



Roadtown:

A Mecca for Physical Culturists

— & —

A Solution of the Housing Problem
in the United States

By Milo Hastings



Edgar Chambless, inventor of Roadtown

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A MECCA FOR PHYSICAL CULTURISTS

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It is gratifying to note the tendency on the part of thinking men and women the world over to search for some means of counteracting the blighting influence of the highly concentrated life of our great cities. The novel methods of transportation and housing described in the following contribution seem to offer a practical and adequate remedy for urban congestion and its coincident evils. There is no doubt that the results attainable through this system would soon compensate for any difficulties which might be encountered in its inception. Certain it is that any plan which tends to permit the dwellers of our crowded centers of population to secure the benefits of country homes without prohibitive expense and loss of time in transportation is worthy of thorough consideration.—Bernarr Macfadden.

THE proverb says that man has grown weaker and wiser. Some will point to the splendid records of modern athletes, which far surpass those of the ancients or of savage peoples, as a proof that the proverb is untrue. Considered from all its viewpoints there certainly is room for a good deal of argument as to whether civilization as a whole has aided or hindered the evolutionary progress of the physical man, which is the fundamental basis upon which not only all the splendid mechanical civilization, but the mental or spiritual life rests.

But of this we may feel sure—civilization has taken comparatively little thought for the permanent consideration either of the physique of the individual or of the race. Occasionally we drain a malaria-infested swamp or make some real improvement in nature, but for the most part the efforts of the hygienist and physical culturist are spent in attempting to ward off physical evils inflicted upon man by civilization.

Our city hygiene and anti-tuberculosis campaigns are but heroic attempts to overcome the evil effect of city congestion, brought about by the mechanical and commercial progress. Our gymnasium and athletic grounds are at best a faint protest against a civilization that has replaced the muscle of man with expanding power of steam. Our dyspepsia tablets are but silly efforts to relieve a case of stomach fermentation and a conscience guilty of an over indulgence in the products of a civilized kitchen. Our preachment against corsets and French heels, and our fight against the social evil is but a reaction against conditions

brought about by the development of economic conditions which makes it possible, and too of ten necessary, for the woman to earn her living by pandering to the sexual instincts of the wealth possessing male.

Now the ideals of physical culture and eugenics are glorious as ideals, and ideals are necessary for progress, but we should not let the possession of such ideals obscure to us the realization of the fact that the cause which determines the immediate action of the typical man is the immediate pleasure he gets from an action, or money he gets which will buy other immediate pleasures around the corner. With none of us does the future weigh as strongly as the present. We eat seven-course dinners now because we like them even though we know it will result in dyspepsia later on. We take the car to get there quickly and to work longer and make more money, even though we know that we would live longer if we walked.

Granting then this fundamental human weakness for immediate pleasure and immediate profit, all those who have the physical welfare of the race at heart, will take keen interest in the Roadtown project, an invention which promises to bring about a great advance in the physical life of the race, and one which ought to establish itself quickly because the new living scheme promises to pay from the start. In other words the inventor claims that Roadtowna will be built because they are economical, and that once built the people will move into them because Roadtown rent will be about half that of present rents, and that once the people move into Roadtown, an improvement in health and the adoption of a better regime of living will come about because the environment is such that it cannot be otherwise.

The Roadtown is not a single invention, but a plan to combine many inventions, and to combine them in such a way as to involve a saving in construction and operation so remarkable, that the new plan, whether developed by capitalists or co-operation will be economically inevitable.

The Roadtown is a continuous house or row of connected dwellings, built over a noiseless railroad, and wired and piped in an open basement. It is a line of city through the country, and combines home, factory and farm.

The Roadtown is a skyscraper built on low-priced land and laid on its side—obviously the least expensive position in which to construct it. As the skyscraper, for one rent, provides the tenant with water, heat, light, power, elevator. etc., so the same facilities (substituting a noiseless railroad for an elevator), may be provided for the tenant of a continuous house, the construction of which is not so great a protest against the law of gravity.

A fanciful dream, you say—think again.

Modern civilization is a matter of rails, pipes and wires. Rails, pipes and wires can be most economically placed in a straight line. Houses can be built in squares, cubes, circles, or sown broadcast on the land. They can also be built in

straight lines. And when they are so built there is a material saving of expense of construction without any material loss of light or air or privacy or contact with the soil, to gain which we now choose an isolated cottage in preference to an elaborate suite in a city apartment.

We already see the tendency where rapid transportation is provided, for civilization to string itself out in lines. But the imperfect service of cumbersome steam trains or the reduced speed and danger to life from surface trolleys has not allowed this tendency to exert itself to any where near its mechanical possibilities. As for the pipes and wires, the present method of burying them beneath city pavements and leading a branch off under the sidewalk and through the foundation of each house is a method which represents the height of civilized absurdity.

The first mechanical necessity to the realization of the Roadtown or continuous house is that of a rapid and noiseless method of transportation. The mention of the bicycle and electric automobile should satisfy the reader that noise is not essential to a rapidly moving vehicle.

Of the various devices available for the purpose, Mr. Chambless considers that the Boyes Monorail best fits the Roadtown transportation needs.

The Boyes system, the patents of which have been donated to Roadtown use, is not dependent upon the gyroscope for its stability, but straddles the rail, which stands several feet above its foundation. The supporting and propelling wheel of the train is incased within the body of the car.

