Chapter six

Time as an aspect of space

How can space be ideological?
Frederic Jameson

Strange towns

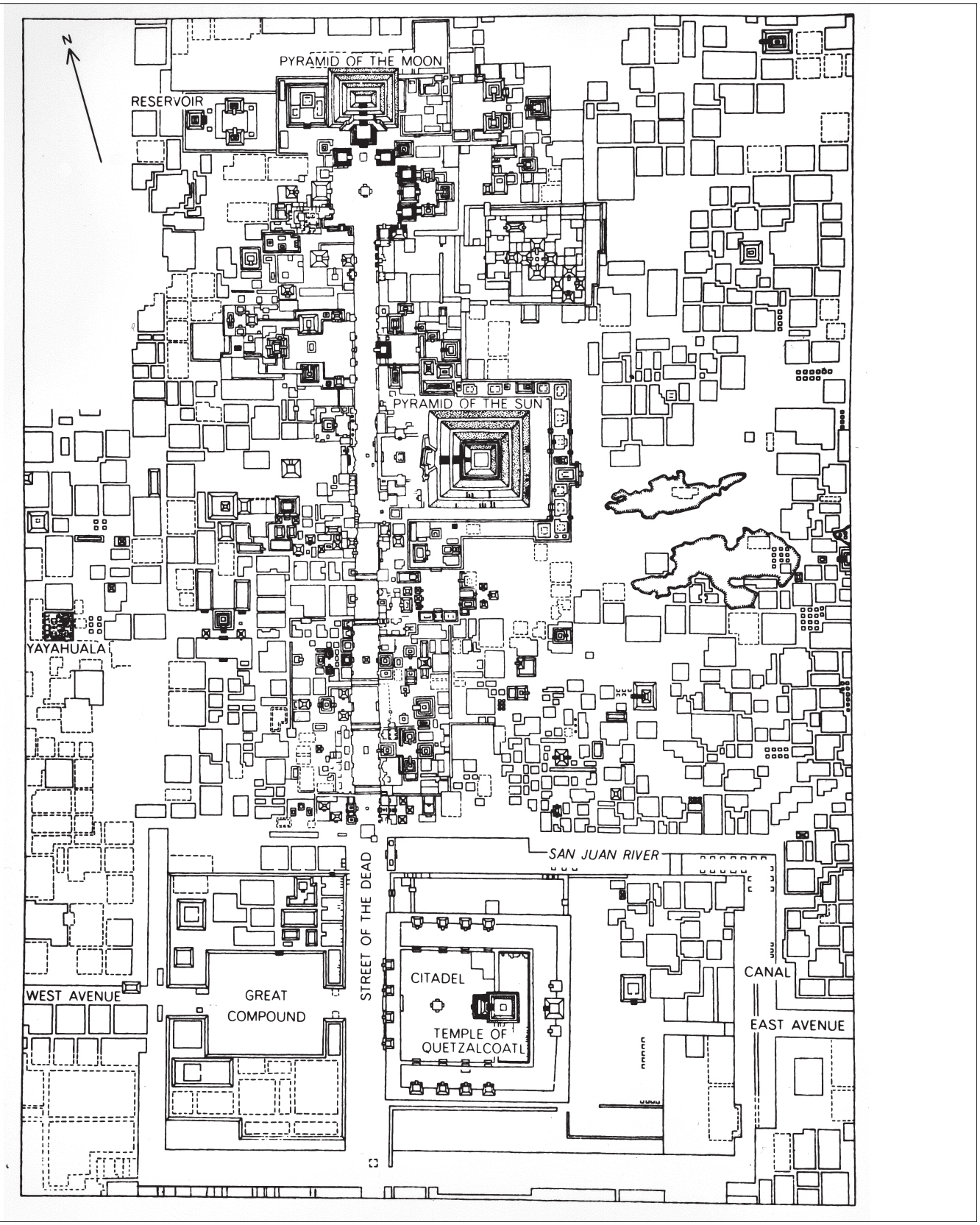
Let us first establish the phenomenon which we will address in this chapter: the phenomenon of 'strange towns' – towns that seem to contradict all the orthodoxies for the construction of urban forms set out in Chapter 4. Here, towns and cities were defined as variations on certain common themes. Buildings are arranged in outward facing blocks so that building entrances continuously open to the space of public access. The space of public access is arranged in a series of intersecting rings which are regularised by a greater or lesser degree of linearisation of space to form the – more or less deformed – grid of the town. Through this linearisation the larger-scale structure of the town is made intelligible both to the peripatetic individual moving about within the town and to the stranger arriving at its edges. The linear structure links the building entrances directly to a pattern of space which also links closely to the edges of the town. The effect of this control of the linear organisation of space is to create a structure in the 'axial map' of the town, that is, a distribution of local and global 'integration', which becomes the most powerful functional mechanism driving first the pattern of movement and, through this, the distribution of land uses, building densities and larger-scale spatial and physical elements such as open spaces and landmarks. The essence of urban form is that it is spatially structured and functionally driven. Between structure and function is the notion of intelligibility, defined as the degree to which what can be seen and experienced locally in the system allows the large-scale system to be learnt without conscious effort. Structure, intelligibility and function permit us to see the town as social process, and the fundamental element in all three is the linear spatial element, or axis.

