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In 1947 at Bridgwater the young Dutch architect **Aldo van Eyck** attended his first CIAM meeting. There he voiced a critique of the abstract functionalism that CIAM had pursued since 1928. Deploring the fact that "the struggle between imagination and common sense ended tragically in favor of the latter," Van Eyck asked whether "CIAM intend[s] to 'guide' a rational and mechanistic conception of progress toward an improvement of human environment, or . . . to change this conception." Over the next decade this question remained at the heart of CIAM's ultimately unsuccessful attempt to reorient itself, and Van Eyck, as a member of Team 10, helped to bring about its demise. For its Otterlo meeting in 1959, he prepared a special issue of *Forum*, the Dutch journal he would edit from 1959 to 1963, which was in effect CIAM's obituary and a manifesto of his own concerns.

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The 1950s had been a significant period of contacts and activities for Van Eyck. Trips to central Africa, first inspired by his reading of Marcel Griaule's ethnological account of Dogon culture in the Surrealist journal *Minotaure*, spurred his interest in anthropology and primitive dwelling forms. This interest found its way into CIAM's discussions at Aix-en-Provence in 1953 by way of his friendship with Sigfried Giedion, chairman of the aesthetics commission.

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Recasting the debate on regionalism, the commission report acknowledged, "a primitive Cameroon hut has more aesthetic dignity than most prefabricated houses." But despite such accommodations, the stand taken by the old CIAM guard—Gropius's "dear industry happy future teamwork no art no primadonnas kind of gruel" (as Van Eyck later put it)—proved unpalatable to the young architects gathering around Van Eyck, Jacob Bakema, and Peter and Alison

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Smithson. Team 10 was born at a meeting in Doorn, Holland, the following spring.

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Van Eyck was also close in the early 1950s to the Dutch artists Constant and Karel Appel, who belonged to the avant-garde group Cobra and espoused an art of spontaneity and *art brut* directness. Their aesthetic, which influenced

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the Smithsons as well, represented a kind of dialectical other or "counterform" to the legacy of De Stijl. But the latter would remain a vital inspiration for Van Eyck. It became the crux of an argument with the older Rotterdam architect W. van Tijen, whose technical-social rationalism Van Eyck attacked as lacking in

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Rietveld's imagination. Van Eyck's architecture also had affinities with the work of Louis Kahn at this time, as evident in the resemblances (perhaps unconscious) between Kahn's Trenton Bathhouse (1954-59) and his seminal Children's Home in Amsterdam of 1955-60. Less concerned with what the building "wanted to be" than with its inhabitants' experience of it, though, Van Eyck diverged from Kahn in his more anthropological conception of space.

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Many of Van Eyck's key ideas recur in the following essay, which he wrote as an introduction to a special issue of *Forum* on Pueblo architecture. Among these are the notion of "twinphenomena"—the both/and nature of things—and of "identifying devices," elements that make a space humanly comprehensible. The "configurative discipline," an idea Van Eyck developed from 1954 on, is a design method in which part and whole reinforce each other's identity in a relationship of reciprocity, summarized in the paraphrase of Alberti, "a city is a huge house and a house a tiny city." The city becomes "a hierarchy of superimposed configurative systems multilaterally conceived"—a metonymic rather than additive solution to the "aesthetics of the great number" (and thus a critique of Tange's megaform).

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The method was later applied by Van Eyck's followers Piet Blom and Herman Hertzberger, though in a more didactic spirit. It also led to an altercation with Christopher Alexander over the city-as-tree analogy: in Van Eyck's view, the city, like the tree, was too poetic a figure to be quantified, even as a semilattice.

Steps toward a Configurative Discipline

Aldo van Eyck

Open up that window and let the foul air out.—Jelly Roll Morton

Architecture—planning in general—breathes with great difficulty today. Not because of the erroneous obstacles society casts in its way, but because architects and planners refuse to extend the truth that man breathes both in and out into built form. The breathing image epitomizes my conception of twinphenomena—we cannot breathe one way, either in or out. As to what Jelly Roll cried: which window and what foul air? The “window” is relativity and the “foul air” . . . well, it is what exudes from the aggressive halves into which twinphenomena are brutally split by some disease of the mind which, in our particular part of the world, has been devoutly cultivated for 1962 years!

Right-size

I am again concerned with twinphenomena; with unity and diversity, part and whole, small and large, many and few, simplicity and complexity, change and constancy, order and chaos, individual and collective; with why they are ignobly halved and the halves hollowed out; why too they are withheld from opening the windows of the mind!

As abstract antonyms the halves are rendered meaningless. As soon, however, as they are permitted to materialize into house or city their emptiness materializes into cruelty, for in such places everything is always too large and too small, too few and too many, too far and too near, too much and too little the same, too much and too little different. There is no question of right-size (by right-size I mean the right effect of size) and hence no question of human scale.