These heavy drive wheels form the armature of the motor, thus eliminating gearing. They are faced with leather and with the aid of rubber washers between the couplings, all sources of noise are eliminated. A further point of advantage is in the fact that the leather faced wheels give better traction grip than steel wheels, and hence make it possible to construct very light cars on the order of a bicycle instead of immensely heavy ones, as in the case of present high speed locomotives and electric traction. This feature means economy in construction and operation, and gives great efficiency in quick starting and stopping and speed generally.

The monorail will be placed in a trench beneath the house. It will here be out of the weather and out of sight, which for a high speed structure is desirable. The ventilation will not be deficient, as in a city subway, for there will be a continuous opening beneath both sides of the house.

Complete monorail service will require three tracks, one local and one express track for trains running in either direction. These three tracks will be beneath one another, for as the cars must be entered from both sides, this will require less climbing than if side by side. Express stations will be four or five miles apart and local stations about every hundred yards. From these local stations a continuous platform will extend beneath the houses along which the

resident will walk till he comes to his own front door, that is, to a stairway leading to a private house above.

The main body of the Roadtown building is to be constructed of cement. The walls that separate each private house from the one adjoining will be poured in monolithic fashion, which means in one solid block, and this be sound proof, fire proof and vermin proof. Thomas A. Edison, who, as many of our readers know, has perfected a scheme of pouring cottages of cement, has offered Roadtown free use of his patents. In the Roadtown there will be two important savings in addition to those of pouring cement; first, the elimination of one-fourth of the wall area; second, Roadtown excavation would first be made with a steam shovel and a railroad laid in the trench upon which work trains would be used to move the excavated material—the cement, sand and crushed rock for the building, and the heavy steel moulds for pouring the walls. In short, the entire construction will be a matter of steam power as compared with human labor, and railroad hauling as compared with horse carts.

The completed Roadtown will have stairways leading from each dwelling to the roof above, and just as the monorail in the basement will be the means of rapid transit for business purposes, so the roof will be used for walking, bicycling and skating with rubber tired skates. Certainly a more unique location for a "street" could not be imagined than this roof promenade.

The roof space may be laid off in separate paths for bicycles going in each direction, and likewise for skating. The walk for pedestrians will be in the center and will be covered with a rubber mat and roofed over for protection from the weather. It will be entirely feasible to side up this path in winter with glass panels, forming a continuous sun parlor which will be provided with resting alcoves and drinking fountains. On the outer edges of the roof, alcoves and parapets built for architectural variety, will also furnish location for seats, fountains and pots of earth for climbing vines.

In addition to the railroad in the cellar and a street upon the roof, the Roadtown will have even more remarkable features, due to the fact that the present enormously expensively system of street piping will be replaced by a continuous accessible runway, in which will be placed pipes and wires to convey every conceivable utility, many of which are not available under present housing conditions, even in city life.

Among these utilities which may be brought into every Roadtown home, are:—sewage, hot and cold water, steam or hot water heat, gas for cooking, electricity for lighting and power, vacuum devices for sweeping and dusting, refrigerating brine for cooling the house in summer, spring water or distilled and aerated water for drinking, telephone, dictograph or loud speaking telephone, the telegraphophone or recording and repeating telephone, and music and

lectures by wire, either directly transmitted by dictograph or recording and transmitted by telegraphy.

There are several applications of this cheap pipe and wire service that may not at first be thought of. Cheap plumbing will mean that every sleeping room may have a shower bath. Power in every home will mean that many little tasks can be made automatic. Among these. Mr. Chambless suggests that the bedding, including a light pad or mattress, may be attached to a frame, that, moved by electrical power or air pressure, will swing the entire bed up and around into a closet, one side of which is formed of shutters that freely admit the outdoor air. Thus the bed will be daily aired, and the sleeping room converted into a library or living room in the day time.

An even more suitable scheme that Mr. Chambless has in mind, is, to pipe this closet for a disinfecting gas. By tightly closing the outdoor shutters it will be possible to annihilate all vermin and disease germs. Certainly such a device would eliminate one of the most unpleasant duties of the present-day housekeeper, to say nothing of the general sanitary effect of thoroughly airing and disinfecting the bedding, clothing, and for that matter, by vacating the premises for a day, the entire house could be thus fumigated.

Still more remarkable in its effect upon household life will be the cheap and ready service in the transportation of all commodities. Co-operative laundries and co-operative establishments for the preparation of food will follow as logical results of the putting of transportation facilities in the home. The objection today urged against co-operative food preparation is, that it breaks up family life; and so with present arrangements, it does, but the Roadtown permits of all the advantages of such co-operation without in any way interfering with family privacy. The Roadtown bill of fare may be sent out daily from the food department, and the people will order by telephone. Deliveries can be made by the monorail, or a still better system will be that of mechanical carriers, which may be set with keys to switch off at any house. Such automatic delivery cars are good to carry any amount up to fifteen or twenty pounds. A meal for a family can be delivered in two such cars, one hot and one cold. The dirty dishes may in turn be sent back to be washed, hotel fashion.