Strange towns are towns – and proto-towns in the archaeological and anthropological record – which appear to flout all these principles. Historical examples from pre-Columbian America include Teotihuacan, figure 6.1a, and Tikal, figure 6.1b, and modern examples would include Brasilia figure 6.1c. How should we seek to understand these towns, morphologically, functionally and as expressions of social processes? First, we must address the question of how we should describe them at the same level as we have described more orthodox towns. Only when we understand exactly how they are different can we hope to find an answer to the question as to why are they different – in some ways almost the inverse, one suspects – of the towns we are familiar with.

The answer will, I suggest, tell us something quite fundamental about the potential of space to express human intentions and to relate to social forms. This in turn will suggest a more familiar distinction: between towns which act as centres for the processes by which society produces its existence by making, distributing and exchanging goods, and those which act as centres for governing institutions, regulating bureaucracies and dominant ceremonial forms, and through which society reproduces its essential structures. Just as the axial structure is the key to understanding the first, more common type of town, so in quite another sense, it is also key to understanding the second type – the strange town. Let us then begin with some thoughts about the axis.

Time as an aspect of space

Figure 6.1a



Time as an aspect of space

Figure 6.1b
Tikal

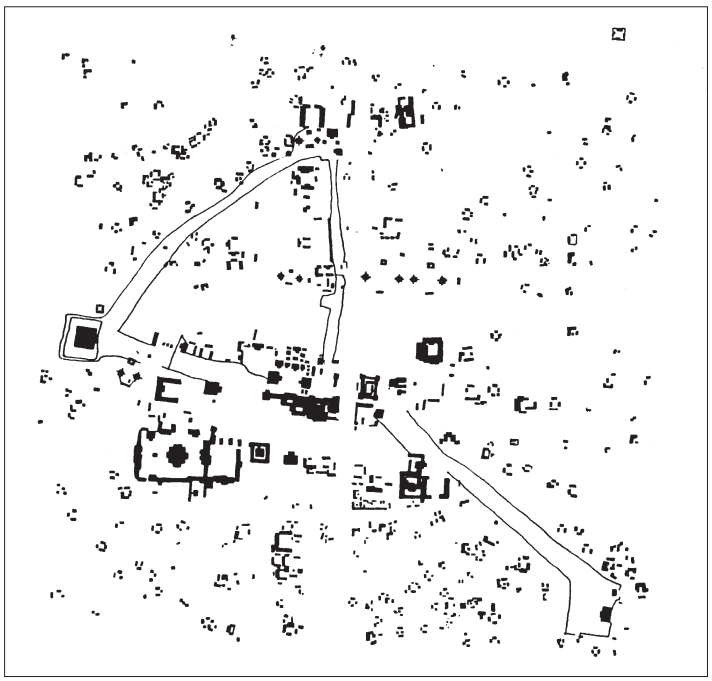
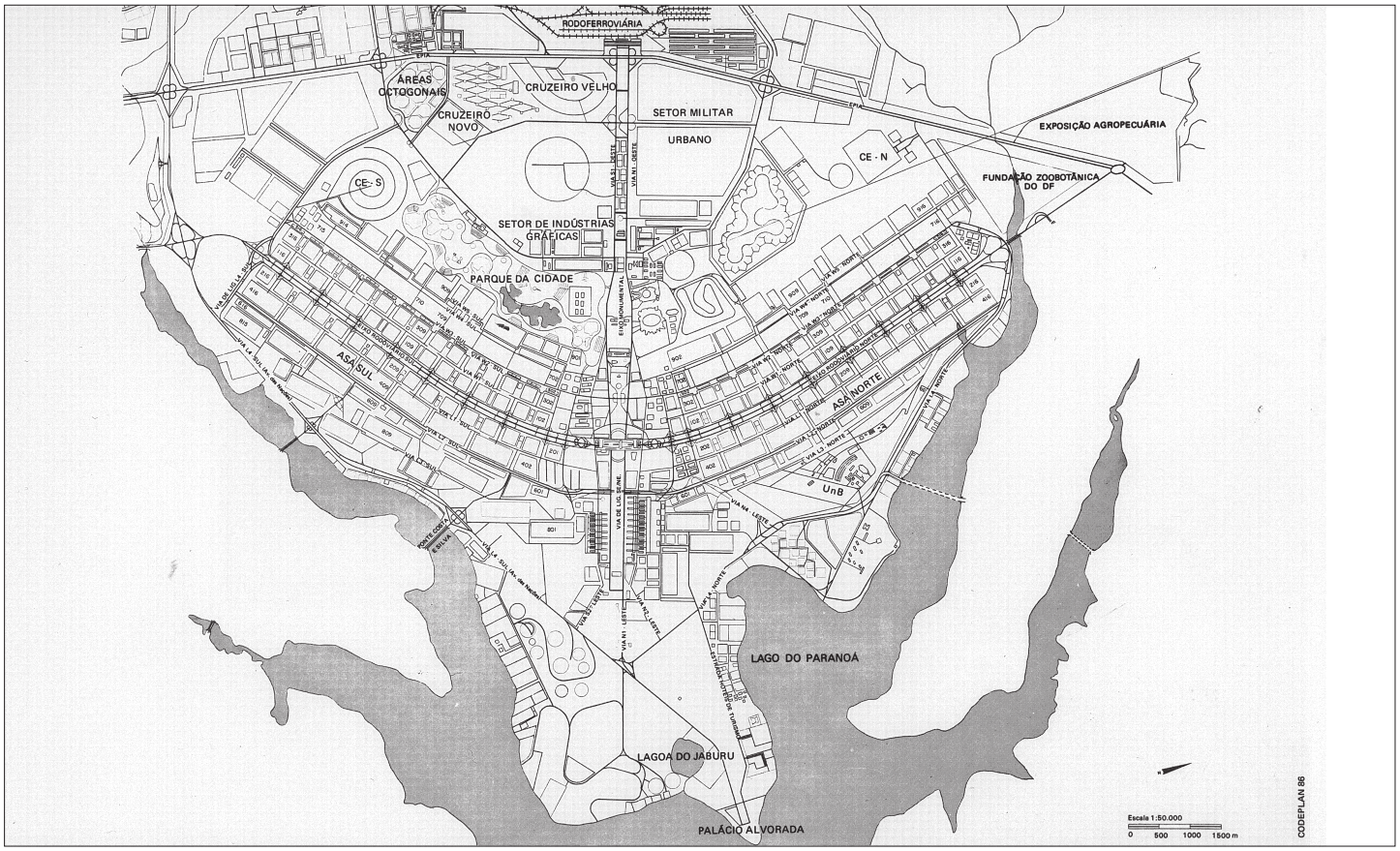