What has right-size is at the same time both large *and* small, few *and* many, near *and* far, simple *and* complex, open *and* closed; will furthermore always be both part *and* whole and embrace both unity *and* diversity.

No, as conflicting polarities or false alternatives these abstract antonyms all carry the same luggage: loss of identity and its attribute—monotony. Monotony not merely in the sense of uniform because, as I have already said:

If a thing is too much and too little the same, it will also be too much and too little different. Right-size will flower as soon as the mild gears of reciprocity start working—in the climate of relativity; in the landscape of all twinphenomena.

The amorphous and additive character of all new towns—their heterogeneous monotony—is the immediate result of the complete absence of right-size. Those urban functions which were not forgotten were compartmentalized. The actual building elements were subsequently arranged academically according to a trivial infill habit, and the open space between them is so casually articulated and emptied of every civic meaning that they loom up like oversized objects, pitilessly hard and angular, in a void (what Candilis justly calls *espace corridor*).

Within the tyrannical periphery of such objects there is no room for emotion; nor is there any in the resulting emptiness between these objects. Emptiness has no room for anything but more emptiness.

All urban ingredients curdle, all urban colors clash. Just planned wasteland.

The devaluation of various abstract antonyms

Now the object of the reciprocal images contained in the statement *make a bunch of*

places of each house and every city; make of each house a small city and of each city a large house is to unmask the falsity which adheres to many abstract antonyms: adheres not merely to small versus large, many versus few, near versus far, but also to part versus whole, unity versus diversity, simplicity versus complexity, outside versus inside, individual versus collective, etc., etc.

It seems to me that these reciprocal images furthermore upset the existing architect-urbanist hierarchy. It is what I wanted them to do—gladly.

To proceed from the idea of dwelling, in the sense of “living” in a house, in order to arrive at the idea of living, in the sense of “dwelling” in a city, implies proceeding simultaneously from the idea of living, in the sense of “dwelling” in a city, in order to arrive at the idea of dwelling, in the sense of “living” in a house. That is as simple and involved as it actually is!

When I say, therefore, make a welcome of each door and a countenance of each window: make of each a place, because man's home-realm is the inbetween realm—the realm architecture sets out to articulate—the intention is again to unmask false meaning and to load the meaning of size with what right-size implies! As soon as the equilibrating impact of the inbetween realm—extended so that it coincides with the bunch of places both house and city should be—manifests itself in a comprehensibly articulated configuration, the chances that the terrifying polarities that hitherto harass man's right composure may still be reconciled will certainly be greater.

It is still a question of twinphenomenon, a question of making the inbetween places where they can be encountered, readily mitigating psychic strain. What is direly needed is a dimensional change in both our way of thinking and working which will allow the quantitative nature of each separate polarity to be encompassed and mitigated by the qualitative nature of all twinphenomenon combined: the medicine of reciprocity.

First approach to a configurative discipline

Commenting on some housing projects by Piet Blom (published in *Forum* 7, 1959, and 5, 1960–61) I stressed the fact that these projects did not depend on current types of housing, since the latter have amply proved their own obsolescence, especially in a larger context. Nor do these projects depend on the current narrow views of what inside and outside, individual and public space mean; nor for that matter on the frozen quartet of functions and the foolish severing of urbanism from architecture into two conflicting disciplines.

They successfully demonstrate the validity of a way of thinking and corresponding design process which I have advocated for many years.

By liberating oneself of the abject burdens mentioned above, by crossing the frontier of established practice—though not of what is plausible—and making constructive use of the kind of capacity rejection of the obsolete precludes if new valid forms are to replace it, it is now possible to invent dwelling types which do not lose their specific identity when multiplied, but, on the contrary, actually acquire extended identity and varied meaning once they are configured into a significant group.

What is essentially similar becomes essentially different through repetition instead of what is but arbitrarily “different” becoming arbitrarily “similar” through addition (a universal city-molesting sickness).

Each individual dwelling possesses the potential to develop, by means of configurative multiplication, into a group (subcluster) in which the identity of each dwelling is not only maintained but extended in a qualitative dimension that is

specifically relevant to the particular multiplicative stage to which it belongs. Whilst the resulting group is, in turn, fortified in the next multiplicative stage by a new identity which will again enrich that which precedes it.

As it is, all hitherto adopted methods impoverish whatever limited identity a preceding numerical stage may possess as such. In fact the absurd truth of it is that the identity of a dwelling, if it has any at all, is at present almost invariably such that it is incapable of surviving the very first repetitive stage, i.e., that of the single block! This demonstrates that the established design mechanism is unable to cope with plurality; that it deals with the wrong singular in a basically wrong—additive—way.

It is of course true that the plural must first acquire meaning in human terms if it is to be guided by the still unexplored aesthetics of number.

But the reverse is equally true. We simply cannot embark on one without the other—they are both part and parcel of the same problem.

