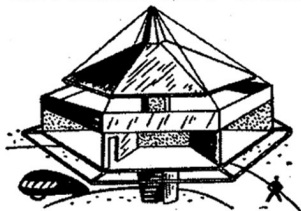




May, 1941 * p. 103

**THE DYMAXION HOUSE—SEVEN ROOMS
FOR ONLY \$675—TOUCHES OFF AN
ENTIRELY NEW TREND IN OUR THOUGHT**



New Machines for Living

by ROBERT W. MARKS

FOR more than two hundred years housing has been at a standstill. Indeed, in many respects, our housing has gone backward. Today we live in houses uglier than those of the eighteenth century, with much less space to breathe in or swing our arms and with walls so thin that we get a special communication every time the person in the next room turns over in bed.

Transportation has made amazing advances, from the horse and buggy to the stratoclinchers; communication has leaped apace, from Paul Revere's horse to television; science, industry, engineering, medicine, warfare have multiplied their products like amorous guinea pigs—but not housing. Housing is the forgotten man in the harem of progress.

Suppose you wanted a car, and

had to go through the same procedures you have to go through today in getting a house. First, you would go to a local car designer, probably one recommended by friends. He would suggest, perhaps, a reproduction of a tenth century rickshaw, a Louis XV barouche, a tally-ho or a Trojan horse. Then, for a couple of thousand dollars, he would draw you up a blueprint exactly fitted to your personal requirements.

You would next call for bids from contractors. Local blacksmiths would be needed, local tin-smiths, local machine shops, wheelwrights, carriagemakers, plumbers, and electricians. And when you were all through, you would have something that was a cross between the first Stanley "Steamer" and Mr. Eli Whitney's cotton gin. Your minimum

outlay would be in the neighborhood of \$15,000, plus some thirty per cent margin for extras, such as a self-starter, a heater, a speedometer, and a place to sit down.

Yet, in 1941—a year in which splitting an atom is as common as splitting an infinitive—this is the way we still turn out houses.

One of the keenest minds to be perturbed about this phenomenon is that of R. Buckminster Fuller. “Buckey” Fuller is a sort of combined industrial and social engineer, creator of the Dymaxion Shelter, the Dymaxion car, purveyor of visions extraordinary, and technical consultant on the staff of *Fortune*.

Fuller argues that the social function of machinery is to eliminate the unpleasant phases of life in the shortest possible space of time. Housing, or “shelter” as he prefers to call it, should be, fundamentally, “a machine for living.”

WITH THESE ENDS in mind, he set about designing the most efficient conception of shelter, one that would provide the greatest possible degree of protection and comfort and would embody the greatest possible degree of efficiency.

Thus, the Dymaxion house has been planned for mass produc-

tion, to sell within the price range of Fords, Chevrolets, or Plymouths. It is designed to go up and be completely equipped, furnished and ready for use within some three hours after delivery. The smallest Dymaxion housing unit is planned to include two master bedrooms, two baths, study, kitchen, living room, garage, workshop, sundeck and complete equipment for heating, air-conditioning and refrigeration.

And now comes the shocker; the Dymaxion house is suspended from a mast by cables, using the same principles as are used in a suspension bridge. It is much cheaper and much more efficient to suspend a heavy weight than it is to brace it up from the bottom. And besides, this technique obviates all need for an elaborate foundation, one of the big cost items in most construction systems.

The central mast, entirely finished at the factory, contains all plumbing and waste-disposal pipes, heating, ventilating and air-conditioning system—and the staircase. The structural material is the airplane industry’s duralumin tubes and bladders—inflated with air for rigidity.

The furnishings of the house are to a large degree built-in. These include pneumatic beds which re-

quire no covers, since the interior air temperature is always carefully controlled; prefabricated Dymaxion bathrooms; and dish and clothes closets designed to revolve so that the storage space will move around you.

Other mechanical innovations include a laundry unit (you insert a soiled shirt and in a few minutes it comes out completely laundered and ready for the Court of St. James) and book shelves that revolve like the steps of an escalator, housing typewriters, globes, mimeographs, calculating machines, radio apparatus, in addition to books. Downstairs is a hangar for transport equipment—automotive, amphibian or whatever is available. (Fuller claims that transportation is technically an extension of the mechanical limbs of man and comes in for due consideration under “shelter.”)

