English texts

Carlos Raúl Villanueva

Evolution and Training

It can be said that the activity carried out by the architect throughout the centuries, in spite of all its historical variants and although, apparently, there was resistance to any great internal upheavals, has none the less finally been substantially altered in structure.

The first upheaval came about during the Renaissance when the architect realized fully, for perhaps the first time, the subtle and difficult privileges that had been accorded to him in his role of artist/creator. From this moment his professional conscience found itself torn between the growing contradictions of his sense of adventure, of invention, of originality and the ever increasing, clearly defined limits within which his clients placed the programme of their needs. These contradictions began to make the problem of design more crucial, they took place within a context that was soon to be entirely artistic (with the architect fully aware of his status as artist); but their consequences rarely did more than cause individual and personal reactions on the part of the creator. The second event of real value is that the architect reaches the point where he places himself—in the advanced economic-industrial system— at the heart of the conventional formulae of a liberal profession.

First of all a craftsman, then an artist, now an intellectual, the architect has included in his work elements of insecurity, of non-conformism together with a feeling of protest and of utopia. These factors correspond, in the contemporary world, to a basic contradiction between his primary role as an integral part of the economic mechanism, which justifies and at the same time demands this role, and secondly the development of his capacity to analyze, to use his eminently critical view of society. Nevertheless, we know that it is impossible to be at the same time the blind instrument and the critic of the same system without falling into a serious contradiction: the principal contradiction which affects the architect, like the intellectual and the professional man, in the present-day world. From this point of view the situation is no longer one that is new and exclusive to architecture. In the society to which we belong, all the professions suffer from the same state, as do all the intellectuals and all the men who declare themselves not in conformity with the process of 'choisification' in whose toils they are caught. It seems, however, that the architect was predestined, perhaps ever more than other professional men, to be affected by this contradiction because of the organic characteristics of design which lead him, almost of necessity, to give a judgement on the world and, as a result, to build a critical vision.

It does not seem possible, for the moment at least, that the profession of architect will cease to show this uncomfortable duality. On the contrary, it will keep it, accentuate it, revive it each time more clearly, in a rigorous historic need. Because of this the university structures that train the architect find themselves forced to allow the development, to a degree hitherto unknown of the idea of autonomy and that of co-direction, which was established some time ago in Latin America, and is at present urgently claimed by European students. What has been added however, is the important new idea of the relation between autonomy and co-direction, on the one hand, and on the other, the function that the University must fulfil as an outside critic of the society. From the point of view of the training of the architect it is indispensable to understand the close relationship of cause and effect between historical awareness adapted to a sound critical position, which gives at the same time a special role to the historical training because it has been conceived not in an academic manner but from a functional angle. The pragmatic truth which is imposed on the architect as a definite sign of his deeds can be catalogued by means of several prominent traits, i. e.

1. The definitely urban shape of the human habitat.
2. The mass demand for architectonic products.

These two decisive facts combine with two possibilities which, at present, and each time with more imperious force, are offered to the architect.

1. The integrated use of science.
2. The abundant use of technology of a solidly industrial basis.

Here are a few of the points on which everyone agrees, the growing difficulties that the architect meets in order to satisfy the requirements of society. It does not only concern the reasons for the maladjustment and the contradiction of which we have spoken, far from it, but also the empiric form which is intuitive and basic, that still rectifies the method of design of the architect. The determining factors and the possibilities mentioned previously must be coupled together to give birth to a structure of teaching based on a seriously scientific attunement: to design and to develop a scientific methodology to be inscribed on the order of the day for the architect. Whatever may be the solution given to this problem, it cannot be obtained without teaching that in practice it is eminently experimental and capable of investigation.

I have the feeling that it is on these themes that the attention of the profession should be focused at the moment.

Fundamental interests are at stake; they demand the definition of precise objectives. On the world scale, it is time to declare the profession of architect in peril. An enormous task awaits us and we possess the most suitable tool. Let us lose no more time.

Kuion Maekawa

The Training of Architects

In training architects today there is a double difficulty to be faced: first of all, in spite of all the well-established institutions of contemporary education, it is not possible to do anything except through the architects themselves. The second difficulty is that because of the social crisis which has shaken the very basis of the profession, it is hard to find architects who are sufficiently worthy of belonging to this liberal profession.

In architecture, technique and the inspiration are separate one from another. The technique of modern architecture is autonomous and objective and is entirely independent of the architect himself, whereas in other arts, such as painting and sculpture, the technique is always to be found in the person of the artist himself, closely linked to the imagination of the artist. The technique of architecture is therefore accumulative and transferable, and in consequence can be taught within the framework of the present institution of the School of architecture, but the problem of inspiration in architecture is completely beyond its scope.

The training of architects can only be achieved by the architects themselves, but what is tragic today is that it is not easy to find an architect worthy of the name of this liberal profession. For a long time the profession of architecture was considered, together with those of law and medicine, as one of the most eminent; unfortunately, in modern society, it seems that it has abandoned this prestige of being liberal to become commercial. The architects of the modern world seem to be no longer aware of the indispensability of a free statute for their creative activities, which are the very basis of their existence. The reason for which the profession of architect has been considered liberal lies in the fact that it has always had a double responsibility: one towards its client, as the supplier of the artistic concept and also as the representative of the interests of the client, the other towards the community as creator of the public environment. To accomplish this double task, it was necessary for him to keep his free statute, architecture being after all the mass resulting from the decisions of the architect in the free state of his imagination. Today the architect's liberty of mind is in great danger: not only because it is menaced by the present regime of the industrial society, but also by the psychological decadence of the architects themselves who do not regret throwing themselves like 'articles of commerce' into modern society and who are no longer conscious of the need for a free spirit to maintain their existence.

Already 40 years ago Elie Faure wrote that after 100 years of almost total eclipse, the dawn of modern architecture was announced, but it already seemed to have fallen into a state of decadence. Contemporary architects are divided into two categories: those who repeat routine work, without thought or repugnance, and those who do the most shameful things in the name of individualism, the so-called prestige of the present society. It is in this way that modern architecture has already fallen into a kind of academicism less than half a century after its birth.

How can one hope for a resurrection of free architecture? We must remember that at the beginning of this movement the predecessors of modern 20th-century architecture began the impulse as a censure on their architectural surroundings. At this decisive moment for architecture, I think that it is only this free spirit of criticism by the architect which can enable the dawn to break on a new contemporary architecture.

Claude Schnaidt

The Architechnocrats

A new man-type is in process of being born: the architechnocrat, a happy marriage between the architect of yester year and the modern technocrat. How can he be recognized?

Unlike the architect, he cannot be recognized by his ties, his clothes, and his hairstyle. He is discreet, and prefers boardmeetings to conferences, confidential documents to manifestos. One meets him everywhere, in the minister's suite, in large air conditioned offices, in small, badly ventilated and dusty studios. He may be an employer or an employee and doesn't necessarily come from a bourgeois background. He feels quite at home in the consumer's society, although he sometimes criticizes it. He is modern. His vocabulary draws on cybernetics, structuralism, and serious newspapers. Although it amuses him to experiment with ideas, he is wary of ideologies and forecasts their early disappearance. He would like to see the final supremacy of nationalism, efficiency, and pure technology. He has total confidence in machines, computers, and organization. In his view, technology will bring us plenty, leisure, and the classless society. He has a technical solution to every problem. As an architect he considers himself omniscient and competent in all fields; as a technocrat, he considers himself as a specialist in co-ordination, programming and synthesis. He practices his profession in a welter of divergent interests and would be the final arbiter. This allows him to flirt with the left, and to be seen from time to time as progressive. When he decries the mal-functioning of democracy, he doesn't hide his intention of building for power. The works of the architechnocrat can be conventional or Utopic, banal or fantastic. They are always more important than the men for whom they are supposed to be destined. Architechnocracy hasn't yet found a style, and is not very sure of finding one.

Compared with the traditional architects who still form the majority of the profession, the architechnocrat may seem an excellent fellow. He uses scientific methods and contributes, to a certain extent, to a renewal in the art of building. On the other hand, he is made suspect by the scope of his ambition. Is he not, at the same time, guilty and victim of a dangerous blindness? Let us try and answer this question.

The technocrat appears when technological power is slipping from the hands of the owner classes and when they see their economic strength compromised by the financial concentration of big business. The tasks of organization, forward planning and programming which are so indispensable to the system's proper functioning are therefore passed on to specialists who are made to feel all the more indispensable in a society which has removed from the individual the skills necessary for an independent existence.

To accomplish his task, the technocrat needs to be remote from the antagonistic groups in society. As a result, he tends to set himself apart from any clashing of interests and places himself in the role of arbiter. He distrusts any political argument and reacts to it with superiority and the universality of pure reason. He tries to depoliticize human relations so as to eliminate embarrassing variables in his solving of human equations. He considers that it is up to the incorruptible computer and the 'neutral' State to do the rest. What is this desire for political independence worth? On the left when he is face to face with the representatives of capital, on the right in his dealings with the workers. Provoking the criticism of the left, he reassures the owner classes that the established order can easily adapt itself to the solutions which he proposes. To the working class, he presents himself as a progressive by pointing out his disagreements with the capitalist. This split

personality is a lure. To attempt to satisfy equally those who are in power and those who are not is necessarily to play the game of the former. Whether he likes it or not, the technocrat serves capital.

The technocrats wish to improve and rationalize the system by collaboration with him, the architechnocrat tries to make plans 'work'. His prediction for the efficient and the profitable leads him to concentrate his attention on the means rather than on the end product. His function prevents him from questioning the base from which he has to work.

Take as an example urban traffic. The architechnocrat's solution consists of breaking holes, destroying houses, cutting down trees, and building parking lots in order to accommodate floods of vehicles. The expansion graph of the car industry is taboo to him. He doesn't doubt for a moment the very necessity of the car. He wants to turn the city into a 'machine' for moving traffic. As the results of the first operation are immediately cancelled out by the influx of private cars, the architechnocrat follows up with a second operation. The slowing down of development of means of public transport continues, and this increases the costs of their exploitation. Fares are increased because in the eyes of a capitalist state, public service companies must make a profit. The rise in fares naturally encourages all those who own a car to use it in the city. The architechnocrat tries as a result a third operation, and so on, like one of the more publicized surgeons. If nothing works, the problem is passed on to the computers.

Several large cities are planning to site in major streets cameras which are capable of transmitting by radio the speed/number ratios of vehicles necessary to sort out the jams. These would be fed into a computer which in turn would be connected to the traffic lights and would ensure a smooth traffic flow. In this way all the problems which the police and planners have been unable to solve will fall into place. Should it not work, supertechnocrats will seek a more advanced solution.

One such solution has been perfected for Los Angeles. All direct communication between people, and the movement which this necessitates would be replaced by a cybernetic system. Everyone would stay at home and would be linked to one another, by means of a few buttons and screens. No more schools, offices. The children's teaching machine would be connected to the electronic brain of the central school administration. Their father will run his factory from the living room. The streets will be deserted apart from some young people bent on the perpetuation of the species by more direct contacts.

There are other solutions to the problems of urban traffic which never occur to the architechnocrats. For example, the development of dense, fast and cheap systems of public transport to dissuade people from using their cars. Our technology, properly orientated, would enable us to find a means of transport more appropriate to the city than the private car. Moving pathways, monorails, endless carriages and other vehicles developed for major exhibitions could come into general use. This would cost a great deal, but probably less than the direct and indirect cost of the present anarchy. The architechnocrat is not interested in such solutions because hypertrophy and automobilism mean nothing to him. To ask himself too many questions, to attempt to reduce the number of cars to a level which is appropriate for an urban environment, to rethink public transport, all this requires a level of economic and political decision of which the architechnocrat is incapable. The architechnocrat handles questions of housing in the same way. He conceives the dwelling, the building and the district according to the criterion of our bureaucratic society of organized consumers. He neglects the social extensions of the family unit because he considers amongst other things, that the multiplication of individual electrical household apparatus is an advantage. This view is, in fact, profitable only to the manufacturers and their distributors. Studies have shown that the so-called progress in domestic equipment has not reduced the housewife's working day. On the contrary the time gained in cleaning clothes electrically is largely used up in the maintenance of the machine and by the intensive use which is made of it.

45 % of the so-called productive working hours of the entire population are consecrated to unremunerated housework. The correct solution is to replace a large amount of inefficiently produced housework by a smaller amount of industrial work, efficiently produced. In other words, to convert housework into a collective task. To this end, every dwelling should be sited near to a service centre housing a laundry, a small bar, cooked meals, peeled vegetables, cleaners, children's nurseries, infirmary, etc. The idea is not new. Le Corbusier thought of it because he was not an architechnocrat. In his *Unités d'habitation* he provided for these services. The experts decided, however, that they would not show a profit, so they were left out.

The architechnocrat matures the hope that the computer will solve all our problems, and unquestionably it will be called upon to become the architect's irreplaceable assistant. First of all to relieve him of routine and trying work; secondly to encourage him to take on work which is beyond his ability.

