
MAIN STRUCTURE CONCEPT: A ROLE FOR THE INDIVIDUAL IN CITY PLANNING

Author(s): B. V. Doshi and Christopher Alexander

Source: *Ekistics*, JUNE 1964, Vol. 17, No. 103 (JUNE 1964), pp. 352-354

Published by: Athens Center of Ekistics

Stable URL: <https://www.jstor.org/stable/43613395>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <https://about.jstor.org/terms>



is collaborating with JSTOR to digitize, preserve and extend access to
Ekistics

JSTOR

MAIN STRUCTURE CONCEPT

A ROLE FOR THE INDIVIDUAL IN CITY PLANNING

B. V. Doshi and Christopher Alexander

This is a revised version of a talk given at the International Design Conference, Aspen, Colorado, on June 28, 1962. India's shortage of materials, scant technical knowhow and unimaginably rapid growth present the problem of shaping the environment in a very special light. Christopher Alexander, mathematician and architect, working on problems of Indian village structure, and B.V. Doshi faced with similar problems in housing, laboratory design and urban design, have had many discussions on the subject. This article was written jointly as result of these discussions. Abstracted from *Landscape* Winter, 1963-64, pp.17-21.

By the 21st Century, scientists foresee that we will have control over extreme climatic conditions, widespread use of telecommunications and transportation facilities and the common use of electronic instruments. We will have medicines to reduce fatigue and increase our capacity to work and prolong our life span. Twenty-first Century man will have absolute control over sources of energy, sources of food, living processes, events on, around and beyond the earth. Indeed, the scientist's and technologist's image of the future contains nothing which *cannot* be controlled.

What image does the architect have to match this authority?

It is, perhaps, not surprising that the architect's vision is comparatively narrow since, unlike the economists and the scientists, he has no real power to change the world. In spite of his boasts, his buildings do not really alter the face of the earth. For him the shaping of the environment is merely a phrase.

Let us list a few areas where competence is required to deal with the problems of the environment—remembering that there is now almost no part of the earth in its natural condition: if you have done no more than hunt tigers in the jungle, the natural ecology of the area has been disturbed. Who is competent here to re-establish and control the balance? A biologist or an ecologist.

The chemist and physicist can manufacture entirely the materials by manipulating atoms and elementary particles to the required configurations; these new materials (and the bare fact that they can be made to meet almost any given conditions) have important implications for environmental problems. But the architect knows nothing about them.

In a planned economy, the biggest single influence on the environment is that of the chosen economic policy and plan. It is drafted by economists and politicians.

To reassure ourselves (if we can) about the architect's importance as a shaper of environment,

let us look at those problems of environmental control which we regard as the architect's special province: indoor climate, human problems, sitings of buildings, building construction.

In a closed space we can control radiant and air temperature, humidity, ionization and air movement. The expert in these matters is a heating engineer, not an architect.

