Some Fundamentals of Housing Reform*

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A HOUSING problem may be said to exist wherever any portion of a population dwells under conditions dangerous to health, safety or morality. The problem is present to some degree in every American city. It is usually occasioned primarily by the lack of guidance of urban growth, by poor planning of buildings, faulty construction and defective sanitation; it is aggravated by the greed of some landlords, the carelessness of some tenants and ignorance of the laws of hygiene on the part of both. The result of bad housing is ill health, both physical and moral, and thereby industrial inefficiency, unemployment, and a long chain of preventable social maladies, which are very costly to the community and which place a heavy handicap upon individual and social achievement.

Housing and Public Health

Man's dwelling exerts a marked influence upon his life and character. From one-third to one-half his time—and much more than half of the time of women and children—is spent in the home. Bad housing conditions affect health insidiously by slowly undermining the vitality and thus rendering the individual susceptible to disease. But bad housing conditions also constitute an environment favorable to the life and multiplication of the bacilli of a number of diseases. For example, the germ of pulmonary tuberculosis can live for years in a dark, damp, ill-ventilated and ill-kept environment—in other words, in basement dwellings, in dark halls and dark chambers. The bacillus of typhoid fever may not only be conveyed through the water or milk supply of a city, but it may also be carried by flies and vermin from the filth in which it was deposited to the food of urban households.

Thus a city with an insanitary water supply, or with manure pits and garbage pails uncovered in which the fly may breed and privies in which the bacillus may be picked up, is an environment favorable to the spread of typhoid fever. The tenement house with its halls, stairs and water closets shared by many families becomes a sort of clearing-house of the contagious diseases—scarlet fever, measles, etc. The common water-closet may become the source of spread of venereal disease. The indiscriminate overcrowding of sleeping rooms by both sexes may result in the spread of the same diseases and also in an undermining of the health of adolescents and adults through neurasthenia and other diseases which over-stimulation of sexual instinct and its unsatisfactory fulfillment may occasion.

Housing and Public Safety

The safety of an urban population is in many ways affected by housing conditions. The overcrowding of lots with buildings erected of combustible material creates a serious conflagration risk, especially where buildings are of frame exterior or are used both as stores and dwellings, as is common in our large American cities. Fire escapes reduce the danger to tenants from fire, but improperly constructed fire escapes constitute a new risk from accident. The presence of stores, bakeries and work shops in non-fireproof tenement houses; the storage of combustible materials, such as rags, paints, etc.; the encumbrance of fire escapes; the proximity of railroads, and the manufacture of explosives — all affect in varying degree the safety of the tenant.

Housing and Morality

Intimately dependent upon the housing conditions is the morality of the population. The crowding of rooms with three or more members of a family, children of both sexes sleeping together or with parents, and the presence of lodgers within the tenement, make impossible the maintenance of high standards of personal decency. Premature knowledge of sex function by the children is the inevitable result of overcrowding, and often morbid stimulation of sex instincts, sex-perversion and vice originate in this room congestion. Yet indiscriminate

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crowding of sleeping rooms prevails very widely within the immigrant population groups of our cities. The dark halls and common toilets add to the menace for the growing children of the tenements; and frequently the presence of commercialized vice within residence quarters familiarizes the child with the worst element of our civilization before the child's mind is far enough developed to resist the superficial allurement.

Housing and Efficiency

A general reduction of vitality, or disease of any sort acquired through residence under conditions above described, results necessarily in reduction of industrial efficiency. Disease causes absence from work, which means reduced earnings, increased expenses, and perhaps also a long period of unemployment before new work is found. In extreme examples a state of mind which has been termed "slum disease" is apparent, in which individuals have become chronically indifferent or careless because they have found themselves unable to cope effectively with an always depressing environment. The serious effect of this attitude of mind upon industrial output is obvious.

Housing and Social Welfare

It is impossible to create a high civilization in a democracy where a large portion of the population must exert its entire life in struggling against destructive environmental conditions. The body is the tool of both mind and soul. A healthy body is the first requisite of the moral life. An individual can contribute little to the promotion of general well-being until rid of the weakness or pain which ill health causes. The essential prerequisite of efficient democracy is a healthful home life, with elimination of all the destructive elements now present in our slums and with the positive presence of the constructive elements—sanitation, safety, ventilation, sunlight, space, privacy and beauty.