Machines can, and must, file, analyze, calculate, evaluate, integrate, check, correct and draw. They should also be capable of taking charge of the elaboration of different solutions. Since they are capable of handling systems of great complexity, they seem predestined to the solution of architectural problems which present, in general, a large number of alternatives and innumerable combinations. But if machines are in a position to undertake tasks which are impossible to man, they cannot operate without information. All they can do is to process correctly, rapidly and tirelessly such information which is fed into then and this information must be complete and programmed with great accuracy.

The problem is, however, that in architecture we never have exact information, and often have none at all. For example: how many inhabitants should make up a neighbourhood? How do different families behave? How does one measure the degree of comfort? What percentage of the loads are absorbed by the infills in a framework? Why are some areas more full of life than others? How is vibration transmitted in a building? What is the quality and therefore the value of a house? What is the relationship between the cost of insulation and heating? Our backlog of ignorance is unfortunately limitless. We have practically nothing of value to feed into a computer's memory, and as a result, we cannot use it efficiently. Any attempts to work in this field have been unconvincing because they consist, with few exceptions, of a meaningless manipulation of symbols which have no valid experimental basis. These sad efforts give a mathematical accuracy to conclusions whose premises have no greater value than intuition or supposition. Valid solutions such as the computers could already provide cannot be based on the prophesies of a few architechnocrats, but on research which must be carried out to further our knowledge. While technocracy progresses in the ranks of the architects, the environment and daily life of men deteriorates inexorably. The megalopolis which are developing become apoplectic whenever there is the slightest hitch in their supersaturated infrastructures. Whole regions are dying and changing into a countryside of old people and abandoned farms. The few theories which we have disagree with the facts which they seek to explain. We debate amongst ourselves about everything in the most incoherent manner possible. Where is the rationalism and the efficiency which technocratism is supposed to have brought us? It is time to realize that the architechnocrats are not all they say or what they would have us believe. A few of them may be exceptionally competent, but they are employed one-sidedly. Architechnocrats can be highly placed, can have influential contacts; their power of decision is, however, limited. They produce solutions, but the forces of money and political power choose these which are most in line with their interests.

The architechnocrats boast about the technical quality of their solutions to various problems, even though these are conditioned by many factors which are well outside the realms of technology. They are against all ideologies, but they have created one to justify and compensate for their powerlessness to advance technology and pure reason. Technocratism, in architecture as in other domains, is no more than a myth carefully matured to dissipate our tragic plight.

Georges Candilis
In Search of a New Meaning for the Word 'Architect'

Three years ago in May 1966, in Paris, some architectural students published a work of reflection and research on architecture, planning and their teaching. The title is a résumé of the contents 'Of what use is architecture?'

Since then, a group from the Beaux Arts School, students and staff, has begun to undertake a study in depth of the reform of architectural education, and an open debate on the role of the architect in society in the future.

This experiment has resulted in a clarification of the present situation in 'architectural production' which can be summarized as an answer to the first question: Architecture, under present conditions, is of *no use whatsoever*.

Worse still, it is becoming, consciously or unconsciously, a tool for the degradation of its practice.

The architect has lost his sense of responsibility and his respectability. His participation in the creation of the built environment is dictated more and more by quantitative values: money, number of and time.

The decisions are taken *without him,* by a system which is complex and confused—technocratic finance.

The method of financing and interest on capital plays a major role, and the profit is more important than quality.

The architect, despite himself, becomes a commercial element: he himself is guided in his 'architectural' output by his own mercenary interest.

Swamped in a system of contradiction, confusion, ignorance and camouflage, the architect finds himself in a ridiculous position in the hangover from a dying past. He is considered either as an 'artist' just accepted in the role of 'plastic decorator' of a building, or else as an inferior form of technician who is taken more or less seriously by specialist technologists.

The architect basks in the illusion of his participation in the creation of man's environment. In reality, his training, his professional organization, the framework of his activity, the false role which is imposed on him by present-day conditions plunge him into an intolerable social and scientific position, out of scale with the needs of our time. The architect is only tolerated because he exists.

The responsibility and the role of the architect among those who make decisions for the future becomes more and more important. Never in the evolution of humanity has his presence been more necessary.

Since the beginning of this century the timid emergence of the idea of 'town planning' has dominated to an ever increasing extent the life of our society. Architecture and planning today become so closely interwoven, that they are in fact one discipline—the 'Art of Building', intimately associated with man's condition and his opportunities for living, acting, thinking and loving.

We are in the presence of the rapid growth in the field of social action in architecture.

The new conditions are only too apparent throughout the world and are due to the change in scale, quantitative and qualitative. In the society of the greatest number, of the consumer and of the atomic bomb, man is ever more anguished, obsessed and lost.

Already there are signs of the coming of a world in which man will be forgotten. The danger is great, the time has come to question and to contest the present situation which has developed out of an outdated past.

We have a duty to assume this responsibility.

To assume our responsibility, and to participate fully in the metamorphosis of man's environment demands above all a recognition and denunciation of the most important obstacles, those who are opposed to a meaningful social, political and scientific action. Those who participate in the creation of our environment realize that without a new and communal vision of future society, their efforts will remain isolated, disorientated and worthless.

The simple act of building can no longer be isolated, the exclusive privilege of a profession or public body. It is a collective action which is the concern of all and is even part of everyday life.

Even the term 'Architect' is still associated with an artisanal and corporative concept of the profession.

The architect can no longer remain isolated; the multiplication of his problems, their infinite diversity impose on him his integration into complex teams where information, the creative assistance of the user, the human sciences, technical disciplines and the exact sciences will find their natural place, their objective role—and, at last, their responsibility.

Team work requires a new training, a re-thinking for all who are involved, and not only for architects, so that a common language, a common comprehension will help in arriving at a synthesis of decision. The slogan of the need for freedom in the use of land is already out of date. It is only a willing and permanent mobilization of land which can nurture the global and dynamic urbanization which is necessary in our time.

The regular and triumphal announcement of the achievement of a programme of thousands of dwellings, whether by the State or private enterprise, no longer fools anyone. Groups of dwellings are beginning to invade towns and suburbs which are completely out of sympathy with what already exists and bear no relation to the future. These are isolated from their physical and social environment—ghettos for the poor, and for the rich. They disfigure our urban space, and although they provide a roof over the heads of those who live in them, they must not be confused with the idea of 'habitat', nor must their 'construction' be classed as 'architecture'.

We are living, in truth, in a consumers' society which determines the very conception of architecture and planning.

Houses, schools, public buildings and building land become, they also, consumer items. There is nothing against this, as long as there is a proper and not a theoretic control of production. Consumer production, dictated by motives of speculation and profit exploits the naivety and ignorance of man, largely through unlimited advertising.

Consumer architecture is ridiculous in appearance as a result of what is generally a spurious impression of futurism, or else a pastiche of past styles.

'Gadget' architecture, 'drugstore' architecture, 'pubs', 'shopping centres' and 'residences' in cut stone all express the decadence and dishonesty of 'production architecture' in present-day conditions.

Machines exist to serve us but we tend to use them in the opposite sense: instead of producing objects which satisfy our needs, we produce them to induce new needs: man is caught in the trap of a system of exploitation which creates an artificial environment of camouflage around him.

The machines exist and work.

The industrialization of building is a sad reality; we are producing vast numbers of dwellings, but have not yet defined what sort of dwelling we should be producing. The force of habit from the past, the lack

of imagination and invention, the total absence of experimentation and fundamental research, have resulted in the production of dwellings which are still-born; out of date as soon as they are finished, dwellings which reflect a ridiculous tendency to try to produce a sort of miniaturized 19th-century bourgeois residence.

It is this false orientation which encourages the paradox of a dismissal of what is new and the application of false values to what is old:

— the denunciation and the suppression of excessive speculation in all its forms, financial and in the field of building;
— the effective control of architectural production;
— the basic reform of architectural education and practice;
— the establishment of responsibility at every stage of decision making; require one important preface:
— that 'Man's habitat' becomes his 'right' in the widest sense. This will

bring in its wake considerable political, social, administrative and financial consequences. 'It is a clarification of the architectural responsibility of the whole of society' (P. Lefèvre).

It is the only real condition for giving a new sense to the word 'architect'.

To give this new sense is to establish the architect in the primary role which he must play in a new society: the society of the consumer and the greatest number.

Extracts from the Posters, Declarations and Motions that were Written during the Revolution of May 1968.

Extracts on the Subject of Professional Problems

The term 'Architect' has remained linked to an artisanal concept of the profession. Today the construction of a building can only be the task of a complex team: information and the human sciences, technical disciplines and mathematical sciences, put into solid form and then constructed. To be an architect does not mean doing big business but having a certain social mission towards not the clients but the users.

A new organization would be neither strictly professional nor definitive. It would evolve as a function of fundamental research and be in permanent contact with the University.

Extracts from Team Work

Nervous diseases, psychosis and other illnesses deriving from an inability to adapt to the environment have quickly brought about the intervention of the sociologists, economists, geographers and other specialists who, with their own particular analyses, would make us forget the global, and above all political, nature of the problem. There are not too many architects, just as there are not too many engineers or technicians. The young specialists in human sciences have, objectively, a considerable field for intervention in the realm of housing and regional planning, but they are at present under-employed because the training which they receive is not geared to the real problems of life.

Extracts on the Creative Intervention of the Users

An appeal for participation in the work of the commission for the 'defeudalisation of the profession'.

The theme of this latter is an architecture for all and by all. For all, in opposition to the profit of the few, by this we mean a general benefit that is both material and cultural.

By all, in opposition to the idea of the intervention of one person, and while respecting particular cases, we feel the need for vast organisms of reflection, programming and realization supposing: First of all that there is education for all from the earliest age, in view of this action of the responsible citizen; then the development of the creative qualities inherent in all, necessitates the enlargement, in every way of the number and nature of the participants.

Extracts on the Consumer Society

We want to fight against the conditions of architectural production which, in fact, submit architecture to the interests of the public or private promoters.

The machine age is here, but we make use of the machine the wrong way round. Instead of what is necessary, we produce too many objects that have to be maintained and then maintain their upkeep and so on . . . new objects, maintenance products and finally, a whole world of maintenance.

We refute the consumer society. We are wrong. We wish to consume but to

consume what we have decided to produce.

Extracts on Speculation

Town planning is a world phenomenon. Its evolution implies essential mutations. Town planning and the human sciences are viewed from an angle that makes them seem a decoy and in the extreme a demagogy if, in the final analysis, only money and the rules in force offer the solutions.

We demand the right to an architecture in the largest sense of the term, that is to say, the right to a planned place of quality and consequently, the right to the town, the right to the habitat, the right to lodging with all the consequences that entail; political, administrative and financial, and above all, the free disposition of the ground and the suppression of all forms of speculation.

We denounce the economic structures based on a desperate speculation and the search for maximum profit which defines the framework of present-day town planning, where the organisms for regional planning and for town planning are entirely, or partially, financed by the commercial banks. The architect at present has the choice between being a thief (becoming the head of an agency, a financial shark, in search of new business) or being robbed (being a good 'slave', a designer of the agency), that is to say allowing himself to be exploited by the big boss.

René Sarger

May 1968 and Architectural Students

The international press in search of news in May and June was well served this year. A sudden revolt that threatened to upset the very basis of French society. Others thought that it was a systematic attempt to stir the students to violence which would in turn reinforce, through fear, the system the students sought to overthrow. In fact, the students revealed

the profound crisis in the French University and also of the system which is responsible for it. One knows that France is not democratic in its selection of students and that the sons of the lower and middle classes are relegated to the proletariat.

The students are afraid of a curtailment of their liberties, when they become

salaried. Last year less than 10% of the architects who qualified were able to set up on their own. A century ago when craftsmen and peasants suddenly found themselves transformed into labourers the same revolts broke out and socialist utopias flourished. How to avoid stagnation in the salaried classes, that was the question to be solved by destroying the

structures of society to obtain 'the free association of men.' This spirit now affects new levels of society. History is being repeated. What is new is that it is the architectural students who have reached this state of awareness.

Of course there have been the extremes and although there was a cry for the abolition of the Communist party as traitors to the revolution, some factory directors noted several ringleaders among the teachers and students who voted the Action of 15th May.

Everything began at the school in the weeks preceding the voting of this motion and following the arrest of students in Paris. The protest of part of the teaching body began on the 7th May then followed the manifestations. A strike committee was formed and the work of the commissions began.

For more than a month the 'old school' became a centre of agitation on all fronts. Very quickly the decision was taken to rescind the Architects' charter. The headquarters of the Architects' order were occupied. But the most important factor was the demand for the reform of the teaching and pedagogical methods. The students wish to take part in the organization and management of the instruction, they wish the Schools of architecture to be co-administered by the teachers and students and linked to the University. Contact was made between the Special School and the ex-School of Fine Arts. The situation in the two schools differs according to the way in which they are governed. It is perhaps easier in the School of Fine Arts than in the University for in the former a series of reforms had already begun. While the Rector of the University called the police the Malraux Cabinet allowed the strike committee to use the offices of the School of Fine Arts and representatives were present at the general assemblies and protested against the entry of the police in June.

Some of the preliminaries have been cleared and the students and teachers can work on the reforms of the programmes and the teaching methods.

