

Conservation

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Refuge for Wild Geese

Only Kindness Needed to Attract These
Birds to Suitable Situations—How a
Flock of One Thousand Grew in
Six Years

That wild geese are shrewd enough to know friend from foe, and that, if you "throw a handful of feed at them instead of a thimbleful of shot," they will lose their fear of man and make their home within a stone's throw of human habitations, has been clearly demonstrated by the experiments of Mr. John T. Miner, of Kingsville, Essex county, Ontario. The accompanying illustration shows the large flock of wild geese which, in recent years, has each spring visited his farm.

The history of the growth of this flock furnishes an interesting example of what can be done to attract the wild birds. In 1904 Mr. Miner obtained seven wild geese, clipped their wings, and placed them on his pond as decoys, but wild geese were scarce that it was four years before any others joined them. In the spring of 1908 eleven came, the following year 32, and in 1910 as many as 350. Since that time they have been too numerous to give an exact estimate, but probably about 1,000 may be found on the pond at a time. Since 1911 no shooting whatever has been indulged in within the reserve. By withholding the feed by degrees the geese have been coaxed to come right up to the house.

Wild ducks also frequent the pond, and some of these have been identified by aluminum bands. Writing Mr. Miner's address. Fans of these he has established the fact that they return to his place every spring, or, if they fail to return, he has been able to learn what has happened to them. One was shot as far away as Paris, Kentucky. Those that return nest in the neighbourhood and bring up their young before again migrating. Mr. Miner's experiments are a striking illustration of how easy it would be to conserve the migratory bird life of this continent if suitable refuges were provided, where the birds could remain for a short time unmolested, during their seasonal flights to their breeding grounds and back again.

Economical Street Construction



Cut No. 68

Much very unnecessary expense is frequently entailed by city councils in paving the whole width of residential streets. It is undoubtedly a commendable feature to have wide streets, as these mean an adequate supply of fresh air and sunshine for the inhabitants. But it is very uneconomical to pave more than the traffic requires. Not only will the initial cost of construction be nearly double, but the upkeep will be more expensive; the dust nuisance will be aggravated and more water and more frequent sprinklings will be needed.

If the street be planned so that a portion is left as a boulevard, a much more attractive, shadier, and, at the same time, cheaper street can be obtained. The accompanying illustration of Queen's Drive, Liverpool, not only shows a street of this

type, but indicates the plans for its future development, should growing traffic require the widening of the roadway. A width of 45 feet can easily be obtained without disturbing the trees on the outside of the sidewalk. By uprooting these trees, the road could be widened to 60 feet, and, in a like manner, the sidewalk to 12 feet, without it being necessary to acquire any private property in order to make the alterations.

Another advantage of this method of construction, which should not be overlooked, is that telephone wires, sewers, water-pipes, etc., could be laid under the turf, and thus needed repairs could be made without pulling up the roadway and disturbing traffic. Moreover, the turf could be more cheaply taken up and relaid than asphalt or macadam.



Cut No. 69

TO NEWSPAPERMEN

As the Post Office Department will no longer permit the franking of cuts, the Commission of Conservation will pay the postage on outgoing packages on the understanding that publications requesting the use of cuts prepay return postage.

Closer Utilization of Stumpage

More Defective Material used—Comparison of Cut Now and Twenty Years Ago no Criterion of Tree Growth

In a recent statement, Prof. R. C. Bryant, of the Lumbering Department of the Yale Forest School, shows that the extent to which close utilization of stumpage can be effected is dependent directly on the markets and the prices which can be secured for the low-grade material, which comprises more than 50 per cent of the lumber cut. The lumberman removes from the forest only as much of the stand as he believes can be marketed at a profit, although every defective log may contain some cull material which must be handled in order to secure the higher grade lumber on which a profit can be made. The past few years have seen a marked change in the character and amount of timber which is taken from a given acre of land. Where formerly only the choicest trees and the best logs from these same trees were taken, lumbermen have now reached a point, due to higher stumpage values and increased market prices for lumber, where, in some sections the entire stand is removed, down to a diameter of from 12 to 14 inches, in some cases still lower; also where low stumps are cut and where defective and knotty top logs are taken to the mill. The yield per acre for stands of the same character has increased from 400 to 500 per cent for the above reasons.

