

The dominant trend of twentieth-century architecture and urbanism could be described as the evolution of space – as opposed to form or symbol – as the primary means of political, psychological, and aesthetic expression in the built environment. It is only when viewed through the lens of spatial evolution that the continuous thread of this history becomes visible, transcending the last thirty years of debates on style and the concurrent vilification of technology as a dehumanizing force in our cities. An objective analysis of history shows that technology has always been subservient to societal forces, and that the new kinds of spatial relationships, modern technology has produced in the built environment, were created for reasons other than that they had merely become technically possible.

I believe that focusing on space and the role of technology in enabling new spatial relationships – again avoiding questions of style – will put us in an excellent position to understand where architecture and urbanism are heading in the coming years.

In this century, there have been two major revolutions in our physical space – one at the level of urban space, the other at the level of architectural space. In both cases we could say that the revolution was closely related to the emergence of universally homogeneous, limitless space as a metaphysical concept. For better or worse, this new metaphysical view has caused the gradual disappearance of *topos* (a priori meaning assigned to a place) in our cities and the dissolution of the room in architecture. Amid the decline of traditional spatial boundaries, however, it is possible to see that society is both constructing new, more subtle expressions of territory and becoming more sensitive to nuance and to differences in what we suppose to be universal space.

Considering first the issue of *topos* in our urban surroundings. We can witness just how far the modern metropolis has evolved away from the historical model of a city. One of the most striking aspects of historical cities is a strong congruency between the appearance of built form and the identity of place. The various forms of the city center – its streets, open spaces, building fabric and landmarks – represent an integrated expression of functional order, social values and hierarchies that evolved over many generations. The slow pace of change in the historical city produced a tangible image of stability and specificity of place.

The social and demographic upheavals of the Industrial Revolution in Europe changed all of this dramatically, beginning with the appearance of new social classes in the citizenry – an expanding bourgeoisie and a proletariat class, which might be seen as the predecessors of today's white – and blue-collar workers, respectively. Unlike the merchants and craftsmen of pre-industrial society, these new classes were not necessarily tied to one place. Indu-

strial methods of production encouraged the development of progressive capitalism, which gave increasing importance to currency and to the mobility of labor. This in turn further devalued the singular meaning of particular places, tending to transform urban space into a commodity with a market-determined, rather than absolute, value attached to it.

Furthermore, by the end of the last century, many of the world's great metropolises were no longer housing populations that shared a common ethnic or linguistic background. The interaction of these new multi-cultural societies tended to erase historical differences between places and to accelerate the development of the modernist city based on homogeneous space. Yet at least in Europe, each metropolis still formed different urban structures based on different patterns of political power. We could compare, for example, the bold geometry of nineteenth-century Paris' broad new avenues and grand focal points (a manifestation of the centralized power of the monarchy) to the more fragmented, picturesque street networks of London in the same period (representing the more delicate balance of power shared among London's large landholders – the new thoroughfares were required to negotiate the edges of private estates in a localized, case-by-case manner).

Democratic societies in which the central government is weak compared to the forces of capitalism have produced urban patterns more clearly reflecting the idea of homogeneous, infinitely extendible space. The grid plan typical of American cities provides a rational framework for continuous, unlimited horizontal expansion that easily accommodates common patterns of capital investment. Even when geography places constraints on horizontal expansion, as in New York's Manhattan Island, the invention of the skyscraper has ensured that the unlimited production of space is still possible.

(The three-dimensional production of urban space continues today in a city like Hong Kong, where geographic limitations leave no alternative but the hyper-densification of the city core.)

Conceiving of space as universal and limitless tends to encourage urban development schemes that treat the city as a *tabula rasa* – or topologically speaking, a „zero-degree operative field“ – allowing the investment of capital alone to define landmarks and focal points in the city. We can see in modern Tokyo a historical pattern of weak central government and incremental capital investment that has created a vast horizontal city with fragmentary clusters of density scattered throughout. Los Angeles follows much the same pattern, where the various city sub-centers dispersed across the landscape have their origins in private investment rather than communal institutions.

