Cultivating the Field: About an Attitude When Making Architecture

N. John Habraken

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In the year 1748 Giambattista Nolli engraved a map of Rome. It shows not only streets and squares but also the interior of major buildings. The black mass out of which these public spaces are carved contains not only the ordinary buildings but also their courtyards and gardens. The public spaces and the monumental buildings are what architecture is about. But the map also shows how the white and the black are inseparable. The one defines the other.

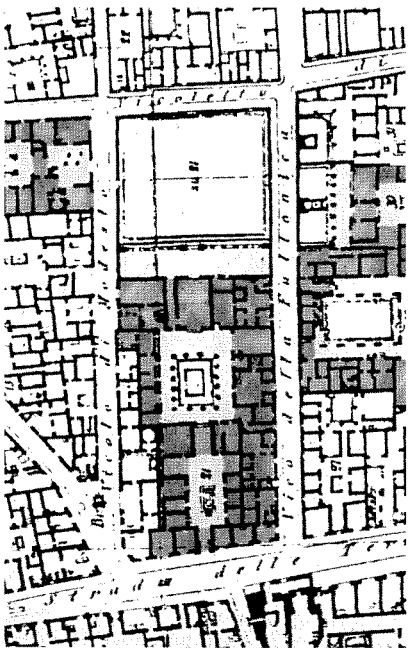
The wholeness of the urban fabric is the subject of my essay. I invite you to set aside the oppositions we so easily make: between architecture and vernacular, between monument and common building, between the large and the small, between the important and the unimportant. Let us consider the continuity of buildings and space — space covered and open, buildings of all kinds. This seamless continuous whole I call the "built field."

Nolli shows Rome's monuments as rooted in the black mass of the common fabric like plants rooted in the soil. But in the modern city the common fabric is no longer self-evident. All of the built field is a professional product now. Where the everyday world used to be the context for architecture, it has now become the subject of architecture. The ordinary today has become elusive, perhaps more precious than the extraordinary.

For too long architects have been preoccupied with the singular, individual statement. If we knew how to cultivate the ordinary, the field would be well. When the field is well, monuments will appear like flowers appear on a healthy tree.

Details of Nolli's map of Rome, showing the Piazza Navona and the Parthenon. Giambattista Nolli, Pianta Grande di Roma, 1748.


PIAZZA
NAVONA
PANTHEON
MINERVA
PIAZZA DI PIETRA
VIII
IX
XI
ISOLA
DI
Ponte



Detail of map in Overbeck, *Pompeii* (Leipsig, 1866). Four houses are highlighted to show the range of types.

Properties of the Field

Built fields have bloomed for millennia all over the world. While there is a wide variety of forms and structures, all historic fields seem to share certain properties that are still valid in our day and age. To explain those I will present a few examples.

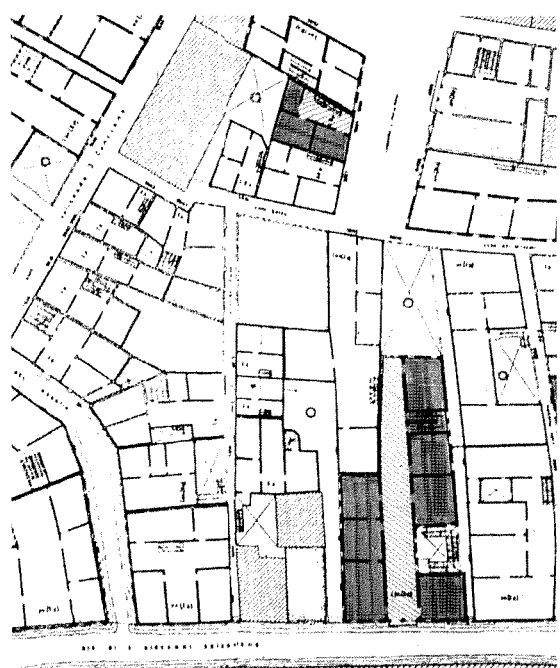
Types and patterns. First, we see the same types and patterns deployed consistently across a field. Indeed, we recognize a field by the types and patterns it holds.

In Pompeii, for instance, the same type comes in an extraordinary range of interpretations. The small house may not have as many rooms as the large one, but room size is fairly constant in all interpretations. A house may not have the full range of yards offered by the type, no peristyle, perhaps, and no garden, but each house has its atrium, each its own gate to the street. There is great dignity in the fact that all citizens, regardless of economic status, inhabit houses of a same type.[1]

Where a type comprises a number of similar elements combined into an organic whole, patterns are deployments of specific elements in the same relation across the field. Usually the elements forming patterns are either larger than the house, such as streets and squares, or smaller than the house, such as rooms and atria. In the example of Pompeii we see cell-like spaces opened to the streets. These are shops, workplaces, eating places. The artisan or shopkeeper may live in the mezzanine above. These spaces form continuous strings along the streets, almost independent of the houses behind them. From such primary patterns fields are woven.