Figure 6.1c
Brasilia



Time as an aspect of space

The axis as symbol and as instrument

In common urban space, the most familiar property of the axis is that it usually passes through a series of convex spaces. This is the means by which towns create a more global awareness of the urban form in the peripatetic observer than is available from the convex organisation. We associate this property therefore with the practicalities of understanding towns well enough to move around them effectively. Paradoxically, an almost identical description can be given to the use of the axis in quite different circumstances: to express the relation between the sacred and the profane in religious buildings. For example, figure 6.2 shows three ancient Egyptian temples, from a collection illustrated in Banister Fletcher.[1] In each case, as in the others in the Banister Fletcher set, the religious epicentre of the buildings is in the deepest space, that is, at the limit of a sequence of boundaries. In each case also there is a single direct line of sight passing through each boundary and linking the innermost sacred space to the most public space of the entrance. In *The Social Logic of Space* it was noted that the same phenomenon common in European churches and cathedrals can also be detected in such an arcane type as the Ashanti 'abosomfie'.[2]

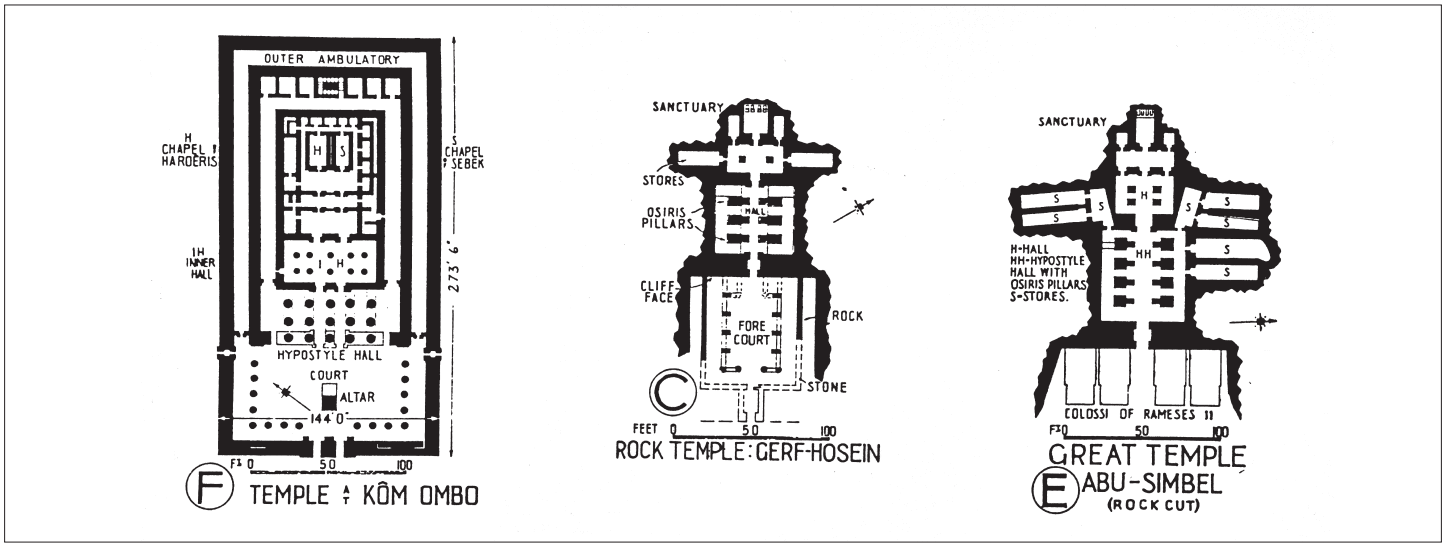


Figure 6.2

When such common themes are detected we might of course be attracted by a diffusionist explanation. In this case, it is barely conceivable that diffusion could make links across such vast tracts of space and time. The 'genotype' in question arises, surely, from the discovery of the same potentials in space to solve a certain kind of commonly occurring architectural problem: how to combine the need for the sacred to be separated from the everyday by spatial depth, as it always seems to be, with the need to make this depth visible and therefore intelligible to the people to whom the sacredness is addressed, that is, the 'congregation' of that particular sacredness. The fact that it is common practice for this distant visibility to be replaced by concealment at certain times of the ritual calendar supports this analysis.

