

In the same way an intellectual center that gives origin to one line of ideas inhibits the development of a line of antagonistic ideas, or, as Münsterberg puts it, opposing ideas may be assumed to flow from the intellectual centers over two different paths; while the one pathway is active the other remains closed.

"A new conception of mental activity originating with G. Papini, of Florence, and elaborated by Prof. William James . . . makes it appear that the mental power of the brain, like the power of the heart and other organs, is very much greater than is necessary to satisfy the ordinary daily demands. Professor James claims that we all habitually live far within the limits of our mental energy, that we all have vast stores of mental power that are rarely called upon. . . . We regularly indulge fatigue-habit and stop at our 'first wind,' at the first layer of mental fatigue. All our ordinary lives are cast on this side of that layer. Beyond the extremity of this first fatigue-distress, we may tap layer after layer and find new sources of strength and power, ease and comfort, that we never dreamed of possessing or attaining.

"These stores of latent cerebral energy in most people seem to be suppress or inhibited by what Mr. Horace Fletcher calls 'fear-thought,' the self-suggestion of weakness or inferiority. This is the obstacle or barrier to the regular utilization of our powers of mind and in order to bring out these powers the barrier must be overcome by some unusual stimulus.

"I have emphasized these two things, the inhibition of one group of ideas by an opposing group and the stores of slumbering mental energy possess by all normal individuals, because they are the two things with which we must operate in psychotherapy. Giving drugs or the use of electricity may do good or harm to the sick depending upon how and for what they are used. The same is true according to Münsterberg with psychotherapy. He claims that no one should attempt to practise psychotherapy who has not been properly trained in that branch of medicine and whose training is not based on a knowledge of scientific psychology.

"The essential principles of psychotherapy may be briefly stated. The mind tends to translate into physical reaction any suggestion or idea which can be actively aroused and kept at the focus of attention; the idea must seem possible and reasonable. All opposing ideas must be completely inhibited and the mind must be made to give the idea free play. . . . The appeal must often be made not so much to the rational mind or the reasoning faculties as to those deeper and more fundamental psychic activities rooted in the instincts, feelings, habits, and hereditary tendencies that are more far-reaching in their effects than anything in the rational mind. For this reason psychotherapy will always be more effective with women than with men.

"Further, the deeper levels of the mind, the slumbering mental energies, must be aroused at least along some line and in some degree. According to Professor James the will is the ordinary and normal opener-up of those deeper mental levels. The will is often weak and some unusual stimulus is necessary. War is given as an extreme example of such stimulus; it shows what men and women can do. Religion is equally powerful and early Christianity gave remarkable examples of the liberation of energy in the individual and in the masses.

"There is some line along which every individual tends to be inflammable by the power of ideas and now that the psychology of the people is undergoing such changes it is a power that we can not afford to neglect. The secret of success is in finding this line of ideas for the patient before us. For one it may be finding a new religion, for another bracing up in an old one, or falling in love, or taking up a line of study, or getting a dose of yellow patriotism, or going to a missionary field. Be the stimulus what it may, the old troubles cease to vex, the old pains fly away, the individual shows good cheer, good temper, a firmer and more elastic moral tone, a life having new qualities, new freedom, enlarged powers. . . . We of the medical profession must and do recognize the power of ideas in the treatment of disease; the profession has always done so, but as I have stated, it has not always given it the attention that it deserves. I think it is our duty emphatically and persistently to condemn the treatment of the sick by others than the members of the medical profession. There is nothing that others can do, but that ought to be better done by those especially trained to do it. As Münsterberg says, even as simple a remedy as psychotherapy may do harm instead of good if not properly applied. But the real danger appears when, as is so frequently the case with Christian Science, the symptoms of serious disease are ignorantly overlooked until it is too late to apply rational methods of treatment."

A CITY IN THE COUNTRY

A PLAN for the improvement of housing conditions that will appeal to the interest of many groups of our population is the so-called Roadtown, devised by Edgar S. Chambless, of New York City. This combines a group of connected suburban dwellings with a system of rapid transit, forming a sort of projection of the city into the country. Says a writer in *The Review of Reviews* (New York):

"The invention of Mr. Chambless involves a systematic and efficient distribution of public utilities with a completeness that has heretofore been thought unattainable even in blocks of high-grade apartment houses, from which the masses of our metropolitan population are excluded by the high rentals.