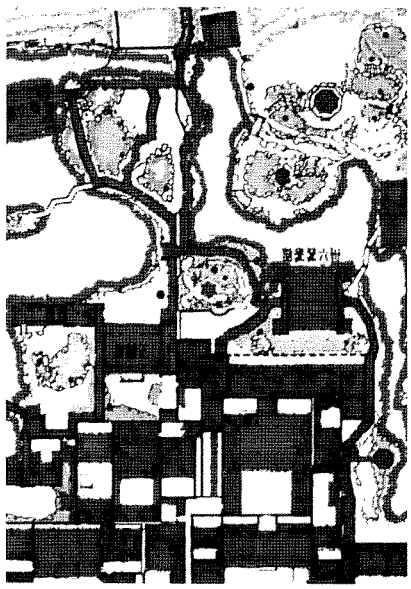
Venice is another example of a beautiful and complex field. The Gothic palaces of Venice are discrete, freestanding volumes several floors high. The type shows the interior hall facing the canal to catch the breeze, rooms aligned on both sides. These halls, repeated across the field, create a pattern seen in plan as well as in the facades. The facades align to make long elaborate walls. Rooftops and chimneys add another layer. As in most historic fields, public space is minimized and thus intensified. Alleys and streets are narrower than the private yards, narrower even than rooms, but all is of a scale and contributes to a unified, fine-grained tissue.

Left: Facades of Gothic palaces along the Canal Grande, Venice. Photo by N. John Habraken.
Right: Part of the Gothic tissue of Venice, with second floor plans of representative palazzi colored. Map from Paolo Maretto, *L'Edilzia Gotico Veneziana*, (Venice: Filippi Editore).

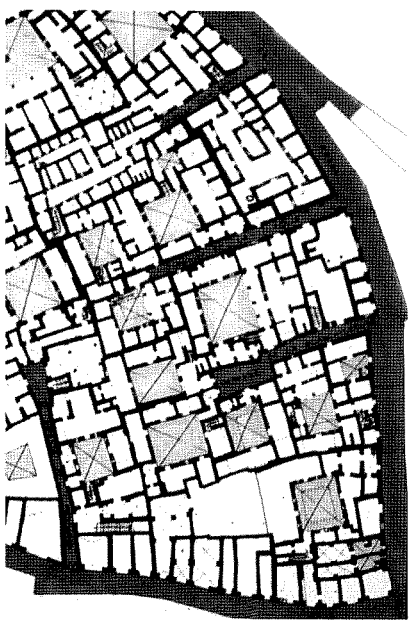


Bird's-eye view of Venice by Jacopo De'Barbari, 1500.

The Venetian fabric, consisting of water, land and buildings, combines different infrastructures. In this respect it precedes the modern urban structure. The network of canals, itself hierarchical, is meshed with the equally hierarchical network of streets and alleys radiating from squares and connected by bridges.



Zhou Zheng estate and garden. From Liu Dun-Zhen, *Zu Chou Classic Gardens* (Beijing: Architectural Industrial Press).



The spatial hierarchy of Tunis. Streets and courtyards are colored. From Association Sauvegarde de la Medina, Tunis, 1968.

Hierarchy. Each built field has its own way to make a hierarchical form.

The Tunis courtyard house type belongs to the Middle Eastern tradition, within which it has its own characteristics. The field is very complex yet highly ordered. Rooms cluster around courtyards, houses cluster around a dead-end ways that open to streets. Streets, in turn, may have their own gates facing major arteries. In the Middle Eastern field hierarchy is elaborate and highly sophisticated.[2]

Hierarchy is found in all fields. It assures flexibility and adaptability. Rooms are rearranged within the houses. Houses change themselves, either by building in their own lots or by trading territories with neighbors. All this happens without disturbing the higher-level organization of alleys and streets.

Once we are on the level of public space we likewise find a hierarchy of alleys, residential streets, major streets and so on. This hierarchical organization preserves the health of a built field by allowing improvement and adaptation on each level with minimal disturbance of the larger context.

The hierarchy of the form is a hierarchy of interventions, starting with the room as the smallest cell of the living fabric all the way up to the major public spaces. Everything changes and adapts on its own level, in its own time. In this way complex built fields stay fresh and alive over centuries.

Intensification. The hierarchical nature of the field makes it grow denser and richer over time. There is a continuous process of intensification in living built fields.

We find this illustrated by the estate of a merchant clan in Soochow, China. The estate is a field by itself, and like all fields it is not a single creation but a collage of many interventions. When we try to define its structure, we find the pavilions to be the major elements. Pavilions form courtyards. A string of courtyards makes a house, which is separated from other houses by narrow service alleys. Pavilions also spill over into the garden, which is linked with the hills and the ponds by covered paths and curved bridges. The trees inhabit the hills and sometimes invade the courtyards; rocks inhabit the ponds. It is all artful and at the same time organic.

The field is never a single design but a cultivation. How many discreet acts are needed to cultivate a field? Who will claim recognition for the final result? There is no final result. The field is always in flux, never designed, always being designed.

Systematization. The student of built fields cannot escape the fact that these complex and ever changing forms were always built in a systematic way. We find a consistent technology: the same parts, in the same relations, are combined over and over again. But the combinations are always different; depending on site, size, use and plain personal preference. This produces endless variation.

The systemic properties of historic fields teach us that systems make variation possible; indeed, they are a precondition for variation and adaptation over time.

