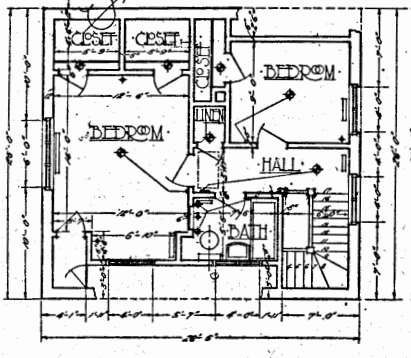
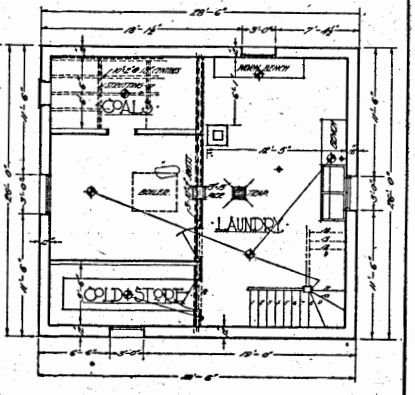


GROUND FLOOR PLAN



UPPER FLOOR PLAN



BASEMENT PLAN

between town planning and fire loss in Canada is a subject scarcely yet discussed. I doubt if there has been a single destructive fire in the properly planned garden cities of England. I lived in one of them for some years and never heard of a destructive fire. This is a big subject, provocative of humility in the presence of an annual fire loss of $45,000,000. Sometime it will receive the attention it deserves.

I feel that town planning advocacy is our First business—the *disposition* of buildings in relation to one another, but the secretary hates a badly planned house and hates slums and the $65 apartment boxes without room to live, without sunshine and air and he has built a house on the principle of "organic planning."

I have maintained that house building in Canada —of the better class—beats England, in design, variety and convenience. (Canadian slums are perhaps the worst in the world because of their fire menace). But generalizations are mostly shallow and impressionistic and the secretary maintains that the study of the organic planning of the small house is necessary, important and legitimate—town planning or no town planning. The President supports him: he has conducted parties to this house, criticised it during its infancy and urged its author against his modest will to come into print. I shouldn't wonder if the term "organic planning" was excogitated by the president.

The following description of the house is furnished largely by the president, as will be surmised from the highly philosophical diction, with assistance, one suspects, from the secretary, and the plans of the house are given. "The endeavour has been the ostensible one of furthering the attainment of the maximum of living efficiency, comfort and amenity at minimum cost of human energy in person and money. This organic planning has been predicated for those who, of necessity, or from philosophic choice or predilection for personal independence, choose to live the simple life and minister to their own wants.

"The plans are self-explanatory as to the relations of parts and functions.

"The house is approximately square, which, given the standards of materials and our "climate", is the most economical in construction and in maintenance (including heat).

"The entrance hall is interestingly roomy and the double glass doors to the ample living room add a sense of spaciousness — the opportunity of a large room in a small house. The open-welled staircase allows of the entrance through the upper hall window of direct light from the northeast to the main hall in addition to southeastern light from the window opening upon the porch.

"The living room itself, while providing ample wall space for furniture, receives light from each of its four sides, southeasterly and southwesterly light is obtained through broad windows on one side and one end of the room respectively, southeast and northeast light through the double glass door leading to the hall, and northwestern light through the glass door leading to the dining nook and that to the rear verandah, where a pleasant outlook and quietness is obtained upon a rear yard exclusively lawn and trees.

"At the westerly end of the living room there is a fireplace at right angles to which there is a fairly wide glass door opening into the dining nook. At the rear end of the nook, across the dining table from the door referred to there is a built-in sideboard, between which and the table there is passage room for service from the kitchen to the table. There is comfortable accommodation for a full dining table and at times of larger necessity the table may be removed to the living room and the nook used as a serving pantry.

"A study of the domestic motions will reveal that the situation of the kitchen and disposition of its equipment require a minimum of effort in accomplishing necessary household duties and the preparation and serving of meals. The close proximity of both front and service doors to the kitchen—the centre of work—should be noted.

"On the upper floor the minimum of space is allotted to the hallway, which is well lighted and from which access is obtained to the ample linen closet situated conveniently between the bedroom entrances.

"Reference to the cross sectional elevation indicates clearly the manner in which the ceilings of the main bedroom and bathroom have been preserved unbroken. Extra large duplex closets have been provided at the rear of the main bedroom and a winter storage closet in front, while cross ventilation is provided by the windows facing southeast and southwest. The spare bedroom is of good size and has ample cupboard accommodation.

"The disposition of the upper floor rooms is such as was considered sufficient for a small family. A slight increase in the depth of the structure with no change in the organic design of the ground floor and a somewhat altered treatment of the exterior elevations, would provide the necessary floor space for an additional bedroom.

"The location of the cold storage room and boiler house entrance immediately adjacent to the basement stairs is to be commended while the disposition of the boiler room and coal bin provides laundry accommodation free from coal and ash dust. The house has been constructed of buff-coloured brick."

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