CONSTRUCTION operations take place as follows: (1) Basic materials are delivered to the point of use. (2) Central mast is raised and anchored by guy wires. (3) Floor beams are suspended from the mast and made rigid with other wires attached to stakes in the ground. (4) Prefabricated floor plates are inserted and made

fast. (5) Pneumatic flooring is laid in place and inflated. (6) Service units—kitchen equipment, bathrooms, closets, laundry units, revolving closets, etc.—are set in place. (7) Soundproof wall partitions are hung in their respective places. (8) Vacuum-spaced glass front and ceiling units are placed in their respective areas. (9) Protective hood is suspended.

Now, as soon as electrical and water connections have been made, you are all set. It is about three-thirty in the afternoon, if you started to work at noon, and you are fully prepared for house guests, indigent friends or Fuller Brush salesmen.

Actually the Fuller Brush salesman will find little welcome here, however, as there is no dust in the Dymaxion house. Efficient filtering apparatus carefully removes dust, dirt, pollen, gnats and cinch bugs from every cubic inch of air the ventilating system admits. What few microscopic specks come in with indiscreet visitors are quickly blown away by a compressed air gun—an extension of the ventilating department.

The costs of dwellings of this type are to be calculated on a weight basis, just as automotive costs are based on weight. Ford cars, for example, have been found

to cost some twenty-two and one-half cents a pound, at retail. Figuring the Dymaxion house, in quantities, on the basis of the Ford price, and knowing that the total weight will be (for a given model) 3,000 pounds, future prices can be said to hang around the \$675 mark—or about one-thirtieth of what you would now pay for a house of similar space and appointments.

The Dymaxion house was worked out by Fuller chiefly as a demonstration in straight thinking. It is an answer to the question, "how can the best scientific and structural knowledge available today be fitted to people's housing and living needs?"

THE HOUSE, however, is just a fig on Fuller's broad Dymaxion tree. His other schemes, inventions, developments and predictions have filled books. There is, for example, the Dymaxion car. Fully streamlined, it can do more than 125 miles an hour—with an ordinary Ford V-eight engine. Its steerable tail wheel, like an airplane, permits it to turn around as quickly as a European politician. It has three distinct and separately-sprung frames—one for the wheels, one for the engine and one for the body—so that jolts are completely ironed out before

reaching the passengers, making it as comfortable to cut across fields as to stay on the highway.

Now on its way to production for 1941 is the Fuller "Mechanical Wing." "The Wing" is basically a flat trailer. On it stands a Dymaxion bathroom, a complete kitchen unit (including electric grills, electric laundry and electric dishwasher), a Diesel power plant and all essential pumping, heating, ventilating and disposal apparatus.

With this "Wing" behind your car, you can drive your power-lavatory-culinary department up to a summer shack, a barn, a tent, an abandoned well or a silo—and, lo, you have the Prophet's Paradise to Come, none the less inviting for running hot and cold water.

It is by no means required that you keep the "Wing" on wheels. In fact, with a slight wave of the hand, all these functional units can be made to slide down from their motile perch and line up respectfully, like a platoon of bell hops, in the lobby of your kiosk.

BUCKY FULLER is obviously a most remarkable fellow. Both in his several books, and in his seemingly tireless and always fruitful table talk, he has offered some

shell-breaking suggestions for a better and more Dymaxiomatic world:

Fuller predicts that farms, within the next ten years, will become enormously mechanized, with all essential plowing, sowing and reaping being done in circles and spirals around central masts. The masts will support arms, or booms, which will carry the necessary machinery.

He proposes an electrified form of the Gallup poll as a means of voting, to give instantaneous expression to the democratic principle. Every night, every citizen of the United States would register his vote, at home, on every topic under consideration by Congress. Working like the telephone system, central exchanges would relay this expression to suitable indicators in Washington. Thus, the

machine would restore that kind of "direct" democracy which once existed, on a small scale, in ancient Athens.

All of this, of course, is really just enlarging and developing Fuller's basic idea—the Dymaxion idea—that every mechanical principle is an extension of the human faculties, to be used with the greatest efficiency and to the greatest extent possible. The Dymaxion House, the Dymaxion car, the Dymaxion bathroom, Fuller's writings, his proposals, his talk are all directed toward this basic theme—working to the end that a world of the people and by the people might some time be *for* the people, as well.

—Suggestion for further reading:

NINE CHAINS TO THE MOON

by R. Buckminster Fuller

\$4.00

J. B. Lippincott Co., Philadelphia