The Power of the Built Field

The field is not only a form but also people taking action. Rooms are redecorated and newly equipped; houses are built, extended and taken down again; streets are widened or realigned; new infrastructure is inserted. Historic fields are fine grained and wonderfully adaptable because powers of inhabitation operate on all levels.[3]

The tremendous powers of generation a healthy field can have are demonstrated by the well-known seventeenth-century extension of Amsterdam. It has two distinct parts, one built for the rich merchants along the major concentric canals, the other a separate neighborhood laid out for artisans and craftsmen. These two parts are

topologically identical, not only to one another but also to the medieval field of the old city core.

In all three cases we find major canals running parallel to each other and connected by secondary canals. The canals are lined by trees, streets and houses. The streets are connected by bridges and shorter perpendicular streets with back streets that run parallel to the major canals.

In the medieval core this hierarchy emerged piecemeal; it follows the meandering course of the dikes alongside the river. In the extension it is done with geometrical precision: first in a concentric sweep around the old core and in a monumental fashion, then orthogonal in more modest dimensions. So we find there was no innovation but growth and transformation of what was already known into something much more extensive.

Uniformity can be found in history any time design is centralized. In most cases uniformity is found in monumental architecture to express centralized power. The repetition of long rows of sphinxes in Egyptian architecture or of identical columns and capitals in Roman and Greek architecture had nothing to do with industrial production but were the result of extraordinary discipline imposed on skilled workers.

This explains why, remarkably, there is no evidence of anything we would call design in the modern sense of the word. Minutes of the meetings of the municipal government have been preserved. It turns out that the city's defense had priority; initial plans were for ramparts and fortresses around the growing city. Only in a later stage were surveyors instructed to lay out streets and canals in the terrain within the new walls. Without doubt the layout of canals and streets was the subject of deliberation, but no drawings have been preserved and there is no record of any discussion as to what the new extension should look like or of alternative concepts.[4]

Historians have praised Amsterdam's seventeenth-century extension as an early example of true urban design. There definitely was nothing haphazard about the process. But it was not designed in the modern sense of the word. There was no need for design because everybody knew what the new city would be like.

A built field is not just a complex form but an image shared by its inhabitants and builders. When the image is shared, then hierarchy, type, patterns and a multitude of details are self-evident and need not be discussed. From the beginning all energy is channeled in the same direction; everyone can partake in the creation.

The extent to which European mass housing schemes of the 1950s and '60s were the result of a particular culture of centralized thinking is illustrated by comparison with the growth of the Sekesui company in Japan. While European reconstruction after the war continued an already highly institutionalized housing process, Sekesui started operations in postwar Japan on the assumption that people want individual houses, not apartments. It organized building technology to produce single houses in large numbers, all custom designed, using not only industrial prefabrication but also a good logistics and service organization. Sekesui housing produced about 60,000 units each year in the late 1980s.

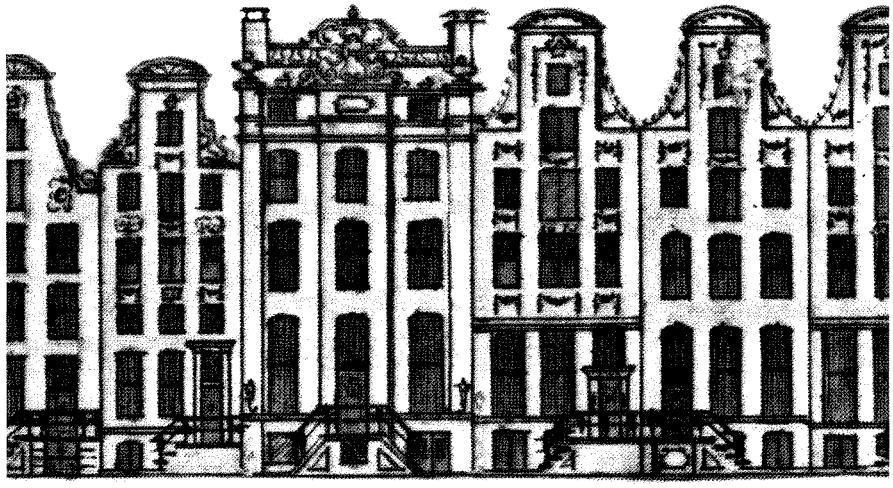
The Professionalization of the Built Field

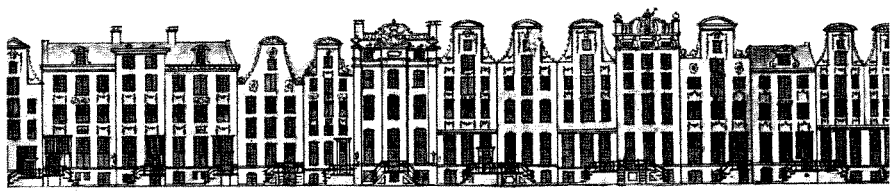
In the first half of this century a new class of professionals — bureaucrats, politicians, technologists and architects — emerged to make a new and dynamic world in its entirety. For the first time the everyday environment in its full physical complexity was seen as a subject for architecture. Any building, no matter how humble, could be worth architectural attention.