Definition of Tenement House

Many progressive cities and states have discovered that it is essential to include the two-family house under the provisions of a Tenement House Act. It is possible today under most local building and sanitary codes to create living conditions in new two-family houses which would not be permitted in the new-law tenement, and would be seriously detrimental to the health of occupants. The definition of a tenement house should include the two-family house, and should read in substance as folows:

"A tenement house is any house or building or portion thereof which is rented leased, let or hired out, to be occupied or is occupied, or is intended, arranged or designed to be occupied, as the home or residence of two or more families, living independently of each other, and includes apartment houses and flat houses, but does not include hotels. Dwelling houses occupied or intended to be occupied as the home or residence of one family or more, if built in rows, or with the side walls less than one foot distant from the nearest wall of another building; or if the halls, stairways, yard, cellar, water supply, water closets, or privies, or some of them are used in common; shall be deemed to be tenement houses and shall be subject to all the provisions of this act."

A definition substantially as given above has already been adopted by the following cities and states: Columbus, O.; Montreal, Que.; Chicago, Ill.; Milwaukee, Wis.; Toledo, O., and the state of Indiana (Act of 1909, Chap. 47), and has the approval of the National Housing Association.

The City Plan and the Housing Problem

The planning of cities involves the adjustment of the physical resources of the city to meet the needs of its population, present and future. The proper planning of cities may be made to affect housing conditions in a variety of ways. The functions of city planning may be considered conveniently under two captions. First, the remodeling of the old city, and second, the determination of the mode of development of new sections. Of these the first program is largely remedial in character, while the second is fundamentally preventive.

From the housing point of view the remodeling of portions of the city already built may not have a marked effect upon the dwelling conditions of the population in quarters so treated. In any district in which streets are widened or trees or grass strips are placed, impetus for the remodeling of old buildings is likely to be purely superficial. A new brick face may be placed on an old insanitary building. The dark room may remain. Still under such conditions, the occupants profit by an increase of light and air from the widened street, by purification of air where trees are placed and by the increased beauty of their outlook.

The Insanitary Area

City planning within the heart of a built-up city may also involve schemes for dealing in a large way with districts in which the houses are highly insanitary and are beyond repair, positively unsafe and dangerous to health and morality. There are many ways in which a district of this sort can be treated. First it may be neglected by health and tenement departments that are over-worked and unable to deal with a problem so large and apparently hopeless. In the second place an attempt might be made to repair the district, either at the cost of the city or by the city at the cost of the owners (the Birmingham method), or the owners might be ordered to make the necessary repairs at their own expense. Special powers would be necessary if either of the first two programs were undertaken. The third program would undoubtedly result in a patch-work reform. No one of these programs is adequate to deal with such districts; they are merely palliative and might reduce but would not destroy the disgrace of such a district.

Another possibility would be the complete destruction of the entire area by the city. This might be done with the intention of replacing the area with a park—as was done by New York City, for example, in the notorious Mulberry Bend—or the area could be rebuilt by the city with municipal dwellings or other buildings. The cost of the first half of this latter program renders it undesirable, if there are cheaper alternatives equally effective. As for the latter, municipal rebuilding of insanitary areas, even in London and Liverpool, where municipal housing is an accepted form of municipal business, has never proved a paying undertaking, chiefly for the following reasons:

1. The original cost of the land and destruction of the insanitary houses is either prohibitive or places a too heavy initial charge upon the undertaking.

2. It has been found impossible to build municipal tenements on the same area to house healthfully as many persons as were dishoused by the slum clearance scheme.

3. The original dishoused population tends to crowd with other families in small tenements while the area is being rebuilt, and does not return to the new buildings when completed, largely because the rents are inevitably higher than they were for the original accommodation.

4. It becomes profitable for a low class of speculators to buy insanitary property and hold it unrepaired in the hope that the Government will purchase it for a slum clearance scheme of this sort, paying them, as is usually the case, more for the land and buildings than they are really worth.

Even if these arguments were not operative in American cities, municipal housing would for the present at least be undesirable, both because it is unnecessary (private capital can be relied upon to provide the necessary accommodations) and also because in our American cities we cannot guarantee the continued employment of expert men to operate a municipal housing department. Municipal housing will not pay where long tenure of office cannot be guaranteed to efficient administrators, or where politics and slender appropriations can ruin the work of competent administrators.