The identity of a smaller cluster—its intrinsic “gestalt” in human terms, i.e., its real “dwelling” potential—is embraced and intensified in that of the larger one which grows out of it through further repetition, whilst the identity of the larger cluster is latently present in the smaller one. This, of course, points toward the meaning of unity through plurality and diversity; diversity through unity and configurative similarity, but also toward the need to articulate both interior and exterior space as clearly and consistently, since only their complete ambivalent accordance can ultimately constitute the sequences of places that must accommodate the occasions which real urban existence calls for.

This is why I propose so emphatically not only a far greater comprehensibility at all stages of multiplication but also a radical enlargement of scale in the sense of far greater configurative compactness. Furthermore, a greater audacity of form and articulated place-clarity within a closely knit compound rather than an amorphous texture of inevitably oversized items (oversized, however measurably insignificant) additively arranged in space-emptiness.

But it is also why I propose a greater urbanity since this implies a far closer meshing of all urban functions, aspects, and kinds of human association. A far greater affinity toward their interdependent multimeaning on the part of the architect is a first condition. Hence the citylike nature of a house and the houselike nature of a city.

All configurative stages of multiplication—simultaneously rather than consecutively conceived—cannot acquire real significance until they coincide to some extent at least with the illusive configuration of the individual and the collective. Fuel for the entire process as well as recipient of the engendered warmth.

To achieve this end, more is required than a fugal configuration of dwellings. We must indeed proceed from this but we must also proceed from more than this. Why is apparent enough, since it is those functions that every plurality of people required in order to exist within an urban cluster in a fashion and degree of urbanity pertinent to it which must further identify each configurative stage.

We must do all that can be done in our field to make each citizen know why it is good to live citizenlike in a city built for citizens, for a city is not a city if it is just an agglomeration for a very large “population”—a meaningless accretion of quantities with no real room for anything beyond mere survival.

Coincidence of urban identity and dwelling configuration

It is a question of multiplying dwellings in such a way that each multiplicative stage

acquires identity through the significance of the configuration at that stage.

I say, through the "significance" of the configuration in order to make it clear that it is not merely a matter of visual form, since this alone would be purely academic, but of significant content transposed through structural and configurative invention into architecture. Each multiplicative stage should therefore achieve its appropriate identity by assimilating spontaneously within its structural pattern those public facilities this stage requires and which inseparably belong to it.

The important question here is, therefore, how to identify the part in terms of the whole, i.e., what can identify it beyond the multiplicative stage reached. How is one to comprehend whether the cluster one resides in is self-contained and independent, or a dependent configurative part of a larger cluster?

To put it in general terms: by what means can the degree of "urbanity" (literally used as derived from *urban*) that belongs to the particular complexity and scale of a given urban entity be identified throughout—i.e., become significantly comprehensible in terms of what it actually is?

It seems to me that at each multiplicative stage large elements with a wide specifically civic meaning or city-forming potential, beyond that of the immediate public requirements the stage calls for locally, should be included within its configuration.

On a city level these elements are so manifold that if meaningfully localized in a framework of urban reference they could help to impart a specific urban identity to each subarea—a different one, moreover, in each case. Such decentralization of the civic possibilities that belong to a large city would impart citylike identity evenly instead of concentrating it in one or a few centers. It would, at any rate, counteract the kind of urban congestion through overpressure, which of course goes hand in hand with suburban anemia as its equally nefarious counterpart, and impute fuller urban context to the subareas beyond their specifically local context.

Each citizen would thus "inhabit" the entire city in time and space. (See John Voelker's scheme, Forum 1, 1960.)

It may sound paradoxical but decentralization of important city-scale elements will lead to a greater appreciated overall homogeneity. Each subarea will acquire urban relevance for citizens that do not reside there. The urban image—awareness of the total urban cluster—is then no longer represented by strictly personal place-reference, different for each citizen, and a center common to all, but, apart from such personal place-reference, by a gamut of truly civic elements more or less equally distributed and relevant to all citizens. As I have already suggested, such elements will bring varied specific identity to each subarea. They will, moreover, induce citizens to go to parts of the city otherwise meaningless to them.

How obsolete the accepted ingredients with which most city plans and housing projects are additively concocted really are, certainly in Holland, is demonstrated by the schemes which have tentatively succeeded in reestimating the meaning of many, if not yet all, urban ingredients and inventing new forms and ideas for them by means of one single simultaneous configurative discipline. Those housing projects which are real sources of inspiration today demonstrate new dwelling types; new methods of access; communication and integrating public facilities through a single complex, constructive, and sequential discipline.

All these matters coincide in that they constitute part of each other's immediate counterform and are contained in each other's embracing periphery.

The house, for instance, is thus also part of the street, whilst the street, reinterpreted,

is included in the house in that it is not necessarily exterior to it in the limited sense—nor, for that matter, are external living spaces. All ingredients are redefined and closely meshed.