From the above, it will be seen that a comparison of the cut from a tract of land 20 years ago with the cut from the same tract to-day does not necessarily furnish any index to the amount of growth which has taken place during that time. This is due to the lower diameter limit in use, and the much closer degree of utilization. Unless full allowance is made for these factors a land owner is likely to conclude, from a comparison of cuts, that the rate of timber production on his land is much greater than is really the case. As a matter of fact, tree growth must be measured; it cannot be estimated. This is one of the tasks for which a forester is trained. It is beyond the scope of the timber cruiser.—C. L.

Overcrowding Land is not Profitable

By Intelligent Planning, Larger Lots
can be Sold for Less Price

Assuming that a real estate agent had ten acres of land to divide into city lots, would he be able to sell his lots at a cheaper rate by developing his tract so as to make (1) 88 plots of 374 square yards each, or (2) 68 plots of 600 square yards each?

This is not meant for a conundrum, but the answer is not quite so obvious as it looks. Raymond Unwin, designer of the Hampstead Garden suburb, and one of the greatest living authorities on city planning, taking an actual instance from a Canadian city, shows that as a matter of fact some unfortunate persons were actually paying \$60 per lot for the privilege of having the lot reduced by 226 square yards.

The explanation of this seeming anomaly is found in the difference in the cost of road construction. In each case the cost of the land was \$15,000; but, whereas, in the first case, the cost of the 2,520 feet of roads amounted to \$30,240, making the total cost of land and roads \$45,240; in the second case only 1,320 feet of roads were needed, which could be constructed for \$15,840, making the total cost of land and roads only \$30,840. Hence, in the first instance, the 88 lots of 374 square yards each cost \$514 per lot; while, in the second, the 68 lots of 600 square yards each cost only \$454 per lot. A sublime instance of the folly of leaving the subdividing of real estate in the hands of individual owners, without supervision by some central authority!

Some explanation of the landlord's part in this seemingly incredible folly may be found in the fact that the municipality bore about three-quarters of the cost of the roads and, consequently, the owner ignored this cost, though, of course, it fell upon the public and wasted both land and road-making operations to the extent indicated in the above figures.

The above, of course, is an extreme instance, but it is valuable as illustrating, in an exceptionally striking way, the economic unsoundness of over-crowding. In another very moderate example, taken from an English city, Mr. Unwin shows that plots of 2613 square yards, subdivided in accordance with correct principles of town planning, could be rented for 113d. per week, while plots of only 834 square yards, not so subdivided, could not be rented for less than 8d. per week. To this example he subjoins the trenchant comment: "I am quite sure that it would be very difficult for any of us to persuade a child of seven to give 8d. at one shop for 83 marbles, if he could buy 261 for 113d."

Shoals of Herring Wasted in B.C.

Neglected Opportunities in Pacific
Coast Fisheries—Openings in
Canning Industry

Notwithstanding the fact that the fisheries business has made rapid progress in British Columbia in recent years, and now constitutes one of the most important branches of industry in the province, there are still excellent opportunities for building up a profitable trade in canning certain kinds of fish. It is the opinion of those who are familiar with conditions that scarcely a beginning has been made in commercially exploiting the many varieties of fish which abound in these waters. Vast shoals of herring run for months every year in the hundreds of bays and inlets along the thousand miles of British Columbia's sheltered sea coast. They team in shoals in Nanaimo, Pender and Prince Rupert harbours, Quatsino sound, and many other harbours and bays, from the Fraser river to the Alaskan boundary. Every year thousands of tons of herring are swept in by the tides to be left stranded and dying on the shores of a hundred bays. This is a great waste of material and opportunity which does not seem to have been taken into account by those who are interested in the fisheries industry.

Interest Centres in Salmon Fishing. The interest in the British Columbia fishing industry has so far been centered almost entirely in salmon packing, and there is no lack of capital and enterprise in that particular branch, which has been exploited to the neglect of other important features of the business. The season of the salmon run is short, and the canneries are closed down during most of the year, while herring can be taken all the year round along the entire coast, although the heavy run is during the winter months. This would enable the factories to continue operations throughout the year and would obviate, to a large extent, the difficulty of securing a sufficient number of hands to handle the business during the high season in the salmon-canning industry.

Herring and Halibut
It is only in recent years that halibut have been taken in commercial quantities on the British Columbia coast, and, so far, the packing of sardines is practically an untried enterprise. The herring, which are caught in large quantities, are now mainly used as bait in the halibut fisheries, and for that purpose only the larger fish are kept. Nothing is done with the smaller ones, which could be packed for sardines. There are, along the provincial coast, scores of fine sites for sardine factories, where the fish could be caught in adjacent waters in unlimited quantities and at small expense.—U. S. Consular and Trade Reports.