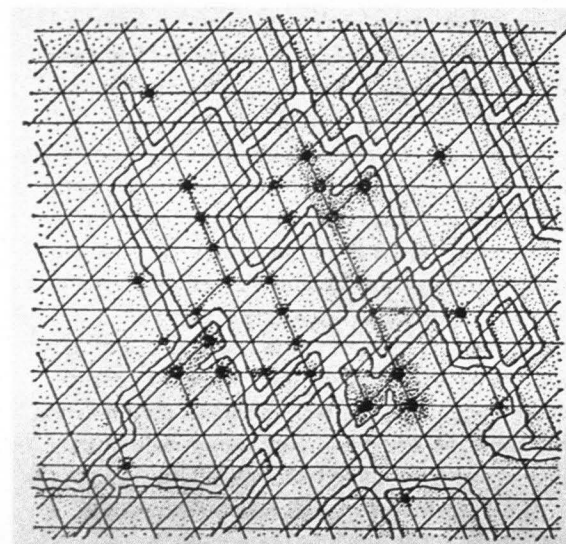
At MIT in the late 1960s, Lloyd Rodwin and



11 Hong Kong's Central District in the 1990s



21 Aerial view of Tokyo



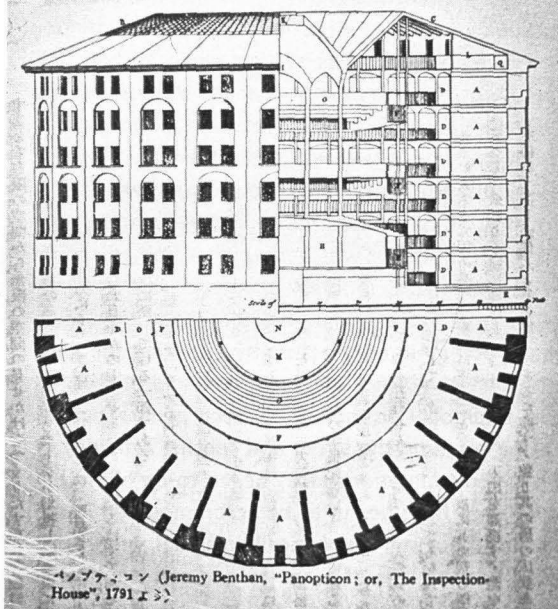
Kevin Lynch proposed in *The Future Metropolis* a multinuclear urban structure as a model of future metropolises. In this model, an historical city core becomes merely one of several nuclei, a relative center rather than an absolute one. In embracing a theory of spatial relativity, a multi-nuclear urban structure follows naturally from the assumption of infinitely extendible space – they are like two sides of the same coin.

The prophetic nature of Rodwin and Lynch's insight into the forces controlling urban development becomes clear when we compare their model to a plan of Tokyo a mere three decades later. Contemporary Tokyo represents a multi-nuclear city taken to a new extreme, where a post-industrial consumer society's preference for „difference for the sake of difference“ has encouraged the development of subtle character differentiation between new sub-center nodes that share nearly identical functions.

Today we might say that the city is disappearing, if by „city“ we mean an urban structure whose form approximates that of an historical capital with a dense central core. Yet as historian and critic Koji Taki has written, even a fragmented metropolis remains a city, in a fundamentally psychological sense, as long as it offers opportunities for nurturing dreams. Dreams give meaning to our very existence in the city. The modern metropolis provides two basic kinds of imagery in constant juxtaposition – the familiar and the strange. Familiar scenery in the city reminds us of a common past; it provides comfort and stability. Unfamiliar scenery on the other hand provokes both fear and excitement, and in the process unleashes our power of imagination. The city might be characterized as an environment where inhabitants accept and even thrive on the presence of the strange and unfamiliar in their everyday lives. In the sense that unfamiliar scenery entices the imagination and feeds our natural desire for change, the ability of an environment to evoke dreams for the future seems to apply singularly to urban settings.