There are still obstacles, will they be removed quickly, the reply is in the hands of the students and the teachers of the Schools of Architecture.

May Motions

Why do we prolong the struggle? What do we battle against? We fight against a university of class, we want to enjoin the contest against all its aspects.

(1) We criticize the social selection that takes place throughout the years of both primary and higher study to the detriment of the children from labourers' and peasants' families. We want to fight against the system of competitive examinations which is the principal means of selection.

(2) We criticize the matters taught and the pedagogical form in which they are diffused, because everything is organized so that the products of this system do not acquire a critical mind both with regard to knowledge and to social and economic reality.

(3) We criticize the role that society expects from the intellectuals: to be the watchdogs of the economic production system, to be the technocratic management. To arrange it that everyone feels truly in his place, especially the 'everyone' who is in an exploited position.

What do these criticisms mean for the school of architecture? For the school of painting and sculpture? Certainly it is up to the commissions to define this precisely, but we can already speak for the school of architecture.

— We want to fight the domination in the teaching of the profession by the Conseil de l'Ordre or other corporate organisms. We are against the patronage system as a pedagogical method, we are against the conformist ideology that the system engenders. The teaching of architecture must not be merely the repetition of what the master does so that, finally, the pupil becomes a true copy.

— We want to fight against the conditions of architectural production which, in fact, submit it to the interests of the public or private promoters. How many architects have agreed to carry out small or large *sarcelles*? How many architects take into account in their contracts the information, hygiene and safety of the workers on the sites and, if they did, no promoter would reply to their bid for tenders. And it is common knowledge that there are three deaths a day in France in the building industry.

— We want to fight against teaching matter that is particularly conservative, most irrational and little scientific, where impressions and personal habits continue to prevail over objective knowledge.

The ideology of the Rome prize still prevails. Briefly, we wish to take into account the true relationships of the school and of society, we want to fight against its class character. We realize that we cannot fight this battle alone. We must not fall into the delusion that the universities can install within their faculties cores of real autonomy alongside the rest of the bourgeois society. It is beside the workers, who are the principal victims of the social selection that the teaching system engenders, that the university students must fight. The fight against the class university must be organically linked to the fight of all the workers against the capitalist system of exploitation.

It is necessary therefore that we undertake to question the relationships that at present direct the profession and its teaching,

— question the present separation of ENSBA and higher-level teaching,
— refuse to carry out any form of preselection on entry into the school,
— fight against the present system of examinations and competitions,
— prepare the fight against the decrees of reform,
— set up real relationships to fight with the workers.

On all these points we must have the most free debates. All the professors must give their views.

The forms of organization for the fight must be found.

Ionel Schein

Town Planning—Architecture—Revolution

To form the trilogy 'town planning—architecture—revolution' is to admit that town planning and architecture like revolution are political acts. Based on this statement future sociologists will, in connection with the May revolution, compare the architecture of the Nanterre faculty and the surrounding constructed urban environment. Both are splendidly nondescript. Sociological students have realized that the qualities of the built-up environment, in which a society lives day in day out, cannot be dissociated from its activities and above all from the socio-political structures in which these activities take place. A revolution occurs in a town not in a palace and I think that a town should have a character of permanent contestation.

The town, as our society conceives it, is a mass of political, economic and social micro-phenomenons that leave their mark on the environment.

Régis Debray said that we are never

really contemporary with our present, that we always look wiht the eyes of history. In his book 'Revolution within the Revolution' he writes that one must liberate the present from the past. As the present is the past of the future, one reaches the logical conclusion in the revolutionary sense of reasoning that the future has nothing to do with the present, for it is a succession of 'presents.' The built-up environment is it a conclusion, a consequence of the revolution? It was until to-day.

It is no longer in these terms of constatation and definition of the structures of society that the town planners must regard the phenomenon of the inhabited spaces. When you change the structures of a society you must also change the structures of the constructed environment, otherwise the changes in the social body are annulled and recession sets in as a result of the refusal to transform the inhabited spaces. New situations demand new methods. The revolutionary transformation of our society has its source in industrial production. If there is self-management or 'participation' the industrial environment will change.

The socio-technical mutation ridicules zoning and segregation, so that town planning and architecture can no longer follow social, political and economic action but must spread the revolution: only thus will evolution continue.

The action of the students and their teachers together with one or two professional architects has brought about discussion not only of the teaching structure but also of the architect's professional structure. They asserted the political character of the uprising but in the rue Bonaparte they also forced themselves to define the political meaning of the town planning architectural act. They have shown how in accepting the compromises insisted upon by the pressure groups, at all levels of architectural creation, how by accepting the cultural pauperization of the profession, town planning and architecture were the perfect expressions of a society in which architects are ready to accept their place and to carry out degrading tasks and general debasement. The professional organizations afterwards said they had made claims previously but this was not true as any individuals who suggested changes were ignored and any changes made were not basic ones. The student architects called the intellectuals the watch-dogs of the system of economic production. The students want to fight against the class character of the School. Finally the architects realized that they are not the only people concerned in building and approved the student motion as well as the dissolution of the Architects' charter. They wrote to the Ministry of Cultural Affairs and explained their aims. 1500 architects put their signatures to this letter.

How naive and false the architects appeared with regard to the students, how little capable of self-criticism; we enjoy the position of transcribers of civilization without obligations, without any wishes for responsibilities.

The students have shown us that the teaching of architecture and life, the idea and the production of the constructed domain are indissoluble.

How should we combat routine and stupidity, the compromise set down as system, the ruses of worldy relations and those of designed formality, that are used by so many architects who forget both their role of creator of the environment and that of citizen.

Giancarlo De Carlo

The Pyramid Overturned

During the recent revolts of university students, the schools of architecture played a significant role. We should here like to attempt to define this role.

A Brief Résumé of the Facts

In December 1963, shortly after the beginning of the academic year, the students of the course in composition in the Milan School of Architecture went on strike. Some weeks prior to this, they had asked their lecturers to set up a debate on the make-up of their courses as they considered the existing ones to be irrelevant and inept. When this was refused, they occupied the school in February 1964, after a series of promises and threats, and were joined by students of all the other faculties. This was the first time that an Italian university had been occupied by its students. A few months later, their example was followed at Turin and Rome. During these 'sit-in's, the students began to examine their problems. They started by discussing the definition of the architect's role in society, the type of formation which he should receive from a school, the reorganization of the school's internal structure, the removal of the barriers between different courses, the transformation of established institutes into research centres and the participation, at decision-making level, of the students in the cultural growth of the school.

Of all these themes, linked as they were by an internal logic which rendered them inseparable, only two were taken into consideration by the organizing bodies of the more forward thinking schools, while others rejected them in their entirety. In order to discourage attempts at participation, special staff/student commissions were set up, and in order to bridge the split in the teaching bodies, new lecturers were brought in from the other universities and from the professions. These two measures were effective for a while and in fact, during the revolt of 1965 and 1966, the architectural faculties were content to await an improvement in the system and lost themselves in bureaucratic controversy.

Soon after this, however, the basic problems, again came to the surface and the struggle restarted in 1967. Once again, it began with a series of criticisms levelled against the least effective and most out-of-date sectors of the educational system, finally developing into a concerted attack against the power of the controlling bodies of the schools.

The faculties of Milan, Turin, Naples and Venice were occupied by the students and were all evacuated after police intervention, except for Milan. In Venice, where the occupation had been longer and less compromising than elsewhere, the police intervention was not called for by the rector, but by a neo-fascist movement which called itself the 'New Order' which in reality aimed at retaining the old order wherever it existed and more particularly in the universities.

The Opposing Parties and their Present Relationships

Students are not a social class. Even if a part of their demands has its base in economics, they are in fact a heterogeneous group destined for a specific social function. Their real problem is not so much to arrive at economic security as to clarify their objectives, the reasons for attaining them, and the methods by which to carry them out. The only condition for this clarification is that it must be carried out by the students themselves. In effect, it is only in this way that they have the guarantee that their objectives are not inhuman, their reason overpowering, their methods agnostic. In other words, that they do not simply become instruments during the formation in their social function and that their life may have a human direction.

The question is therefore posed in terms of 'the franchise' and is in effect an extension of civil rights. On this new frontier, all youth is on the move, from the United States to Europe, via China. It is battling for an autonomy of expression which has always been refused in the name of the ancient affirmation of the principle of authority: the incontestable predominance of the old in the government of society. The movement in each country, despite local variations, is con-

verging towards a common objective: the affirmation of the right of the young to question the behaviour of a society which has failed miserably in human terms, just when it has attained a peak of productive effectiveness.

In their battle with the controlling bodies of the faculties, the student architects—perhaps even before the others—looked for forms of organization and action which were to be revolutionary, but valid because of their originality. The traditional student bodies, characterized as they were by political 'trends' copied from those of the parties, had had a fundamental influence in the early stages of the revolt. They now assume an essentially organizational—thus marginal—role. The plenary assembly of students is the sovereign body. Representative commissions are restricted to an absolute minimum. In many faculties, the president of the assembly is replaced daily, as are those delegates who are charged with liaison with the teaching staff or outside bodies. This leads to delays and confusion, but lessens the risk of a crystallization of power and helps to develop participation and a social conscience—in other words, liberty. The students are, in effect, persuaded that contrary to what they have been taught, liberty is more important than efficiency. In an architectural faculty, which they had occupied, they formed themselves into free groups, similar to the Jacobite clubs. It was in no way regarded as unreasonable to pass from one group to another if one's opinion changed during discussion. In another faculty, the students removed the paving from the court where the lecturers parked their cars, to turn it into a garden. Among these new forms of behaviour born of the tension of occupying the school buildings, there were the uncertainties, the horror of the institutional void, the nostalgia for symbols of reassurance. Above all, among those responsible for official student representation, there were the inevitable 'Uncle Toms' who were set on completing the operation in the quickest possible way in order to maintain their position, however precarious.

During the recent programming seminars there were several attempts by the authorities to provoke dissention based on the first results achieved. The assembly, however, although frequently distracted and vague on points of detail, always showed itself immovable on questions of principle. The faculty councils and the student assemblies are therefore the only parties present in the major schools of architecture in Italy. As in all the other faculties, they are separated by the principle of authority. It is necessary therefore, to examine further this line of demarcation.

The Arguments in the Conflict

Italian architectural faculties are the fruit of a marriage of reason between the Schools of Fine Arts and the schools of engineering. They have inherited from each their worst aspects which they have never succeeded in overcoming. It is as a result of this basic mistake that the student is subjected to such an absurd and contradictory programme. Such an attempt to cover all subjects from the sciences to the arts is presumptuous. 'The result', wrote a student close to qualifying, 'is that the architect becomes a mathematician, doctor, engineer, art historian . . . all this whilst remaining a dilettante.'

The conflict began immediately after the war as a result of gross inadequacies in architectural education. In effect, the first timid approaches of the student were an attempt to realign the scientific subjects. On this occasion, the most advanced faculties, which allowed at least some dialogue between the students and lecturers in so-called artistic matters, committed the first errors of judgement. With the praiseworthy intention of taking pressure off the work programmes, they reduced those of mathematics and the sciences, without, however, reappraising the whole. The problem was not a question of pruning the branches of the tree, but of strengthening the trunk and treating the roots. During a congress of university teachers held at Naples in 1959, the students presented a motion which spoke of the goals to be achieved. 'The development of a design implies an increase in sensitivity towards reality, towards the problems and needs of the country.' The urgency of the nation's needs were brought to the surface—in other words, the hypothesis of a re-engagement of architectural activity in the development of society. (It must be remembered, that at this congress the students were speaking as the guests of rather patronizing hosts.)

In the years that followed, discussion was centred on this theme. It was fed by the increasing discontent of the students, and also by a series of factors which emerged with the passing of time. The economic development of the sixties had revealed in a striking manner how far was Italian architecture from being able to face the problems which resulted. The rapid transformation of the physical environment caused by internal migration, urban planning, increased mobility, the increase in earning power; all these were abandoned to the piracy of private speculators, financial monopolies and the insecurity of politicians. Architecture found itself unable to influence to any extent the effects of what was happening; besides this, it failed to put forward any worthwhile ideas or recommendations. The school continued to graduate members of semi-professionals geared only to approach the decorative requirements of the moneyed 'élite'. It did not produce the much needed regional or urban planners or designers in the true sense. It is clear at the same time that it did not produce a culture based on the systematic application of research.

During the strikes and occupations of 1962 and 1963, the students began to reflect on this unhappy situation and on what awaited them on their qualification, unprepared as they were to face an undecipherable world; their conclusions could be summarized in three main arguments: a faculty of the masses, a review of teaching methods and the setting up of a new research programme. It was submitted to the staff, with a proposal that a communal effort of reorganization takes place. If today, at the climax of the crisis, we examine the documents which contain this proposal, we can see that it is dogmatic in its form, but liberal in its intent. It seems strange to us now that the authorities refused it, even saying that it was an offence against their professional dignity. Without doubt, it was the familiar archaic authoritarian attitude showing itself, with the perverse shrewdness of the Italian university authorities. In the case of the architectural faculties, however, there was something else.

