Why/How to Build School Buildings

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In a period of crisis of values like the one which we are going through at present, we cannot deal with problems of "how to" without first posing the problems of "why." If we were to begin discussing immediately the best way to build school buildings for contemporary society without first clarifying the reasons for which contemporary society needs school buildings, we would run the risk of taking for granted definitions and judgments which may not make sense any more; and our speculations would turn out to be sand castles.

    We will begin, therefore, with four elementary questions, well aware that often the most elementary questions—which no one has posed for a long time because they seem so obvious—can help us to discover the hidden thread in the evolution of a new reality.

W.1—The first question: "Is it really necessary for contemporary society that educational activity be organized in a stable and codified institution?"

W.2—The second question: "Must educational activity take place in buildings designed especially for that purpose?"

W.3—The third question: "Is there a direct and reciprocal relationship between educational activity and the quality of the buildings in which it goes on?"

W.4—The fourth question: "Must the planning and construction of buildings for educational activity be entrusted to specialists?"

    The fourth question leads into problems of "how," but at the same time it is connected to the first question on "why." In fact, it could be formulated more exactly in this way: "Must the planning and construction of a school building be entrusted to specialists trained by means of an institutional education which has specialized them in such a way that they consider fundamental the requirements of the institution?"

The four questions are therefore four points of a circular relationship
which can be interrupted or continued at any point. We will examine
them one at a time, looking for the most reasonable crossover
points into the problems of "how."

A.1   Education is the result of experience. The wider and more
complex the experience, the deeper and more intense the education.
The field of experience widens in direct relation to the frequency
of contacts, and its complexity grows with the increase in their variety.

Ideally, to ensure a really profound and intense education, no kind of
experience should be denied: all possible contacts of whatever
nature should be not only permitted but encouraged.

But institutions are organizational structures constituted for the
attainment of pre-established goals: they cannot permit and encourage all
kinds of experiences because they can permit and encourage
only those experiences which serve the attainment of their goals.

Institutions limit both contacts and education. They institutionalize
education so that it will be useful to the institutions, first
for their consolidation, then for their defense.

During periods of expansion, societies had no need to organize
educational activity. The problem arose only when the societies began to
generate institutions, that is, when they passed from the stage of
self-definition to the stage of accumulation and preservation. At
this point education ceased to be coterminous with the entire field of
experience of the society and became limited to the field of experiences
permitted by the institutions.

For example, the Greeks had no forms for real organization of
educational activity up until the late Macedonian period; the Romans,
up until the consolidation of the Empire; the Renaissance, up until
the Reformation and the Counter Reformation. For that matter, all the
revolutionary periods of human history coincide with a suspension of
institutionalized educational activity: education takes place where the
opportunity for experience is most intense, that is, in the
exercise of revolutionary activity.

During the French revolution the real centers of public education were
the clubs, the streets (and the stage of the guillotine); during the
Russian Revolution: the soviets, the factories, the ateliers (and the
people's courts); in the course of the Chinese Revolution, which
is still going on: the army of liberation, the communes, the assemblies of
the Red Guards (and the Tatzebo); in the Cuban Revolution: the

guerrilla war, the work bridges, the committees of defense (and the combat battalions), etc.

But while these forms of direct and total education were expanding, the authoritarian and restrictive structures of institutional education were taking shape by a process of internal contradiction. In France, for example, the Constituent Assembly and the Convention had already begun to lay the foundations of an educational system functional to the necessities of the state apparatus, which the Napoleonic Empire and all modern states took as a model—independently of their different political and ideological orientations.

The definition of education as the "means of directing opinions," stated by Napoleon, sums up precisely what institutional education had been not only before him (conditioned to accept the power of religion or absolutism), but after him as well (conditioned to accept the power of capital or the state bureaucracy).

In fact, since then the two problems—of teaching and of opinion-control—have never been separated; every necessity in the former has opened up necessities in the latter and vice-versa. The expansion of culture, increasing objectively the critical potentialities of the social body, has necessitated an increasingly articulated opinion-control which, in order to be efficient, has had to restrict the sphere in which culture is formed and, therefore, organize a rigid and unified structure of teaching. The development of industry and technology has pushed this development to extremes, generating the necessity of mass education in order to face up to the demands of production and consumption at the same time that it has generated the necessity of conditioning the educated masses by means of a controlled educational system, to prevent their becoming aware of their exclusion from the processes of decision-making and the manipulation of power.

For quite some time specialization seemed to be the most expedient means of solving the contradiction between these two opposing necessities. Its economic motivation, even though limited and banal, was sufficient to justify its alienating effects: the specialist was supposed to possess only that knowledge which was necessary and sufficient to fulfill efficiently a role in a process which, for lack of a wider vision, would escape his capacities of judgment.