Desire, capital, and political power are the three interrelated forces that shape the modern metropolis. And if the formal structure of our cities has become more diffuse and harder to read, one of the primary causes might be found in the gradual retreat of power and wealth from the public eye. The rise of invisible power – or, to use Michel Foucault's terminology, „the spatialization of power“ – is peculiar to the modern age. Throughout past ages, ruling classes have relied on architecture for explicit formal and symbolic expression of their authority, and municipalities have identified themselves with physical structures such as city

31 The Multicentered Net (Rodwin and Lynch)



41 Bentham's Panopticon, 1791

walls, religious edifices, and places of communal gathering. Beginning with the Enlightenment, however, the importance once attached to formal representations of power began to be replaced by spatial structures that actually enhanced the power of those in authority invisibly. As Foucault points out in his analysis of the eighteenth-century Panopticon structure (which allows prison inmates housed in a ring-like structure to be watched by an unseen guard in the plan center), invisible power is no longer the power to inspire good, but rather the power to isolate or eliminate the undesirable and the weak. Sinister as this may sound, this principle of separating out elements of society based on their degrees of compatibility/desirability is one of the fundamental principles of the modernist utopia, whose basic tool of planning serves – not coincidentally – as the chief agent of invisible power.

The fundamental difference between the utopian visions of twentieth-century modernists like Le Corbusier and those of Robert Owen and Charles Fourier from the previous century was the modernists' conviction that improved social conditions could be attained directly through planning – that is to say, by spatial means. For them, the city of the future would follow a machine model, where the relationship between discrete parts and the whole is rationally structured. (An architectural parallel could be drawn to the compositional methodology of DeStijl architecture, where formal control of a technological universe produces the ability to isolate and freely combine space-defining elements.) This kind of machine model could only be drawn with certain spatial concepts based on universal and limitless space, and implicit in this vision is a high expectation of technological progress.

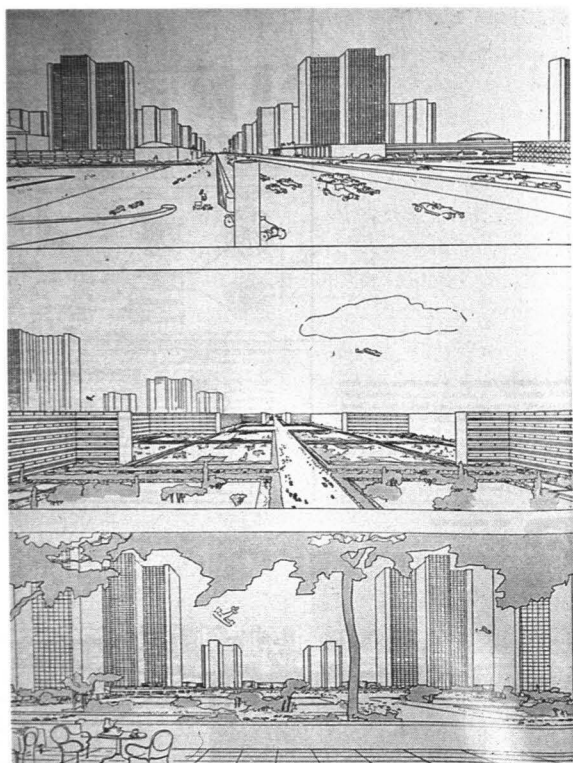
Despite their efforts to arrive at universal principles and methods that would revolutionize the urban environment, however, the techno-utopia advocated by modern protagonists has been in the end only partially and incrementally realized in our cities, due to the realities of capital investment. In the same way that Owen and Fourier were able to construct models of their visions of socialist communities on a limited, subsidized scale, the most complete utopias of the modern age have been realized under controlled conditions such as university campuses, theme parks, and shopping malls – urbanistically speaking, within quarantined territory. The irony of this condition is that in planning, segregation was originally intended to isolate the undesirable, but at present many cities, particularly in America, use precisely this technique to secure protected, privileged territory.

It is worth noting that the most important communality of today's quarantined utopias is not formal but spatial. At root in the design of theme parks, airport terminals, shopping malls and cineplexes is the question of how to create commercially desirable spaces. The „spatialization of power“ observed by Foucault is nowhere more apparent than in the organization of these highly contrived environments, which are designed to manipulate human movement and consumer desires according to certain proven spatial formulas. We can see how the urban shopping/entertainment complexes of the Rouse Corporation, for example, have followed very recognizable spatial patterns, which can be extended infinitely, both horizontally and vertically, according to the magnitude of capital available and the demand of consumers. Formal solutions, on the other hand, have tended to disguise spatial homogeneity by responding directly to the demands of a consumer society, again, for difference for the sake of difference (a cardinal rule of consumerism is that subjectively added values are frequently more important than actual functional capabilities).