The vehemence of vast plurality

Provided the dimension of a given cluster is fairly small, whether independent or part of a larger urban complex, the suggested configurative process could no doubt bring about the required overall comprehensibility. In city scale clusters or entire cities, however, the forces and movements which result from these forces—the vehemence of vast plurality—are so great that functional and emotional conflicts ensue with which even the sequential configurative process I have referred to cannot fully cope. This is due to the heaping up of quanta which, even if they may one day be so interadjusted as to become compatible, confront us today in their apparent discrepancy as irreconcilables which the citizen can no longer respond to positively, but which together, nonetheless, belong to the essence of the citizen's environment.

The accumulative nature of cities today is such that the forces which cause it, and the movements which ensue, cannot be canalized adequately in time and space by any of the ideas and methods hitherto accepted by urbanists whether in the CIAM tradition or not.

Amorphous texture versus comprehensible structure

Nor will the configurative process manifested in the outstanding schemes already referred to, which deal with the grouping of a large though still limited number of dwellings and the public facilities this number requires, suffice, unless the "infrastructures" are so conceived that identity is maintained locally as well as throughout the entire city-compound. If this fails, what we shall end up with will, in spite of the desired opposite, again become an amorphous additive texture instead of a comprehensible configurative structure; a mere arrangement, still, of *some* urban components instead of a meaningful configuration of *all* urban components in the right association.

Locally the configured subareas will, no doubt, be richer and more habitable by virtue of the same fugal process of thinking that brought about the housing schemes mentioned. A great advance indeed—but the vastness of the urban areas covered and the numerical problems that go with it can well cause the successful establishment of identity during the initial stages of multiplicative configuration to be discontinued during the further ones so that textural incomprehensibility instead of structural comprehensibility will again result. It is not my intention to devalue what has been gained so far by reciprocal thinking and the configurative design process that goes with it. The process is certainly the right one; it must only be extended because, as yet, it has the numerical limits I have just dealt with. But they can be resolved if new structural devices are invented that have urban validity for all citizens and impose a clear, large, and comprehensible overall framework on the whole urban entity within which the smaller numerically limited configurations are integrated and acquire overall specifically urban identity. These large structural devices may be the "infrastructures" about which the Smithsons have thought a great deal; they may be the "megastructures" which have also occupied the minds of Tange, Maki, Ohtaka, and Kurokawa.

(An inspiring scheme for a total and very compact habitat on which Piet Blom is at the moment working—it will be published in a forthcoming number—attempts to

integrate the smaller and larger urban components by means of a single configurative discipline, proving tentatively that this is certainly possible.)

Without such large identifying structures the vehemence of the forces and movements that belong to a city—and make it a city—cannot but assault the identity meaningful configuration may have acquired within it. Whilst it is certainly possible to guide repetition through the initial stages of multiplication—the schemes already published demonstrate this effectively—it is not possible to maintain, extend, or augment identity through any number of stages by continuing the fugal process beyond the stages it can cope with.

Whether it will be necessary to subordinate it from the start to a large structural service framework (Tokyo Bay plan), or whether the configurative process can become so rich that it incorporates all components, including the most intimate, as Blom's new plan (albeit for a much smaller cluster) attempts, is a question of crucial importance. I, for my part, do not believe that these two concepts are incompatible. On a vast metropolitan scale, at any rate, their integration seems inevitable. The configurative discipline already discussed should at all costs be extended and enriched as far as possible.

Already in Forum 7, 1959, the necessity to uncover the still hidden laws of numerical aesthetics—what I call harmony in motion—was brought forward. Failure to govern multiplicity creatively, to humanize number by means of articulation and configuration has already led to the curse of the new towns!

They demonstrate how the identity of the initial element—the dwelling—has hardly proved able to survive even the very first multiplicative stage—those in Holland are terrifying examples of organized wasteland. The fact is that in most cases the initial elements had no identity to lose anyway!

The aesthetics of number

In order that we may overcome the menace of quantity now that we are faced with *l'habitat pour le plus grand nombre*, the aesthetics of number, the laws of what I should like to call "harmony in motion" must be discovered. Projects should attempt to solve the aesthetic problems that result through the standardization of constructional elements; through the repetition of similar and dissimilar dwellings within a larger housing unit; through the repetition or grouping of such housing units, similar or dissimilar; through the repetition of such housing groups, similar or dissimilar (theme and its mutation and variation), as I put it in Aix-en-Provence. We must continue the search for the basic principles of a new aesthetic and discover the aesthetic and human meaning of number. We must impart rhythm to repetitive similar and dissimilar form, thereby disclosing the conditions that may lead to the equilibration of the plural, and thus overcome the menace of monotony.