The probable effect of such a system of food distribution will be of great interest to physical culturists. Let it be clearly understood that neither Mr. Chambless nor the other enthusiasts on Roadtown wish to force conformity in the bill of fare. When we order food at a restaurant we can only get certain foods cooked certain ways. The Roadtown food department will be a combination of cooperative grocery store and cook shop, and will keep on hand at all times all food materials cooked or uncooked for which there would be a demand. Another point to be considered is, that the Roadtown co-operative cook shop would be

without inducement to adulterate, color, flavor and complicate food, as is now done under the competitive grocery and baker shops and delicatessen system.

People who now favor simplicity in diet are fought by all commercial forces in the food trade, for the simple reason that complexity means profits. With the co-operative distribution of food which will in the Roadtown be of such easy attainment, the manager's profits, i.e., his appreciation and promotion, would increase, as he taught the people to use wholesome and simple food, instead of the enormously profitable products of the food trusts, canning factories and bake shops. To illustrate my point, let me ask if anyone can doubt that the reason cleaned whole wheat cannot be purchased for human food is because, if the customary rate of profit was charged, the price would be so visibly extortionate that the people would object. So the grocer pushes his meats and canned goods and other foods wherein the profits are obscured by the manufacturing processes.

Another wonderful effect of the Roadtown style of city building will be, that by supplying power directly to the homes of the people, it will render possible the re-instatement of the industrial conditions prevalent before the invention of steam took work out of the hands of the worker, and made him a wage slave to the factory proprietor. With power in the homes and a ready means of transporting the raw material and the finished product, there is no more reason why the worker in many of the lighter manufacturing industries should be a wage slave, than there is reason why a farmer should be a wage slave. There have been abundant efforts of moneyed interests to buy up land and hire farmers to work it, but their efforts are almost invariable failures because a man working for some one else is not so efficient as a man working for himself. The Roadtown will put light manufacturing in the same economic class as farming.

The agricultural opportunities of the Roadtown can hardly be overestimated. The excellent living quarters and the close contact of an advanced form of civilization with the soil, is bound to result in a great boom for intensive agriculture.

Will there be enough land? In reply I will say that with twenty-six foot houses there will be two-hundred houses to the mile, which will give within one mile of the Roadtown line over six acres per family. This is an ample acreage to support a family at market gardening or fruit culture, or in any kind of agriculture that results in the direct production of human food from the soil, except grain growing. Such an area would also do very well for poultry raising, and for dairying.

As a matter of fact, but a portion of the residents will engage in agriculture as a leading occupation, so that the land area for those so engaged will be considerably more than that given.

Moreover there is no reason why farmers cannot live in Roadtown and have peach orchards or grain fields several miles back. There are a hundred times as many reasons why a man's home should be in Roadtown line than in his wheat field, which he needs to visit but a few days each year. In practice the class of crops grown on the land will undoubtedly arrange themselves according to the frequency with which they will need attention. The more distant fields the farmers will visit at harvest or seeding time, and may even carry camp outfits and stay on the ground for a week at a time, returning to the Roadtown to work the rest of the season at gardening or indoor machine work.

The advantage of the Roadtown farm in the way of market facilities is at once apparent. At the present time only about one-half of what the consumer pays for farm products goes to the producer, the rest being eaten up by middle men and transportation agencies.

The Roadtown itself will be the farmer's best market. Cost of living experts say that about forty-five per cent, of our expenditure is for food. Therefore forty-five per cent, of Roadtown population could be food producers without over supplying the home market. For the over-flow product there is the best kind of transportation to the city markets.

This opportunity to mix occupations is one which will mean much for human welfare in the future. Under the factory system and the large farm, great specialization in industry has occurred, with the result that the indoor machine worker becomes merely a human automaton, and the farmer works fourteen hours a day at monotonous back-breaking toil during the hot days of summer, while on rainy and wintry days he sits around the fire and toasts his corns.

The Roadtown, by taking electric power and a railroad station into every home, will do much to break up both systems. Every "factory worker" can have his garden and chickens, and the farmer can provide himself with some sort of indoor labor, so that he need not work so hard during any one season.

The location of the Roadtown in the country, gives freedom for the outdoor work and play, the denial of which to the city man, and especially the city child, is one of the glaring crimes of civilized society but one which cannot be changed until we find some better fashion of living than is at present in vogue.

On the other hand the present farm is far from being an ideal place to live—it is lonesome, and lacks the social life necessary to the development of the best in recreation and sport. The Roadtown will offer the best and cheapest kind of transportation imaginable. The result will be that the entire population will be free to gather at the games and festivals.

The very love of social life which is largely responsible for the growth of city life, and yet the best of which is lost by the crowded and artificial environment of the city, can be restored in the Roadtown to an extent that will surpass the days of Greece and Rome. Such great social and athletic centers

owned by the people and equipped with gymnasium and athletic fields, swimming pools (or located on natural bodies of water), theaters, lecture halls, dance halls, museums and art galleries are part of the Roadtown plans as mapped out by the inventor.

Of course the point will be raised that other dreamers before Mr. Chambless have devised like schemes, but other social schemes had only enthusiasm back of them; they lacked the economic foundation for success. The Roadtown, if we may believe the engineers' figures, will, because of the fundamental economies in construction and operation, offer homes at bargain rates, and the co-operation and magnificent social life will follow because of the superb opportunity to develop it.