Time as an aspect of space

What then do profane urban spaces, in which lines pass through a series of spaces to guide movement and to make them intelligible, have in common with sacred spaces where the same axial device is used to express the sacred? Are the spatial phenomena really the same and dependent entirely on the context for their interpretation? Or are they in some more subtle sense distinct spatial phenomena? In one sense, they are of course the same phenomenon. What we see in both cases is a certain potential in space, the potential to use lines of sight to overcome the physical separation of metric or topological distance. It is the same phenomenon in that one of the two most fundamental of all spatial devices is being used to overcome what we might call the metric limits of our presence in space. If our visual presence was limited to our metric presence, then there is no doubt towns and buildings would not be as they are. They are as they are because we can use the convex and axial superstructures to provide visual extensions to our metric presence, and through them make available locations to which we might wish to go. Convex and axial structures, built on the basis of the metric geometry of space, are the fundamental means through which we make the structure of space intelligible, and pretty well the only means. We can hardly be surprised when similar elementary strategies are deployed in different cultures.

However, although the two types of case – the urban and the sacred – are using the same potential in this respect, in most other respects they are quite different. One is enclosed, the other open. In one the line of sight strikes the building at an open angle, suggesting continuity, in the other at a right angle suggesting that the line stops at that point. In one the line makes us aware of a whole series of potentials, space as well as buildings; in the other it seems to point to one thing only. In one there is no relation between any order present in the façades of the building and the shape of the space defined by the façade; in the other there is often a clear relation between the bilateral symmetry of the line and the bilateral symmetry of the sacred object. These distinctions show that the same spatial device is only being used in a very limited sense. If we view the whole 'configuration' of the situation, then it is clear that certain common elements are being embedded in quite different configurations. The same syntactic elements, we might say, are being used in different contexts. We must then expect them to express different meanings.

Symbolic axiality in urbanism

Now consider the first of our strange towns, Teotihuacan. If one thinks about its plan in relation to the types of axial organisation found in ordinary towns, then it seems in most respects to be exactly the opposite. In spite of the fact that there is an underlying geometrical organisation in the plan – according to archaeologists, there is a 57-metre grid underlying the block structure – there is an almost complete absence of the types of improbably extended axiality that is the norm in most towns. In the evolution of the town plan, it is clear that, in most parts of the town, no attention at all is given to extending axiality much beyond the individual block-compound. The same is true of the convex organisation, and of the relation

between the convex and axial organisation.

However, there is axiality in the plan of Teotihuacan: the single axis passing almost from one side of the town centre to the other, and directly linking the Great Compound-Citadel complex with the Pyramid of the Moon. Axiality, which is a generic and diffused property in most towns, is here concentrated into a single axis. At the same time, the space through which the axis passes is expanded laterally and more or less uniformly to create an elongated convex strip more or less as long as the axis.

But in spite of its dominance, the main axis has very little relation to the rest of the axial organisation of the plan. The line is more or less isolated. It gathers no significant laterals. It connects to no significant continuities. It is on its own, the only case of significant axis in the plan. Similarly, it has no relation to building entrances. The edifices with which it is lined are not buildings, but for the most part interiorless monuments. Not a single one of the large number of compounds opens onto the main axis. All entrances are, as it were, axially concealed in the labyrinthian complexity of the bulk of the plan.

If we were to compare this to the plan of Brasilia in figure 6.1c, we would find certain striking similarities. Brasilia has no formal or geometrical resemblance to Teotihuacan, yet in many respects the genotypical resemblance is considerable. It too has a single dominant axis, one which does not organise the plan by connecting to significant laterals (apart from the 'road axes') or continuities, one which has no everyday buildings opening onto it, and one which does not link edge to syntactic centre but is end-stopped near the edge of the town, having passing through almost its entire length. The rest of the plan is not as axially complex as Teoti-huacan but it is complex in a way quite unlike most traditional towns.

Now consider the third case, the proto-town of Tikal, figure 6.1b, a major centre of the ancient Maya. In this town we discern no global spatial organisation at all apart from the 'causeways' linking the various parts of the ceremonial complex together. There is of course a local logic governing the aggregation of built forms at the very localised level. But this serves to point out the complete lack of global concern in how these elements are arranged on the larger scale.