Faculty for the masses is synonymous with faculty for the greatest number. The number of students increased because of the increasing demand for architects. This requirement springs from the fact that Italian architecture is trying to abandon its role of providing innocuous decoration in order to become an essential part in the development of the country. But how many of these comfortably secure civil servant lecturers were ready to risk this possibility. How many of them, formed as they were in the intellectual haven of good taste, could assume a social responsibility? In addition, the renewal of teaching in its full sense implied the creation of a scientific basis for the architecture of the greatest number. The control of the transformation of man's habitat and of the almost unlimited production of ordinary objects require the use of analytical instruments based on complex and far-reaching techniques. For this reason, the 'design' born outside the schools, came to supplant equipment and decoration. For the same reason, urban planning, also born outside the schools, began to replace the architecture of the towns. But how many of the staff were able to project their culture beside a teaching method so truly scientific in approach? They had accepted the reduction in mathematics and science courses because it appeared to justify their inconsistency. They would never admit that these courses should be reintroduced at a still higher level.

Finally, there was no question of giving the green light to a true research programme. In effect, in a country in such a precarious situation as ours, research signifies dispute. Anyone who studies the physical structure of Italy will find it based on a system which is idiotic and egotistical. In these conditions, research

activity could be accepted only if it was not authentic, that is to say, in so far as it was acceptable, although by its own assertion, controversial.

Faculty for the Masses, Didactic, Research

The university for the masses is not an enlarged or simplified traditional university. In order to have such a university, it is not sufficient merely to plan larger or more numerous lecture halls, to increase or reduce timetables, to increase or reduce working hours; what is needed is a transformation of the structure which changes the relationship between the parties, which re-establishes the equilibrium of participation—functions and responsibilities, which ensures the flexibility of exchange confrontation, which reinforces cultural acuteness.

The objective of the university of the masses is to fulfil a different social requirement from the traditional university for the 'élite'. It is no longer a question of creating trained minds to serve the class in power, but rather the whole of society—specialists, but conscious of the aims of their activity.

Teaching and research are distinct functions, even though they are linked by reciprocal necessity. In effect, it is unthinkable that didactic can include research, as was the case up to the present in schools of architecture.

Instruction as such cannot possess the powers of discovery and penetration appropriate to research. It is equally unthinkable that research can contain didactic as was the case in the school described earlier, since it is impossible to carry out research if one does possess the technical and methodological instruments which permit the systematic investigation of a discipline. To develop operative research, mathematics are necessary; for research into the transformation of the urban fabric, history of architecture is necessary; for technological research, it is necessary to understand the nature and behaviour of materials, for research into individual projects, it is necessary to have the possibility of presentation and communication of ideas, and so on.

A continually updated didactic framework should provide the means to constitute a cultural base for the work of research. It should be first hand, broad-based and of as advanced a level as possible. It should form part of the faculty, to be orientated towards all subjects relevant to architecture and in addition be made available to other faculties whose studies are in some way related to architecture. In effect, there is nothing as stupid as the partial teaching of mathematics to architects, when mathematics are properly taught in the scientific faculties; structures are more properly taught in the engineering school and even sociology and economics, which have

recently been brought into the field of architectural studies with an effect almost as disastrous as a course in 'semi-planning' in the schools of sociology or economics. The department would have the responsibility of liaising external and internal matters and of establishing contact with the outside. The door would always be open to change, amputation, addition, modernization. Above all, the student would be free to choose and decide according to his needs, and without any obligation other than the consciousness of his own deficiencies, recognized during the preparation of his work programme and later on.

In this way, the department, apart from its work of coordination mentioned above, could assume the function of encouraging a programme of university reform. This would be transformed from its present state of a conglomeration of self-sufficient and incompatible faculties into a school of open studies, intercommunicating and flexible. It would be the meeting place for examining the possibilities of multiple studies, where the student would freely follow his chosen way. He would be enabled to overcome all the prejudices of classification which have split the unity of culture, he would be able to free himself from the tyranny of obligatory choice, his critical sense would be stimulated by free and responsible choice throughout his student career.

In considering the research activity in such a faculty, we feel that it would be useful to set down 3 axioms. The first is that the activity in question is represented by the joint undertaking of numerous research projects within a group. This signifies that the dimension of the group must always correspond to the intransigent requirements of research, and that regardless of the subject matter, the principal requirement is that of continual and direct exchange of ideas and experiences among the members of the group. It is false to think that in a faculty for the masses, research must be carried out by large 'watered down' groups in order to allow as many students as possible to participate. In addition it is suspect when a group is led by a single teacher, who allows the sub-groups to be led by his assistants. This faithfully reproduces the conditions in traditional courses, in other words it offers the same product for sale under a different label!

The second axiom is that all research undertaken by the faculty must be oriented in a common direction. Themes must be chosen which are the most appropriate to university activity. The various research programmes undertaken by a faculty must all be directed towards the study of a few central points, be they abstract or practical, that have to be minutely examined from a critical and then from a constructive viewpoint. This must be sufficiently detailed and explicit to include the several cultural and polit-

ical responsibilities which are applicable to the points in question. This is the only correct method by which to transform the research into participation. Other methods can show a good practical sense or empiricism, but in reality conceal self-interested connivance. They merely turn out supporters of the present system.

The third axiom concerns the manner in which research is conducted, and, in particular, the type of relationships which are created within the group, where students and lecturers work together. These relationships must be strictly on the basis of equals, in the sense that each participant must have the same rights and duties, so that the strength of collective work can flourish; so that it can be the result of a freshness of ideas and experience. The activity of research becomes therefore not only a framework promoting cultural development, but also an occasion of non-authoritarian comportment, an example of a democratic exercise which is reflected in the entire structure of the school.

University for the masses, didactic and research are therefore fundamental steps on the road to clarification. The faculty of architecture began to travel it with decision at first, then with a degree of uncertainty. This was due to the ambiguity of dialogue which the students reopened, on their side with a certain sense of reality but without being sure of success in liberating it from all the obscure reserves which have been the cause of a permanent incomprehension.

The Contradictions in Italian Architecture

The students, therefore, are forcing a renewal of architecture by a more intense participation in the transformation of the structure of society. From the sidelines, however, is appearing an attempt at a diversion towards an architecture considered as pure art (uncontaminated) and a school considered as academic. In other words an agreeable prostitution is coming to the surface again sheltered from the vulgarities of reality.

The basic reasons for architecture are much more complex than these proposed academic hibernations. The problems of the physical environment have become fundamental to world progress. In each act of economic or social planning, in each political prospective, it is no longer possible to abstract oneself from the structures and forms of the physical environment. For this reason—from the matrix of architecture—is born urbanism, the science of the structural and formal transformation of the country. For the same reason was born industrial design, the science of the mass production of objects which, placed in the country, participate in its transformation. The radius of action of architecture has widened enormously, for which reason from now on we must have specific

competence based on the targets aimed at and means employed. Above all, a new sense of values and a new cultural structure which can undermine the outdated ideological prejudices on which architecture and society continue to rely for support.

The great revolution which is spreading on earth affects the whole of human relationships and implies new groups of participants, who disintegrate systems by criticism. This revolution finds Italian architecture unprepared. In the pre-industrial era, the fear of having to assume a responsible and committed role is manifested by a series of storms in the teacup of rigid organizational principles. The revolt of the students of architecture has taken place as a result. If it has taken place earlier here than elsewhere, it is because here the future appeared even more uncertain.

It is difficult to predict further developments as the situation is open and fluid. We can only affirm that the judgement has begun and that perhaps the pyramid can still be overturned.

Giovanni Klaus König
Position of the Architect in Italy

One of the principal reasons why the Italian architectural students have led the student unrest is that they are uncertain of their future. For the moment the agreement that links the architectural profession to society is not clear. All the professions are based on a non-written agreement, passed between the professional man and society, which accords to a certain class of individual the exclusive right to practice a profession, with certain well defined privileges and tasks. Amongst these duties is the professional secret, the obligation to seek no profit from events, the need to maintain a decent standard of social conduct and to keep up-to-date with technical information; the final task is to be always, day and night, at the service of society.

In exchange the professional obtains an exclusive privilege, which implies that he can only be judged by those in the same profession. This right begins at University where the most illustrious professionals teach the students.

On this fabric of social relationships, of which Sandro Giannini has made a thorough analysis in his essay 'De Profundis' (Casabella No 327), is based the balance of a profession. If a profession fails in its task then society removes its privileges and its role can be filled by other branches, with the various functions economically tariffed. In Italy this occurs frequently.

The arts and crafts have escaped these professional rules, and rightly so, because neither life nor human society are in danger, there are no laws and everyone evaluates the results according to his tastes.

The arts differ from the professions by the intrusion of a new category; that of the critics. The critic, who is not necessarily himself an artist, is he who, granted the confidence of a large part of society, is delegated to give judgements on the merits of a work, to indicate good or bad, in a field where his ability, and sometimes his foresight, is particularly recognized. Within the profession the intrusion of the critic is considered as bunkum; a doctor would not readily consent to be judged in the professional sphere by a layman.

To-day the architectural profession, which was born in Italy in the 30s by the union of civil engineers (construction) and the Academy of Fine Arts, has casually combined the professional activity, which is typical of the engineer, and that of the architect artist. On the technical level, this was fair enough and has given the Italian architect an immense professional prestige, but obviously this double quality of professional man and artist imposed on the one hand double rights but also double tasks. While all goes well the architect remains in a privileged position but after repeated architectural and town planning errors, the attacks are made on a double front and the architect becomes the scapegoat for all the ills that bedevil our towns.

It was a long time before the architect became aware of this negative reaction of society, a reaction that is for the greater part due to the transformation of the former patronal capitalism into neo-capitalism, as this had a considerable effect on the relationships between the architect and society. The professional who first of all received a global responsibility, now finds himself at the mercy of the groups in power. His lot depends on political parties, speculating property agents, public administrators, the directors of building firms. This not only limits the liberty of the architect but also engenders a degradation that reduces him to the level of the wage-earner.

Architectural students have understood that the neo-capitalistic society tolerates architects as long as they help its progress; but slowly they will be reduced to a subordinate rank. There are however unhappily several old clauses in the contract: the Italian professional continues to pay taxes that are 10 times superior to those of other citizens and this heavy fiscal burden is a source of exasperation to young architects.

The students are aware of the trap into which they will fall once they are qualified, therefore they revolt against the only opposition they can easily attack: the Italian University. Many think of Communism as the only salvation, but those who know their history (unfortunately few) know well that the socialist society has never thought of giving architects the freedom for which they ask. Lenin did not effectively exterminate Russian bureaucracy: he only lopped the uppermost branches, while the lesser swore fidelity to the new regime. Lenin and Trotzky acted without pity towards the professional class as the stronghold of that personal liberty which had to be uprooted to install a world that is totally communist. A society within which the architect has no important decisions. And the deans of the Faculties in Moscow and Warsaw, Prague and Belgrade have also had difficulty in calming the architectural students who do not like obeying the political and administrative classes in every instance. The formal liberty after the Stalin years seemed a dream but now ten years later it is obvious that it is necessary to obtain more: the most important decisions are those of town planning, and it is there that the Party decides. To-day architects and student architects ask for power from both the neo-capitalist society and the socialist society. Such a demand seems justified by the poor use that society makes of the land in the towns. But it is absurd to legitimize such requests by acts of violence or, worse, by trying to get a diploma with the least effort if not without any. It is not enough merely to criticize a poor use of power to obtain that power, one must show that one merits it. Architects as a class, if they wish to increase their power, must produce a definite project which reflects a new and better side of society.

Unfortunately the setbacks that have taken place in Italy, particularly in town planning, have continued to accumulate over the past 20 years: and the rare attempts to climb out of the morass have encountered insurmountable difficulties and this reflects negatively upon architects. The agitations of the students who have as yet produced no definite projects, are transformed into ridiculous attempts to have absurd opportunities during their studies; this results in a lowering of the status of the architect in public opinion.

If architects and architectural students do not decide to give something before demanding, they take the chance of finding themselves shut out from any kind of society. But to give without asking involves risk and the greatest danger is that the young who declare themselves revolutionaries have unconsciously assumed the anthropological character of the con-

sumer civilization that they wish to fight. They who will not stir a finger without making a precise account of their struggle dislike the risk and the decisions that are not taken unanimously. None of them will move unless they feel that they are covered by the group in power, and in student assemblies the taste for 'lobbying' legal battles and organized obstruction prevails over the interest in propositions for reform.

In conclusion the outlook is very black for the future relationships, between the architect and society; on the part of society, greater demands correspond to a lessening of the desire to accord to the architects a real power of decision on the future of man. Unfortunately we cannot see how the student movement, which in other faculties makes a positive contribution to the regeneration of the Italian University, can give a plausible indication of the new character of the architect. I agree with Giancarlo di Carlo, who has written 'the great revolution which is outlined in the world finds Italian architecture once again ill prepared'.

V. Bielooussov

The Evolution of the Training of Architects in USSR

Our country has never had such a need for architects. There is new building going on everywhere and the deficit in the number of architects is felt. Their work cannot be dissociated from that of the nation. It is the architect who foresees the eventual changes in town planning and in the habitat. He has a major responsibility in using, even though indirectly, the State's money to the best possible advantage.