Kamloops, B.C., Opens Public Market

The city of Kamloops, B.C., has opened a public market. On the opening day a goodly crowd of citizens were present early in the morning, ready to receive the vendors. But the farmers showed less earnestness than the citizens: the earliest vehicle was half an hour late, and only 6 more appeared in the course of the day. The market conditions were such that the demand largely exceeded the supply and the small amount of produce offered was readily disposed of. This success should encourage more of the surrounding farmers to take advantage of the market. White farmers will not compete with the Chinese in peddling their produce from door to door, but might reasonably be expected to meet their customers at a central market. Kamloops is to be congratulated on its efforts to bring consumers and producers into direct contact with one another, and this praiseworthy effort should meet with the success it deserves.

Playing in Streets is Dangerous

But Children Must Play Some-
where—Urgent Need of Safe
Playgrounds

In connection with the "safety first" campaign, much is being said just now as to the danger of children playing in the streets. Films are being shown in the moving-picture theatres, presenting dangers from motor-cars and other vehicles vividly before the eyes of the children themselves. No doubt this is a good work for the conservation of human life, but it is a sad state of affairs that the children have no bet or place than the streets in which to play. Very often the man with the automobile is only using the streets as a playground—there are as many autos bound on pleasure as on business—and if we give the man in the motor the right-of-way over the child on roller skates, it is incumbent upon us to find the latter some place in which to amuse himself, free from danger. If new sub-divisions were laid out on garden city lines, there would be a space in the centre of every block where small children could play near home, and open spaces would be reserved here and there for larger children and adults. Much must be done, however, to remedy existing conditions, as well as to plan for adequate recreation facilities in future. A much greater use could be made of school playgrounds after hours than is now the case, and in many cities, where sufficient playing fields do not exist, a very considerable expense is justified in providing such. A city is a place in which not merely to work, but to live completely, and complete living includes wholesome bodily exercise for every citizen.

Proposed Engineering Authority

Government should Exercise, same
Supervision over Coal-Mining
as over Water-Power
Development

In Western Canada there are usually a number of coal seams quite close together, and, should the lower seams be the more desirable with regard to quality and ease of working, there is nothing to prevent the operator from mining them first. In fact, this practice is now being followed in a number of cases in the west. As a result, caving of the measures will render it difficult, and, in many cases, impossible, to recover the coal from the upper seams. Owing to the wide distribution of coal, and the granting of leases to any one desiring to mine it, the operator who looks to the future and mines the coal in a systematic manner, at an additional cost to himself, has to compete with the operator who takes the easiest available coal. There is, therefore, little encouragement to use other than wasteful methods. A case came under notice where, owing to a great demand for coal, the directors instructed a mine-manager to produce an output greater than the development work justified. The mine-manager was forced, against his better judgment, to obtain the coal wherever he could. Some pillars were extracted and others were reduced to such dimensions that they were not able to bear the weight of the superincumbent strata. As a consequence, there was a squeeze, and to-day the mine is badly wrecked and much coal has been lost. In this case, the opinion of an engineering authority would have stood between the mine-manager and the directors of the company.

It is suggested that an engineering authority be appointed by the Dominion Government to approve of the methods to be employed at all mines operated under a Dominion Government lease, and that the chief inspector of mines of each province be associated with the engineering authority in so far as matters relating to the operation of mines in that province are concerned. It would also be the duty of such authority to investigate all applications for leasing of coal lands and to determine the conditions under which such leases should be granted.

It is of interest to note, in this connection, that the Dominion Government exercises a stricter supervision over the leasing of water-powers than that suggested with regard to coal; yet coal is just as important as water-power, and, unlike it, can be exhausted.—From "Conservation of Coal in Canada," by W. J. Dick.

Commission of Conservation

CANADA

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CONSERVATION is published about the first of each month. Its object is the dissemination of information relative to the natural resources of Canada, their development and the proper conservation of same, together with timely articles covering town-planning and public health.

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OTTAWA, JULY, 1914

When fire prevention becomes a matter of the individual responsibility of the citizen, then, and not till then, may a reduction in the enormous fire loss in Canada be expected.

There is real value in keeping a section of a fire department inspecting the city, learning the interior layout of the large buildings, the places where inflammable goods are stored, the location of hydrants, and the approaches, that in case of fire breaking out no time is lost in placing the water where it will be the most effective.