The formal vocabulary with which man has hitherto successfully imparted harmony to the singular and particular cannot help him to equilibrate the plural and the general. Man shudders because he believes that he must forfeit the one in favor of the other; the particular for the general; the individual for the collective; the singular for the plural; rest for movement. But rest can mean fixation—stagnation—and multiplicity does not necessarily imply monotony. The individual (the singular) less circumscribed within him (it) self will again appear in another dimension as soon as the general—the repetitive—is subordinated to the laws of dynamic equilibrium, i.e., harmony in motion.

Having suggested that it is due both to the great area covered and the quantitative

aggression of the forces vast plurality entails which tend to invalidate the configurative articulation of repetitive elements beyond the first stages of multiplication, it is obvious and reasonable to suggest that identity beyond these first stages—real city identity—can only be established by the very quanta which tend to obstruct the sequential process halfway. With this in view, it is clear that large city-forming attributes—other than circulation—must be introduced stage by stage in the whole configurative process to impart localized full-city identity, whilst bold infrastructures must generate a framework within which all configurative stages of multiplication—i.e., not merely the initial ones—become meaningfully comprehensible. Failure to govern mobile quanta through infrastructures will make it impossible for cities to become more than vast disorganized accretions that frustrate the very needs they are meant to provide for.

It is too often claimed that the great metropolis defeats its own ends in principle! This, of course, is the kind of sentimental loose thinking that stands in the way of any solution that proves the opposite.

Urban transmutability

If it were possible to comprehend a city as a complex with a certain finality, or as a determined mechanism geared to a kind of urban existence which is fairly constant in time and space—subject only to either slow gradual change or sudden mutations at very long intervals—it would perhaps also be possible to rely on the extended configurative discipline. But a city is no such thing—no longer at any rate. I am prone to speak instead of a city as an organism, since this suggests quite predictable “natural” change and growth according to fixed inherent impulses and external forces.

The “organic” image of a city is therefore as false and misleading as the mechanical one. Without wanting to be nasty, both sprout from the same sentimental and rational type of mind; a type, moreover, that is invariably addicted to technological advance for its own sake, and all too common among architects and urbanists. A city, however, is a very complex artifact and, like all artifacts, fits no pseudobiological analogy. It is a man-made aggregate subject to continual metamorphosis to which it either manages or fails to respond. Accordingly, it is either transfigured or disfigured. Our experience is founded on the latter, our hopes on the former—that is the plight we are in now. But we know this much, *that transfigurative potential implied enduring and dynamic identity; lack of it: disfigurement, loss of identity, and paralysis.*

A city is only transmutable as a whole if its components are also transmutable. One change can effect, delay, or check another change, but this does not alter the fact that each component is subject to change of some kind. Transmutations seldom coincide in time and degree nor are they effected at the same tempo. Such incongruity is simply the spontaneous outcome of urban life. It is a reality that must be accepted and understood.

A city is chaotic and necessarily so. One can no more rule this truth out than one can rule out the eternally incongruous desires of man. The manifold functions of a city must be adequately organized in the light of all aspects of mobility, not for the sake of subduing the chaotic element they incur, for this is happily as impossible as it is undesirable, but in order to avoid their reciprocal elimination (functional paralysis), mechanical stagnation, and the human distress implied.

Are we such fools as not to realize this? All these nefarious properties do not exude from either order or chaos as such but from the mismanagement of both. Order and chaos form yet another twinphenomenon which, if split into incompatible polarities, turns both halves into a twin-negative. Now architects and urbanists today are addicted

to this splitting mania. Their particular nature seems to make them as wary of chaos as they are willing to bestow order.

One cannot eliminate chaos through order, because they are not alternatives. Sooner or later it will dawn upon the mind that what it mistook for order is not really order, but the very thing that causes the stagnation, paralysis, and distress falsely attributed to chaos.

It will also dawn upon the mind that what such "order" is supposed to dispel—chaos—is quite a different thing from the negative effects brought about in trying to do anything so foolish.

Chaos is as positive as its twin sister order.

It is clear that the time has come to reconsider the entire configurative process in the light of the many aspects mobility embraces in order to discover new spatial, structural, and constructive possibilities for our cities.

Kenzo Tange, referring to his Tokyo Bay plan, says: "The spatial order in cities will doubtless become richer in content as time goes on. It will come to include not only spaces of an order of nature but free, nonordered spaces as well." "We must seek order in freedom and freedom in order." "It is by relating these two extremes that we will create a new spatial organization for contemporary cities."

As fully as the order-freedom reciprocity appeals to me, as little can I cope with order and freedom as extremes which they only are as long as they are negatives (insofar as the chaotic element is here rightly implied in the word *freedom*). Since there must always be some kind of space between the alleged extremes, a distinguishable borderline between ordered and nonordered space is unthinkable. They are not separate categories that can be locally provided for.