Taxation of Land Values

Another possible way of dealing with such an area deserves very serious and extensive consideration, and that is the use of a system of heavy taxation of land values or of the unearned increment. As these measures involve many other considerations besides those of housing, these other bearings of the subject should of course be studied with utmost care before the adoption of the scheme. As a fiscal measure, however, the taxation of the unearned increment from land values is, without doubt, a peculiarly just form of taxation and is calculated to bring large annual sums into the city treasury. There is no question that the community is chiefly responsible for increases in land values. It is just, therefore, for the community to appropriate such values, especially if it can do so without placing any hardship upon industry. The only serious difficulties arise in determining a practical method of appropriation and assessment. The diverse schemes of New Zealand, Germany, England and western Canada should, therefore, be studied, and the desirability of using one of these methods should be considered.

The application of a heavy tax on land values (Vancouver method) in the district under consideration [a district in which the value of the land far exceeds the value of improvement upon the land] would have a marked effect upon housing conditions, and would be the cheapest way (assuming that a just method of appropriation was found and employed) in which the

city could deal with this district. If the tax were taken off the buildings within such a district, and the entire tax was levied upon land, the owners of this property would find it unprofitable to hold their land in its present wretched state. If the entire tax of the city were levied upon land values, the owners of all property that is improved would find their taxes reduced, but the holders of vacant land or of land uneconomically developed would find their taxes increased, and would be confronted with the necessity of building or of selling to some individual who would be willing to build.

Importance of Radial Streets

The housing conditions of a city are affected materially by the street plan. If suburbs are not accessible directly and cheaply from the centers of industry and commerce, population will tend to crowd in tenements near the heart of the city. Suburbs are rendered especially accessible by means of broad, direct, radial streets, suggestively termed the arteries of the city. Many American cities are built upon a gridiron plan of streets which renders certain suburbs peculiarly remote because accessible only by following two legs of a triangle instead of following directly upon the hypotenuse.

Tenement versus Cottage

The type of city plan which should be secured for your city must depend upon our answer to the question, what is the most desirable dwelling place, the tenement or the cottage? In the cities of the northeastern states we have become accustomed to the tenement house and do not ordinarily question its social utility. There is scarcely a city in the country that is attempting in any well-considered way to eliminate the tenement house, yet there can be no question but that it is an undesirable place of residence for families with children. Even for the childless family, the most expensive apartment house as well as the cheapest tenement may constitute an undesirable environment, because of the facility with which disease may pass from one apartment to its neighbor through the common hall and through the mediation of vermin which pass easily from one suite to another.

Where people live in apartments there is also concentration of population and hence much traffic in the neighboring streets, which keeps the air full of dust and noise and thus renders apartment living undesirable. The sounds from neighboring apartments frequently make rest and quiet impossible. True privacy and solitude, though very important to the growth of the moral individual, are difficult to obtain. For the family with children the apartment is still less desirable. It becomes impossible for the mother of a family to choose her children's associates, to prevent her child from coming in contact with children or adults of unwholesome character who may reside within the same building. The mother cannot supervise the play of her child when outside of the apartment, and in general the atmosphere of the tenement or apartment house is one destined to create a race of adults that are unhealthful, puny and socially highly artificialized.

In the cottage, however, it is possible to obtain all necessary privacy for true home life and personal development. The reduced dust of suburban communities and the larger penetration of sunlight make cottage homes healthier living places for infants and growing children. The mother of the family, while at work in her kitchen, can supervise the play and the associates of her child in the garden. The adults of the family, if so inclined, can profit in health at least — and sometimes in economy — by cultivating a garden outside of working hours. The children gain the advantage and education that come from daily contact with the things of nature, especially through the garden. It is probable, therefore, that, at least for families with children, the suburban home is preferable to the tenement.

It is, however, impossible to house the population of large cities in cottage homes unless such homes can be constructed to rent for a price (including both the cost of land and of the daily transit to and from work) no higher than the same family would pay for an equal number of rooms within the city tenement. Furthermore, families working within the city will not live in the suburbs if a too large proportion of their working day is consumed in transit to and from such residence. If any working member of such family is employed for ten or twelve hours a day in the heart of the city, the residence should not be placed more than one-half hour's ride from the place of business. To secure cottage homes,

therefore, for the working classes of our cities, it is essential to have rapid and cheap transit, serving satisfactorily all of the possible outlying residential section, and it is equally necessary to have an abundance of cheap land and to make possible the cheap construction of cottage homes.