Today, however, the expedient which has functioned almost perfectly for so long has begun to show its fallacy. The student revolt which is flaring up all over the world at every level of education, and

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which has begun to infiltrate the professions as well, reveals a radical refusal of the condition of exclusion caused by an aprioristic, codified limitation of the field of cultural action. Perhaps specialization is indispensable, but the opinion is growing increasingly strong that it is acceptable only when the specialist has first achieved a broader understanding so that he is capable of maintaining the capacity to criticize—to accept, reject, or somehow choose, with a political consciousness of his action—the role which the individual assumes in the social context. The equation, "specialization = participation," is replacing the equation, "specialization = estrangement," implying the revolutionary overthrow of the whole existing institutional system and, in particular, the revolutionary overthrow of educational institutions.

With the student revolt, education has returned to the city and to the streets and has, thus, found a field of rich and diversified experience which is much more formative than that offered by the old school system. Perhaps we are headed toward an era in which education and total experience will again coincide, in which the school as an established and codified institution no longer has any reason for existence.

A.2   Education has always been conceived as a segregated activity. Plato taught while walking back and forth in the grove of Academe, and Aristotle in the enclosure of Apollo Lyceum, but these were cases, as we have said, of education which was not yet organized. When education began to become an institution, buildings were immediately made for the purpose of containing it and at the same time, isolating it from contacts with the surrounding environment. In the High Middle Ages monasteries were built, in the Late Middle Ages the first campuses, in the Renaissance period the Academies, between the Reformation and the Counter Reformation the theological schools, under absolutism the first great university complexes, in the period dominated by capitalism and state bureaucracy a wide variety of scholastic complexes of different types corresponding to different kinds and levels of education.

Since the end of the nineteenth century, as the principle of specialization has consolidated itself, the subjects of specialization have multiplied and, with them, the types of scholastic building. Each branch of learning has had its type of building, specifically designed for its use and more or less differentiated from an organizational and structural point of view.

But in spite of the precise differences of definition and the vague differences of configuration, all these types have one feature in common: the strictest adherence to the principle of segregation. The school is a physical structure designed exclusively for education, for teachers and for students, just as a prison is a physical structure designed exclusively for imprisonment, for jailors and for prisoners; its function is to house a specific activity but also to isolate it from other activities.

The reason for this function is the preservation of the institutional and class integrity of educational activity.

Isolation in a single spot acts as a filter for experiences which are not permitted by the institution and as a barrier to the classes which do not control the institutions. We know that, with time, this model has undergone a series of deformations. The expansion of mass education has caused a wrench which has continued to alter the bars of the cage without changing, however, its nature as a cage. In certain cases the spaces between the bars have actually widened—for example, in the case of elementary and professional education—when the necessity for a greater diffusion of centers of learning has made it necessary to mix them in with the fabric of the city. But the cage has continued to be a cage: the school building has continued to be a very

distinct and autonomous physical structure, a point which sticks out, breaking the continuity of the fabric in which it finds itself.

The representation of this concept of education becomes clear in the conception of the buildings, where we always find closed organizational structures and monumental architectural forms. No matter how different their appearances, the organizational structures of a school building can always be brought back to outlines based on the principle of authority: hierarchy of spaces, absence of osmosis between the different parts, interruption and control of internal and external communications, etc. The formal configurations, on the other hand, correspond to the authoritarian formulation of the organizational structures for whose anonymity they try to compensate by loading themselves down with symbols and monumental characteristics.

To the inevitable observation that these authoritarian and monumental characteristics are more typical of 19th century schools than of present ones, we can reply that a series of classrooms served by a corridor is substantially equivalent to a series of classrooms served by a common space and that the monumentalness of the columns and decorations in cement is substantially equivalent to that of the steel framework and curtain wall. In architecture, in fact, organizational structures can be defined as authoritarian when the articulation of the spaces does not stimulate the community to exchange communications at any moment and at a level of complete equality. The formal configurations are considered monumental when they adapt themselves to the aesthetic codes of the institutions and are not receptive to the users' free expression.

In fact, very little has been done in the contemporary epoch to modify the authoritarian and monumental characteristics which school buildings have always had. Schools in cities or anywhere in the territory can be distinguished immediately; they stand there, isolated and emphatic, even when they are inserted into the most closely-woven urban fabric. All the tricks which have been conjured up to humanize their formal expression have concentrated on defining in terms of an elementary and schematic language, as always happens when the real idea of "people" (plurality of individuals which gives rise to a variable field of interrelations) is confused with the abstract idea of "mass" (amorphous aggregation of human units, made amorphous by the simple fact of being lumped together). In any case all the devices used to reduce the appearance of their isolation have turned out to be useless, because the problem was attacked from the outside instead

of from the inside, wherein lay the real source of the difficulty. Considering the school as a point of convergence for an area of influence or even as a possible neighborhood center, establishing the greatest possible access to it in terms of time or conditions of protection for its access routes would not change in any way its physical "apartness" with respect to the urban or territorial context.