The fulfillment of a great desire—the metropolis

A lot has been written about circulation—its mechanical and numerical connotations. It is still too often handled in the abstract, as one of many urban functions. But circulation cannot be fully understood in terms of function—that is why we have hitherto failed to come to terms with it. Transportation is a particular aspect of communication, communication a particular aspect of mobility in general. Now mobility is not merely an aspect of city life, it is of the very essence of human association, whilst cities in principle are meant to provide the framework for human association in its most complex and varied form.

Cities tend to become more magnetic, and consequently larger and larger, as the web of association is intensified and its range extended. I say it this way and not the other way around because it is important to comprehend the expanding city in the light of man's basic desire to communicate, i.e., from a positive human need, and not from statistical, economical, and technological inevitability in an impersonal hence negative sense.

I believe it is because this quantitative attitude still prevails that the project of urban expansion seems terrifying instead of gratifying, and the solutions ubiquitously proposed so functionally inadequate and contrary to the growing communicative need of the citizen.

There is one more question Tange's excellent exposé of the Tokyo plan poses. I should like to deal with it here briefly because it immediately concerns the argument of the present essay. He says:

"The speed and scale of contemporary life call for a new spatial order in cities.

Nevertheless man himself continues to walk in steps of a meter or so and we are still surrounded by the unchanging human scale.

"Furthermore, whereas the life cycle of large-scale constructions is growing longer, the life cycle of our houses and the articles we use in daily activities is gradually growing shorter. This fact results from our ever-increasing reliance upon manufactured goods and from our tendency to take up new things and discard them more and more rapidly. Individuality, freedom, and spontaneity form an ever-strengthening antithesis to the control of technology. Man desires more and more to exercise his own individual choice in matters that concern houses, gardens, streets, and plazas.

"There are then two conflicting extremes—the *major structures* which have a long life cycle and which, while restricting individual choice, determine the system of the age, and the *minor objects* that we use in daily living which have a short life cycle and which permit the expression of free individual choice. The gap between the two is gradually growing deeper. The important task facing us is that of creating an organic link between these two extremes and, by doing so, to create a new spatial order in our cities!"

Some basic objections to this concept, which I underline fully, have been thus formulated by Fumihiko Maki and Masato Ohtaka in an essay on Group Form (St. Louis: Washington University, 1961):

"Tange's megaform concept depends largely on the idea that change will occur less rapidly in some realms than it will in others, and that the designer will be able to ascertain which of the functions he is dealing with fall in the long cycle of change, and which in the shorter. The question is, can the designer successfully base his concept on the idea that, to give an example, transportation methods will change less rapidly than the idea of a desirable residence or retail outlet?

"Sometimes the impact and momentum of technology become so great that a change occurs in the basic skeleton of social and physical structure. It is difficult to predict to which part of a pond a stone will be thrown and which way ripples will spread. If the megaform becomes rapidly obsolete, as well it might, especially in those schemes which do not allow for two kinds of change cycle, it will be a great weight about the neck of urban society.

"The ideal is not a system, on the other hand, in which the physical structure of the city is at the mercy of unpredictable change. The ideal is a kind of master form which can move into ever new states of equilibrium and yet maintain visual consistency and a sense of continuing order in the long run.

"Inherent in the megastructure concept, along with a certain static nature, is the suggestion that many and diverse functions may beneficially be concentrated in one place. A large frame implies some utility in combination and concentration of function. That utility is sometimes only apparent. We frequently confuse the potential that technology offers with a kind of compulsion to 'use it fully.' Technological possibility can be sanguinely useful only when it is a tool of civilized persons. Inhuman use of technological advance is all too frequently our curse. Optimum productivity does not ever depend on mere concentration of activities and workers.

"Paul Goodman says in *Communitas*: 'We could centralize or decentralize, concentrate population or scatter it. . . . If we want to continue the trend away from the country, we can do it; but if we want to combine town and country values in an agri-industrial way of life, we can do that. . . . It is just this relaxing of necessity, this extraordinary flexibility and freedom of choice of our techniques, that is baffling and

frightening to people. . . . Technology is a sacred cow left strictly to (unknown) experts, as if the form of the industrial machine did not profoundly affect every person.' . . .

Technology must not dictate choices to us in our cities. We must learn to select modes of action from among the possibilities technology presents in physical planning. If the megastructure concept presents the problems outlined above, it also has great promise."

Motive, means, and end in confusion

I have nothing against the megaform concept; on the contrary, this essay is a plea for a configured megaform, i.e., for the city as a single complex megaform in which the conflicting extremes, about which Tange speaks, are not resolved, however, by "creating an organic link," but are simply not accepted as conflicting categories.

Were it not for the fact that Tange seeks order in freedom and freedom in order, what are now but doubts as to some albeit vital implications with regard to motive, means, and end would have become real objections.

I would contend that it is primordially man's nature as a social being to seek immediate intercourse with his fellow men and participate as an individual in the doings of society at large.