Forestry is the art of utilizing the forest and at the same time re-vegetating it. It is wholly utilitarian; it has nothing (except incidentally) to do with the esthetic aspects of forest growth which concern the landscape gardener. Wood-crops is its object, just as food-crops is the object of agriculture. The only obligation which forestry imposes in the use or harvest of a forest growth is to systematically replace the harvested crop. In this obligation mainly, if not alone, does forestry differ from lumbering.—Fennou.

It may be said, roughly, that the cost of hydro-electric developments in Norway varies between \$24 and \$60 per horse-power, except in the lowlands, where the falls are lower and the cost of development may run as high as \$160 per horse-power at the power station. The Norwegian Government concedes water-power sites for a limited period, the yearly tax being based on horse-power. At the termination of the concession, the plant automatically falls back to the government and new agreements have to be negotiated. The govern-

ment itself is shortly to develop an important power site at Nore, where a plant of 228,000 horse-power capacity is to be constructed. A part of the power generated is to be transmitted a distance of 78 miles to the coast, where it can be sold at \$8 per horse-power-year.—L. G. D.

In Eastern Canada the burden of forest fire protection falls largely upon the lumbermen, and fire patrolmen are, to a large extent, concentrated upon the merchantable timber areas, leaving vast areas of cut-over and burned-over lands practically or totally without protection. As a result, in case of fire breaking out, not only are large areas of young forest growth of great potential value destroyed, but the valuable tree species are eradicated, soil erosion occurs, and in times of drought, the fires spread into the merchantable timber areas, often gaining such headway as to be uncontrollable. The attention to merchantable timber areas should not be relaxed, but more adequate protection of cut-over areas is essential to the future existence of the forest, as well as to the preservation of areas now containing merchantable timber.—C. L.

Leasing of Oyster Areas in P.E.I.

During 1913 the leasing of oyster areas by the Provincial Government of Prince Edward Island proceeded successfully, and, by December, 5,000 acres had been let and 1,500 acres additional had been applied for. The income to the government from lessees was \$7,049. The private companies formed in 1912 and early in 1913 displayed energy in planting their beds, one concern purchasing an American oyster dredge at considerable cost. Many carloads of American young oysters were imported, and in some cases these matured sufficiently to be taken up and sold as Malpeque oysters in Montreal in the autumn, to the detriment of the reputation of the Island's oysters. The private lessees, too, were permitted to take up their oysters in September, before the public beds were thrown open to the poorer fishermen, and as they thus took the edge off the demand for the autumn trade they were the objects of complaints by the unorganized fishermen. The price of oysters was poor and this circumstance was only partly offset by the relatively large supply. A cooperative association, in which private companies and independent fishermen joined together to promote the general interests of the industry, was formed late in the year. The excellent reputation of the Island's Malpeques is attested by the sale of 250 barrels of seed Malpeques to a Maine concern on Passamaquoddy bay.—U.S. Daily Consular and Trade Reports.

Electric Power From Anthracite Culm

A remarkable plant for generating electricity from unmarketable anthracite culm has been recently installed at Hauto, Pa., by the Lehigh Navigation and Electric Company. Two factors have previously hindered the utilization of this low-grade coal: its cost of transportation is the same as that for the higher grade of anthracite, and the large quantity of coal dust in the refuse renders a special furnace necessary for its proper combustion. The transportation difficulty can be overcome by turning the energy of the coal into electricity and transmitting the power by wire. The type of furnace to be used has received great attention from the designers of the Lehigh company's plant.

Grates for both hand and mechanical firing have been installed and their respective performances will be watched with interest. The combustion chambers are large and the air supply has been so arranged as to ensure a thorough burning of the fuel. The other features of the equipment, both for generating and transmitting the power, are modern and of a high standard. Evidently the men who are behind the project are confident that the proximity of a good market—Philadelphia and New York being within the radius of economical transmission—justifies the building of an expensive and up-to-date station, even though the fuel to be used is of a kind which is ordinarily wasted.

At Bankhead, Alberta, coal of a similar quality occurs. Huge dumps of this unmarketable material are to be seen near the mines, but the market for electricity in the vicinity is, unfortunately, limited. However, a certain amount of this culm is being used for making briquettes, although there is more of it than can at present be profitably utilized even in this way.