One means of encouraging cottage construction is to discourage tenement building. If, for example, we require tenement houses over four stories high to be constructed fireproof throughout, as do Philadelphia, Pittsburgh, Scranton, St. Paul and St. Louis—and require the three- or four-story tenements to have brick exterior, stairs, halls and fire towers — investors in house property will construct houses less than three stories in height because they will be comparatively cheaper in cost per unit of construction. The Massachusetts towns of Belmont, Arlington and Winthrop have eliminated the three-story tenement house for the future by requiring that every tenement house three stories in height shall be fireproof throughout. The cities above mentioned are all of them peculiarly free from high tenement houses.

The Zone System

The measures above indicated would tend to eliminate from your city all new construction of high tenement houses except for apartment houses of the well-to-do classes. They would not, however, absolutely prevent any man from constructing such apartment houses on any lot in the city or suburb which he might chance to own. It would still be possible for a man to place a high apartment house in the midst of a block of private residences, shutting out light from his neighbors' homes, marring the beauty of their outlook with the ugly back of his building and bringing into that street a class of population of different tastes and perhaps of a type from which neighboring parents would wish to protect their children. The city of Calgary, in Alberta, attempts to meet this difficulty by providing in its local building code that no owner shall build an apartment house within any city block unless two-thirds of the other owners in the block give their assent. This provision is, however, inequitable, in that it does not give all the persons who are interested in the erection of such apartment house an opportunity to vote. The owner of the property across the street would be equally affected by the building of such apartment house; so, also, in less degree, would the passerby whose outlook may be marred by its erection.

To protect a community from the intrusion of undesirable building types, it might be desirable here, as in German cities, to establish a zone system of building. The essential feature of the zone system is that a city is divided into districts in which building types are permanently fixed. In the heart of the city the highest buildings may be erected (six stories, in the case of Vienna); in the next district, near the center of the city, buildings may be erected one story less high and perhaps covering a smaller proportion of their lot. In the third district will be found again a reduced height and a reduced percentage of lot area to be covered. In outlying districts, contiguous building, tenement construction or building to the lot line is not permitted, and frequently only 40 per cent of a lot may be covered.

The constitutionality of the zone system has been tested in Boston, which has two zones, one for building 125 feet high maximum, and the other with a maximum of 80 feet.

A zone system would inevitably involve the districting of factories if the welfare of the community is to be conserved. Where factories and tenements are mingled, the gases may render living conditions unhealthful or unpleasant. German cities very generally restrict their factories to quarters of the city in which available transportation facilities can be rendered of the best, and to quarters from which the prevailing winds will carry the smoke, dust, gases and noise away from the city.

Decentralization of Industry

One other adjustment of the factory and cottage home is ordinarily termed industrial decentralization. In England especially housing reformers have agitated for the removal of factories from cities into the open country where land is cheap and abundant, where transportation facilities can very frequently be rendered of the best and where each worker can live in a cottage home. Such industrial communities may be established coöperatively, as in the case of the British "Garden City," or may be established by the owners of factories, as is the current American practice, the houses

in this case being erected by the manufacturer either to rent or to sell on easy terms to his employes.

Three Methods of Reducing the Cost of Suburban Land

Cottage construction for working men is impossible at present wage rates unless land can be procured which is both accessible to work and cheap. Much of the suburban land in American cities is being held vacant to-day by speculators in the hope of reaping a large increase in land values. Accessible land is not easy to procure in small parcels. There are several ways, however, in which it may be rendered more available. German cities, for example, quite generally buy up their suburbs and then sell the land in small plots under heavy restrictions as to its future use or transfer, or else lease this land to builders on long term leases. By this means suburban land prices can be kept low, the city receiving the unearned increment of its land in the form of enjoyment of its proper usage as homes for working people, instead of receiving it in the form of taxes or rents. The city of Ulm, Germany, between the years 1891 and 1909, thus purchased 1,208 acres of land for $1,390,000, and sold 404 acres under restrictions for $1,633,000, thus reaping from its transaction 804 acres of land, $242,000 in money and the lowest tax rate in Wurtemburg.