Some comparisons and consistencies

How can we give a theoretical explanation of these strange phenomena? First, we must note one obvious commonality. All three of our strange towns are centres which are in some way concerned with social reproduction. Teotihuacan is dominated by symbolic monuments and ceremonial buildings, while its domestic arrangements appear to be geared to a quite substantial priestly caste. Brasilia is a purpose-built centre of government, intended to express the structure and continuity of Brazil. Tikal is described by archaeologists as a 'ceremonial centre' – though one whose role in the functioning of its parent society remains largely mysterious.

Spatially, however, the three towns appear remarkably heterogeneous. They seem to have in common only that they lack the spatial properties common to most normal towns. However if we look a little more carefully we will find that there is a

Time as an aspect of space

certain consistency and even a certain structure in these differences, one which when explicated will be seen to have as natural a relation to the spatial requirement of social reproduction as the spatial themes of normal towns do to the needs of production. Social reproduction, we might say, requires symbolic forms of space, social production instrumental forms of space. Both express themselves fundamentally through how the axis is handled. The axis can be symbol, or it can be instrument. The key to strange towns is the conversion of the axis from instrument to symbol.

How is this done? And are there invariants in the way in which symbolic axiality is used to express the various aspects of social reproduction? Let us explore this first by looking carefully at some more familiar, closer to home examples. Figure 6.3a is the ground plan of the City of London as it was around the year 1800.[3] The most obvious thing one would notice about it in comparison with some of the previous examples is its lack of any underlying geometry. If is irregular, then it is so in quite a different way to Teotihuacan. From the point of view of symbolic axiality, there seems to be little to speak of. The façade of St Paul's Cathedral, close to the western edge of the City, does have a tentative visual link in the direction of Fleet Street, away from the main body of the City, but it is half-hearted compared with what we have seen.

On reflection, we might take the view that it is the very lack of axial lines striking the façades of major buildings at anything like a right angle which is rather puzzling. St Paul's is a case in point. Apart from its vague axial gesture towards the west, the cathedral is axially disconnected from the surrounding city in all other directions – a property which many planners and urban designers have identified as a deficiency and sought to rectify by 'opening up views to St Paul's', as though the axial disconnection of the cathedral were an error of history. In fact, in the City shown by the 1800 map not only the façades but also the dome of St Paul's are more or less invisible at ground level from anywhere in the City. Such consistencies are unlikely to happen by chance. The axial and visual isolation of St Paul's seems, prima facie, to be a structural property of the City plan.

The group of major buildings in the centre of the City, the Royal Exchange, the Mansion House and the Bank of England, which are the only free-standing buildings in the City, are equally distinctive in their lack of right-angle relations to major axes. The most prominent of these, the Royal Exchange, in spite of its location at the geometric heart of the City where several strong lines intersect, does not stop any of these lines. On the contrary, the lines slip by leaving the building almost unnoticed. The Bank of England is even more axially obscured. Even the more prominent Mansion House is neatly avoided by the mesh of lines intersecting directly in front of its portico. More remarkably, in the modern plan after the Victorian modifications to the street structure of the city increased the number of lines meeting at this point from four to seven,[4] all seven major axes avoid end-stopping themselves on any of the major building façades (see figures 4.3 a and c). Again, this can hardly be accidental. On the contrary, to assemble so many axes and so many façades without anything remotely resembling a right-angle relation between

façade and line is a significant feat of spatial engineering.

Equally puzzling is the consistency with which we find that minor public buildings, such as the many guild buildings, are unobtrusive in the axial structure of the plan. Take for example the Apothecaries Hall, marked in black in the south-east corner of figure 6.3a. Not only is it located in a spatially segregated part of the City, but, also its axial relation to the street is so unobtrusive as to lead the exploring visitor to be taken by surprise when he discovers the beautiful court that intervenes between the building and the outside world. Why is so much symbolic expense in architecture invested in spaces which are almost invisible from the public domain, especially as it is in these highly localised spaces that one does after all find the right-angle relation between façade and axis which seems to be a hallmark of symbolic axiality? It seems that symbolic axiality is only applied on the most localised level, remote from the main axes where public life takes place, and confined to out-of-the-way corners in the urban complex.