Many of my readers will wish to know if this article is only a description of a dream, or if the Roadtown is to be a reality. In reply I will say that it will cost between half a million and a million dollars a mile to build Roadtowns. There are plenty of men in the country rich enough to build a Roadtown from New York to Philadelphia, or even from Chicago to St. Louis, but the inventor does not expect the Roadtown to fall into private hands. He believes that the Roadtown can be financed by bond sales under a plan that will make the ownership and government entirely municipal.

It is not to say at this date just what will be the outcome, except that many men of prominence and large human interest approve of Mr. Chambless' plans, and that we can rest assured, that the Roadtown when built, will not be a private money-making scheme for any individual or group of individuals, but a truly co-operative enterprise for those who live and work in this twentieth century town, which is to have the advantage of both city and country and the evils of neither.

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A Solution of the Housing Problem in the United States

[One of the prize-winning theses in the competition instituted jointly by the
Journal of the American Institute of Architects and the Ladies' Home Journal.]

BY MILO HASTINGS

PART I. THE SOCIAL PROBLEM

The housing plan here offered has obvious kinship with the English garden city. It is differentiated from the English plan to adapt it more closely to American conditions and needs.

The American possesses no overwhelming fondness for ancient and established forms of dwelling architecture. If, in our house-building and community-planning, any practical comforts and modern conveniences be sacrificed to the ancient European cults of rustic beauty, the American tenant is going to repudiate our efforts as mere artistic foolery.

The American does possess a contrasting fondness for labor-saving inventions and "modern improvements," and places a value thereon out of all keeping with European standards. He wants things up-to-date, and is willing to pay for modern features of housing conveniences and comforts out of all proportion to their actual cost. In the Flagg workingmen's apartments, in New York, the belated installations of baths permitted a raising of the rents on a scale that paid a hundred per cent on the cost of their installation.

Nor do American working folk, and particularly the women, take kindly to those ancient ideals of thrift and economy that, in song and story, hover about the lowly peasant's cot. They want neither cot nor cottages, but houses and bungalows. They do not want to carry market baskets nor sit before open fires. They like to get out and travel and go to shows. They want an auto and a garage; they want hot water and steam heat, a telephone and goods delivered—preferably "in the rear."

Since the American scale of values is different, we should translate the lessons that Europe has to teach us into American terms, and plan our housing so as to give the American the greatest possible measure of those things he wants and is willing to pay for.

The American does want a private house and suburban or country life; but he also wants city conveniences. As things now stand, it is difficult to give him both at a price he can pay. Our problem is to devise a plan that, will give the

worker a private house and garden, together with cooperative utilities and services, and at a total cost within his means.

This is an end that cannot be attained without some sacrifice of the picturesque freedom of the plotting of the present conventional garden city. There is no intent here to discard the esthetic values of artistic irregularity, but only to compromise the ideals of the landscapist with the practical limitations of the engineer.

A STREET THAT FUNCTIONS EFFICIENTLY

The varied ends sought, and proportioned to American tastes, can be most economically secured by building a series of detached houses along a line of service utilities. Our present street is such a line, but it is not an efficient line. If it be narrow, or the houses be set too near the street, it is cramped and ugly. If it be wide and spacious, and the houses set well back, it is unduly expensive, and the total amount of pavement and total length of digging and piping to carry the utilities into the house is too great.

We can gain economy by a specialization of the functions of the street. We can broaden the street that is to be the front of the house until it is no longer a street but a parkway. We can concentrate the heavy traffic and service utilities at the rear of the house until it narrows down to the one-way vehicle track made of two concrete rails with concave surfaces fitted to the gage of an ordinary motor vehicle. The construction of this "auto railroad" will require but a small part of the material needed for the modern street, yet the service rendered will be more efficient.

Paralleling this track, and constructed as a part of it, will be the line of service-pipes and cables. The minimum list will include the water-line, the sewer, gas, telephone, and the light and power circuit. The sewer must be buried in the ground and sloped for gravity flow. Water-pipes must be buried, not only to prevent freezing but to cool the water in summer. Where no heating-line is to be provided, it may also be necessary to bury the gas-pipes to keep the collected water from freezing. The wire cables may be located in a groove on the side of the concrete rail, and so be more available. But if central heat is to be provided, a conduit made of sections of asphalted concrete boxes may be placed above the ground-level. By this plan it will be possible to keep insulation dry and there will be less heat lost to the air than to the better conductor, the damp ground. Where such a surface conduit is used, all pipes and wires, except water and sewage, may be carried therein. This heat-carrying conduit will pass just beneath the floor at the rear of the house, and, if there be a garage, the heating conduit may also pass through it just inside the rear wall. Thus, the heat radiation from the main will not be wholly wasted.

REAR STREETS VERSUS FRONT STREETS

This compact service-way should be located at the immediate rear of the houses and the houses aligned thereto. This line need not be rigidly straight, but it should avoid unnecessary windings and sharp turns. While rigidity of alignment in the rear is essential to efficiency, in the front there is no rigid house alignment. We avoid the straight and narrow way of the city street, not by winding and curving it, but by substituting for the street a sufficiently wide parkway to permit of variations within itself.

The rear service-line is for utility traffic. It makes direct contact with the rear room of the house. Here all goods may be delivered into a trap or chute without the deliveryman alighting from his car—often without his stopping. Garbage and waste paper, set out through a wall-trap, are collected with like dispatch. The car on such a track needs no guidance, hence the extra man now often required may be dispensed with. Such superior delivery to the house, in addition to the direct economy, will stimulate all manner of cooperative effort. Functions like baking and laundering should, in such a community, become completely centralized.