The architect is more than a creator, he is a public figure. His work is only valuable if it is rational and of a high professional level, the artist and the engineer combined with the organizer and the propagandist. Today one cannot teach the future architect everything as science and techniques are too different. He must be essentially a man with a wide culture. The work of the architect has undergone a profound transformation, no longer does he work alone but gathers round him a team of specialists who between them keep up-to-date on new ideas.

But in spite of all the innovations one factor remains constant, the hours spent on the design, the sculpture, the painting or the model. To save the students time the teachers endeavour to utilize the newest technical methods, tape recordings, films, etc. Modern life brings its own changes one of which over recent years has been the creation of new faculties for special subjects such as town planning.

The problem is complex, for not only must the pupil be an architect, he must also be a specialist in a specific area, although this does not prevent him from possessing a wide range of possibilities.

I feel that what is important for teaching in the future is a close link between the instruction and the work of experimental study and research. Our advanced institutes have become scientific centres where students and teachers do a great deal of research and experimental work. This has had a repercussion on the quality of the course and the diploma projects that the students do. The projects now embrace problems beyond those of mere architecture.

Public opinion shows much interest in the evolution of the education of architects. Public reviews of diploma works have become a tradition. Once a year one of the colleges serves as the centre for the Presidence of the USSR Architectural Union and there the best student projects are examined and the prizes and diplomas are distributed.

I would add the social promotion of the architect, the major work of training tomorrow's specialists are to me factors that open tremendous perspectives for the vast building programme at present under way in the USSR and for the whole future of our architecture.

Lothar Götz . Théo Ambos

The Situation of the Architect Within Today's Society

How does the architect of today fulfil the tasks which are set him? We admit openly that he only fulfils them incompletely, and that he cannot do otherwise, because he only knows and recognizes them partially.

The reasons are many; they begin already during training and with students throughout the world; this has given rise to a wave of discontent that covers nearly all aspects, starting with the qualifications for study and professional knowledge and continuing with the awakening of a sense of duty towards society, both as a citizen and as a representative of a specific profession.

It is not unusual to feel that the present-day architect has a certain disinterest for anything that relates in any way to politics. It is true that deep within himself, and in the professional journals, there is general criticism but rarely does one find the architect ready to influence these decisions by an active collaboration, even though very often the most elementary professional interests are seriously affected. If the architect seriously contemplates taking part in the formation of new environments for the life of our society, he must give up his passive attitude towards politics and on the contrary adopt an active attitude so that he does not see his possibilities for action always confined to the track that has already been laid down.

In the famous conference 'Democracy, the proprietor who builds' which he gave at the Academy of Fine Arts during the Berlin Building Weeks in 1960, A. Arndt said: 'The teaching of building was not, originally, an independent branch. The science of construction was part of the political sciences as these are universally understood, in the sense of a science linked to politics.'

For the reasons already given, the possibilities that exist within a democratic society for the artist to be at the same time promoter and builder (with regard to public buildings anyway) are not exploited. The architects remain somewhat hampered in the face of such a situation and they have not yet found the attitude to adopt which adapts to the 'democratic client'. This is due to the fact that our society—and here we speak of the German Federal Republic generally, is still not fully aware of democracy.

The centre of gravity for the architect's work is based essentially on the satisfaction of the need for luxury and on the need for an outward show of vanity; it is often also conditioned by a commercial attitude, sometimes both on the part of the creator and of the client. Architects must absolutely reflect on and clarify what can, and must, be their mission within society. The situation of the architect within society will depend on how he succeeds in integrating into the image of the profession, which has yet to be redetermined, the complex and partially new problems which belong to our era. This with the help of a precise terminology, the absence of which has not a little contributed to the upheaval in the situation of our present-day architecture. Walter Gropius has explained it thus in

his book 'Apollon within the Democracy': 'It concerns the adaptation to the realities of 20th century of a professional state that was romantically orientated and jealously individualized.'

If this adaptation is carried out successfully, the architect will certainly occupy a superior rank within our society. If it does not succeed and the architect persists in exhausting himself with formal problems, which often become problems of belief, perhaps one day we shall build without architects.

Carlos De Miguel
Evolution of the Position, and in Consequence, of the Formation of the Architect

1. General
The second half of the 20th century is unarguably the end of one era and the beginning of another. The signs of this are the following:
— Two world wars have shown up certain gaps in the equilibrium of nations.
— The social revolution with as its result the appearance on the world scene of the working classes as a power of first importance.
— Technological revolution, with its incredible progress in all aspects of science.

2. The Architect's Place
In these conditions, it is clear that the architect's position has changed radically, both in Spain and elsewhere. The architect has had to give up a large part of his individuality in group working, which is the only way of solving technical, functional, economic and aesthetic problems which are becoming more and more complex.

3. Architectural Education in Spain
It is clear that it is becoming necessary to reconsider the bases of architectural education, and with this in view, Spanish schools of architecture have for some years been reconsidering their methods. Some idea of the changes taking place and what has been achieved is given in this article.
There are two full-time schools of architecture in Spain: in Madrid, founded in 1843, and in Barcelona, founded in 1875. The schools in Seville and Valencia were opened much more recently and there are plans for schools in other towns. All come under the Ministry of Education and Science.
The Pampelune School of Architecture, run by Opus Dei, is unusual, but its diploma is recognized by the State.
All the following facts are taken from Madrid and Barcelona schools, as they are the most active and have the longest experience.

3.1 Staffing
This consists of lecturers and assistant lecturers who are in charge of the courses, plus tutor assistants. The former are appointed for life, in competition, while all the others are selected year by year by the School.
The Madrid School in 1968 is staffed as follows: 24 lecturers, 12 assistant lecturers, and 284 studio tutors, assistants, etc.

3.2 Students
Once again the following figures are for Madrid, those for Barcelona being approximately half.

1st year (selection)	1800
2nd year (selection)	440
3rd year	80
4th year	95
5th year	100
Total	2510

These come from the following regions:

Madrid	49%
Outside Madrid	51%
Barcelona	54%
Outside Barcelona	46%

From these figures it is clear that students from the urban areas predominate which means that there is probably a considerable amount of talent untapped for financial reasons.

Social background	Madrid	Barcelona
Sons of architects or other graduates	20%	18%
Sons of industrialists or those in commerce	45%	59%
Sons of civil servants or employees	32%	21%
Sons of workers	3%	2%

This distribution is obviously undesirable and shows up the defects of our society.

Who pays?	Madrid	Barcelona
Family	20%	83%
Student by working	16%	25%
State aided	9%	7%

Students working during their studies	Madrid	Barcelona
With architects	30%	49%
With draughtsmen	10%	36%
Teaching	18%	23%

Attendance in class
On average 50%. During the first years, the percentage is 65%.

Foreign languages known by students	Madrid	Barcelona
French	65%	83%
English	20%	30%
German	4%	5%

Interest in modern architecture	Madrid	Barcelona
Spain	290	301
Scandinavia	244	173
Japan	206	223
USA	171	177
Italy	158	268
France	125	128
Britain	104	116
USSR	57	43
Alvar Aalto	259	214
Le Corbusier	250	272
Mies van der Rohe	243	176
Gropius	152	119
Kahn	124	140
Tange	113	142

We have graded countries and architects on the Madrid column, but the reader will note the differences with Barcelona. This enquiry was carried out by the architect Frederico Correa in 1964/65. To be valid, it should be repeated annually, but certain things are apparent.
— Le Corbusier has considerable influence.
— Students in Barcelona are much influenced by Italian architecture and those in Madrid by Scandinavian work.
— Madrid students are interested in Mies Van der Rohe who completed several of his most important works in Barcelona.
— An almost complete disinterest in Russian architecture.

3.3 Timetable
Courses last from 1st October to the end of June, including examinations. Students who fail can repeat in September. There are two holiday periods—three weeks at Christmas and two at Easter.

3.4 Plans for Reform
Reforms already undertaken are mainly in the organization of courses—the number of years, for example, until 1957, there was a first stage which had to be undertaken before entering the School, which itself lasted six years. In 1957 an attempt was made to eliminate this stage by having a 7-year course in the School of Architecture. This has now been replaced by a 5-year full-time course.

3.5 Problems
The large growth in student numbers has not been accompanied by a similar growth in the number of lecturers. Methods suitable for small groups are not sufficient for such large numbers.

3.6 The Solution
Some of the problems must, of course, be solved urgently, although time must be spent on finalizing solutions for long-term problems.

3.7 Professional Practice
The student who qualifies is granted the title of 'architect', which allows him to

become a member of the Architects' Institute and thus practise.

The architect's work has changed so much that his education is more important than ever. If we don't succeed in adapting it, future generations of architects won't be capable of succeeding in their task. This adaptation can only take place in a spirit of full collaboration by all concerned.

The time of sterile and ineffective struggle is past. If we wish to survive, we must replace it by communal effort.

J. B. Bakema

Man, Society, 'Architecturbanism'

Man is above all a conscious being, and a being who is, according to Bergson, conscious of his evolution from one state to another. His most characteristic talent is perhaps that of being able to compare, of being able to assess things in relation to one another. He compares, for example, this tree with the silhouette of that village on the horizon; or the sun with the mountains; or on the beach, the movement of waves marrying themselves with the movement of the sand and contrasting these with the immobility of the rocks. He compares the mobile with the immobile, the traffic with the buildings.

Man, however, evolves, as does his ability. Against nature, which he does not understand—not yet, at least—he seeks protection in his home, in a built environment; at the same time, however, he seeks an intimate contact with nature, with universal space. The evolution of man and of the built environment began as a form of defence against nature and has as its aim his familiarization with nature. This is how the urban scene has developed from the fortified town to the town which opens itself to the countryside.

More and more, the elements of our built environment, such as roofs and walls, can function directly as 'transitional' elements between man and his existence—the earth, space, the sun, light, movement and energy. In 1924, the 'Stijl' manifesto written by Theo van Doesburg with Mondrian and Rietweld, among others, brought out the idea that: 'the composition of spaces shall be defined by plans corresponding to imaginary plans in universal space'.

There is an obligatory relationship between man's idea of universal space and architectural expression. The essential factor influencing architectural decision is the relationship between the idea one has of universal space and the spatial expression of this idea in built elements.

Society is evolving towards a two-part existence: on the one hand a time for work which is automated and impersonal; on the other free time for relaxation. During this free time, more and more research must be carried out into creative and recreative activities. Therefore the space defined by built elements such as roof and walls cannot be considered to have a recreative function. (Present-day homes designed to hold the

maximum number have no recreative value, hence the week-end traffic jams on roads which will never have sufficient carrying capacity if the home life is not changed.)

When I speak of space in this context, it is always of the same space: the space between walls and the space between buildings are two aspects of the same idea, of the same phenomenon.

Most of our present-day homes are in no way a source of recreation, on the contrary they destroy personal initiative. The town is like a painting whose background is housing for the greatest number. If the background is badly done, the painting cannot be saved by a few better quality buildings (splashes of colour).

In 1947, C.I.A.M., recognizing the needs of young architects after the war, recommended that they work on the creation of a physical environment which would satisfy the emotional and material needs of man in stimulating his spirit.

In 1958, in Otterlo, Team X suggested as an aim the development of an architecture based on the inter-relation of functions, identification (grouping), growth and change (the evolving habitat).

At the present time, it seems to me that the essential question in architecture is: 'How can one construct spaces which give a choice that satisfies the ideas, the conscience, and even the personal spiritual environment of the user? How can one offer to every individual a cell for living in which will be his private corner of the Universe?'

The freedom to choose a personal environment is a right which will characterize future society. With architectural principles which produce a universal monotony, however, one cannot satisfy the anonymous client in his essential need of a personal identification in universal space.

If a disaster such as that of Pompeii were to cover the urban renewal of Amsterdam, Paris, Warsaw or Moscow with ash, would archeologists of the year 2000 find in the ruins the expression of a living democratic society? I believe that at present we are building a monotony similar to that existing in slave societies. Architecture must not be allowed to lose itself in bureaucratic laws and principles. One can introduce, in our Society, by means of the function of architectural form, unknown spatial openings which liberate the user from his enforced

anonymity. The home is in one sense the third skin of the individual (his clothing being the second). This third skin or envelope corresponds to his respiration, his ambitions, his thoughts, his conscience and his own viewpoint of universal space.

What are the acceptable basic principles for a living and dynamic architecture?
1. Internal flexibility.
2. External flexibility.
3. The grouping in visually composed units of the different forms of habitat; on the ground (under the trees), at the horizon (above the trees), and of the 'transitional' forms (against the trees).
4. Linear radial growth of existing centres into the country.
5. Three-dimensional structures conditioning private and public circulation and the private 'home-cells' (architecturbanism).

These are the principles which have been put into practice during the last 20 years by the office of Van der Broek and Bakema in Rotterdam. There will be others, but these principles are those which I have developed and of which the most important is 'architecturbanism'.

It must be realized that architectural decision begins with the preparation of programmes and it is here that the social responsibility of the architect appears, showing that architectural expression can be the expression of the art of living.