After prolonged inspection, an exception to this rule can be found, though it is far from obvious. The façade of the Guildhall (to be found just south-east of the right-angle of the indent on the north boundary) has, in spite of being buried deep in the backlands of an urban block well to the north of the City, a more or less right angle axial line linking its façade directly to the riverside area, perhaps even to the river itself, though it is hard to be sure if this was actually the case at the time. The reason why this is hard to decide lies in the extraordinary nature of the line. Several times on its route from the Guildhall building to the 'Vintner's Quay', which lies at the point where the line appears to strike the river, the line just manages to squeeze through, past buildings which would break the line if they protruded even a short distance further. Such a series of narrow escapes, again, can hardly be an accident. But why should such length in a line be achieved so unobtrusively, as though the line had to exist but not really be noticeable?

Once seen, the Guildhall line looks as though it might actually be the longest axial line in the City, until we notice that it intersects with Upper Thames Street just short of the river, which turns out to be substantially longer. Again our ideas about urban normality are thwarted, because this line combines considerable length with surprising narrowness. It is of course the line that in earlier times linked all the quays together. We might then expect that it would follow the line of the river. But it does not. The river curves, but the line does not. Here as elsewhere it does not appear possible to explain axial structure through either of the common explanations of symbolisation or topography.

What then are the axial properties of the City of London? Is, for example, the property of 'just-about' axiality that we noted for the Guildhall line (and which was discussed in Chapter 4) exceptional, or is it the general rule? We have only to look carefully at the main and secondary street structures to see that this property is present to a quite remarkable degree. Take, for example, the line that goes from Poultry (at the eastern end of Cheapside) to half way down Leadenhall Street in the east part of the plan, skimming the surfaces of buildings both to the south and to

the north of the line as it goes. Or the line that links the lower end of Bishopsgate to its wider market area in the south. Or the line that links Smithfield to Ludgate Hill. Or the narrow alley line that links Birching Lane the the interior of the block bounded by Cornwall and Grace Church Street. 'Just about' axiality is, it seems, a consistent property of the spatial structure of the City at several scale levels. Nor does it quite end there. Where we do not find 'just-about' lines linking key places, then we often find that there are two 'just-about' lines making the link. This is particularly true in the smaller-scale back areas and the system of allegedly 'labyrinthian' back alleys, which for this reason are not in fact labyrinthian at all. This 'two-step' logic of 'just-about' axial lines imparts a natural intelligibility to these seemingly complex sub-areas.

The social reasoning behind this 'two-step, just-about' axial logic is not hard to conjecture. It has the simple effect that when you are going from one 'place' – be it a slightly larger space, or a major line, or a key building – to another, then there is always likely to be if not a point from which both origin and destination can be seen then at least a section of line from which both are visible. Since we can also see that each line passes through a series of convex spaces, and that each convex space, however small, will usually have building entrances opening onto it,[5] we can see that the axial organisation and convex organisation of space combine with the location of building entrances to create a consistent type of pattern yielding both intelligibility and order out of what might otherwise seem a formless aggregation of buildings.

Once we see this, then it is easy to see that the City has everywhere if not a two-step axial logic then at least a few-step axial logic. Axial organisation is consistently used to make larger-scale links from one place to another than the apparent irregularity of the plan would initially suggest. Axiality is used, we might say, coupled to the convex and building entrance properties we have noted, as the general means to provide larger-scale intelligibility and spatial orientation in a system that appears from other points of view to be rather freely growing. 'Just-about' axiality is the product of this minimalist approach to to the problem of global form in urban layouts. Even more strikingly, it is the means of linking the local 'place' to the global structure and through this of achieving that compression of scales – the sense of being in a locally identifiable 'place' and part of a much larger 'city' at one and the same time and by the same spatial means – which is the distinctive excellence of good urban design.