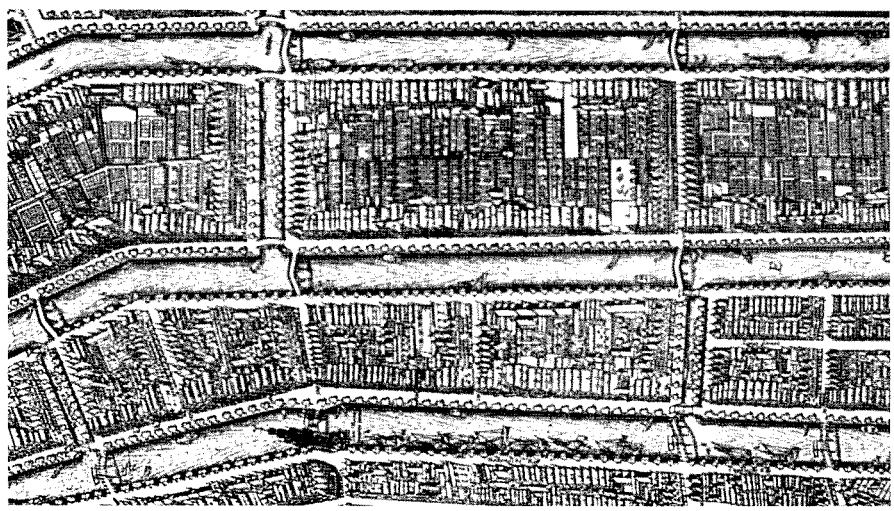
The professionalization of the built field is perhaps the single most important issue to study when we seek to understand the Modern period in architecture and urbanization. We can see the results of the professional claim, and these lead to a conclusion of crucial importance: the process of professionalization went hand in hand with a gradual coarsening of the built field.

Amsterdam again is a good example. The Amsterdam South extension, designed by Hendrick Petrus Berlage and executed between 1920 and 1940, is the result of remarkable cooperation among professionals, between architects and the municipal bureaucracy and among architects themselves. The power of their work lies in the way architectural qualities — individual invention, exuberant expression and richness of detail — never became goals by themselves but were always put to the service of the field.[5]

Nevertheless, we also see how in this admirable built field the projects become larger; a whole city block could now be a single intervention. Behind the well-designed







Top and center: Elevations of the seventeenth-century canal facades in Amsterdam. From Caspar Philips, *Grachtenboek, 1768-1771* (Amsterdam: Stadsdrukkerij, 1962).
Bottom: Part of the seventeenth-century extension of Amsterdam. Detail of map by Balthasar Florisz, ca. 1650.

facades a much coarser and uniform fabric was hidden. This took its toll while the years went by; presently Amsterdam South is being renovated at great cost. What is the product of large-scale intervention must be maintained by large-scale intervention. Meanwhile the seventeenth-century city goes on living and renewing itself, house by house, as it has done over the centuries.

The next stage takes place after World War II. With freestanding blocks floating in space we have arrived at the truly modernist city. Its coarseness is apparent when we consider the field and organic whole and ask ourselves what constitutes the living cell. In Amsterdam's seventeenth-century field that cell is the canal house. In the modern city the cell is a freestanding apartment block floating in space and full of identical and inflexible apartments. A hectare of the new field has far fewer living cells than a hectare of the historic field.

It is sometimes said that uniformity and repetition are unavoidable because they are the result of modern mass production. But no building technology demands, by itself, the repetition of similar floor plans in one block and similar blocks in a neighborhood. Uniformity in the built field is the result of the centralization of design decisions coupled with centralized project management seeking ever larger projects under the assumption of efficiency. If one party must decide on a hundred dwellings they all will be the same. If a hundred parties each build their own, dwellings all will be different.

The centralization of designing, in turn, has led to a breakdown of the hierarchical organization in the field. As we have seen in the historic examples, hierarchy insures a smooth transition from large-scale design decisions to small-scale decisions and the other way around. In the modern city hierarchy is lost not only in the buildings themselves, where all apartments together are inflexible parts of a single design, but also at the urban scale. No longer is public space designed first, to guide the subsequent deployment of buildings. In the modern way urban design is done by arranging freestanding buildings, an artistic endeavor, but not a structuring one. The result is vulnerable: Without the structuring power of predetermined public space, the alteration of a single building may upset the artistic arrangement of the whole. Because everything stands equal to all else, everything also may impact everything else.

Toward the Fine-Grained Field

It is possible to regard modern housing and urbanism as the product of a period of transition. The monumental freestanding buildings of the early Modern period were seen by many as symbols of a new age. But they were the primitive product of an emerging professionalism operating without much sense of either the nature of the built field or the meaning of the fundamental change that was inflicted on the field.

Over time design professions have become more sophisticated, and we see a reappraisal of historic precedent. The urban block enclosed by streets is being reintroduced, as is the structuring quality of public space. But this return to tradition is largely intuitive and not yet supported by a good understanding of the properties of the field. So far it has been a return to the twenties and thirties; the design may be more sensitive, but the rigidity is still there. The professionally controlled fine-grained field has not yet been achieved.