The community kitchen, which has made great strides during the war, requires only a more efficient system of house-delivery to make it a permanent service in the industrial community.

With all modern utilities in the home and this aid toward the centralization of the few remaining functions of housekeeping, women will be so freed from home labor as to greatly increase their capacities for industrial labor outside the home. While woman's participation in industry is not without its evils, the nation must find other ways of correcting these evils than by refusing to accept labor-saving methods of lightening household drudgery. Opposing the centralization of housekeeping functions is quite as stupid as the opposition once shown to linotypes and grain-binders.

This tradeway or service-road is not for beauty but for utility. By making it virtually an automobile railway, speed and service will be enhanced. By more efficient transportation for goods, we make possible a greater decentralization of population and gain access to a greater area of land for recreation and cultivation.

As we cannot have service without an intrusive proximity to the dwelling, we want this service concentrated so that it can be better hidden. The rear of the house, and often a garage, together with a garden-house and tool-shed, will half enclose this line. We have but to connect up these buildings with a few concrete posts, stretch a substantial woven-wire mesh, and plant climbing vines, and our service right of way is fenced off as securely as an English railway.

The house door into the traffic-way, required only for the delivery of large articles, can be kept bolted from the outside. Thus child-life will be safeguarded and speed may be unrestricted. Access to the garden lands in the rear would be by means of a platform extending from an upper porch out over the narrow service-way and an outer stairway descending into the garden space beyond.

GARDENS, PARKS, AND PLAY-SPACES

For commuting suburbanites or industrial workers, the garden-patches should not be fenced. A narrow strip near the house may be reserved for outbuildings and for a few fruit trees or perennial crops, like asparagus. Leaving the remainder of the garden land unfenced will permit of economical cooperative plowing. Division lines may be determined by sighting through between landmarks, and thus wasteful and weed-breeding fence-rows may be avoided. Where the holdings are of larger size, a nearby strip can be left for cooperative plowing and the land beyond fenced for chicken-yards and cow-lots. In such developments, many tenants would require the smaller garden holding only, and the larger space beyond could be leased to those desiring them.

As the concentration of houses on the service-line is essential to gain cooperative utilities, so the extension of the land in the opposite direction will gain greater areas for cultivation.

Our logical housing unit will be formed of two approximately parallel lines of houses. Connected at its outer end by the return bend of the service-line, the unit will form a U. At the open end of this U is the established city, or, if all things are to be new, the industrial and trading area of the new city. The inside of the U will be parked throughout and traversed by no heavy service traffic but only by such walks and light roads as are needed for recreational purposes and private cars.

Within this U, with its park-like and non-commercial environs, may be located schools, clubs, athletic courts, and other social and recreational institutions. But the social value of this land will not depend upon its elaborate equipment; its primary purpose is to give a sense of room and freedom and to provide ample play-space for children. If it be nothing more than an alternation of groves and grass lands, with an occasional school, it will well serve its purpose of giving the residents a free recreational common, which is often absent, even in suburbs where all land except the street is fenced off as private grounds.

The length of this U is indefinite. Where the land is available for possible later expansion, the outer end of the U should not be built up with houses, but should merely carry the service-way and utility pipes which may be moved further out in case of expansion.

ECONOMIES IN CONSTRUCTION

The construction of the houses themselves, being planned and built in considerable numbers, will gain the economies due to wholesale building operations. In the recent Australian rural communities these wholesale

economies are reported to have reduced the housing costs to one-half that of individually built houses. In the present plan, the cooperative utilities will necessitate a standardizing of heating equipment and similar fixtures that will show the usual economies of standardization. Our progress in pouring cement houses indicates further possibilities of economy. Such economies necessitate similarity in the finished houses. We accept similarity in automobiles because of economies, and there is no reason why we should not accept it in houses. But if the whole effect of the house and its environs is cramped, monotonous, and ugly, we can pay too great a price for economy. The solution is to accept a larger degree of repetition in house design and fittings where the economies are greatest, and to secure a compensating variety and beauty by the freer use of land in the parkway.

DECENTRALIZATION OF POPULATION

In the model English garden city of Letchworth there is a population of 35,000 on 4,500 acres, or about two-thirds of an acre per family. And yet, in Letchworth, twelve houses are permitted per acre, which, with a lot 150 feet in depth, would mean only 24 feet in lot-width. In this much-famed English model, the cramping of houses is thus permitted in the town, which is then surrounded with a belt of municipally owned farms. The outermost acre of Letchworth is only several miles from the city center. Such a distance can be negotiated by a jitney bus in ten minutes at a cost of two or three cents per passenger.

We can well afford to discard this Letchworth farm-belt and distribute our people over the whole of our land. After allowing for the space for industrial needs, we will have a land area a little better than a half an acre per family. This must be proportioned between the park space, the building and private yard, and the garden space in the rear. The houses on the two sides of the U contribute equally of their allotted space to the central parkway, which should be at least 200 feet wide. Allow another hundred feet for the private lawn and house-site and 200 feet for the garden. The total depth is thus 400 feet, which will result in a lot-width of 60 feet.