School buildings built especially to house educational activity can house, therefore, only that part of this activity which is in the interest of the institutions which construct the school buildings. The rest of education—the richest and most active part—goes on elsewhere and has no need of buildings; or perhaps it has not yet found the appropriate spaces in which it could take place as a whole, becoming a part of a sphere of total experiences.

A.3   Socrates taught in the gymnasiums of Athens, and many centuries
later Pestalozzi began his activity as an educator in a farm building
at Neuhof near Zurich. Besides these two exemplary cases, there
are many others in the history of education which show that a school can be
excellent even though it is housed in an inappropriate, or even ugly,
building. On the contrary, there are many cases of buildings considered
excellent which house schools of very poor quality. We can be certain,
then, that there is no direct and reciprocal relationship between
architectural quality and the quality of the educational system.
Architecture, because of its superstructural nature, can modify the
environment directly; but it cannot dictate the activities that go on in
the environment.

We know, however, that architecture, by acting on the environment, can
exert influences on activities, orient or deviate their ways of coming
about in the network of the complicated interplay of feedback through
which form establishes a dynamic relationship with society.

However, if it is true that today educational activity remains indifferent to
the influences exerted by architecture, if its being good or bad is
independent of the influences of the physical environment in which it goes
on, and if this is the case even in the presence of school buildings
considered excellent in quality, then it is the very definition of
quality which must be brought into discussion. That is, we must ask
ourselves if, in judging a school building excellent or poor, we are not
referring to a conventional outworn aesthetic code, by now
lacking in universal significance.

In fact, the aesthetic code taken as a model for the measurement
of a building—scholastic or otherwise—is the result of a long manipulation
of renaissance standards made to reconcile them with the ideology of
order.

But what is order in a formal configuration, if not the expulsion of every
expression which is inconsistent with the requirements of
representation of the institutions? And what is this expulsion, if not
a repressive act with regard to collective participation, an act which
corresponds perfectly with the repression which the same institutions
carry out in the political and social sphere? The correspondence
is particularly evident in the school buildings where the principle of formal
order which governs the architectural composition mirrors the
principle of disciplinary order which is given as the definition of the
purpose of educational activity. Contemporary school buildings—both
those considered poor in quality and those considered excellent—
do not escape this law of symmetry which mirrors the disciplinary order in

the formal order. Underneath an architectural language which is different, the same compositional structures can be seen which organized the medieval cloister-schools or the barracks-schools of the late nineteenth century: distinct separation between interior and exterior, plans based on simple addition, rhythmic cadences of the facade elements, monocentric views, monotony of materials, technical austerity, decorative repetitivity, etc. And this compositional structure mirrors the authoritarian procedure of educating an elite to exert cultural control over the whole society in the name of a particular social class to which the elite itself belongs. Authoritarianism and the aesthetics of order are correlated products of the rule of the class in power.

Today this rule continues to survive in different forms, but the contradictions generated by its own mechanisms continue to tear it apart. In fact, education is tending to become a universal requirement; and the effects of the contradictions in this process are being felt not only in the most advanced educational circles, but even more clearly in the tensions that agitate the very cultural elites and, above all, the students.

Even though authoritarianism is still the mainstay of educational activity, it is clear by now that teaching cannot go on being authoritarian for very long. Likewise, it can be said that, even though the ideology of order is still the mainstay of the aesthetic code which governs scholastic architecture, it is clear by now that the architectural values of the future will be organized on the basis of a radical re-evaluation of disorder.

The very sound of the word "disorder" generally provokes uncontrollable nervousness. Therefore, it must be explained that disorder does not mean accumulations of systematic malfunctioning but, on the contrary, the expression of a higher type of functionality, capable of taking in and manifesting the complex interplay of all the variables involved in a spatial event. Order comes from a selection which isolates the variables considered significant and organizes them in a system which is as simple as possible, i.e., so as to offer a stable solution. We know that there is an increasing tendency toward the organization of physical space according to this reductive principle, and we know that it is the origin of all the methods based on addition which are universally applied to the construction of the environment; for example, the method based on the search for a typological order according to which it is possible to separate and attribute spatial prototypes—or a series of prototypes—to them. The combination by addition of these gives rise to an environmental whole: the street, the neighborhood, the city. We also know that a city, a neighborhood, or a street, even a building,

is interesting to us exactly for all that which manages to escape from the controls of these rules, for the expressions which are "not permitted" but which insinuate themselves through cracks in the order and reveal themselves with all the wealth of stimuli which is the property of contradictions.