In order to reintroduce the hierarchical way of working in the modern built field, I have advanced a theory of levels. It holds that the scale of an intervention must match a certain scale of use. Hence interventions cannot be arbitrarily sized, and a hierarchy of design activities must be introduced.[6]

In North America, most people live in suburban environments. Today these are, for all practical purposes, professionally built fields. But the involvement of architects is by no means the rule and when discussing architecture we tend to ignore these places. They are proof of the possibility that professional built fields can be done without architects and that the professional built field can be fine-grained.

Traditional neighborhoods have always been conceived in this way. They are fitted within the higher-level structure of major roads and arteries. The neighborhood design itself would shape public space and allocate lots. Individual houses would be built on those lots and, finally, within each house, furniture and equipment could be modified.

However, if we want to regain the fine-grained nature of the field in large structures, we must introduce a new level distinction. This leads to the support/infill approach I have advocated for so long in housing. The idea is to design and install the individual house unit independently from the building it is part of, thus reestablishing for the dwelling unit the autonomy it has lost in the apartment building.

The concept is universal. Already we see in office buildings and shopping malls how space to be occupied by tenants is left undivided and empty. Tenants will hire their own interior architects to design and outfit their individual territories. The building itself constitutes one level; the units of use inside make another. This may seem a new idea, but it seeks to continue the age-old hierarchical organization of built fields in a context compatible with our time.

There is, obviously, an economical and technological side to all this. The concept of levels is related to the concept of "open building," which seeks to disentangle the many systems in a building (such as partitioning, sewage, electricity and electronics, sanitary equipment and kitchen equipment) to make them less interdependent and therefore easier to install and replace. Years of trial and error have convinced a number of builders and developers in the Netherlands that the open building approach promises increased efficiency and better performance.[7]

Commercial installation of infill systems is expected to begin shortly in the Netherlands. Individual house units will be outfitted by a crew of three in a very short time. All parts of the customized house plan will come in a container, ready for installation, including all technical installations. Infill units are marketed at prices competitive with those of traditional units. The customization and adaptation is an extra offered for current market price by virtue of a more efficient way of working.

At least three other infill systems are under way or in preparation in the Netherlands. As their approaches are different in many ways and respond to different segments of the market, they may reinforce each other in establishing the approach advocated in this essay.

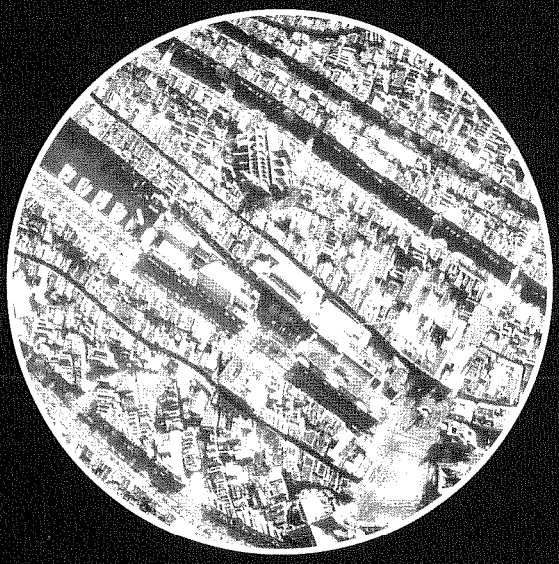
The idea that variety and adaptability can be efficient and economically competitive sounds contradictory to those of us trained in the belief that uniformity and efficiency go together. But the more building practice is systematized, the more the many systemic parts can be combined and arranged in different ways without loss of efficiency. To respond to individual user demands, systematization must be pursued aggressively. This means that manufacturing will become increasingly important because it is the industrial entrepreneur who provides the systems that make buildings serve users.

After a century of professionalizing the built field, we are ready to come to grips with its full complexity. In a more sophisticated world there is now a search for variety, adaptability and small-scale response to use. We may conclude that for purely commercial and technical reasons the next quarter century will show a significant shift towards the fine-grained field. This will not be a romantic return to historical forms. In fact, the physical result will be different from anything that has ever been seen before. It will be a levelheaded response to the conditions of the market by means of increased systematization.

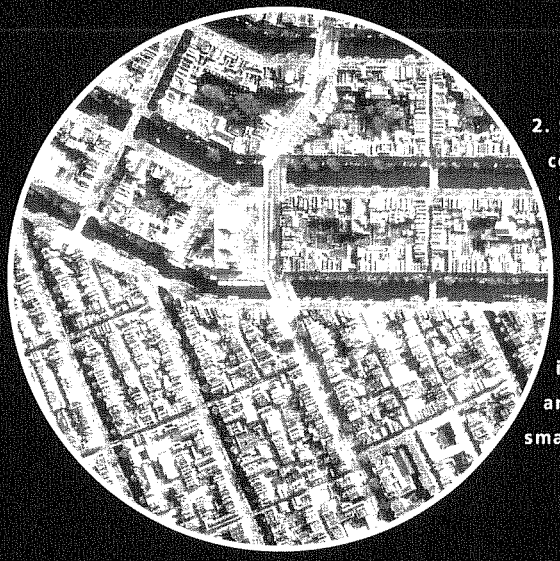
An Open Architecture

The practice of open building responding to technical and commercial considerations will result in a more open architecture as well. Large projects will no longer be monolithic; they will offer fine-grained variation and adaptation. We have yet to explore the full architectural potential of the new level of distinction in office buildings, shopping malls and apartment buildings. Schools, hospitals and laboratories could equally well use this approach. Indeed, any institutional building would benefit from the same strategy, as would all manner of mixed-use projects.