Land prices may be similarly restrained or communities can democratically share the advantages accruing from the unearned increment of land by means of coöperative development. The Copartnership Tenant Societies formed by artisans, mechanics and clerks in some twenty British cities have thus bought patches of suburban land, from 10 to 300 acres in size, at reduced cost per unit; have developed such land coöperatively at reduced cost per unit for architect's services, the laying of streets, plumbing, sewerage, etc.; have built their houses coöperatively, purchasing materials for fifty or more houses at once at considerably reduced costs. Each tenant pays rent for his cottage home to the Copartnership Tenant Society to which he and his neighbors belong, and receives his profits in the form of dividends on rents, paid not in cash but shares of stock in the Society. The unearned increment of the land is the common property of the coöperating members and enhances their profits. The Harborne Copartnership Society in its garden suburb on the outskirts of Birmingham, England, was formed by workingmen who to-day pay rents for these cottage homes at rates no higher than they paid previously for insanitary slum tenements in the city. Yet this Society is already able to pay 8 per cent dividends on rents in addition to the regular 5 per cent interest on invested capital. The British workingmen have, however, had more experience in coöperative methods than have the American workingmen.

This method of cheapening and facilitating suburban development is not applicable here without an intermediate period of careful study of coöperative methods by the workingmen who plan the association, and preferably should not be tried until they have had some experience in some form of coöperative practice. Garden suburbs of this character in England and in Germany have been facilitated by cheap loans of capital from philanthropists and from the governments of these countries. If capital may be obtained from some source at 4 per cent interest for building loans, and if the experiment has the backing of influential citizens, it would be much easier to make it a success.

A third means of reducing the cost of land per cottage would be by use of the land tax already described. If the tax were taken off improvements and placed exclusively upon the land, the vacant land now held in the suburbs by speculators would be placed upon the market or built upon. It is probable that land under such conditions would be more readily available to modest purchases in the suburbs, and in so far would make suburban housing possible.

Residential Streets

Residential streets are often rendered costly through unnecessary width and through expensive provisions of curbs and sidewalks. Some residence streets must be used for a fairly large local traffic. Others are by their very nature and direction precluded from such use. A careful study of this problem will indicate that in certain suburban residential quarters the width of streets might easily be reduced to the provision of a 16 to 22 foot roadway flanked by grass strips. By establishing a building line on each side of such roadway at some distance from the street, it would be possible for the city to widen its streets without

serious expense if that should ever prove necessary. The provision of sidewalks on both sides of the street is also not invariably necessary in suburban quarters of this character where a street is purely local. Under such conditions, if the street is developed only to such degree as to render it adequate for its local service, the cost of street construction will constitute a much less burden upon home owners.

Size and Shape of Lots

There are several serious disadvantages in having lots of uniform shape. In the first place a popular prejudice is created for the deep and narrow lot which is not easily dislodged, and the poor man who wishes to build a cottage home is socially constrained to purchase a lot 100 feet deep whether he needs so much land or not. It is perhaps the safest thing for a city to have standard lots, at least in the heart of the city, until the science of lot distribution and usage is developed. It is not easy to make definitive prescriptions for the employment of lots of any other specific size which would be more satisfactory for all purposes. But the lack of elasticity in present lot shapes and sizes is fraught with serious consequences. The 25 by 100 foot lot cannot be used economically for workingmen's cottages. It is wasteful of land at the rear, for the American workingman will not ordinarily start a garden as will the English or Italian. It is parsimonious of land at the sides of houses, especially if built in the two-flat style. It becomes impossible to construct two-flat houses on lots of this shape which will not be too near to the lot line and thus to neighboring houses.

If the arterial streets of a city are broad and sufficiently straight, and there are occasional broad cross streets within the residential zones, it should be possible to plan much of the remaining residential land with narrow dirt streets for local service purely, often perhaps with one sidewalk or none, grass strips and trees at the sides and a building line for houses on abutting lots. These streets might wind, which would enhance their beauty; and if on a hillside, ought to wind in some accordance with the contour lines of the hill. In such quarters, lots of varying shapes and sizes would be possible.

Near factory quarters, where land values are not yet prohibitive, the Philadelphia type of housing might be promoted by the establishment of lots even down to 14 to 16 feet in width and perhaps 40 feet deep, to be built up with four-room or six-room cottages, two stories in height, with brick dividing walls on the lot line. Houses of this type could be constructed so as to be available even for the families of day laborers, as the experience of Philadelphia has proved. Preferably if this type of house is to be used, builders should be provided by some competent authority with standard plans showing types of construction that are cheapest in design and at the same time healthful and varied in exterior. Multiple cottages of this type can be constructed to rent or to sell. Streets may be narrow without darkening rooms, but provision should be made for grass strips and trees on all streets of this character, relieving their monotony of type and improving the air for the semi-crowded occupants.