The breakthrough of the unallowed expressions gives rise to an imperfect configuration of disorder. The perfect configuration would be achieved if these expressions were included in a complex system organized from the beginning to include them. But that would imply a condition based on collective participation—on the creative collaboration of the entire collectivity—much different from the discriminatory and segregational participation which we find in reality. In that case, the organization of the physical environment would come about by means of a process and not by means of authoritative acts; the solutions would not be stable but in continual formation; the aesthetic code would not be exclusive and secret but comprehensive and open.

We are still very far away from this condition; but, on the other hand, we are faced with the objective necessity of reaching it. The salvation of the world—in all fields, from politics to aesthetics—lies in "disorder," as an alternative to a restrictive and abusively overwhelming order which can no longer be tolerated.

To return to school buildings and to the problem of their qualitative turning point, we can conclude that the only possible way for them to exert a positive influence on educational activity is to revolutionize the procedure according to which they are planned and constructed. The school should not be an island but part of the physical context, or more precisely, the physical context as a whole, conceived as a function of the requirements of education. It should not be a closed apparatus but a structure spread out in the network of social activities, capable of articulating itself to their continual variations. It should not be an object represented according to the rules of an aprioristic aesthetic code, but an unstable configuration continually recreated by the direct participation of the collectivity that uses it, introducing into it the disorder of its unforeseeable expressions.

A.4 Collective participation in the formation of the environment implies radical changes in the role of the architect.

If it is agreed that all expressions should be permitted, even if they give rise to situations of disorder; if it is established that these situations of disorder are legitimate, even though they are in contrast with the offical aesthetic code based on the ideology of order; if to this disorder is attributed an inner logic which has not yet been revealed, only

because it is complex and, therefore, beyond the elementary schemes which we are used to manipulating; if it is accepted that the impulses which bring about the definition of an environmental configuration should link themselves together freely in a process which generates solutions in continual renewal; if all this is considered consistent with the most progressive tendencies of society and, therefore, desirable; then the function of the architect must change in the same way that the functions of all the specialists operating in the different professional fields must change.

The architect's profession—as all the other professions—is defined and circumscribed by the proxy with which the institutions invest him to carry on a particular specialized activity for them, with the implicit commitment to accept their objectives in exchange for a relative *freedom of choice with regard to the technical aspects of the* problems with which he deals. The exercise of criticism is permitted as long as it remains inside the system and does not corrode *the foundations on which the system is based.*

In a situation of collective participation, the proxy does not come from the institutions but from the entire collectivity; or, more exactly, it is not a question of a proxy, but of an agreement which is continually renewed by means of a continual confrontation. The exercise of criticism not only is permitted but becomes necessary and cannot be limited to the technical aspects of problems but *must be extended to the whole* range of problems which runs from the motivations to the consequences of every decision along a line of permanent control which continually brings into discussion the general objectives as well.

The dimensions of the field of action are also made problematic. The architect, like most professional people, confronts the problem which he is asked to solve without worrying too much about the repercussions which the solutions produce in the general context in which they are inserted. He ignores the entire network of interrelations; or he reduces it radically in order to simplify his problem or in order to raise, as much as possible, the level of his own personal interpretation.

In a situation of collective participation, the consideration of the network of interrelations which are established between every new project and the context to which it is destined becomes fundamental. To design a school building in this situation means to design a piece of the city, to enter into the city with a project which will be homogeneous, to *change the city to make it homogeneous with the project which* is being designed, to act upon the whole field of urban forces and put it all into movement, foreseeing the consequences of this movement.

And finally the methodology of action is in question. The architect—
more than any other professional—plans circumscribed and finished
objects. His specific task is a function which he receives extracted from its
context; he plans a structure suitable to its realization, within the
limits of isolation from context, and shapes this structure into a physical
form which represents the full context, giving it expression in
physical space. But the procedure suffers at every stage from the
abstractness accepted at the beginning when the activity was taken out
of its context, cutting its ties with reality. The initial authoritarian
decision reflects its burden of authoritarianism on the succeeding stages,
which become in their turn authoritarian. The structures act as
exclusive organizational systems; and the physical forms shape
themselves as finished, inflexible representations, presumed to be
that much nearer to aesthetic perfection the less space they leave for
the accidental character of time and use.

The institutional objective pursued—and worse, rarely reached
because of a recurring technical imperfection—is the least possible
entropy, which means the minimum quantity of connotations necessary to
designate the event, the contrary of what happens in every spatial
situation endowed with universal meanings and, therefore, rich in signs
accumulated and stratified, in time, through a continual involvement
with society.

In a situation of collective participation, the organizational systems are
necessarily included and inclusive as parts of a more general system
which makes the whole of the activities indivisible. On the other
hand, the forms must necessarily be open, which means defined only in
the essential elements which generate and regulate their
evolutionary process.

To design a school building for a situation of collective participation
does not mean to lay down a succession of spaces connected by
a single line of communication but rather to organize a place
for opportunities for experience and to represent it in the physical space
by means of a system of forms already oriented to the reception
of the multiple and variable lines of expression of those who
have the experiences.