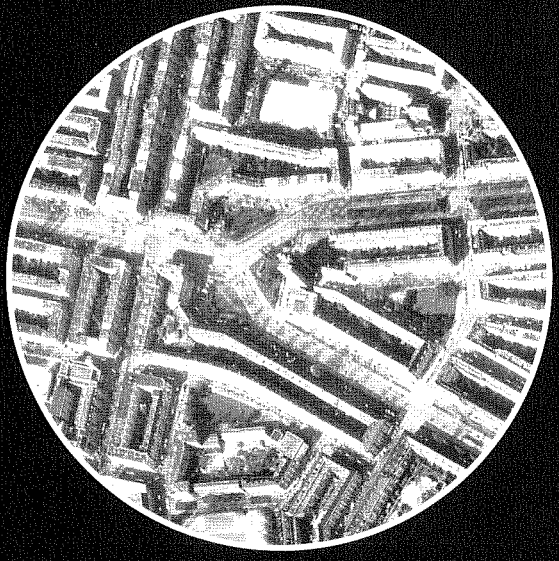
It is tempting to speculate about the architectural implications of the fine-grained approach. It does not mean that everything must be small scale. On the contrary, when



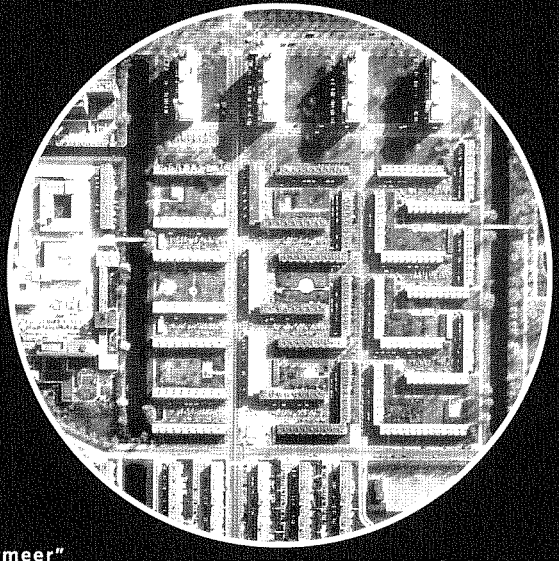
1. Amsterdam's historic core, of medieval origin.



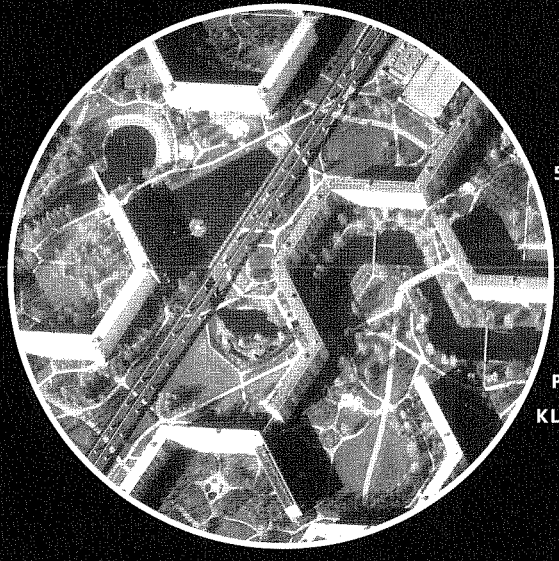
2. Seventeenth-century canals around the core, with part of the smaller-scale Jordaan neighborhood, intended for artisans and small traders.



3. The Berlage extension, 1920s and 30s.



4. The Van Eesteren extension, 1950s.



5. The "Bijlmermeer" extension, 1960s and 70s.

Photos courtesy KLM Aerocarto.

the small scale comes into its own, the large scale will be easier to design. Think of the monumental canals in Amsterdam that hold and guide the rich variation of individual houses alongside. It is more appropriate to see the large-scale, fine-grained project as a small town design than as a big building design.

Being an addition to the built field, open architecture should not only offer flexibility at the small scale but also stress the continuation of a larger fabric; it must invite a merging of public space networks from project to project. Public space would once more become an autonomous structure holding together interventions within a single field.

Open architecture will necessarily reinstate type and pattern as structuring elements. The variation of individual units works best if variation happens within a type. The merging of projects into a coherent whole needs patterns as a means to assure meaningful continuity.

The open architecture of which I am speaking will produce very different kinds of built fields that respond to local and cultural demands. These fields may, in fact, incorporate high-rise and large-scale interventions. But they will, whatever their form, have exactly the same properties we found in the historic fields: type, pattern and hierarchy will structure them; systematization will make them possible; intensification over time, driven by the powers of inhabitation, will enrich them. Above all, these fields will endure because they have the power to renew themselves from day to day.

Here I use the term "patterns" in the methodological sense as introduced by Christopher Alexander. Architect Frans van der Werf found patterns very helpful as a way to reach agreements between architect and client and among architects in a joint design process, and to record such agreement.