These new urban (or pseudo-urban) entities cannot really be considered as types in the traditional sense of their sharing similar formal characteristics. But in terms of spatial system, modern hybrid buildings like the interiorized shopping mall have significant historical precedent in the glazed arcades, or passages, of nineteenth-century Europe. And because the impact of the nineteenth-century passage was so far-reaching, I want to take a moment to consider it and the revolution it would provoke in urban space.

As Walter Benjamin pointed out in his study of the passage, the simple act of adding a glass roof to an exterior street or alleyway turned out to be radical in its implications: for once carriage traffic was excluded from an essentially exterior streetscape, a weather-protected haven for pedestrians was created that essentially freed them to

concentrate on consumer activities. As a commercial sanctuary, the passage attracted a great variety of activities, such as street performers and hawkers (as well as enterprises of a less legitimate nature), to be concentrated in one multi-functional urban space.



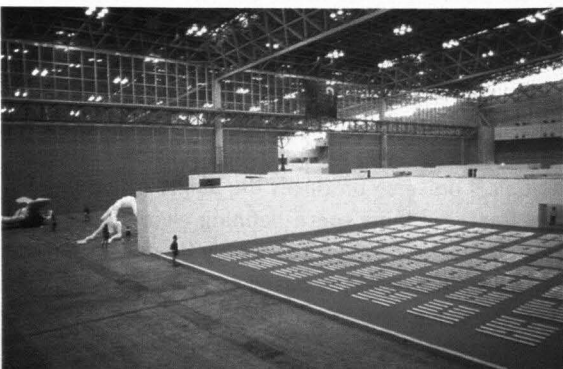
51 Le Corbusier's Ville Radieuse Contemporaine, 1922

I like to think of the passage as history's first instance of ambivalent space – a kind of infinitely extendible space having characteristics of both city and room. As a new and unfamiliar element in the city, the passage came to evoke the dreams and desires of citizens who collected there.

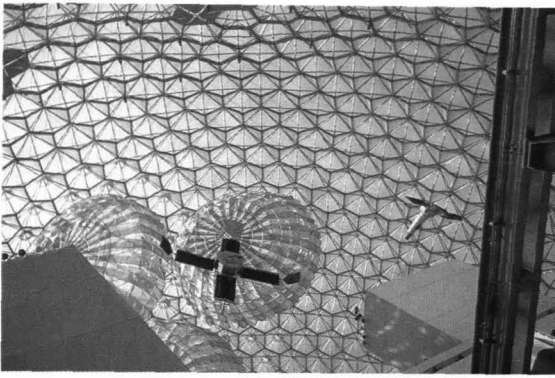
An important legacy of the passage was the creation of interiorized multi-purpose spaces within the city. Though it was perhaps not immediately apparent to contemporary architects, this development would forever diminish the importance of formal typology in architecture by attacking the idea of formal and functional congruency in buildings. The traditional distinction between general activities taking place on the street and specific activities relegated to interior spaces began to be blurred over once both began to be accommodated in an enclosed but still topologically residual, urban space. Once the idea of a one-to-one correspondence between interior function and formal expression began to be questioned, the next step would be the emergence of multi-functional buildings, such as the Downtown Athletic Club that Rem Koolhaas describes in *Delirious New York*. Conceptually, the multifunctional building usurps and interiorizes many of the functions of the city and becomes itself a „city within the city.“ Here, traditional divisions between inside and outside, public and private, main and servant spaces have become more ambiguous and multivalent. The passage also engendered a modern legacy in spatial terms: it is not too large a leap from the passages of the nineteenth century to Mies van der Rohe's proposal for a universal exhibition space. Like the glazed roof of the passage, Mies' roof structure is so distant and vast that it ceases to engage the scale of human activity below. Our sense of spatial definition is limited to smaller scale architectural elements at ground level, which, once freed from the functional responsibility of weather protection, can be freely configured to suit the needs of each temporary exhibition.