Can a specialist design a school building according to this conception?
Generally he doesn't know how and he is not capable of doing
it, for two basic reasons. First of all, because his professional
horizon does not extend beyond the circle of institutional requests
advanced by the institutions, the inclusion of collective participation

would push him toward a sphere of criticism which is denied him by definition. In the second place, his specialization has made him clever at designing in terms of autonomous and self-sufficient organizational systems and of formal configurations which are concluded and stable. He has been prepared for this and he identifies his own function in it.

Only those few architects who have liberated themselves from their specialistic and professional preclusions can contribute to a design which is appropriate for the requirements of a new educational activity. But many would be needed, a number proportionate to the dimensions of the problem.

According to our plan, proceeding along the line of the "whys," we have penetrated deep into the problem of "how." Now we must conclude the analysis and focus on its consequences in terms of action without, however, having gone beyond the enunciation of a few general points of orientation. In fact, every prescriptive norm would turn out to be useless and contradictory with regard to the mobility of the panorama which has emerged. From this point of view, we will now take up some of the principal questions, in the same order in which they have been treated so far.

H.1   The institutional school furnishes a limited education because it makes possible only those experiences which are permitted by the institutions, while it excludes those which the institutions do not permit. The experiences which are not permitted, however, are often those that teach the most, if for no other reason than that they contain the seeds of refusal which make them critically more active.

Che Guevara maintained that the whole society should be an immense school, and he was right, if we understand his statement, as he meant it, to refer to a society which should not be organized on the existing institutional basis nor on other bases which produce the same authoritarian and discriminating situations as the existing institutions.

The experiences which are not permitted by the institutions can be obtained only in the city and in the territory where they coexist with the experiences which are permitted, insinuating themselves into the established pattern and making it burst open with the contradiction of concrete reality.

The city and the territory, until society changes, are the immense school which we have at our disposition. We must work therefore with

energy and imagination to make the school identify itself with the city and the territory, to make the enormous growth of the demand for education, typical of our time, spread into the city and territory.

The design of schools which are purified of their institutional limitations should begin with the non-institutional design of the physical environment.

H.2   The least suitable place in which to carry out educational activity is the school building, because, by incapsulating teaching and learning in a unitary, isolated, and closed off space, it tends to cut off contacts with the complex context of society. On the other hand, it seems that the necessity of mass education makes the rapid proliferation of educational structures necessary. Therefore, we must reconcile the two opposing requirements which deny or confirm the utility of schools, which advise their elimination or multiplication.

The solution can only be the disintegration of the school building as a specific place, intended exclusively for a specific function.

It is a question of identifying its essential "nucleus," which must be maintained intact and multiplied, and its non-essential "orbit"— non-essential except in relation to the unacceptable desire for autonomy and exclusion—which can be broken up and dispersed. Educational activity consists in the search, potentially identical for students and teachers, for knowledge and types of behavior which help each individual to find an appropriate role in society. The search for knowledge implies a technical apparatus (the "nucleus") which can be specialized; the search for types of behavior implies the formation of places (the "orbit") where a continual and generalized confrontation can take place. To obtain the generalization and continuity of the confrontation, the physical structures of the school "orbit" must be spread out in the city and in the territory, mixed together, superimposed and integrated with other physical structures intended for other activities, and therefore, generators of other experiences. To specialize the technical apparatus, on the other hand, the physical structures of the school's "nucleus" must be concentrated and unified, maintaining, at the same time, the possibility of aggregating themselves with the structures of the "orbit" and, through these, with the city and territory, from time to time as the necessity arises.

In this prospective we can imagine the school as a double network— laid out in the environmental context—of places in which multiple activities go on, including education, and places in which the more specific instruments of educational activity necessary for the

finding, elaboration, and transmission of knowledge are concentrated. The intersection of the two networks should not necessarily coincide or even stand still; on the contrary, they should be as distinct and mobile as possible, so as to place themselves always in the best conditions—the first where social experiences are most intense and the second when specialized cultural services are required. It is not unthinkable (and moreover, for other reasons and with other aims, it has already been almost outlined)[1] that a scholastic structure could consist of capsules which include libraries, laboratories, studies, teaching machines, learning models, etc., and which can move about in the urbanized areas to reach the places where groups of students and teachers live and carry on their research, using structures, intended for other activities as well.

In this way the principle of the school building as a spatial unity— generator of exclusive organizational types and monumental compositions —would become a thing of the past, and education would become an omnipresent pattern, capable of penetrating everywhere and of being continually penetrated by the happenings of society.