Reaching agreement is the most important aspect of patterns. They are tools that help us formalize shared images and their "truth" lies not in "scientific research" or universal application, nor in the authority of any designer, but in endorsement by a social body.

It may well be that Christopher Alexander's Pattern Language *would have been accepted more widely had he stressed its procedural aspect rather than the qualitative objectivity of the patterns. However, I believe that the profession's reluctance to share and accept from others is the main reason his patterns remain popular in some schools but are not heard from in practice. It may be that Alexander's patterns are more widely used than we think, but in a more covert way.*

Sharing

The open architecture that is now emerging stems from a willingness to accept the complexity of the environment, a complexity so great that it cannot be controlled or shaped by a single agent. In the Modern era architects have avoided recognition of this complexity. The strategy has been to simplify in order to get a difficult job done.

The time will soon come, however, when architects will be expected to play their part not by simplifying what is inherently complex but by applying new skills and knowledge that do justice to this complexity. An architect's ability to do this will depend on his or her willingness to share the field with others. The concept of levels calls for interdependence among autonomous designers, each operating on their own level of intervention, accepting what is done on the higher level and structuring what can be done on a lower level.

There need be nothing wrong with a designer wanting to do a chair one day and a city the other. But such a desire for universality should not be confused with total design control. The dynamic, fine-grained built field, as we have seen, is structured by types, patterns and other conventions. These are various ways of sharing, but the Modern tradition rejects them all. Therefore we do not know the power of convention, or how to exchange patterns, or how to cultivate a type.

Yet, convention, pattern and type do not contradict originality and innovation. After all, to say something new, one must first speak a common language. There need be no conflict between the constraints posed by the built field and the creativity and inventiveness of individual designers.

Sharing does not come easily to architects. From where this resistance? From where the obsession with originality and individuality? I believe it is because we never learned to enter into a dialogue with the built field. The Modern tradition is highly self-referential and delocalized and thinks it shameful to accept precedent and borrow from others. When we design we do not speak to the field, but look over our shoulders to our peers elsewhere. There is little peer group prestige in working with the field.

Our inability to recognize the field has obstructed the development of professional knowledge and left architecture as the only profession without a knowledge base. Knowledge presumes the acceptance of what others have done, when proven useful. It develops best where sharing is perceived as beneficial.

The natural locus of architectural knowledge is the built field. We should study it, not necessarily as something designed but as something to be cultivated. We should seek to understand the nature of patterns and types; we should be able to explain the hierarchical structure of the field; we should know the design methods needed to deal with it; we should share with other professions the systemic organization of all built fields. The built field, in short, should be to architects what the law is to lawyers: It constitutes a domain of knowledge and expertise that, when studied, could pay off in many ways.

Shared knowledge brings a common vocabulary, which allows its practitioners to share information and express understanding in a precise and effective way. In contrast to the engineer, the medical doctor, and the lawyer, architects do not have a professional vocabulary. The language used by architects today seeks to stress what makes us different; it expresses personal meaning and intention. It is a language borrowed from the critic, whose task it is to explain what buildings mean and to describe the impressions they make on observers and users. We encourage our students to explain themselves freely but cannot offer them a vocabulary to address the field with any degree of accuracy or common understanding.

Open architecture breaks new ground because it seeks what we have in common. The avant garde on the other hand, rejects all forms of convergence. It is based on the romantic idea that creativity can only prosper outside the constraints of what is shared. It claims autonomy for the sake of art, but confuses the autonomy of the form, which is real, with the autonomy of the author, which is a fiction. It does not see that invention and originality need to grow from a common field.

Avant-gardism, in its heroic period, has achieved results that still move and inspire us because, at that time, it was utopian and sought to create a new world to inhabit. But now, deprived of its early idealism, it has lost its vigor and has become a liability. Insisting that all sharing must be rejected, the avant-garde attitude keeps us outside the built field; indeed, it makes us unable to see the field as a unifying force. What was a source of creativity and power early in this century has now become an obstacle. What took courage in the beginning now has become an excuse for self-indulgence, a way to escape the realities of the world.

A New Attitude

So here is the dilemma we face: on the one hand the demands of the field, on the other a professional tradition at odds with it.

Sooner or later each of us must choose. There is no such thing as artistic freedom. One can only choose which bondage one prefers. Will it be the avant garde tradition, or will it be the constraints of the built field? Which will be more nourishing?

The built field, we can be sure, will go its way. It will be driven by the nature of the society inhabiting it — an increasingly sophisticated society, combining active and free individuals operating in larger and larger networks, ever more intertwined and interactive. The field will come to reflect those qualities.

Professional expertise will adapt to the fine-grained complexity of the society it serves. Technology based on true systematization will thrive on it. Lawyers will adjust to it. Politicians will soon know how to operate in it. Developers will exploit it.

When I argue that the fine-grained field eludes professional designers, I do not mean that no fine-grained fields are being built.

Much residential construction in the big cities of the developing world is so-called "informal" building. The professional world of designers, planners and bureaucracy is not involved; local craftsmen and small builders are. Manufacturing is heavily involved; all materials (cement, bricks, reinforcement steel, wiring, piping, sanitary equipment) are made, by and large, by capital-intensive industries. Doors, windows and tiles are often made locally by small entrepreneurs.