Fire Prevention along Railways

Companies now Energetic in Protective Measures—Settlers' Slash Responsible for many Fires

According to the Fire Inspection Department of the Board of Railway Commissioners, the railways throughout the country are doing very much better this year in the matter of fire protection than they have ever done before. There has been closer compliance with the requirements of the Board, and a far greater degree of cooperation between the various agencies interested in fire prevention. In particular, the railways are cooperating much more closely than previously with the fire protective organizations of the Dominion and Provincial Governments. The situation has also been greatly improved by the increase, in

number and strength, of lumbermen's cooperative fire protective associations, of which there are now two in the Province of Quebec, protecting a total of nearly 14,000,000 acres.

In the past railways have always been regarded as one of the principal causes of forest fire destruction. This situation is now being rapidly changed, due to the increasing care given this matter under the requirements of the Railway Commission. The fire hazard is being reduced by the expenditure of large sums by railway companies in disposing of inflammable debris on rights of way. Great care is taken to keep the spark arresters on locomotives in good order. Through the more dangerous sections, special fire patrols are maintained, and everywhere railway employees have received special instructions regarding the reporting and extinguishing of fires in the vicinity of the track.

Reports received by the chief fire inspector of the Board indicate that, to a very much greater extent than in previous years, the fires in the vicinity of the railways have been adequately handled by the railway employees and that most of the serious fires reported as occurring in May originated at a distance from the railways, frequently as a result of settlers' slash-burning operations.—C. L.

Our Northern Water-Powers are Valuable

In Norway, Under Similar Conditions, Million and a Half Horse-power Developed

The statement is sometimes made by the uninitiated that the water-powers north of the settled parts of our Dominion are of little value. The existence of numerous falls and rapids in these parts is not denied, but the argument is advanced that the temperature and other climatic conditions existing where these falls and rapids are situated will prevent their utilization. As a direct contradiction to the above assertion, we need only turn to Norway, the latitude of which is at about the same as that of the Yukon, and where climatic conditions are similar to those of northern Canada. In size, Norway is only slightly larger than our Maritime Provinces, and yet we find there water-power plants with a total capacity of over 1,500,000 horse-power, either in actual operation or in course of construction. Hydro-electric stations of considerable size have been constructed in different parts of that country. Many of the smaller ones have been erected for municipal use, but the larger ones are for the electro-chemical industry, in which a main factor of success is cheap and plentiful electric power.—L. G. D.

Modern Farming Needs Business Management

Labour and Capital Must be Fully Employed—Lowest Cost of Production and Efficient Marketing Required

Farm management is the application of business principles to farming. A farm enterprise must be organized for the purpose of securing the greatest continuous profits. It is not enough to raise good crops or to secure a large animal production; these must be produced economically. This is accomplished only when capital and labour are so adjusted to existing conditions that maximum yields are obtained at the lowest cost. Every department must be well organized and must be co-ordinated with the others. Labour must be fully employed, capital must be properly utilized, both quantity and quality of products must be secured, and the products must be wisely marketed.

In the days of our fathers the farm provided almost everything needed by the family. The few things not raised on the farm were received in trade from the village store. Very little money was required or handled by the farmer. The measure of his success was his ability to produce his own food and clothing rather than his ability to organize his business and buy and sell. Since machinery has been introduced in the factory and on the farm, money has become necessary for the farmer. No longer can he raise or trade all he needs. He must sell his products and buy most of his requirements. All these changes mean that the farmer of to-day, in order to be successful, must be a business man. He not only produces, but he sells and buys. The kind of business ability needed is not alone that of the trader, but also that of the executive, who can organize the farm into a successful enterprise. An idle horse in the barn is often a greater source of loss than a bad deal in horses. Failure is caused by poor management as well as by poor crops. The successful farmer must consider and plan his work ahead of time. He must have a plan for stormy days as well as a plan for field work. He must foresee most things that are about to go wrong, and prevent them from going wrong.

We must not assume, however, that all farmers are ignorant and unbusinesslike. Some of them are the fathers and brothers of our captains of industry, and are as efficient for their conditions as the city man is for his. The farmer is, however, slower in changing his methods and in adapting himself and his farm to meet new conditions and requirements as they arise. The more the farmer thinks and the more his brain is intelligently directed by his brain, the greater will be the resultant satisfaction and success.—F. C. N.

Will Oil Replace Coal as Fuel?