In comparison with this image, it becomes clear how much vanity and mystification was contained in the nineteenth century program of using the school as a reassuring and celebrative materialization of Progress, or in the more recent proposals, only apparently more modest, to attribute to the school a polarizing energy that would make it a center around which the physical environment could reorganize itself spontaneously. The non-place school, disaggregated and dispersed, seems to be a more believable opportunity for renewal, if only because it proposes the distraction of its own organizational preconceptions as an example of the more general upheaval which involves the whole urbanized territory and, through it, the entire society.

The non-institutional design of the physical environment is, therefore, not only a premise but also a consequence of the design of schools purged of institutional limitations.

H.3   The situation of omnipresence of the school in the territory is probably very far away, but it can be taken as an ideal which has the possibility of becoming real, if unhoped-for opportunities should arise among the vacuums opened up by institutional inefficiencies. It happens to architecture, in the wanderings of its superstructural existence, suddenly to run into these vacuums; it depends on the intensity of its universal commitment, whether or not it will be ready to fill them

[1] A few years ago in an architectural school in the United States *some* students studied a unique project for the scholastic organization of a city. The basic idea was to organize the special teaching equipment on mobile units which could move about the city going from school to school as the need for it arose. The organization, in this case as well, was distinguished in two parts: the system of stationary school buildings in the various zones of the city and the fleet of special mobile facilities which could be combined with the buildings in many different ways.

It should be noted that this use of special equipment permits its full utilization and, therefore, makes possible a high level of technological development and specialization without wasting money.

up with subversive architectural material capable of causing
feedback on the most protected structures.

We may, therefore, consider the ideal as though it were real and, in
order to avoid the risk of abstraction, consider at the same time
the real as though it were tending very slowly toward the ideal.

The introduction of educational activities into physical structures
intended for other activities, as well as the inclusion of other activities in
the physical structures intended for education, cannot come about
without a profound reconstruction of the entire enviromental pattern.
This implies an intense activity of design—but at what level, with what
procedures, and by whom?

All levels, from the territorial to that of the smallest associational unit,
must be taken into consideration, because the urgency and the
dimensions of the consequences remain constant from the highest to the
lowest level. We know not only that the present organization of the
territory and the city is not conceived for their contribution to education,
but also that it is obtusely calculated for just the opposite effect:
to unify experiences, to flatten every emergence to uniform levels, to hide
conflicts by separating everything that can conflict. The emotional
stimuli which can be obtained from the city and the territory (more from
the city than from the territory because of the relative accumulation
of contradictions) are all received in spite of the organization. At the higher
level, therefore, it is a question of liberating the suffocated potential
energy and making it explode in a myriad of opportunities for
experience. Design can lead to this result, if it overthrows the
organizational and formal preconceptions which it goes on passively
accepting, if it restates in critical terms the scope and aims of its action.

The assumption of the idea of a school disaggregated and dispersed in
the territory, immersed in the more general context of the environmental
structures, imposes a verification of the legitimacy of all the physical
structures which have been used so far to represent human activities
in physical space. It makes it necessary to ask if it is still reasonable
to divide up the physical context according to exclusive types,
corresponding to isolated activities— street, residence, places for
production and leisure—or if it would not be better to reunify it in a way
which corresponds to how activities really go on, through the definition
of new comprehensive structures (inside which education, because
it is ubiquitous, disappears).

The same critical procedure is still valid on the lower level, in the
observation of the smallest associational unit, the actual building
for the school. But while at the higher level the revolution consists of

proposing an objective of integration to restore unity to the environmental
context, here it consists of proposing one of disintegration to aim at
the destruction of the school's autonomy as a force which is antagonistic
to the recomposition of environmental unity.

In the traditional type of organization, considered exhaustive with regard
to the teaching sector to which it is attributed, the design must first
of all separate the parts which compose it and extract them
from their conventional unity. Classrooms, laboratories, cafeterias,
theaters, gymnasiums, sports and amusement facilities—there is no
reason why they cannot be shared, at least for limited periods of time, with
other activities which, although not defined as educational, educate,
nonetheless, if not institutionally, beyond the school. Each part
can, therefore, remain inside the scholastic structure but open to the use
of the whole collectivity or can be relocated in other structures
remaining accessible to the school or, finally, can be put together with
other parts similar to itself to create a new organism used by
different structures which can offer fertile opportunities for contacts and
exchange.

Thus, operation at the higher or lower level can converge toward a
single aim; and every vacuum which unexpectedly appears at
either extreme can be filled up immediately. The double pretense of
expecting from the renewal of the school the reconstruction of the
environment and of expecting from the reconstruction of the environment
the renewal of the school is merely a fiction to explain a lack
of imagination or a desire for conservation.

H.4   The formation of a new totally educational physical environment and
the achievement of new scholastic structures projected into the
context of social activity are inconceivable as products of an imperative
type of design, which, as we have seen, tends to exclude from its
field of operation all complex variables, in order to organize simple
systems which correspond to the limitations of an authoritarian vision
concerned, above all, with order. Its choices are categorical and its
procedures summary. Its products are monofunctional structures
and formal configurations conditioned by the premises of uncontamination
prescribed by the aesthetic code of the institutions.