It is the spatial circuit which allows the user to have spatial experience without a direct participation in the function of the programmes. And it is the spatial circuit which gives a possibility of researching the spatial inter-relationship of a built environment and of choosing the moment of direct involvement in its function. It is the architect's role, with the client, to decide on providing enough lee-way in the programme to permit the realization of such a circuit.

We are past the time of making mistakes in the analysis of function. Sullivan from 1901 stated that 'all is function and all is form', but bureaucracy introduced a false hierarchy by saying that 'it is the form which follows the function'. Our time is a time of extension and overflowing of function. It is by the function of form that the functions defined by the programme are transferred into conditions propitious to the art of living. By means of the function of the form one can harmonize the large scale produced by industrial, administrative, and urban

concentrations. One can introduce 'transitional' elements which relate the large-scale elements with the capacity of human perception. One can relate the pedestrian to the vehicle by the use of 'transitional' elements, or inter-relate the public transport 'stops' by means of car-parking platforms with vertical, horizontal and diagonal streets between the built volumes. The elements of public open space, traffic lanes and private spaces with internal streets will be like the weave of urban texture (three-dimensional).

Will it soon be the case that no economic or political decision can have a social value for the individual without first taking into consideration the consequences for the use of universal space? If so, we will be living in the era of 'architecturbanism'.

Lucio Costa

Art and the Advent of the Masses

Except perhaps for the cinema—product of new industrial techniques and consequently the legitimate artistic expression of the new social cycle—one observes amongst artists and art critics almost everywhere a painful feeling of perplexity, nay even frustration. And the *fundamental* cause of this general uneasiness is always the same: the sudden break that came about as a result of the industrial revolution which, on the one hand, created new intensive ways of recording, reproducing and of showing works of art, whether they concerned music, the plastic arts or literature, and yet on the other hand, has disrupted the social order which was established by secular means by creating a continually growing public that is composed of two unequal parts. There is a minority in permanent quest of novelty and which one could say is artificially over-stimulated and ill, and a large majority which is still insufficiently developed and culturally incapable of assimilating the most significant works of modern art.

It is necessary, therefore, to recognize that the present-day artistic crisis is first and foremost a problem whose origin is socio-economic and that, in consequence, the specific solutions that one can foresee still hang on the solution, whatever it may be, of this fundamental problem.

The result is that the possible transitory solutions will always be merely a make-shift in the face of the definite answers that the problem requires. But notwithstanding this character of emergency, these transitory solutions can none the less be very important, for already it is possible to mark the boundaries and define the essential values in the balance, in order to give a sound basis to the effective solution of the problem when a fruitful normality has finally supplanted the confusion in which we find ourselves now. On the other hand, one should also recognize the fact that, under present circumstances, there can be no intensifying of artistic production. There are already too many mediocre artists—architects, painters, sculptors, musicians, writers—who bore us with their doubts their fears or their self-conceit and whose production is overburdening. But, in contrast, it is essential to increase the knowledge of art within the public, whether one is thinking of the classes already favoured culturally, or whether it

concerns the masses who are on the way to attaining this goal. For intensive industrial production forces one to envisage the well-being of the individual and consequently of culture, not as before on a restricted scale, because the artisans' production was of limited capacity, but on a massive scale. The question is, how should this be achieved? First of all, it is obviously necessary to review the present standards of teaching and of both primary and secondary education for it is there that it would be best to begin. Not with the idea of turning out precocious young artists but of giving to infants and adolescents, in general, a consciousness of the fact of art as a *normal manifestation of life*.

With regard to the plastic arts at the present time, one can see two categories of artists: those who know what they want and pursue their way eagerly or calmly, that is to say according to Picasso, those who 'do not look but find', and the huge majority of *seekers* or of 'followers' whose activity is no less legitimate, for it also concerns true artistic temperaments, enlightened, sensitive and impassioned.

I am of the opinion that instead of pleading an artificial life for these artists, maintained by favourable legislation and orders from the State, it would be better to establish laws making their presence obligatory in all schools to ensure not only the teaching of drawing but above all the necessary rudimentary artistic culture, referring in this context to reproductions and projections followed by explanations and graphic demonstrations. This applies not only in the schools but also to the factories and the yards, to try and fill the gap that has come about between the artist and the working population as result of industrialization. For whilst, in former times, the artists in the different trades also contributed towards the elaboration of a style of the period in the same way as the painters, sculptors and architects today, industrial production has taken away from the proletariat that part of invention and initiative which is inherent in the manual techniques of the craftsman. Thus the seeming gratuitousness of modern art and the related margin of autodidactism which goes with it can contribute effectively to a double social function, to feed the natural desire for invention and the freedom of choice of

which the artisan has been dispossessed, and also to gradually reduce the distance which now separates the artist from the worker.

There is in fact a whole wide area of industrial planning which could absorb the activity of artists whose plastic vocation although real, is none the less not of a kind to justify independent artistic creation.

This in no way concerns the 'decorative' arts which are part of the artisanal technique and which are only capable of surviving in exceptional cases and on a very limited scale, but the industrial arts themselves, for all the utilitarian objects that are produced—from the largest to the smallest—have a form, different materials, and colours, and their functional principle makes them subject to plastic refinement which brings them nearer in essence to architecture. Now we have reached a subject of the greatest interest for artists, for what it has been agreed to call the 'synthesis' of the arts must always begin modestly here. In order that such a communion can be established, it is necessary first of all that architecture should attract more of the young who are artists by vocation because the great majority of the students in architecture are still lamentably devoid of artistic sense. Also the idea that painters and sculptors form about such a synthesis seems to me erroneous; to hear them one would imagine that they sometimes regarded architecture as a kind of 'background' or scenario built expressly for the sake of showing up the real worth of the true work of art, or that they hoped for a somewhat scenographic fusion of the arts like baroque art for example.

In truth however, for such a communion to be established, the essential factor is that architecture itself should be conceived and executed with plastic knowledge, that is to say that the architect himself must be an artist. For only then can the plastic work of the painter and of the sculptor be woven into the overall architectural composition as one of its *basic* elements, although still endowed with an autonomous intrinsic plastic value. It is a question therefore of *integration* rather than of 'synthesis'. Synthesis implies the idea of *fusion,* but such fusion, although possible and even desirable in very exceptional circumstances, will not be

the surest and most natural means for contemporary architecture, at least in the early stages, for this premature result could lead to a precocious decadence.

On this subject there is much to be said, because there are a number of apparently well-founded theses, whose very wording is doubtful—the 'mural' painting for example. During the Renaissance the *wall* was the fundamental element of architecture, from whence followed logically the fresco and the other forms of wall painting. But modern architecture can, in the extreme, do without walls, it consists of a structure with the partitions added afterwards. The wall—an element of construction that is very beautiful and of which one can still make knowledgeable use—is none the less an accessory of modern architecture, and it would obviously be illogical to base the desired integration on an architectural element that is superfluous.

There will certainly always be large surfaces of ceiling and of continuous partitions that will be available for painting in a symphonic sense, as well as large detached panels like altar-pieces, but there it concerns spatial conceptions of another kind which it would be better to put under the heading of *architectural painting*—the same as for architectural sculpture—as a counterbalance to what one could call painting and interior sculpture. For these works of art of reduced dimension which are intended for an intimate atmosphere are not transitory manifestations without social objective as one is inclined to suppose. On the contrary, they form a need that becomes more pressing as the social imposition grows

to extend to the greatest number the benefits of elementary comfort, which is made possible thanks to modern methods of construction and to 'mass production'. Although even now, the average user in view of the general confusion, bewildered by the contradictory opinions of the artists themselves, who mutually deny each other any value, prefers to procure beautiful reproductions of works that he has already learnt to like. However the day will come when, in innumerable forms grouped in autonomous 'habitation units', contemporary works will have their place once they are freed from the artificial market and become accessible.

Finally, recognizing that the contemporary artistic crisis is basically only a corollary to the socio-economic crisis which has come about as a result of the industrial revolution, it seems natural to me that we should all hope for the disentanglement of this situation, which is already more than a century old, whether it is brought about in one way or another, for only then art can again take its normal place in society. Consequently, all actions and all attitudes that tend to help the attainment of this desirable goal should be considered as welcome by the artists, and especially by those devoid of political ideology.

But how, in the face of the contradictions of the present-day world, to recognize the road that will finally lead us to the true Industrial Age. In my opinion the landmark is very simple: all action which is fundamentally contrary to the well-being and the intellectual and social development of the working masses, which the prodigious production capacity of mod-

ern industry imposes—or even merely delays it—should be considered as harmful to the interests of art, for it will help to postpone unduly the advent of the new equilibrium, which is indispensable to its fruition. In any case it must also be realized that this advent of the masses, brought about by the intensification of industrial production, will necessarily imply the temporary debasing of artistic taste, for in the same way that the *nouveau-riche* first of all wallows ostentatiously in his new state, the collective *'nouveau-richisme'* will also be submitted to the same trial, before it can overcome the inevitable crisis of growth and reach maturity.

This in no way concerns the pretended superiority of the *élite* in regard to the masses, because everyday experience shows us that for the elected of the arts, be they of the most rustic origin, 'enlightenment' is instantaneous, while for the greater part of the non-artistic population—aristocratic or plebeian, no matter which—the appreciation of art comes by gradual stages of assimilation.

If the temporary sacrifice of art is the price that has to be paid so that social justice can be established—we already have the technical and material means to make it possible—we must be prepared to submit, particularly as in present circumstances this enforced fast could have fruitful results. Art reborn and built on even wider foundations, will pick up the threads again, hardy as ever for it is a normal manifestation of life and will live as long as man.

Mathias Goeritz
Art and Architecture

In the society of today, the architect's role has taken on an importance which it has probably never had previously. The demographic explosion has seen the conversion into planners and co-ordinators of an ever greater number of specialists. If at one time one could concert all one's energy into planning a private house, nowadays groups of engineers, architects, builders, sociologists, etc., come together to attack the enormous planning problems which surround us. Although, for the most part, they specialize in one aspect of the whole, they cannot, and must not lose sight of the whole.

Parallel to this, there has been the development of prefabrication for architectonic elements, whose size is no longer limited to that of the brick, or even the partition, but can encompass a complete dwelling unit. This only increases the responsibility of the designer.

Apart from the weighty functional technical and social problems which face the architect, there is another, perhaps the

most important. In my opinion, for a building to merit the title 'Architecture' it must at the same time be a work of art. What springs to the mind when one discusses in general terms Egyptian, Greek, Roman, Gothic, or Baroque architecture as it affected the daily life of these periods? There is an automatic association with the buildings of a spiritual character of the time, which have remained through the centuries as witnesses to the art of the past.

This type of architecture to all intents and purposes no longer exists. It is modern society which is at fault. I believe that art is not purely aesthetic; but has in addition a spiritual function; therefore an architectural creation which aspires to being a work of art—as I believe that true architecture is—must fulfil the same function.

The modern architect who breathes the air of a heterogeneous and confused society generally has little idea of how to face up to this problem. He is neither

sustained by faith, nor by those ideas which remain strong and valid and which unite men.

This architect serves society through the intermediary of public or private organisms, which in both cases insist that he adapts himself primarily to material issues. It is the same with the design of religious buildings where it is seldom possible for him to approach the problem in sufficient depth as was the case in past centuries, because prevailing conditions oblige him to work towards a purely aesthetic solution, leading only to confusion. Thoughts of a grand society of the future and of the 'new man' are only vain hopes or illusions. Without any doubt, the progressive socialization of modern life has led to a greater unity of 'style' in architecture, and despite the many exceptions, such as fantastic or imaginary architecture, in terms of plastic expression, it has a more defined character than any other art.

In this sense, architecture is perhaps the most 'advanced' art of our time, in so far

as it liberates itself—if only partially—by its very practicality from the tyranny of the aesthetic which still pervades painting and sculpture.

These last two also lack a solid basis. Each artist justifies his own work in his own way. What unites them and distinguishes them fundamentally in the society in which they evolve, is not so much the fact of their 'artistic' production, as that of a 'philosophic' expression, with its non-conformism or its revolt. That is to say that the artists have opted for the appeal to the conscience of a conformist society. Some do it by their eccentric appearance, others by the presentation of an unusual work or by adopting an anarchic exterior which obliges them to remain in a continual state of protest. This attitude justifies to a certain extent vanity and extravagance, behind which is hidden the sometimes hopeless (unknowingly) seeking after stable values.

The architect who is worthy of the name, therefore, must also be an artist. He has the advantage of being able to express himself in one aspect—the utilitarian—of his profession but he loses himself in it,

or better still he hides himself behind it in order to escape the responsibility implied in the artistic part. And when he happens on a daring vision, for example one of those in the manifesto 'Arquitectura Prospectiva', he is ill-tempered and refuses to recognize its value (relative and disputable, without doubt, as is all modern art) then complains of the excessive importance placed on Utopia. In the eyes of the artist, the architect is the conformist whereas he is considered by the architect to be an unstable dreamer.

While the architect-planner has immense opportunities to create works of unprecedented grandeur—satellite towns, huge groupings of habitation, industrial and commercial centres, it is essential to recognize that his architecture in no way 'functions' spiritually.