"It would be an anomaly to describe the Roadtown as a skyscraper laid on its side, and yet there are close analogies between the modern sky-scraper and the proposed Roadtown. This continuous house will provide its tenants, just as the apartment-house now does, with water, heat, light, power, and transportation—but for the latter a noiseless railroad will take the place of an elevator. It is proposed to employ the Boyes monorail, as well as a moving sidewalk, and to provide for mechanical deliveries of all packages and parcels as well as for the transportation of passengers and food. Not only will an ideal combination of transportation service with house construction be secured by this plan, but very marked economies will be effected in such matters as plumbing, wiring, and the use of cement. Mr. Thomas A. Edison has offered the use of his cement-poured house patents without royalty."

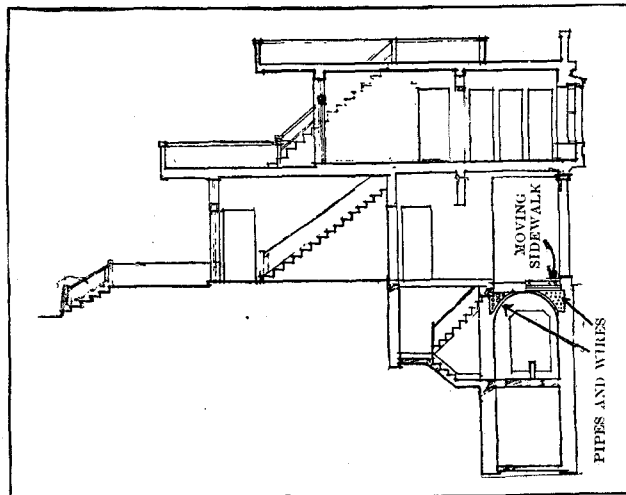
The inventor and his associates assert, we are told, that such savings in construction and maintenance will make it possible for a man to live in the country at the rent now paid for a second-rate city apartment, and enjoy all the benefits of electric power, light, gas, heat, hot and cold water, sewerage, irrigation, vacuum cleaning, mechanical refrigeration, telephone, and message and parcel delivery. We read further:

"That large class of workers in our large cities who are now commuters will naturally utilize the Roadtown, since it will give them many of the advantages that they seek in the country, without depriving them of libraries, schools, churches, or theaters. To a greater or less extent the Roadtown commuter will be able to combine light farming-work with labor at the city desk.

"In the saving through the distribution of food supplies much is claimed for the Roadtown system. The purchase and preparation of food will be by wholesale, and meals will be ordered from serving centers conveniently located. It is proposed to make deliveries by means of special cars provided with warm and cold compartments directly to the dining-room of each individual home. The dishes will be returned to the serving station and kitchen drudgery will be practically abolished from the home. Not only will the Roadtown effect a great saving in the cost of living for individual families, but the possibility of distributing power from one end of the structure to the other will make feasible the introduction of various industries requiring individual hand labor or the use of light machinery. Each house will be supplied with a motor, to which a machine of standard size may be readily attached. Among the industries that are likely to have a place in the homes of Roadtown will be knitting, lace and needlework, millinery, the making of artificial flowers, toilet articles, wood-working, toy-making, book-binding, and the 'arts and crafts' in general.

"In the New-England manufacturing-towns of half a century ago families frequently combined agriculture on a small scale with manufacturing. The growth of the modern factory-system has practically done away with opportunities of that kind, but the Roadtown offers to bring them back.

"In the Roadtown scheme it is always assumed that each house will have with it a reasonable amount of land for tillage. It does not follow, of course, that all these garden-plots will be equally productive or available for profitable cultivation. In some instances the Roadtown location might be admirable, so far as accessibility to a large city and general healthfulness are concerned, but quite unsatisfactory from an agricultural viewpoint. It would, indeed, be rare to find all the desired advantages combined in one location. In those places where there is an abundant supply of land suitable for tillage the Roadtown system would undertake to



A CROSS-SECTIONAL VIEW OF "ROADTOWN."

furnish water for irrigation purposes (if needed) as well as to provide facilities for transportation of all farm products. It is believed that there will be no great difficulty in securing sufficient land to support the 220 families per mile which will make up the Roadtown community."

The cost of building and equipping a mile of Roadtown is estimated at \$833,200, including wiring, heating, plumbing, laundry machinery, cooking-apparatus, heating and refrigerating plants, electric plant and telephones, sewerage plant, water-supply and mains for irrigation and domestic use, gas and vacuum producers and holders, moving sidewalk, and monorail. The cost of each house, including these various utilities, would thus be \$3,787 for the first mile of construction. Says the writer in conclusion:

"It will be readily seen that each added mile would be built at relatively smaller cost, and the engineers estimate that an addition of 500 or even 1,000 houses would not make any material increase in the principal labor items, such as the pay of engineers, firemen, and heads of departments."