In the outlying portions of the city's contiguous suburbs, both straight and winding streets may be provided, and in specific quarters lots narrow or wide, shallow or deep, may be accepted according to the prospective use of the quarter. In general, however, the narrow lot should be avoided in such suburbs, and the permission to plot deep lots might be granted, or parks or allotment gardens planned in the center of certain blocks if the city guarded the right to push a minor street through the middle of the block in the future. Both one- and two-family houses could be constructed more economically and to greater social advantage on lots from 30 to 35 feet in width and 60 to 70 feet in depth than they can now on the 25 by 100 foot lot. On the wider lot, as specified, houses can be constructed with square floor plan, two rooms abreast and two or three rooms deep, reducing somewhat the cost of construction, the cost of heating and the cost of furnishing such homes. Furthermore, the lot 35 by 60 feet in dimensions uses 400 square feet less of land than the lot of 100 by 25 feet. On it a house may be built with two rooms of ordinary size abreast and yet leave 5 feet on the side to each lot line. The house may be built two rooms deep and leave a 10-foot lawn in front (insured by municipal provision for a building line) and a 25-foot yard in the rear, which may be encroached upon by a third room in the depth of the house or by a piazza, or may be used as a garden. The only serious dis-

advantage of this lot plan lies in that it provides for an increased street frontage, and thereby a larger cost to the owner for road construction, etc. But if street costs in residence sections are reduced by the means above specified, there will unquestionably be a net gain to society from the use of this method of platting.

Irregular lots on winding streets can be rendered economical and exceedingly beautiful if developed coöperatively in the manner already described. The British copartnership garden suburbs are so planned and yet are able to house workingmen at current rates.

Public Supervision of Suburban Development

If your city is to determine its housing development, it is essential that there be a municipal commission empowered to establish the building zones of the city, to pass upon, and, if necessary, reject plans of land companies for estate development, to determine also the direction, width, paving and planting of new streets, with power to inaugurate schemes and enforce its decision in so far as they affect vitally the welfare of the community. There should be a permanent city plan commission for the metropolitan district, even if the suburbs of the city are not all (as they should be) incorporated within the political city. There is much European precedent for the establishment of such commissions with power. German cities are so provided. English cities under the town planning act of 1909 may secure power to regulate the methods and extent of development of land likely to be used for building purposes within, or in the neighborhood of, their area. They also have power to limit the number of buildings which may be erected per acre and the height and character of those buildings.

In America city planning powers of this type are already being given by provincial governments to the cities of Canada. In Ontario, for example, local town planning commissions have power to pass on all lot distribution of towns of 50,000 inhabitants or more, and cities may plan for the area within five miles of their limits. No lots may be sold until such plans are approved. The value of this power is reduced in so far as the promotion of workingmen's suburban homes is concerned by the requirement that all streets shall be at least 60 feet wide. The provinces of western Canada have given quite similar power to their cities. In the states, somewhat similar powers have already been granted to cities in Pennsylvania and Wisconsin. And that power under the Wisconsin law regarding the platting of land near cities, adopted in 1909, extends to all land within one and one half miles of the limits of such cities.

The Cost of Cottage Construction

Suburban development will be encouraged not only by keeping low the price of land and restricting its use but also by any reduction that can be made in the cost of constructing cottage homes for working men. In general it is possible to construct tenement houses which shall be cheaper per unit of accommodation than cottage homes. This will probably not be true where tenement houses are required to be fireproof. It is, however, advisable for citizens who are aware of the urgency of their local housing problems to experiment in the construction of detached and multiple cottages. The best ability of architects in America has been turned to monumental work, but the important social problem of designing cheap cottages has been almost overlooked by them. In England the attention of the best architects has been turned to this problem by the holding of competitions with prizes for the best cottage constructed for a specified sum (£175 in the case of the first cheap cottages exhibition, Garden City, 1905). The purchase of the houses constructed may be guaranteed by the promoting body.

It would be desirable to interest the best trained architects of America in this problem, for by competition among them new arrangements of houses and new materials for construction will be brought to public attention. Such a competition might be held by a municipality (as, for example, one was held at Sheffield, England, in 1907), but such competition could be held with equal satisfaction by some private organization. It is in experiments of this sort that private organizations can do their best work in meeting the problem of promoting suburban housing. The cost of cottage construction may be reduced also by large scale building, buying and developing several acres of land at a time. This may be done by philanthropic associations, by employers of labor, by commercial building companies or by coöperative associations of tenants.