One could ask oneself: how should the architect be trained so that he can learn to create art? I don't believe that this depends on him. The one thing that he can do for the moment is to try and co-ordinate his talent with the disquietudes of the artist and work with him as a team, to the benefit of both. This union won't

necessarily lead to the production of great works of art, when the spirit of the age does not favour these; but one obtains an improvement in the atmosphere which will favour the birth of a new architecture, which will not be exclusively based on material function or superficial aesthetic criteria.

If on this principle, both of them, architect and artist, concentrate on the organization of ideas, form and colour—from the general conception of overall planning up to the final details which create the environment for man's habitat—they will arrive at a dimension which will undoubtedly be an improvement on that which prevails, because it will tend to raise up the intrinsic value of life.

I am convinced, however, that the problem cannot be resolved in depth on the basis of the current aesthetic, because its solution demands a morale which today simply does not exist. It is the responsibility of the architect as much as that of the modern artist to try to spiritualize their era or at least to assist in finding the morale necessary for the formation of a stable foundation for art in the future.

Gilles Barbey

Pierre Jeanneret
22nd March 1896–4th December 1967.

Recently, a few architects paid homage to a man whose personality and work are all too little known, despite their remarkable quality. Pierre Jeanneret will probably be better appreciated when his true value is better known.

Jeanneret studied architecture at the Ecole des beaux-arts in Geneva between 1913–15. At that time, Geneva was not an ideal place for the development of a creative mind. Apart from one or two engineering works and some commercial buildings, the work there was solidly 18th century in character. The innovator was unwelcome.

In the Latin countries, some areas exist where new ideas have been able to take root: Barcelona, Northern Italy, Paris. It was in Paris that a few enlightened men discovered the possibilities of reinforced concrete. In general, these were engineers, untouched by the heavy hand of the Academy.

The Perret brothers, in the Rue Franklin, building the Théâtre des Champs-Elysées and the Eglise du Rancy developed the concrete structure beyond the limits of a simple framework and despite a certain massiveness created an impression of finesse, lightness and subtlety. Pierre Jeanneret, who worked with the Perrets from 1921–3, was greatly influenced by them, as was Le Corbusier, who had previously worked in their office. He first showed their influence in the Domino project.

Jeanneret joined his cousin Le Corbusier

in 1923. The criticism with which their work was received was at once a brake and a stimulus to them and formed a close relationship between them. Jeanneret had a triple role in their relationship: he spoke for Le Corbusier, he was the head of the office and was his constant companion outside working hours.

They worked closely and intimately together, and in a building like the Savoy house at Poissy, it is difficult to know which of them contributed any given part of the design, and this was more or less the case during the 27 years they worked together, as the quality and maturity of their work developed.

In 1940, there was little work to be had. Paris was occupied. Le Corbusier and Jeanneret were obliged to separate. It was from this time that Pierre Jeanneret showed a remarkable talent for an economic approach to building, which he developed during the rest of his life. The war created new needs. Those who returned from it needed to be rehoused rapidly and at minimum cost, and during the war he worked on innumerable systems of building, with the emphasis on prefabrication. He was aided in this work by Jean Prouvé, and they developed dwellings which were demountable, transportable, foldable, extendable, with a high degree of ingenuity. Mobility, ease of assembly and low cost—these are very considerable contributions to architecture, and in this Pierre Jeanneret was a great initiator.

In his seeking after a good technical solution, however, he never forgot his responsibility towards the individual, his need for protection; and opening towards the exterior; light and hygiene; intimacy. Climate and the location of a building were always basic preoccupations. Jean Prouvé has published some projects which were previously unknown, in which Jeanneret had designed buildings on a monumental scale from artificial podia integrated with the site, allowing complete freedom for building and using a high degree of industrialization. Nothing as revolutionary has been proposed since. Jeanneret moved to Grenoble in 1941 where he continued his work with difficulty under the occupation. There was practically no building, so with a few friends he began making furniture. Even this presented great difficulties with the almost total lack of materials at the time. However he applied himself to his task with great ingenuity and made the best possible use of what was available to him, and this only underlines his great creative talent.

From 1944–51, he returned to Paris and continued his work as architect and planner. He was commissioned to work on a study of grouped dwellings, for which he arrived at a level of sun penetration and daylighting which greatly improved on the norms generally applied. In his project 'Circulation verticale' for Villeneuve Saint-Georges, which was not dissimilar to the *Unité d'habitation* at

Marseilles, the successive setbacks of the floors in section allow a deep penetration by the sun, as does the oblique setting out of the partitions back from the façade.

A similar approach, but differently applied is used in the *Centre technique de Béziers*, where the requirements were for good conditions of lighting and natural ventilation while at the same time protecting the rooms from excessive heat in summer. The solution was a lively composition of heavy concrete sections, contrasting with large areas of opening metal glazing.

Jeanneret travelled to America where he designed a range of furniture. This made no concession to fashion and remains an excellent example of restrained design which was not dated.

It was Claudius Petit, the French Minister of Construction, who suggested that Le Corbusier and Pierre Jeanneret should join forces again for the construction of Chandigarh, the new capital of the Punjab. Jeanneret left for India where he lived permanently until 1965. The works which he accomplished there during 15 years despite many difficulties, are proof of the strength of his personality.

He was fascinated by the civilization of Northern India—the dignity of the people, the nobility of the landscape, the richness of the artisan tradition. He made a detailed study of the way of life of the people and based his designs on his research.

The climate was one of his greatest preoccupations and he succeeded in using local materials to great effect, despite their limitations. The effects of light and shade; the extending of roofs to provide an area of rest and diversion between the interior and exterior; cool areas of shadow when the sun is at its highest; carefully designed cross ventilation. His preoccupation with economy was more than ever developed in India.

Pierre Jeanneret built with the means available to him the works of Le Corbusier at Chandigarh—the Capitol, the High Court, the Palace of Assembly and the Secretariat. Le Corbusier only spent a few days a year in India, and the correspondence between himself and Jeanneret clearly shows the enthusiasm they shared and their esteem for one another. If Le Corbusier's work in India gives the impression of a certain spontaneity, it must not be forgotten that this was achieved in large part through the tireless work of Jeanneret.

Jeanneret enjoyed the friendship and confidence of Nehru and the Government, who saw in him a true ally. His office was inundated with work and his output was remarkable.

The houses that he designed in Chandigarh and its surroundings are occupied by all levels of the population. In all of them, however, even the simplest, one finds the same preoccupation with the human dignity of the occupant. This was not achieved through the provision of mechanical aids, but by giving the individual spirit the opportunity to blossom by the skilful use of light, space and the beauty and harmony of form. His work shows a subtle appreciation of the Indian way of life, where antiquity is much more relevant to a day-to-day existence in modern times than it is in the West.

When Jeanneret was commissioned to design the project for the Gandhi Memorial at Chandigarh, he produced a work of talent and conviction. The Gandhi Bawan is at once a tribute to a great man and a centre of reference for all the religions of the world. This 'inhabited sculpture' grows from a pool of water and symbolizes peace and equilibrium, flight and eternity. Nothing is left to chance and yet the composition is completely free in form.

He was at the same time as being a practising architect, the chief architect and planner to the state of the Punjab, and director of the Chandigarh School of Architecture. He was a very positive influence on his students. His inventiveness knew no bounds and included the design of boats for Lake Chandigarh, timber and bamboo furniture, raffia work, grain baskets and concrete reinforcement, all of which were within the means of the poorest families. The creative work of Pierre Jeanneret could be summed up in the words: Simplicity, Economy, Beauty and Truth.

Urbanism
Manuscript notes by Pierre Jeanneret

The tracing of traffic lanes must be done by taking into consideration the different speeds and destinations of vehicles. Their positioning should depend on the best possible siting and orientation of buildings, not as in present towns, where the buildings are placed parallel to and symmetrically about existing roads. This is a characteristic expression of outdated planning.

In modern town-planning, there should never be a main elevation on to the street with a 'back' elevation on the other side of the building. There are four elevations in space, and each should have the same importance. There is even a fifth, which is the roof of the lower terraces, seen from above. A town should be so divided into sections that each inhabitant can undertake his daily tasks without needing to resort to mechanical transport.

Each sector should have sufficient green space to ensure that the centre of the town is never 'suffocated', even with constant expansion; this in order to avoid the fate suffered by all our older towns, which have year by year pushed further out into the country, without creating new green spaces in the centre. A village, no matter how small, surrounded by fields, is viable; but if this village grows and becomes a town, while conserving the same lines as the village, the town is destined to die of congestion.

The majority of our towns are like this, and the planner must demolish and rebuild in a multi-storey form in order to recreate green zones. He must look ahead, and not be content with re-creating the problems posed by the past.

In planning a modern city, space for traffic and green spaces apart, the built area must be reduced as much as possible. In Chandigarh, the density for the first stage of 150,000 inhabitants was not as high as we had hoped, due to the lack of money and technical know-how in India. In effect, these sectors of $1,200 \times 300$ m. are limited by fast transit traffic routes across the city, which do not serve the buildings. This system is one of the successes of the planning of Chandigarh, and it is a tribute to Le Corbusier and the local authorities that all these major roads where they cross one another and are at present at ground level, have sufficient space reserved to enable multi-level cross-overs to be built at a future date. The dignity of the pedestrian is respected in the sectors, and movement between them will be assured by means of subways beneath the transit arteries.

Sevinc Hadi
Cave Architecture

In the middle of Asia Minor, at the foot of Mt. Erciyas, beyond the salt desert, begins the volcanic region that stretches from Ürgüp to Nevsehir.

This area which is about 40 km. wide is formed of neocene tuffs. As a result of the erosion of these soft tuffs through physical and chemical action, capped rocks have been formed which in this area are called 'fairy chimneys'.

The famous churches of Cappadocia are hidden within the rocks of this area.

The fairy chimneys are the feature that dominates both the natural and the architectural character of the region. To be

found singly or in groups, these fairy chimneys have an amazing plasticity and a richness of form that profoundly impresses visitors. In this picturesque setting they sometimes form a dominating fortress. There are rocks with sharp lines and old stones that, after having sheltered generations, are now crumbling.

The fairy chimney is a mass that is very easy to shape and which hardens on contact with the air. Taking advantage of this property, men have for thousands of years hollowed out their dwellings within these rocks. Such dwellings are merely cavities in the rock, hollowed out either downwards or upwards, so that several levels have been formed. In all the sections of this area, below the ground or above it, the teaming life of men is present. The first sites began in the fairy chimneys and then later on as needs dictated and according to the direction of the sun and the wind, walls and masonry were added. In such a dwelling, comprising several areas, all the separating elements, links and supports are in the same material as the outer crust. All the cavities are obtained by shaping the rock, the holes for the cupboards, the treads of the stairs, the stairs themselves, the sills, the shelves, the fireplaces and even the beds are made in the same fashion.

The region has the harsh continental climate of Asia Minor. But the hollows in the rocks and caves have a permanent temperature, in summer they are cool and in winter they maintain their heat. This material is therefore a certain shelter for man against the inclemencies of the area.

In this lunar landscape, the host of fairy chimneys of uniform grey makes a harmonious group with the silhouette of the neighbouring sites. In this area one feels that the work of man has added to a nature already rich in visions, a world that is at the same time both hard and sentimental. The static lines of several well-balanced and well-proportioned geometric cones, well placed backing onto the slopes, form a very agreeable contrast to the tormented surroundings of the region. The placing of the sites is determined by the fairy chimneys, the rocky slopes or soil that cannot be used for any

form of culture. The sites are formed in groups according to the possibility of the topography; the large squares in the middle of the houses mark the character of the villages; one proceeds from one square to another by narrow passages fashioned in the tufa. The dwellings built, one above the other, on the slopes, have light in abundance, are well aerated and have a view onto the square they surround. The fairy chimneys, strong, superb, delicate or crumbling, surrounded by ancient houses or by new constructions, the enclosures half destroyed, the terraces uneven and eroded, form a complete plastic group. The buildings, because of the different levels to which they cling, form an uneven composition and afford very lively and varied perspectives. Sometimes the dwellings have no opening on the exterior except a single door. Life takes place behind the walls.

In general the houses are on two levels: the ground floor acts as store, kitchen and stables while the upper floors are kept as living rooms. The plans of the dwellings are made in accordance with the possibilities of the ground available. In the caves, dug out below ground level, foodstuffs can be kept fresh for a long time: apples keep two years, grapes a month, meat a fortnight. The fruits from Southern Anatolia after having been kept for a season in a cave of 100 tons capacity, near Ortahisa, are sold in the big towns at the right season. These caves are natural refrigerated warehouses.