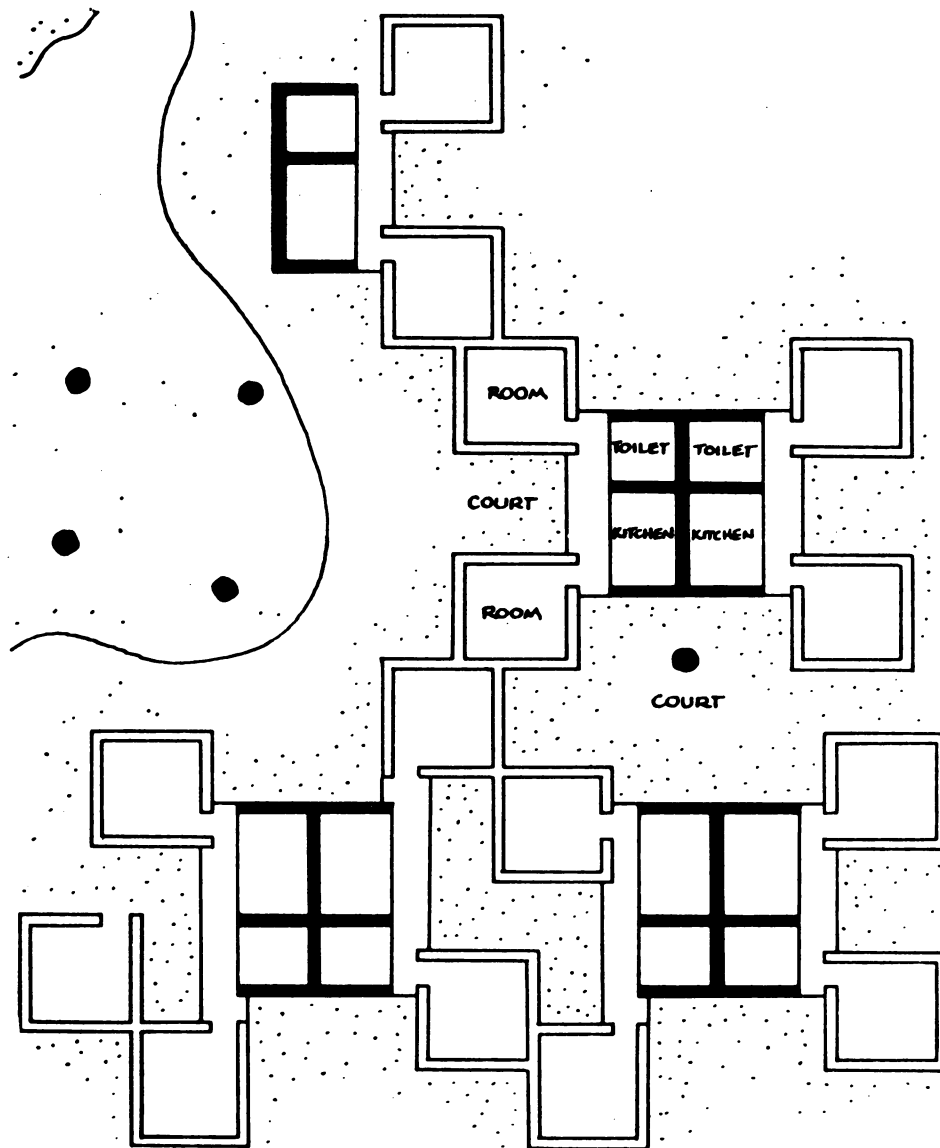
In a city we are forced to modify the social environment of the inhabitants because, whether we like it or not, physical planning has social repercussions. Yet the experts in this matter are anthropologists and sociologists.

Since the effect any indoor space—a living-room or a café or an office—has on people cannot be ignored, we must also, as architects, try to control the psychological conditions created by the micro-environment. But if we really want to study their effects, we will more likely consult the psychologists who are working on confinement stress in a space capsule.

The economic effects of placing a building in one place rather than another, and its future consequences for the city, are not known to the architect. The economic planner is the expert here.

And even in the simplest environmental problem of all, that of building dwellings, the builder rather than the architect reigns supreme. Of all the surface construction in the five boroughs of New York City, architects may possibly be responsible for 1/10th of 1%. And if anybody can make any real change in the physical organization of these boroughs it will be a builder's lawyer who can alter patterns of land tenure and responsibility, not the architect.

Nor do most of us really require the services of an architect except in so far as fashion tells us to. Actually we can live anywhere, because we can adapt ourselves to almost any condition. A barn will be happily used by one man as a house, by another as a garage, by another as an office or a theatre. This adaptability of man makes much of modern architectural emphasis



on precise function inappropriate. It is pointless, for example, to waste energy designing the most functional staircase (as one might the most functional airplane wing) when people, because of their innate ability to adapt, can use any staircase which gets them upstairs.

In fact, even architects don't believe that the principles of modern architecture are actually essential to modern life; many of them prefer to live in old houses.

Of all the design problems in the man-made environment, the only one where the architect is likely to be consulted is that of monuments.

So we are led to the strange conclusion that the architect at present plays almost no useful part in the creation of the environment.

One way of describing New York on a postage stamp is to draw the grid. A larger diagram will begin to show the main structure, the contents

of individual blocks. If we call the grid the main structure, the contents of the blocks are the filler.