But the refusal to produce objects finished and defined in every aspect,
whatever their scale, and the proposal to organize structures
articulated so as to make possible any integration of different activities
in open and variable configurations creates the necessity for more

sophisticated procedures and demands the inclusion of the totality of the variables in question. In this case, design becomes a process, a development of the successive events whose movement must be oriented, whose direction must be corrected, whose time must be regulated without ever limiting the free expression of the desires of the participants, when they are legitimate and organic with the development itself. No prefigured model can be given as the final goal to reach, especially no morphological type of model. The form, in fact, because of its intrinsic property of generating feedbacks, constitutes an indispensable regulating ingredient. It cannot remain outside the development as its preestablished conclusion, but it must be within it as an evaluation reproposed at every stage.

These differences of method and operation, which distinguish imperative design from procedural design, involve an even more distinctive difference of content: in the former the relationship between objectives and decisions is concluded within a limited and preconstituted field of consensus, while in the latter it goes on in the unlimited and indeterminable field of collective participation. In the process-design the intervention of those who, directly or indirectly, will use the finished product must count in every stage, not only in order to furnish a complete picture of the real needs and to guarantee that the decisions be examined exhaustively, but also to introduce at the formal and structural level the powerful contribution of the collective creativity.

It cannot be excluded, or rather it should be assumed as an ultimate goal which could become real, that in the future the process of planning the physical environment can be entirely governed by the collectivity, that the carrying out of its different stages, from the elaboration of the decisions to the creation of the formal configurations, can come about through a sequence of choices, verifications, and inventions capable of regulating themselves within a continual polyphonic confrontation. At that point the ambiguous and insidious function of the specialists (of the architect) will be deprived of all authority. But that point is a long way off and how long it will take to reach it depends not only on the rapidity of the libertarian transformation of society but also on how quickly the exercise of freedom will be able to destroy the barriers of alienation which the exercise of power has erected.[2]

In the present situation the architect is still necessary, and more intensely necessary as he contributes to the speeding up of the restoration of creative capacity to the collectivity.

The planning of schools, whether it comes about by means of transforming the entire physical environment to make it comprehensively

[2] Centuries of being left out of the process of transforming the physical environment have firmly convinced people that there is no possibility for collective expression to intervene directly in this process. By now there seem to be no alternatives to the models elaborated by the ruling class and the functional, organizational, and aesthetic principles on which they are based seem to be the only possible ones. This numbness of the consciousness and the senses gives rise to alienation; and for this reason, even the rare cases in which direct action is possible, people go on choosing expressive typologies and languages exactly like the ones which are imposed.

educational or through the design of school buildings, must take
this prospect into consideration. It is no longer a question of
designing sacred enclosures as eloquent on the outside and rigid on
the inside as is necessary to impose a will for order. It is rather
a question of initiating a process which generates multiple active
experiences, and therefore, intense education.

   The design is the process itself, its reiterated transcription into spatial
terms; therefore, it goes on without ever concluding itself along the
path drawn by its formulator (the architect) and continually
readjusted by those who appropriate it (the students, the teachers, the
people who use it for other things as well).

H.5   The job of the architect who designs a school is to outline the
organizational structure which should realize educational activities
in space, whatever the complexity and the degree of contamination with
other activities which they may take on with time. The organizational
structure will contain within itself the seeds of the formal
configuration to which it will give rise or the basic ingredients of which it
will be composed, or completely defined fragments around which
its future development will evolve according to the circumstances, the
intentions and the reactivity of the situation in which one is working.
The most important thing is that structure and form leave the
greatest possible space for future evolution, because the real and most
important designer of the school should be the collectivity
which uses it.

   The work of the architect should be limited to the definition of the
supporting framework—which is not neutral but full of tensions—on which
should be able to develop the most disparate organizational modes and
the formal configurations which stimulate the richest disorder. At
this point we can ask, in conclusion, if there exist, in the concrete or in the
imaginary production, episodes oriented in this direction.