CENTRAL HEAT AND HOT WATER

This is a far greater decentralization than is gained in the English garden city, yet in order to have central heat for every house, we have only to provide 60 feet of heating main. We have not done this thing, but the reasons are not found in the textbooks of our heating engineers, but merely in our unsocial planning. The distribution of heat and of hot water for bath and kitchen use may be combined. Such water could be rapidly circulated by pumps and the pressure

kept up, if need be, by a relay of electrically driven centrifugal pumps out on the line. The cost of power for such forced circulation should be more than met by the economies in coal cost from more efficient heating at the central plant, and thus yield as a net gain the advantages of the cleanliness and comfort secured and of labor saved by a hot-water supply and the hot-water heat within the home.

The original cost of our conduit and its piped utilities will be offset by the elimination of individual house-heating systems and the saving of the cost of a cellar beneath the house. The present uses of the cellar or basement are for the location of a heating plant, for a place for keeping food cool in summer or to prevent its freezing in winter, and, in some modern cottages, as a location for the laundry. In the present plan none of these needs appear.

Where heat may be piped, so can anything else that flows by pipe or wire. Sixty feet of vacuum pipe will cost less than an individual vacuum sweeper. Why should the worker's wife sweep with a broom and dust with turkey feathers when the expenditure of a few cents a month for electric energy will save her an hour of work a day and rid the house of dust-carrying disease germs? Again I am constrained to believe our nineteenth century sociology and not our twentieth century engineering is at fault. Why should we go on building workers' houses with a hot-water tank on a kitchen range and put bathing on an uncertain schedule?—for men will bathe where hot water is always on tap and will not where they have to go down in the kitchen and fire up and wait an hour in order to get a hot bath. Why should we pile up the responsibilities and labor of decent living when it is cheaper and easier to make living easy?

We always approach this problem of housing from the standpoint of an eleventh-hour rush to get roofs over the heads of a multitude of workers that the sudden growth of some great factory has herded into insufficient quarters. For such needs, a scale of density of population like that of the garden city is as near what we want as we can now determine it. But, as our social control over industry grows more intelligent, we will cease to let these huge factories dictate the density of our living and begrudge us more than this arbitrary minimum of soil.

THE WORKMAN AND THE LAND

We have a presentiment—and all Utopians that ever wrote have strengthened it—that in the future more of us are going to possess land-holdings somewhere between the 160-acre farm and the 1 acre garden, and that agriculture and industry will be more closely interwoven than now. Time and intelligence now at work will surely intensify agriculture and teach us to grow more food from less land; improved transportation will bring us closer together

in minutes and in dollars, though farther apart in miles; the distribution of social utilities will make life comfortable, though removed from the city throngs.

To accomplish these ends more speedily, we must concentrate our houses on a line to gain the advantages of better transportation and more cooperative utilities, and extend our land back in strips at right angles from the line of houses to gain access to more soil. The maximum of house concentration is the continuous house of the Chambless Roadtown plan; the minimum is the present arrangement of farm-houses.

There is no absolute standard for the determination of compromises between these extremes, but the range included by the plan here offered (the essential idea of which the writer published in 1909) is that beginning with the detached house and ending with the distance at which it ceases to be feasible to pipe water. Between these extremes I believe may be found the most acceptable and economical housing plans for industrial population in areas where it is feasible to provide gardens, and also for those intensive agricultural communities where vegetable, fruit, and poultry farming are the chief industries. Within this range of population density will be included the equivalent of our present suburban and village life and all of our plans for agricultural holdings in industrial regions. As we repudiate our present congested metropolitan life, and as the wasteful processes of extensive agriculture are restricted, this middle ground in the ratio of men to land may come to include a major portion of our whole people.

Picture now our plan applied to a semi-agricultural development with holdings of from 2 to 10 acres. The houses can be spaced from 100 feet to 100 yards apart. We shall cease to fence in our tradeway and shall probably lose our piped heat and vacuum, but we can retain a superior delivery service and our electricity, gas, and water—perhaps the latter with enough capacity for garden irrigation.

Our little lands will extend for 1,000 feet or so to the rear. The residents who are otherwise engaged will retain only a nearby garden-patch and sublet the rear portion of their holdings to land-loving neighbors. If our community has retained the U formation, there will be from fifty to a hundred families to the mile, and we may have good schools, social clubs, and cooperative recreational facilities. With auto bus service our people may go 5 to 10 miles to work or to trade with no undue expense or loss of time. But this last picture need not mark the maximum of decentralization. We can give up the central parkway, combine our pipe and transit-way with the free vehicle road, and alternate our houses on the opposite sides, place them 100 yards apart, and carry our tilled lands back a mile, and our meadows, small grains, and pastures another mile, and we will have an average farm size of 600 feet by 2 miles or 150 acres, which is entirely too much for the farmer of the future. Far from being inefficient, the long field of

such a farm would be better adapted to economical cultivation than the square field, for less time and space are wasted at turns. The square survey of American farms is unadapted to an age when the delivery truck, the pipe-line, and the power wire mean more to men than the vaunted isolation of feudal castle or plantation home. By applying our principle of the line concentration of living to our farm-survey, we would secure, economically, good roads, electric light, rural delivery of goods from city stores, a bus line, water, sewerage, and gas to cook with if we want it, and neighbors just out of earshot. So much to show that there is really no limit to the application of the principle, but the immediately practical application is not to general farming, except, perhaps, to newly reclaimed lands. The most urgent need for housing is for our industrial workers; and our aim should be to give them as much land as they will use, and give them also a detached and private dwelling, and yet deny them none of the utilities available in apartment or flat.