If, instead of drawing the grid, we draw the centers of most intense activity, we shall get a different diagram, consisting of blobs at Times Square, Wall Street, Rockefeller Center, Greenwich Village, Grand Central and so on. If these centers are in this case the main structure, the subsidiary restaurants and nightclubs, taxi-stands and subway stations, etc., provide the filler.

Or again, if we draw the various functional zones like the West Side docks, the trucking zone behind the docks and around Penn station, the commercial stores on Sixth and Seventh Avenues, the luxury stores on Fifth and Madison related to the luxury residential neighborhoods close by, Harlem uptown, and the racially mixed West Side separating it from Midtown, and so on, we shall get a still different picture of the structure of

New York. If we regard these zones as main structure, then the filler consists of cinemas, parking lots, the West Side highway, Central Park Zoo, etc., which have grown as reactions to this pattern of zones.

But the real problems of finding a main structure for a city like New York is not to pick just *one* of these three main structures but to fuse *all* of them in a single main structure, one which would combine all the major functions contributing to the overall organization of the city's environment.

Le Corbusier, in his plan for Algiers, had the idea of combining traffic, work and housing in a single linear thread. Within this complex, Le Corbusier envisaged every type of activity. The road and the load-bearing elements constitute the main structure. As filler, his drawings show Baroque, Moorish and modern houses jumbled together according to the whim of the inhabitants, but always within the discipline of the main structure. The Ginza highway, actually built in Tokyo, is a diluted version of this concept.

Tange, in his plan for Tokyo¹ states that the only rigidly defined part of the plan is to be that which caters to the *mass* of collective scale: communication, meeting, shopping, recreation. The *individual* scale, required by dwellings and places of work, he regards as changeable; and he does not therefore bother to define it. Tange's mass scale is the main structure; the human scale provides the filler.

Another experiment along these lines which has been realized is the Hong Kong refugee accommodation. The city has built six-story blocks with nothing but floors, staircases and services. The refugees have to construct their own enclosures on the «artificial ground» provided.

We ourselves are designing a very basic main structure, consisting of service cores and roofs, for village cowherds in India. The rest of the structure will be filled in by the cowherds themselves. They will use materials like mud-wall and thatch in the traditional way; and, since such filler is cheap and expendable, it will permit changes and improvements to be made as the income of the tenants rises.

¹ See EKISTICS, Vol. 12, No 69, pp. 9-19. Ed.

The relation between main structure and filler has several characteristics. (1) The main structure is always more permanent than its filler. (2) The functions performed by the main structure are usually more exacting than the functions of the filler. (3) In many cases, the development of the filler can be left to the fluctuations of the market and to the whims and special desires of individuals.

The examples we have given, all of them recent works, suggest that some architects are now exploring an approach to environmental design more modest than the usual ambitious attempts to prescribe the form of the environment in full and in every detail, as, for instance, in Brasilia. They suggest the possibility of concentrating the essential functions of the city in a few major structural components (over which the architects and planners *do* have adequate control) and leaving the rest of the city to grow as it will in between. The architects mentioned have all designed the main structure and have left the filler to itself. In this way, they have made a most welcome contribution to the solution of some of the problems of urban environment, a contribution which the all-powerful specialists cannot make. *The architects have specified the overall organization of the environment but have left it to the individual to control and construct his immediate surroundings.*

If we can develop this trend towards the specific design of main structures only, it will be of enormous human advantage. Under present-day living conditions, the city-dweller's personal possessions are his only outlet for self-expression. Mass-produced, mass-design-regimented houses and offices stunt his spiritual and esthetic development and eventually destroy his mental wellbeing. His attitude toward his environment becomes increasingly impersonal and uninterested. There is nothing in the world around him to offer him the chance for personal identification or to arouse in him any sense of belonging. If designers concentrate on the main structure only, the individual filler units, whether they are dwellings, offices, cafés or gardens, will be able to find their own form at the hands of the people who inhabit them. Perhaps we can then again learn the freedom and sense of belonging to the things around us that we once had.