Mies' exhibition hall proposal demonstrates one of the purest interpretations of universal, limitless space posited by the Modern movement; it is singularly pragmatic and devoid of utopian overtones.

71 Makuhari Messe: view of the exhibition hall during an art show, F. Maki, 1989



61 Urban passage in Genova



81 American Pavillon, EXPO '67 Montreal, Buckminster Fuller

The role of technology here serves not as a protagonist in the creation of a new social order but as a means of enabling new kinds of spaces and new spatial relationships to be conceived and realized. Buckminster Fuller's exploration of the geodesic dome structure shows a similar attitude with respect to the neutral role of technology and the attempt to describe universal concepts of space. The task that Fuller set for himself was quite different in nature, however; he wished to enclose a space using minimal surface area – that is, with minimal materials or at minimal cost. His approach can thus be seen as giving priority to space over form. At the time, his ideas had less impact than the DeStijl inspired principles articulated by Mies, but still I think Fuller's approach to conceiving space in terms of boundaries and membranes was one of the most important developments of our times.

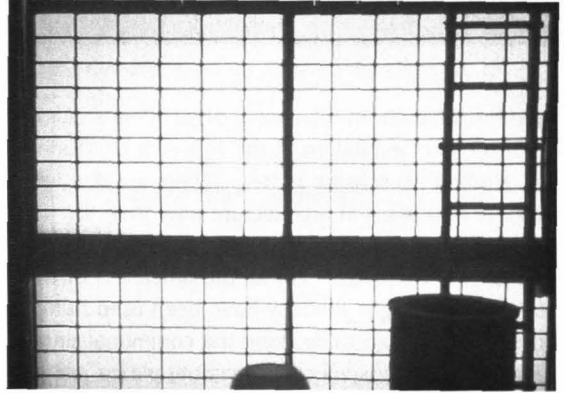
Now at the end of the twentieth century, our perception of space has entered a new phase – the inevitable result of pluralism and globalization. We expect more and different kinds and qualities of space in our everyday experience, and new techniques for manipulating space are constantly being elaborated. Innovative structural systems that cover and/or define a variety of spaces (not only orthogonal but increasingly curved and polyhedral spaces) represent one of the areas in which building tech-

111 Tokyo Church of Christ, Fumihiko Maki, 1995

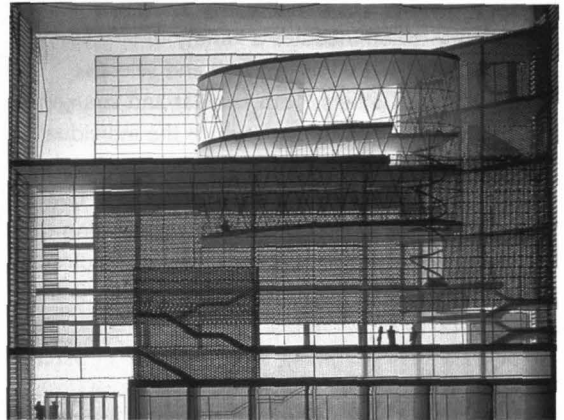


nology has made significant contributions to recent architecture.

As spatial systems become bigger and more complex, the demarcation of territory becomes less clear psychologically and optically. Perhaps as a result, there seems to be a renewed interest in perceptual phenomena in space over the last several years; new applications of glass and other light-transmitting materials are being explored in architecture to produce subtle, hitherto undiscovered relationships between spaces (and hence between



91 Myoshin-ji temple in Kyoto



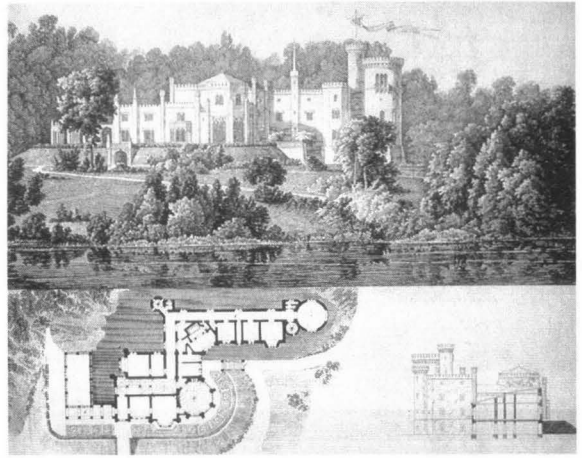
101 Competition proposal for the new Salzburg Congress Hall, Fumihiko Maki, 1992