This is in fact as much a consequence of consciousness as man's specific ability to evolve the means, technological and economical, with which he manages not merely to survive physically but, beyond that, to frame more effectively all the shades of human intercourse he seeks. As soon as his physical survival is secured—a stage as yet only reached in a small part of the world—what lies beyond survival as such becomes paramount—and, one would imagine, well within reach. This is my point of view:

Once this stage is reached I think one can say, without looking for reservations which can easily be construed, that ultimately man tends to move toward large cities simply because he wants to, and that he does so because it is his nature to gather and communicate in as varied a way as possible. It is not merely because he must, in that impersonal economical factors or systems of production necessitate him to do so.

We cannot solve the problem of the expanding metropolis if we continue to approach it negatively. That the metropolis "explodes" instead of expanding naturally—I am thinking among other things of the suburban disease—is based on an existing negative status quo.

Even if the vicious circle qualities are evident, we must start from the simple positive truth that cities expand because man today is drawn toward them for intrinsically human reasons—because the desire to communicate and participate is a primordial attribute of consciousness. In order to accomplish this end he has developed technological and economical means with which—quite apart from whether or not these succeed or fail—to accomplish the terrific human clustering his desire for complex association demands. That there is an emotional chasm between the way the increased speed and scale this desire causes manifests itself and the desire itself is evident. But this is no reason to disparage either the ultimate human validity of the great metropolis or the increase in speed and scale of contemporary life which has, of course, in many ways unfortunately developed in a way both arbitrary, impersonal, and hence inhuman.

Of this I am convinced, one is certainly putting the cart before the horse when one suggests that man must adapt himself mentally and emotionally in order to accommodate himself to his own artifacts because he fails to build them as a means toward an end

he fundamentally desires.

Technology and economics are servants of man's desire toward achieving kinds of human association beyond those which survival necessitates (in the light of his hobby for making bombs and rockets I cannot help adding: so I would like to think!). If instead they have become the very tyrants that frustrate this great desire, so much for that; this should never be allowed to alter the right relation between motive, means, and end.

Herein lies the danger of labeling the two conflicting extremes *major structures* and *minor objects*, as Tange does, since the minor objects are always the *end*, in that they appertain to daily living, whilst the major structures (must they determine the system of the age?) are the *means* (the servant), in that they are conceived to help the end accord with the desire. It seems strange, therefore, that Tange calls minor what I would call the major end.

As long as architects desire to create a new spatial order for our cities, because they not only desire to bridge the great "gap," but because they think that it is these "major structures which, while restricting individual choice, determine the system of the age," they will not fully succeed, because this concept is founded on false premises—on a technological slant—albeit a different one from that which infected CIAM for so long.

This is also why the whole concept of "open" versus "closed" form, cherished by astute architects today, is, in my opinion, untenable and erroneous. I detect in Tange's intellectual excursions into the realm of social, economical, aesthetic, and historical criticism, with which he attempts to fortify the open-versus-closed-form concept, a continuation of the same overestimation of technology and productive progress for their own sake which also infected the minds of so many architects and urbanists of the former generation. A "closed" concept, to use Tange's word just once!

In view of Japan's incredible technological development and its formidable impact on an enormous impoverished population, Tange's attitude is very understandable. His audacious Tokyo Bay plan could only have been conceived in a country confronted with such terrific plurality. The Smithsons also attribute major importance to the structures that must be invented to identify a city as a city, but they very wisely use the term "infrastructure"! It must be remembered that their Berlin and London circulation schemes came after many years of thinking about association in the sphere of the intimate "minor structures" that concern the spaces, houses, and articles we use in our "daily activities." The danger that the Smithsons will put the cart before the plodding horse is therefore so small that there is still hope for Team X. Their concept, it seems to me, of motive, means, and end is sound, simple, and safe—"open," if I may use that word as well, just once!

To return to the problem of mobility and how it affects the configurative discipline for which this essay makes a plea. A city's effective transmutability depends on whether the various aspects of urban mobility have been structurally recognized.

I mean by the various aspects of mobility everything which appertains to urban movement, growth, and change. This includes so many things that they cannot be listed (as long as they are appreciated!). Yet it is important here to point to a few primary aspects:

- the sensorial and emotional impact of urban environment on the citizen as he moves through it in general—the nature of this impact in light of the different ways and speeds the citizen moves from one place to another and what he experiences en route;
- mutations of use, aspect, and functional potential due to the natural cycles, small and

large—the seasons (including weather), night and day, age-phases of the human being;

- the relation between the nature and tempo of the different phases of human life and the overall nature and tempo of urban life—and the way the latter changes;
- change of dwelling, neighborhood, or city with regard to the individual or a particular group of citizens (the right and the desire for such change is increasing, whereas the possibilities are decreasing!);
- furthermore all mutations in size, quantity, place, kind, form, and function of all urban components—the incongruity as to speed, time, extent, and place of one mutation in relation to others.