Total Available Liquid Fuel Supplies Inadequate to Make General Substitution Possible—Opportunities Exist, however, for More Extended Use

The world's production of crude petroleum in 1912 amounted to about 52,921,750 tons; the sources, respective quantities and percentages were as follows:

COUNTRY	1912 Tons (2000 lbs.)	Percentage of Total Production
United States.....	32,807,060	62.16
Russia.....	10,174,560	19.23
Mexico.....	2,910,000	5.50
Roumania.....	1,987,360	3.76
Dutch East Indies.....	1,672,000	3.16
Galicia.....	1,298,620	2.45
India.....	1,101,450	2.08
Canada.....	38,750	0.073
Other countries.....	841,250	1.59

If the whole of this crude petroleum were employed as fuel in steamraising it would not replace, allowing for its higher thermal efficiency, much more than five and one-half per cent of the world's output of coal, whilst if used in internal combustion engines it would be equivalent, as a source of power, to about 16 per cent of the coal. Only a small proportion, however, of the crude petroleum can be regarded as available for use as a source of power, for by far the larger part is in demand as an illuminating agent and as a lubricant for machinery.

Necessity of Underdrainage

On Drained Lands Plants have Deeper Root Systems and Consequently More Feeding Space—Bigger, Earlier and Hardier Crops the Result

It is a matter of common observation that at a certain depth below the surface the subsoil is full of water, supplied by rain or melting snow which has soaked through from the surface. The upper limit of this saturated area is known as the "water-table." Ordinarily plants will send their roots down till they reach this water-table and no further. This is because the roots can grow and thrive in earth which is merely damp, but not in earth that is so full of water as to exclude air. This fact has an important bearing on the question of underdrainage.

In spring, after the melting of the snows of winter, the water-table, on poorly drained lands, is very near the surface, but, with the oncoming of dry weather, it is rapidly lowered, too rapidly, in fact, for the growth of roots to keep up with it. The plants sown in spring are thus apt to be left high and dry, with shallow root systems, and largely dependent on whatever rain may fall during the summer months for their supply of moisture. If, however, there be sufficient underdrainage, either natural or artificial, the water-table will be much lower in spring, while the plants are germinating, and the

As the United States produces over 62 per cent of the world's production of petroleum, it is interesting to note that Dr. Day, of the United States Geological Survey, considers that, at the present rate of increase of the output of petroleum, the known oil-fields of the United States will, on the basis of the minimum quantity of oil obtainable, be exhausted by the year 1935, while, even if only the present output were maintained, the supply would, on the same basis, not last more than 19 years.

In many countries there are, no doubt, vast tracts of undeveloped petroliferous territory, but only drilling can determine this. Even if the available deposits were far larger than there is reason to believe them to be, the cost of doubling the present output would be great. In view of these circumstances, it is not probable that there can be any general substitution of petroleum for coal as a source of power, although there is undoubtedly opportunity for making provision for a larger use of liquid fuel for certain purposes in which its advantages are conspicuous.—W. J. D.

Recreation Facilities

Necessity for their Provision by Municipal Enterprises—Both the Adult and the Child Interested.

One of the most notable features in the development of municipal enterprise during the past decade has been the playground movement. Within six years of the formation of the Playground Association of America, in 1906, more than 400 American cities had entered upon the scheme of supervised recreation centres for children as a municipal undertaking. The movement has also gained rapidly increasing favour throughout the Dominion, and Montreal, Toronto, Winnipeg and other Canadian cities have undertaken the carrying on of supervised playgrounds. Its remarkable popularity and growth may be attributed to universal recognition of its value as a prime preventive measure in the interest of public health and as the sole available means of securing to the urban child one of the essentials of his existence. Play is the prerogative, as it is a necessity, of healthy, normal childhood.

It takes little persuasion, beyond the silent, convincing proof of living conditions in our industrial centres, to induce city governments to come to the aid of children whose only playground is the pavement or the alley. The standard of future citizenship depends too vitally upon their proper training to permit neglect of any means whereby that training may be made to include a full share of wholesome, character-forming games. And, in view of the failure to secure—one may almost say, the impossibility of securing—the necessary facilities through private and individual initiative, it becomes the duty of municipalities, as such, to undertake the provision of accessible, spacious, well-equipped and properly supervised play and recreation centres. It is a form of public enterprise to which no valid objection can be offered.

The question of publicly provided recreation facilities, however, is not solved merely through the action of juvenile needs. It is one of wider application, and has just as much importance, although it has received scant consideration, in regard to the adult population of great urban centres. Recreation of mind and body is as necessary to the well-rounded existence of the adult human being as is play that of the normal child. The common objection to government action of a paternal nature waives its validity in the face of economic necessity, at least in respect to children. Under certain circumstances it must do likewise where adults are concerned—where, as in the case of recreation, collective action must be invoked to provide those facilities which modern industrial organization has made it impossible for the individual himself to secure.—O. M.