121 Kasai-rinkai park, Visitors Center, Yoshio Taniguchi, 1995



13| Floating Pavillon, Groningen, Netherlands, Fumihiko Maki, 1996

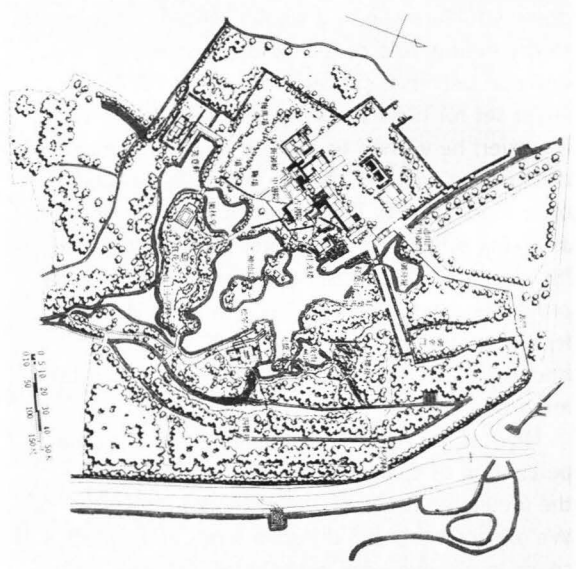


14| Project for an informal villa, Friedrich Schinkel

their inhabitants). In his review of last year's „Light Construction“ exhibition at the Museum of Modern Art, Herbert Muschamp writes, „There are few issues more important in architecture now than the question of how buildings shape and define our relationship to others.“ For all the timeliness of this statement, it might similarly have been used hundreds of years ago to describe the communalizing function of a medieval town's central piazza and fortress walls. But Muschamp's point is well taken: it is not style or representation that keeps architecture relevant to the city, but rather the spatial relationships it creates in the image of society. The city itself merely accommodates a variety of spaces where each individual makes free and selective association with others, both familiar and strange; the city is a medium through which the individual perceives the outside world. If the architecture that excites us today has to do with investigating qualities of translucency, screening, and the creation of overlapping spaces and visions, this might indicate a sociological trend more than a formal one: with the dissolution of traditional space-defining elements we are becoming more sensitive in perceiving subtle indications of territorial definition.

At the same time, while we all might agree on the basic assumption that space itself is universal, I believe we are becoming more aware of how different cultures maintain different spatial biases. It is

16| View of the gardens of Katsura: the screened pathway represents an archetypal Japanese space.



15| Plan of Katsura Palace, Kyoto

17| Explorer's Memorial, Akira Kuryu, 1994: a contemporary interpretation of a similarly archetypal space; here the path itself becomes the subject of exhibition.



not merely a difference of forms and materials, for example, that separates Schinckel's informal villas from the Katsura Palace in Kyoto, though both represent within their respective cultures important milestones in the evolution of spatial structures based on asymmetry and narrative sequence. And although many valid comparisons have been made between the formal strategies of traditional Japanese and DeStijl architecture, it would not be fair to say that a building such as the Katsura Palace in any way treats space, as the European modernists did, as homogeneous and neutral. Our histories of architecture tend to concentrate on issues of form because it is easier both to describe with words and illustration; space tends to recede into indescribability. But if one were to research and write a history of space – and I think that this would be a very challenging and worthwhile task – we might discover a different view of how cities and societies evolved over the ages. Like many other kinds of

histories (political, literary, etc.) this spatial history would probably be characterized by periodic oscillations between two theoretical poles – in this case, an architecture based on closed form versus an architecture of universal space. If this theory is true, then the twentieth century would represent only a temporary, though extreme, swing in the direction of universal space.

The architecture of our current age, which relies increasingly on intuition and the senses in the experience of the city, may indicate a reaction against the dominant spatial trend of this century. It implies a rejection of the homogeneous space of modernism, a need to create a new sense of topoi in the city, and a return to the subjective world view it implies.

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