(See also *Forum* 7, 1959, p. 236, Dubrovnik report on Mobility.)

I am prone to suggest that our cities will not be able to exist in time and space unless all these aspects are supported by the configurative discipline which is being evolved to reestablish and perpetuate their identity for the sake of the purpose cities stand for . . . because it is so blatantly obvious.

And yet, when Willem van Bodegraven read an essay he had written on urbanism and the time factor to the Dutch CIAM group in 1952, the reaction of the older generation was such that it is perhaps best forgotten. "We are faced with the necessity of evolving structure and forms which can develop in time; which can remain a unity and maintain the coherence of the components at all stages of their growth. The absence of this must lead to self-destruction."

This means that the identity of the whole should be latent in the components whilst the identity of the components should remain present in the whole.

It does not imply, however, that these identities need or should remain constant in the face of mutations. On the contrary, it is exactly this potential to change face without losing it which cities must acquire in order to fulfill their purpose in space and time: the provision of places where vast numbers of people can live, benefiting liberally from all the varied forms of human association and activity large cities can best furnish.

A city should embrace a hierarchy of superimposed configurative systems multilaterally conceived (a quantitative not a qualitative hierarchy). The finer grained systems—those which embrace the multiplied dwelling and its extension—should reflect the qualities of ascending repetitive configurative stages as has already been put forward. All systems should be familiarized one with the other in such a way that their combined impact and interaction can be appreciated as a single complex system—polyphonal, multirhythmic, kaleidoscopic, and yet perpetually and everywhere comprehensible. A single homogeneous configuration composed of many subsystems, each covering the same overall area and equally valid, but each with a different grain, scale of movement, and association potential. These systems are to be so configured that one evolves out of the other—is part of it. The specific meaning of each system must sustain the meaning of the other. Structural qualities must contain textural qualities and vice versa—in terms of consecutive place-experience structure and texture must be ambivalent. For only then can wrong emphasis of the structural and amorphousness of the textural be avoided, i.e., the reciprocal meaning of small and large; many and few; part and whole; unity and diversity; simplicity and complexity be established and right-size guaranteed.

The large structures (infrastructures) must not only be comprehensible in their own right, they must above all—this is the crucial point—assist the overall comprehensibility of the minutely configured intimate fabric which constitutes the immediate counterform of each and every citizen's everyday life. They must not only be able to absorb

reasonable mutation within themselves but also permit them within the intimate smaller fabric they serve.

Reasonable mutations should be possible without loss of the identity of that which changes; of that which is immediately affected by it, or of the whole; without one reasonable change hindering or invalidating another reasonable change.

Flexibility and false neutrality

Flexibility as such should not be overemphasized or turned into yet another absolute, a new abstract whim. The prevailing tendency to desire great neutrality for the sake of extreme transmutability is as dangerous as the existing urban rigidity from which this tendency springs as a reaction. Significant archetypal structures should have enough scope for multimeaning without having to be continually altered.

We must beware of the glove that fits all hands and therefore becomes no hand.

Identifying devices

In *Forum 7*, 1959, we referred to the need for new "identifying devices" brought forward by Team X at Dubrovnik in 1956. Without these a house will not become a house, a street not a street, a village not a village, and a city not a city. They should be structurally bolder and far more meaningful than those which satisfy architects and urbanists today. They must, above all, be of a higher order of invention, so that the congeniality and human immediacy of the small, intimate configuration can become of a higher order through them.

Make a bunch of places of each house and each city, for a city is a huge house and a house a tiny city. Both must serve the same person in different ways and different persons in the same way.

At a city level many closely related identifying devices will be necessary to establish a rich scale of comprehensibility. Identifying devices can be artifacts—new or historical—or given by nature and more or less intensely exploited. In the past it was often a church, a palace, a great wall, a harbor, a canal, an important street or square—often, too, a river, valley, hill, or seafront. Many of these are still valid beyond their visual impact.

We know this well enough, but I am not so sure if we are sufficiently aware of the fact that it is those identifying devices—call them images—which not only articulate visually but also frame civic association between people, i.e., which still possess direct physical meaning and still bear witness to this day by day, which remain in our memory most persistently. They articulate places for simple occasions in which we are able to participate directly. I need not name them since everybody has found his own—and more than can ever be listed. They make continents your own. Yet although the human validity of such places is recognized again and again, as soon as they are reencountered, the wonderful effect they have is sorrowfully forgotten the moment architects and urbanists grab a pencil. But we cannot continue to exploit old identifying images—those we have inherited—passively with impunity. They cannot possibly survive continual molestation nor can their identity be maintained unconditionally.

The time has come to invent new significant identifying devices that perpetuate in a new way the essential human experiences the old ones provided for so well. At the same time these new ones must provide for equally essential experiences the older ones no longer provide for or never did.

[...]