These informal neighborhoods are not slums but emerging urban fields. They are not only for the poor. Mexico City, Cairo, Istanbul, Djakarta and countless other world cities are growing rapidly in this way. The results are full-fledged urban environments, often with buildings several stories high and laid out along predetermined street plans. The process by which these informal fields come above must be similar to the way London and Paris grew in the nineteenth century, but with a stronger emphasis on industrially manufactured parts.

Bureaucracy finally will learn how to administer it. Will architecture adopt the new attitude needed to work with the built field?

As so often is the case, practice in the real world is ahead of theory and ideology. Today almost anything that can be built is also professionally designed; we are already deeply immersed in the built field. It is just that our self-image has not caught up with it. The new attitude I am speaking of will first manifest itself in practice. It is signs of that attitude that we want to look for.

Look not for buildings, but for coherence among buildings. Do not see an intervention as an autonomous act only, but judge it as a voice in the ongoing dialogue in the field. Look for types, pattern and hierarchies. There will not be a single model to follow because that is not the way fields develop. But as we adjust to a new way of seeing, we will recognize more and more those with whom we share the field, we will not only find a new architecture but also friends and kindred spirits.

Therefore

Notes

1. Pompeii's street-side shops and workplaces, called tabernae, have been described in Axel Boethius, *The Domestic Architecture of the Imperial Age and Its Importance for Medieval Town Building* (Ann Arbor, MI: The University of Michigan Press, 1960). See chapter four, "The Golden Houses of Nero."

2. My information comes from Jamal Akbar, who studied this neighborhood and discusses its territorial transformations in his book *Crisis in the Built Environment: The Case of the Muslim City* (Leiden: E.J. Brill, 1988).

3. The phrase "powers of inhabitation" I borrow from Donlyn Lyndon, who, I believe, first coined it. It expresses very well what controls the form and makes built fields live.

4. A detailed history of the process leading to the new extension is given in L. Jansen, *De Derde Vergroting van Amsterdam* (The Third Extension of Amsterdam) (Amsterdam: Amstelodanum, 1960). This publication is the 52nd yearbook of the Amstelodanum society.

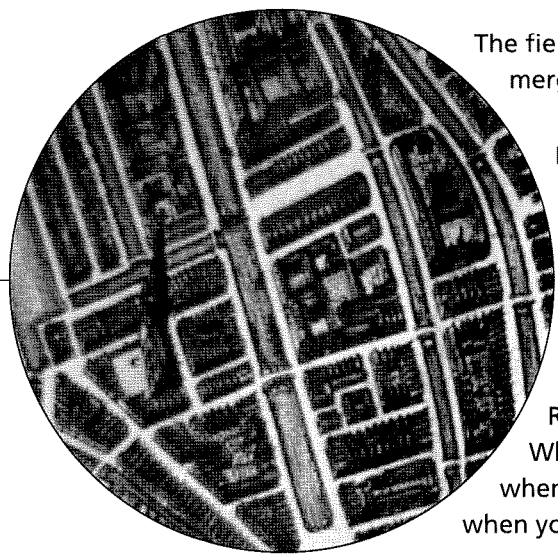
5. A good source for the history of the Amsterdam South scheme and the way cooperation was organized is the catalogue for the exhibition held to commemorate the first presentation of Berlage's plan 75 years ago, republished by the Amsterdam municipal archives in 1992.

6. For a brief exposition of the concept of levels, see my paper "The Uses of Levels," UNESCO Regional Seminar on Shelter for the Homeless, Seoul, 1988. A more rigidly systematic description is given in *Control Hierarchies in Complex Artefacts*, proceedings of the 1987 Conference on Planning and Design in Architecture, International Congress on Planning and Design Theory, published by the American Society of Mechanical Engineers.

7. The Open Building Foundation is a non-profit organization that researches and develops the technical and organizational base of open building practice. It has a small research component at Delft Technical University. For information: Open Building Foundation, De Vries van Heyst Plantsoen 2, 1628RZ Delft, The Netherlands.

Study the built field;
it will be there without you,
but you can contribute to it.

Study the field as a living organism.
It has no form, but it has structure.
Find its structure and form will come.



The field has continuity,
merge with it and others will join you.

Because the field has continuity no job is large or small;
all you do is adding to the field.

Nobody builds alone:
When you do something large, leave the small to others.
When you do something small, enhance the large.

Respond to those before you:
When you find structure, inhabit it;
when you find type, play with it;
when you find patterns, seek to continue them.

Be hospitable to those after you;
give structure as well as form.

The more you seek to continue what was done by others already,
the more you will be recognized for it,
the more others will continue what you did.

Cooperate:
When you can borrow from others, borrow, and praise them for it.
When you can steal from others, steal, and admit it freely.
No matter what you do, your work will be your own.

Avoid style: leave it to the critics and historians.
Choose method: It is what you share with your peers.

Forget self expression, it is a delusion.
Whatever you do will be recognized by others as your expression;
don't give it a thought.
Do what the field needs.

Medieval core of Amsterdam. Detail from map by Dancker Danckerts, 1662.