The hearth is called locally the 'tandir' and is underground. The 'tandir' is hollowed out in the middle of the 'summer room' which constitutes a covered space closed on three sides and linked to the inner court, the smoke is removed by a narrow channel also hollowed out of the earth. On the constructed faces the dominating features are the plain façades. The hollows and flat surfaces deriving from the nature of the material itself give a plastic character which harmonizes with the openings caved out of the rock face. In the buildings which are constructed, the ceiling is formed by vaults or beams; the covering is made of pounded clay laid horizontally in regular cylinders. The vertical and horizontal thrusts only count in the

large buildings. The cave churches of Göreme, like the rooms in the cave dwellings, benefit from the fact of being sculpted. Architectural organization is born out of static conditions; for small openings the ceiling is sculpted flat and parallel to the ground, when the opening is 3 or 4 metres high a vault is shaped in the rock, if the opening is even larger columns are formed in the same block of rocks. The openings of doors and windows are narrow, merely 80 to 90 cm.; the flanks of the rocks carrying the openings are hewn in vertical surfaces, thus the mass mural is about a metre thick. The walls are enriched by decorations—made up of a rhythm of motifs of short straight lines—which form a whole with the architecture. The levels of the floors are visible on the façades, the cliff roads have an air of having been born to fulfil the needs of the building and not of being elements stuck on the façade; the level of the lintels is marked by floral decorations. The rocks and the fairy chimneys shelter pigeons as well as men. The pigeon-houses are also as important, in this area, as the homes, for the dung of the pigeons makes an excellent fertilizer for an arid land. The Ozenjidere Valley is especially reserved for pigeonries, so that one could call it the valley of the pigeons. Everywhere in the region pigeon-houses have been built; uninhabited houses or the upper parts of the fairy chimneys are used as pigeon-houses. The entrances are painted blue and red to attract the pigeons. The local building material, as well as the social and economic structure of the people of this area has influenced the mode of life, and consequently the organization of the houses and villages. The foremen and the building workers know their material well and use it with mastery, the art of their ancestors is handed down from generation to generation. These master workmen knowing very well the essence of the stone and of man's struggle with nature, have brought life to these dead rocks. The sites in this area, the organization of the villages and the houses, the 'fusion' with nature, are instructive for architectural art, and the country of Urgüp–Göreme–Nevsehir merits thorough study.

Gilles Barbey

Research in Architecture

Within a few years, research in architecture will be universally considered as indispensable as is research in medicine, physics, biochemistry and many other fields. One could say that such a development would be rather futile, as we manage to live very well in the conditions which surround us, and that research is therefore superfluous. It is, however, just this lack of investigation into new possibilities followed by the absence of any

effort to diffuse the results obtained which lead to the general mediocrity which surrounds us.

The efforts of those who are doing active research into broad architectural fields and our way of life generally must be encouraged. Every architect is a research worker, since his work necessitates a high degree of creativity, and the co-ordination of many values to a specific end. Unfortunately, one cannot classify as

research a delving into technical detail. In attempting to raise standards of detailing, he loses sight of the whole. The natural cycle of research which includes *Documentation + Assimilation + Imagination = Creation* is not applied.

There exists today a mountain of information, painstakingly collected. Although one should not completely dismiss this, one should beware of purely technical answers to the questions of tomorrow.

There is a tendency, however, for such research to lend to purely mechanical solutions, which reduce architecture to the level of a pure technical exercise and to the launching of new consumer products.

All architectural research centres itself around the following problem: the conception of a defined space in the most favorable manner. The qualitative aspect is at least as important as the quantitave. Even if conditions differ considerably from one region to another, there are certain constants in the aspirations of man which should be known. Only accurate information can put us on our guard against the monumental errors which are systematically repeated with such aplomb. One must constantly refer to the vital functions of man, and realize that the joining, by ingenious means, of a quantity of identical cells, does not necessarily lead to success, even if the cell, considered by itself, is well balanced. There is a belief which is widely accepted that a concept which is well detailed, well proportioned and modular when repeated on a large scale, will be a success. In fact, this is often not true, and if the solution chosen by the architect is technically and economically sound, it often shows a lack of understanding of spiritual values. This is illustrated by the numerous attempts to perfect a dwelling suitable for mass production. The evolution of human needs has not been considered in the plan, which is based on preconceived ideas which have not been questioned. The result is that one multiplies by a hundred or a thousand the basic error. Despite this, the person who has to live in this home will have sufficient resource to succeed in living there.

Besides technical aspects which are magnified to the point of hiding the essentials, we know nothing of the way in which human perception reacts to the home's interior. We do not know exactly how or why a poor quality home reacts on the psychic system of the individual. We do not know exactly how man apprehends space. We know nothing of the negative effects of bad architecture and we are used in any case to not taking any notice.

Happily, some researchers who are unhappy with the lack of knowledge in such a fundamental field have undertaken to explore man's comportment in his environment; they have discovered through anthropology, sociology, psychology, ecology, etc., certain facts which they have passed on. It is through this work that a concrete need for environment is understood. The need for space has been gradually defined qualitatively. For man to develop to the full, spatial continuity is essential. Spatial continuity is particularly well illustrated in nature—in forests, on the plains, the sea coast—where the natural elements succeed one another without conflict. This quality should be present in our urban conurbations to a greater extent than is the case today. Without it urban dwelling will face a difficult situation and mental illnesses will increase.

Why then is this continuity menaced? Because of the systemization which has led to the multiplication of identical volumes. These volumes are for the most part cubic in form: rooms consisting of six surfaces—floor, ceiling and four walls, in other words a development exclusively based on the right angle. Each angle signifies rupture and discontinuity in the volume —that is an obstacle. When these characteristics are added to the excessively small size and the haphazard distribution of doors the surroundings become barely tolerable. This is, however, what usually happens.

There are other aspirations to be satisfied: the legitimate device for projection and evasion towards the outside, for instance. But how can one achieve this, when one is barricaded behind a complex of corridors, stairwells and lifts? On opening the entrance door, one is not in the fresh air, and our windows open on to the neighbour's wall.

Apartments are all too often too similar to one another and not sufficiently varied. Standard ceiling heights, rooms too like one another, the lack of openings to the outside—these are factors contributing to man's sense of imprisonment. The home must be de-neutralized and the dimension of direction introduced into it. One speaks of directional spaces while emphasizing that they should be designed in a given direction and that they are not equally emphasized in all directions. When a space is generously proportioned in one section and narrow at the opposite and a direct and strong relationship exists between the interior and exterior, it can be described as directional. In specifying in this way the character of a room, one must also avoid being too specific. The essential is that a room is there for free movement, action, diversion or repose. A notice on the door restricts the use to which a room is put.

It will no longer be necessary to decorate the walls to give a room its character. On the contrary, this will be explicit in the design. Furniture will no longer necessarily be something which clutters up the floor and restricts movement. It will be more and more integrated in the construction. Perhaps there will be 'habitable floors', a succession of plane and broken surfaces, on which the body will be supported in its various activities. The floor and walls will no longer be irredeemably separated, but will be subtly linked. We see that the values of the different parts of the home can change and evolve considerably.

It is necessary, then, by means of appropriate research, to consider man's deep and essential aspirations in order to be able to provide for a more harmonious environment in the future. Up to now, only man's strictly vegetative appetites have been catered for. A plan is drawn up on the basis of movement, sleep, recreation, feeding and sanitation. This is quite insufficient, if man's psychological function is neutralized or neglected.

Research by numerous doctors, psychiatrists and sociologists shows us that the hastily built buildings of recent years are responsible for many mental problems— broken families, juvenile delinquency, traumas. We can no longer afford to ignore this research and continue with the construction of mediocre dwellings. We must develop a global and multidisciplinary consciousness of the problem in order to be able to create improved living conditions.

In order to better define such architectural research as has already been undertaken, it is worth studying in greater detail the various approaches which have already been made. The most systematic and plentiful research has been carried out in the United States. This is due to the more rapid commercial and industrial development there compared with Europe, and to the considerable extension of urban centres in relatively few years. These centres have been subjected to a relatively anarchic growth due to the lack of historic buildings or areas. In 1966 the A.I.A. recognized 58 research groups, of which 41 were centred in universities. The subjects and projects undertaken by these institutions range from climatology to economics, from the habitat to the study of light, planning, history and psychology—always related to architecture. The work is either done by individuals or in groups and leads to the preparation of thesis or practical experiments.

Buckminster Fuller, the distinguished engineer, with John McHale, has for many years been a researcher of great talent. Having designed and developed entirely new systems of construction such as the geodesic dome, metal houses which are light and movable, and economical structural frameworks, Fuller decided to undertake fundamental research into the ecology of the earth. This encouraged him to study such phenomena as the acceleration of world population, the development of productivity, the graphs of fatigue of metals, the growth of various means of transport, etc.

For this colossal task, which he has called the 'World Design Science Decade, 1965–75' he has asked schools of architecture all over the world to assist him, considering that their students have the time, the capacity and the spirit of synthesis necessary. This overall vision of ecological and evolutionary phenomena has become of vital importance and, according to Fuller, the architect is the one best placed to contribute to its development.

The work of many other groups and in-

dividuals is worthy of note in the fields of communication and perception: men such as Edward T. Hall, J. J. Gibson, and M. McLuhan. The deep analysis realized in the communication between human beings, while keeping in mind their constant evolution, opens our eyes to all the psychic mechanisms of the individual and orients. us to the direct implications which these phenomena have on the vital environment which the architect imagines and to whose realization he contributes. Architectural psychology is revealing itself as a vital science. It studies the relationship between man and the space in which he lives and moves, puts forward methods which contribute to the definition of the most appropriate envelope and operates basic distinctions between human comportment which are invaluable to the designer. In his book 'Architectural Psychology', Robert Wehrli demonstrates various different approaches which allow the architect to be quite certain, from the beginning, that he has not ignored man's fundamental aspirations in his design.

Robert Bechtel has studied the comportment of individuals in distinguishing between habitual locomotion and exploratory locomotion. With the aid of enquiries made with graphic recorders on the general public in museums where he has succeeded in measuring the duration and 'stopping place' of visitors in front of a work of art, he has succeeded in gathering precious information on the natural movement, and critical distances observed by the individual. Other research workers have studied the social comportment and the daily relationship between families occupying different kinds of home. Others, starting from the exercise of the senses, have studied in depth the relationship between the occupant and his home. They have been able to establish the qualities to be looked for in a well-thought-out interior, and have put their finger on the errors which are accepted through sheer habit, and which are never re-thought.

Besides all this analytic research, one must also examine what has been put into practice. Some examples drawn from the work of Robert Venturi show clearly this desire to imagine interior spaces with a formal richness, giving rise to exterior volumes of a plasticity characterized by a study of a continuous movement between roofs and walls. This tendency is progressive in so far as a conventional programme of accommodation has not been forced into a pre-determined framework.

Charles Moore has also studied the continuity of spaces, synonymous with a liberty new found after living with so many oppressive dwellings. He imagines the construction of enormous empty volumes in which a few large scale and brightly coloured elements doubling as partitions and furniture are placed. Thus is born the idea of the 'condominium'—the structure within a structure. It is an attempt to rediscover a sense of scale within the dwelling unit. Colour plays an important part, both in linking or expressing the contrast between surfaces. Vast linear motifs several metres long stretch from wall to ceiling. These attempts are the first manifestations of a civilization in which man has apprehended space in a new way. One finds in it the desire to escape from the idea of the home being limited to a tiny nest and envisage it as a much larger element by the use of plastic, symbolic and spatial motifs from the street, shop windows— even motorways.

The contribution of the French group 'Atchitecture Principe'—Claude Parent, Paul Virilio, Michel Carrade, Morice Lipsi—seems fundamental since it queries the construction of orthogonal buildings, which can be considered as being hangovers from a past era. We will have to promote an architecture which permits the movement of pedestrians in all directions. It has become necessary to build a habitable and continuous support instead of a stack of floor upon floor. This support would be similar in conception to civil engineering works, such as motorway fly-overs and junctions, which themselves form part of the larger scale under discussion. It is therefore in adapt-

ing planning and architecture to a better use of space, rather than in seeking the mobility of its component parts that we shall be able to create living conditions adapted to our needs. A fusion between the sedentary and circulatory functions of living will be needed. Some of the work done by the 'Architecture Principe' group already shows the engagement of architecture in manifestations where dynamics and continuity become basic conditions.

It would perhaps be superfluous to cover here the research at present being undertaken in every country in the world. Designers such as Paolo Soleri, Yona Friedmann, Paul Maymont, Arthur Quarmby and Walter Jones are known for the many and diverse studies which they have undertaken. Behind their projects is to be found the preoccupation with finding a new type of habitat, appropriate to life in the future.

All forward looking research must be guided by a profound knowledge of human aspirations. It is not sufficient to attempt to solve the problems of the habitat in technical terms parallel to the development of the machine, future means of communicatino and the taming of new forms of energy. In addition to all the apparent advantages resulting from technological perfection, one cannot avoid posing oneself the problem of symbolic values—and their direct repercussions on the occupants—in the environment of the future. Man cannot satisfy himself with a totally artificial and highly mechanized framework in which he can find only the answer to his most immediate problems; he must not, therefore, confuse the seeking after technical progress with the climate of well-being, which emanates from an appropriate adjustment of essential values.

One can remind oneself of the teaching of Jane Jacobs, who has been able to isolate from our existing urban structures all that is richness and all that is danger and refer again to the writings of Gaston Bachelard, who, with an instinctive subtlety has analysed the resonance of such base elements as water, space and light...