TO PREVENT COLLISIONS—A new device for the prevention of train collisions, recently tested on the Erie tracks between Newark and Nutley, N. J., is thus described in *The Scientific American* (New York, December 11):

"The device is an electric one, and is intended to obviate head-on collisions. When the fast-approaching trains equipped with the new device get within half a mile of each other, the air-brakes are set automatically, not with the usual suddenness in an emergency, but with a gradually increasing force, the same as a skilful engineer would employ in bringing his train to a halt at a station. The trains stop far enough away from each other to avoid mishap, and all this happened without either engineer moving a hand toward the throttle-lever or air-brake, the device working automatically. The invention is operated by a third rail, the shoe from the locomotive touching the rail, and receiving power through

it both for the operation of the emergency-brake and also for a telephone. The principle is similar to that of the block-signal system, the track being divided into zones. The brakes can be applied sharply or their operation may be graduated so that trains may be slowly brought to a standstill."

CHESTERTON ON SCIENCE

IN one of his glimpses of the topsy-turvy world where Mr. Gilbert K. Chesterton would persuade us that we dwell, that facile writer has caught sight of physical science; and he describes it for our delectation in *The Illustrated London News*. This is what he thinks it is:

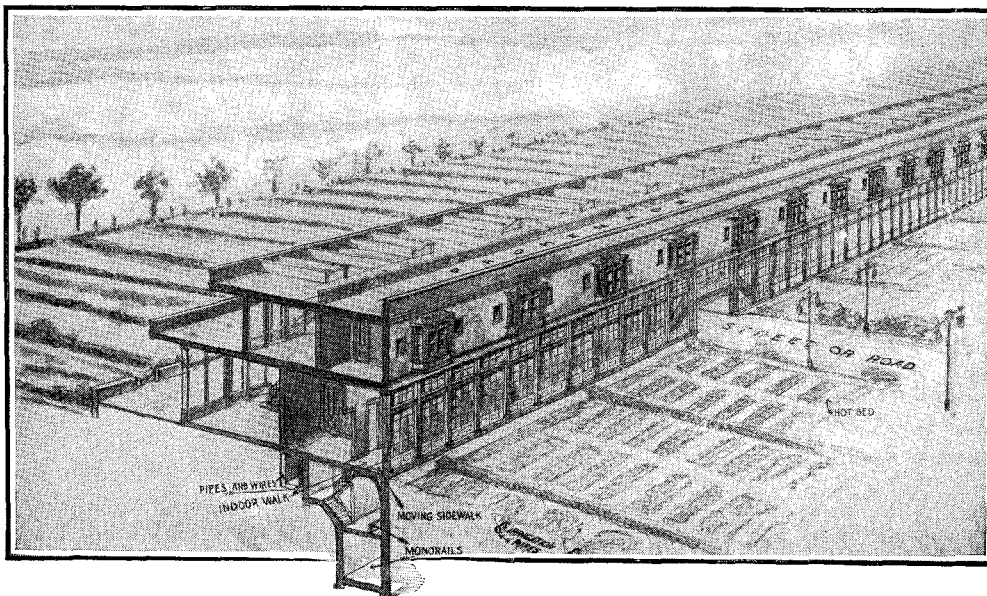
"Physical science is a thing on the outskirts of human life; adventurous, exciting, and essentially fanciful. It has nothing to do with the center of human life at all. Telephones, flying-ships, radium, the North Pole are not in the ultimate sense good, but neither are they bad. Physical science is always one of two things; it is either a tool or a toy. At its highest and noblest, of course, it is a toy. A toy is a thing of far greater philosophical grandeur than a tool; for the very simple reason that a toy is valued for itself and a tool only for something else. A tool is a means, a toy is an end. . . . When we look through a field-glass at the German forces invading England we are using science as a tool. When we look through a telescope at the tremendous planets and the remote systems, we are using science as a toy. The telephone is one of the uses of the inquiry; the solar system is one of its gaities or levities. When science tells me that there is a house in Ealing that I can communicate with, I am interested; when science says there is a star in Sirius [*sic*] I can not communicate with, I am amused. But in neither case can science be anything else except a tool or a toy. It can never be the man using the tool. It can never be the child playing with the toy. It can never, in short, be the thing that has natural authority over toy and tool. For

the child has the kingdom of heaven, and the man has the kingdom of the earth."

The only evil that science has ever attempted in our time, Mr. Chesterton tells us, has been that of dictating not only what should be known, but the spirit in which it should be regarded. It does not in the least matter, he goes on to say, whether we look at a



ELEVATION SHOWING ONE SIDE OF "ROADTOWN."



A BIT OF THE PROJECTED RURAL CITY, FROM THE ARCHITECT'S SKETCHES.