There is a time, on Sunday afternoons, when we appreciate curved drives and winding paths, and for our play-place and playtime we set aside the parkway in front of our houses, but, in building the houses and supplying them with service, mere beauty must compromise with efficiency. The aristocrat lives fronting on the park and has all goods delivered in the rear, and so can the democrat if he will quit being an anarchist in his town-making and house-building.

PART II. THE ECONOMIC METHOD

THE MENACE OF LANDLORDISM¹

Our existing system of American land-tenure grew out of our plan of turning over our public domain on easy terms to land-owning farmers. By so doing we thought to establish a sound and enduring democratic tenure. The result of this system, in its present state of evolution, is that the modest fortunes of a large portion of our people are founded on the unearned increment from the rise in the price of real estate, and hence it is extremely difficult for us as a democratic people to now repudiate the system.

But our much-lauded and fondly worshipped land-tenure system is not an enduring one. It is the favorite criticism of misunderstood socialism that if we divided the world's wealth equally today it would be unequally divided by

¹ For the statistics covering the growth of landlordism, and the diminution of home ownership in the United States, the reader is referred to "The Housing Problem in War and in Peace," published by the Journal of the A. I. A.

tomorrow night. That is what is happening to our American land system, for our intended democracy of private ownership, founded on homesteading, is gradually but surely being lost through the irregularities of inheritance, the rise and fall of fortune, the increase in land-values and the big fish eating up the little ones. Landlordism and tenantry is the sure but inevitable outcome.

We boast that our own democracy means, not equality, but equality of opportunity. But there can be no equality of opportunity for the new-born in a nation where lands are no longer free and where a portion of the population live off of the socially created rental values of land.

GOVERNMENT CONTROL NECESSARY TO PREVENT CONGESTION AND SLUMS

We can go on dodging the issue and leaving the disinherited unborn to right it as they may. But while we may not be ready to apply a land reform to our general farm holdings, the time is at hand when the land speculator can no longer be allowed to congest our cities and absorb the surplus earnings of our workers by the increment of land rentals. If we would extend towns and cities or build new communities on a socially conscious plan, there is no use going about the business except on some basis of federal, state, municipal or community land ownership which will save for the community the wealth the community will create.

Under the urge of war, England, goaded by a land situation worse than our own, achieved a sudden radicalism which goes further than we may desire to go. The land for English industrial war towns was not only condemned at pre-war prices by the Government, but provision was made that adjacent lands might thereafter be condemned at pre-war prices. A fairer plan would be to give the public agencies active in housing enterprises the right to condemn the lands needed at present values, and the right to condemn further lands when the need arises at values to be determined by their worth at the time the project was founded, plus such ratio of increment in value as the regional or state records show as having accrued in lands of similar type but not effected by proximity to industrial communities.

WHO SHALL BUILD OUR NEW COMMUNITIES?

But we must not only decide what to do but who is to do it. Town-planning by individual private enterprise is ruled out because it breeds congestion and slums. Town planning by private development companies may be fairly satisfactory for the middle-class suburbanites, but it has utterly failed to properly house our workers. Town building by industrial corporations, who are forced into such enterprises by the necessity of housing their workers, is

somewhat more efficient and is the prevailing method in present-day building. Such corporations employ the best of our town-planners and small-house architects, and these men work from the employer's point of view. Comfort and efficiency for labor they consider. But to build up communities wherein the landlord and employer are one and the same corporation is to accentuate and perpetuate our present overgrown industrial feudalism. Democracy will not thrive in these corporation towns where the water from the taps and from the eaves is flavored alike with steel or rubber, or shredded wheat biscuits, or a certain brand of soap.

But somebody must be the landlord; if not the private speculator or the industrial corporation, then it must be the government. But what government? Federal, perhaps; state maybe; best of all, the local government of the district. The community should own itself. The unearned increment must pour into some pocket, and if it be the pocket of the community, then taxes may be deleted and the community enriched beyond the dreams of publicans.

For the expansion of existing municipalities, the right of the eminent domain of the city must be extended, not only to its streets and rails, its pipes and wires, but to its houses, yards, and gardens. Nor should this expanded right of domain be confined by existing corporation limits. If we would solve the house problem, we cannot wait until the adjacent rural region becomes half urban; we must have power to reach out into rural territory and do our planning and start our building on fresh ground before private suburban development ruins all hope of doing it well.

THE NEED FOR BROAD PLANNING PROGRAMS

The sharp political line of demarcation between city and country is a serious difficulty in the development of semi-rural communities. No such line exists in the nature of social or industrial life. As it is at the very point where town meets country that our greatest opportunity exists, we will need some well-wrought plan of cooperation between the municipal and the adjacent rural government. Such developments cannot always be left to mutually jealous local governments, but will require oversight by the state to permit of harmonious town- and country-planning. In such localities it may prove necessary to create new communities occupying a portion of both the old city and adjacent rural territory. Such areas might be incorporated in the old city, with local autonomy in the business of land proprietorship and housing control.