   The schools which we see in the cities and in the territory throughout
the world all resemble each other and equally resemble the schools
of the past. They are torpid mirrors of a worn-out educational system.
Not even among the schools selected by specialized books and
periodicals as exemplary cases to be called to the public's attention is it
possible to find something new, except for clever little formal or
distributive devices. Nor do really new suggestions emerge from the
studies carried out by the research institutes which are exploring
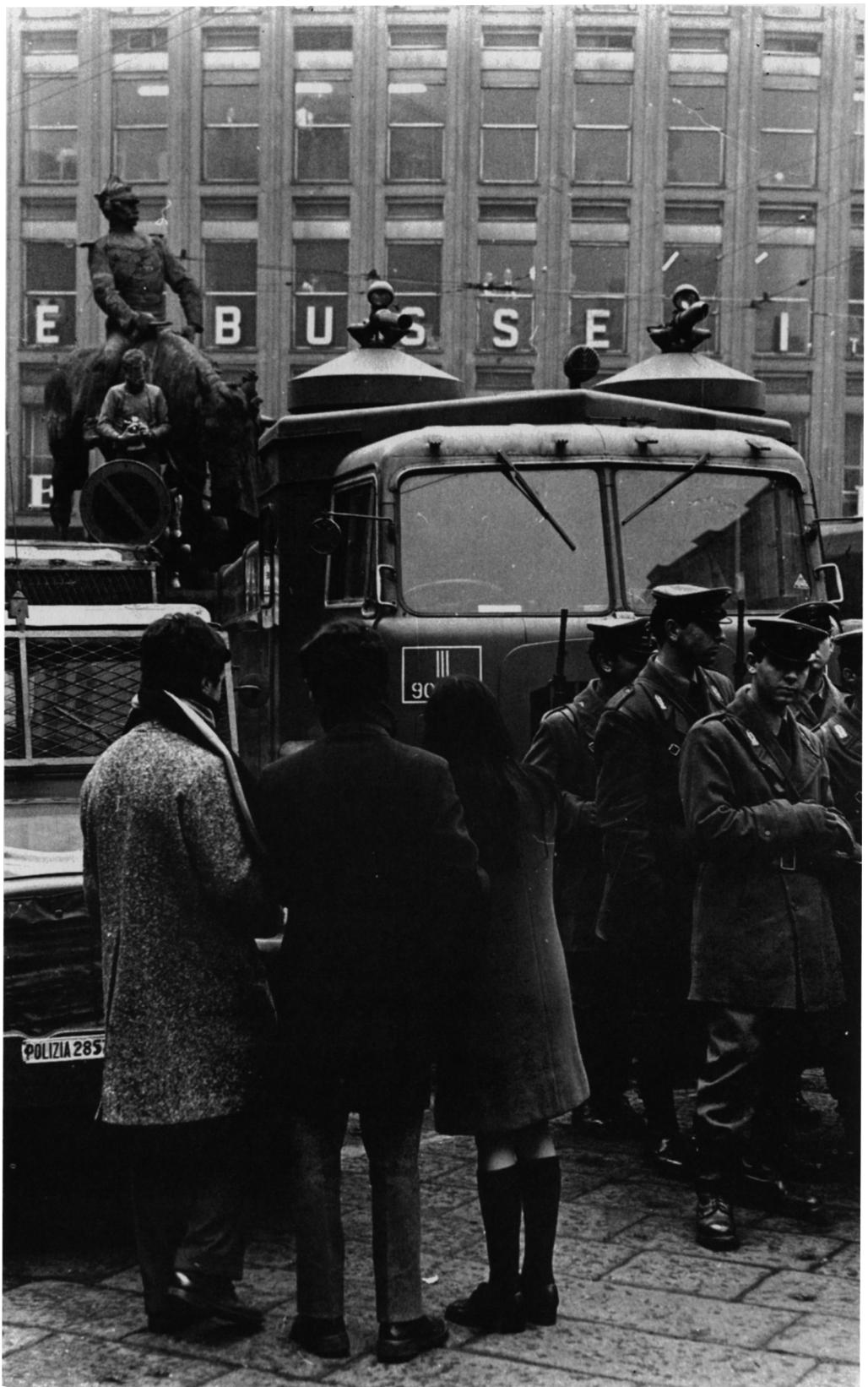the problem in different countries; the courtyard, linear, nuclear, or cluster

outlines represent more or less suggestive acrobatics which do not
go beyond the enclosure of traditional limits.

   Actually, some few episodes are to be found only where collective
participation, in exceptional and unforeseen circumstances,
has manifested itself. Newspaper photographs illustrating the events of
the student revolt all over the world have shown us a new architecture of

the school which neither architects nor educators had ever imagined.[3]
Internal spaces radically transformed by the introduction of new
uses, objects and signs of extemporaneous invention superimposed on
the immobile insignia of the authorities, colorful and irreverent
lacerations of the gray austere expressions of order, facades
distintegrated by signs and banners communicating with the world
outside, parks and gardens rescued from their decorative existences and
filled with activities and communications, overflow into the surrounding
environment, invasion of the streets, overturning of automobiles,
ballets with the police, continual and impassioned contact with the
people, and so on and so forth.

[3] For some concrete references we
can see how the students of the
architecture department of Yale or
MIT have transformed their
working spaces when they have been
able to appropriate them (the
Architectural Form, July-August 1967
and Architectural Design, August
1968); but even more significant is
what can be found in leafing through
the French, German, and Italian
illustrated magazines for 1968 which
report on the student revolt in the
universities and secondary schools.