Our government authorization of an eminent domain for housing must also be extended to new communities that may be created apart from existing cities. For the initiation of such new efforts we cannot depend upon the initiative of centralized governmental authority. The initiative is more likely to come from

enterprising citizens or industrial leaders. But the overseeing government must have power to check and supervise such ambitious efforts. As the Reclamation Service now selects from among endless local claimants the regions to be improved and made into farms, so we must have a state or national agency which will pass upon new town projects and extend authority where worth is found.

MONEY AND CREDIT

In securing the funds for building we will have a like need of such aid from the larger political organization. In the reclamation projects, the acquisition of the land is the smaller half of the problem. The Government finances the improvements and secures the return of the funds invested from the wealth thereby created. In like manner, the nation or state must finance the public utilities and workers' dwellings of new industrial communities or we will make slow progress with our housing problems.

This is a safe investment for Government credit. To issue Government bonds to drain swamps or build cities is not to pile up debts like those of war, but is merely a governmentally directed cooperative investment in real estate securities. Private capitalists would otherwise finance these ventures on speculation—some to make and some to lose. Through the agencies of Government credit, individuals pool their capital, their gains and losses, so that all will make per cent. As long as we need houses to make our workers productive, bonding the Government to pay for these houses means adding to national prosperity.

SELF-OWNING COMMUNITIES

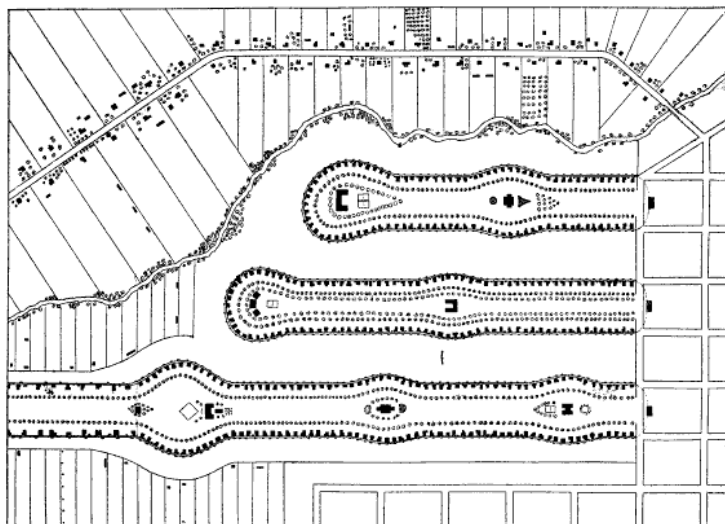
The land bought, and the houses built by Government funds will be owned by the community, the Government holding the mortgage. Before the war we would probably have sold out the homes to the workers on easy payments and so made trouble for the next generation. But the war has increased our social reach into the future, and we can now advocate a permanent community ownership. The Government bonds may be retired in twenty or fifty years—the time is not particular, though the community should take the ultimate risk of its own life or death, for it is the community that will be responsible.

The community will own itself and will rent its houses on long-time or indefinite leases to its citizens. The rent figure will include interest on the cost, the upkeep, and operation of the town as a whole, and, until the bonds are retired, the sinking fund for such retirement. The citizen will own his own home for all the practical purposes of vine and fig tree, and, if you please, of an

ancestral estate. The most prickly thorns on the rose of inheritance are removed when we do away with private property in the unearned increment.

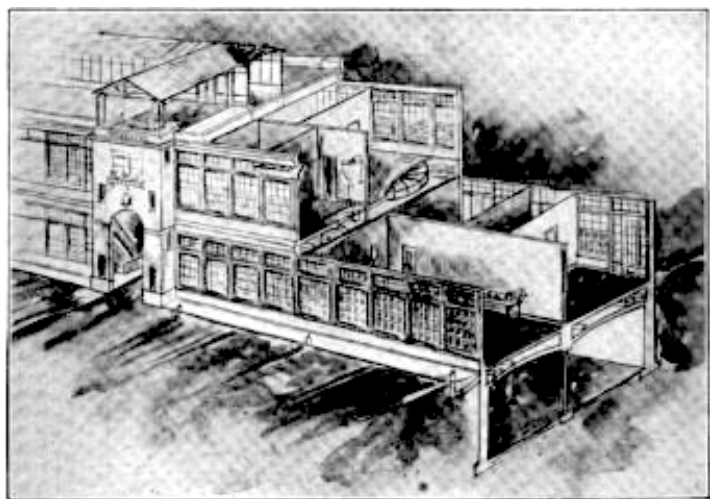
Whatever be the relations worked out between our complex national, state, city and community organizations, the new communities that are based on the community ownership of land and houses should have the largest possible degree of local autonomy. The political problems of such a community are different from those existing under the old system of land tenure, and the affairs of such communities are not likely to be fairly administered by outside officials influenced by the old system. The new communities will form centers of a more social democratic life. If they prove efficient they will grow and expand, and so they in time recast the social structure of the whole nation. Present danger lies in subjecting them too closely to outside paternalistic influence and thus checkmating their opportunity to prove their actual worth in competition with the old system based on the private ownership of land.

SOURCE: The Joke About Housing, Appendix C, (1920).





Villa effect in Roadtown, where unsightly wires, pipes and rails are all laid underground.



A short section of Roadtown, showing workroom, combined toilet and shower bath, and covered promenade on roof.