But this axial compression of scales goes beyond the creation of internal coherence in the space of the City. It is also the means by which interior and exterior, heart and periphery, are brought into a direct relation. Distance from edge to centre is, as it were, obliterated by the repetition of the 'few step' trick on the fatter spaces that define the the major routes into and through the City – Cheapside, Bishopsgate, Aldgate High Street, Grace Church Street, and so on. It is notable that these edge-to-centre fatter spaces do not, as we have already noted, contain the longest lines in the City. Intelligibility through axiality is not simply a matter of length. These fatter spaces by their very amplitude lend emphasis to the marginal axial displacement and the shading of building surfaces which is the architectural essence of the two step logic

and the means by which the abstract principle of axial connection is converted into a style in the architecture of urbanity. These larger spaces stand for this style because it exemplifies it most clearly in the overall structure of the City.

As we saw in Chapter 4, it is also this profound architecture underlying the plan that creates the pattern of natural movement in the city. And of course this is the key to its logic. Space in the city is about movement. It does not seek to express the relations of major buildings to each other. It seeks to minimise the effect of buildings, even the largest and most public, on the pattern of movement on which the life of the city as a centre of business always crucially depended. In the city therefore space is fundamentally instrumental, and the axis its primary instrument. Its symbolic and ideological role is subordinated – though never eliminated – by the dominance of the practical. The axis is – can be – both symbol and instrument. Here, it is primarily instrument.

Does this mean then that axiality is doomed to the ambiguity that renders so much of architecture opaque to analysis. I do not believe so. The ambiguity is a structured ambiguity and the architectural conditions in which axiality takes on a predominantly symbolic or instrumental form are, I suggest, quite strictly defined. To understand this, we must look closely not only at the axiality of space itself, but at the buildings and their façades which are, in the last analysis, the only means by which these spatial differences are created.

Consider for example London's other city, the centre of government in Westminster, again as it was around 1800 before the Victorian 'modern-isation' of the plan (see figure 6.3b). At first sight, the plan appears rather less irregular than the City of London, largely due to a sense of greater rectilinearity underlying the block structure. This should not, however, lead us to misread its axial structure. If we look for long lines, then there turn out to be relatively few, and their extension seems much less pronounced than in the City of London. Looking more closely, we see that more links just fail to be axially direct, and in many cases this appears to be directly related to the greater rectilinearity of the plan. In retrospect we can see that the greater geometric deformity of the City of London plan gave a greater sinuousness to the space which in turn gave rise to greater rather than less axial extension. In Westminster, lines are on the whole shorter than in the City. This all but eliminates any sense of a two-step logic, and this in turn increases the sense that the parts of Westminster are more separated from each other. This can be confirmed by an 'integration' analysis, which shows that Westminster is in fact substantially less integrated than the City of London.

The longer lines that we do find are, however, very interesting. One of them, Tothill Street, is both the most integrated line in Westminster and the line which strikes the main façade of the Abbey, albeit slightly off centre. It is also, in the sense that was common in the City of London, a 'just-about' line. Another 'just about' line, King Street, strikes the northern façade of the Abbey, this time full centre. This line is not an integrator within Westminster, but it is a critical integrator of the Westminster street pattern to the areas to the north and east. In other words, the

Time as an aspect of space

Figure 6.3a

Abbey, instead of being axially cut off from the main City as was the case in the City of London, acts as a kind of pivot for the most important internal line and the most important internal-to-external line in Westminster. Neither line slips past the façade. Each is fully end-stopped. The Abbey literally holds the structure together by occupying its key syntactic location, while also of course creating a disjunction from a purely spatial point of view. The major building has, it seems, intervened in the urban structure in a dramatic way.

Now this axial disjunction by means of major public buildings is an architectural commonplace, but its very obviousness should remind us that it is exactly what did not happen in the City of London. The dominant axial structure was 'constituted' not by the façades of major buildings but consistently by the façades of the everyday buildings, which, wherever possible, opened directly onto the axes. Where major public buildings occurred they were treated no differently from the point of view of the axial structure. Even the famous City churches received no special treatment, but are embedded in the urban fabric and related to the axial structure in exactly the same way as the everyday buildings. The

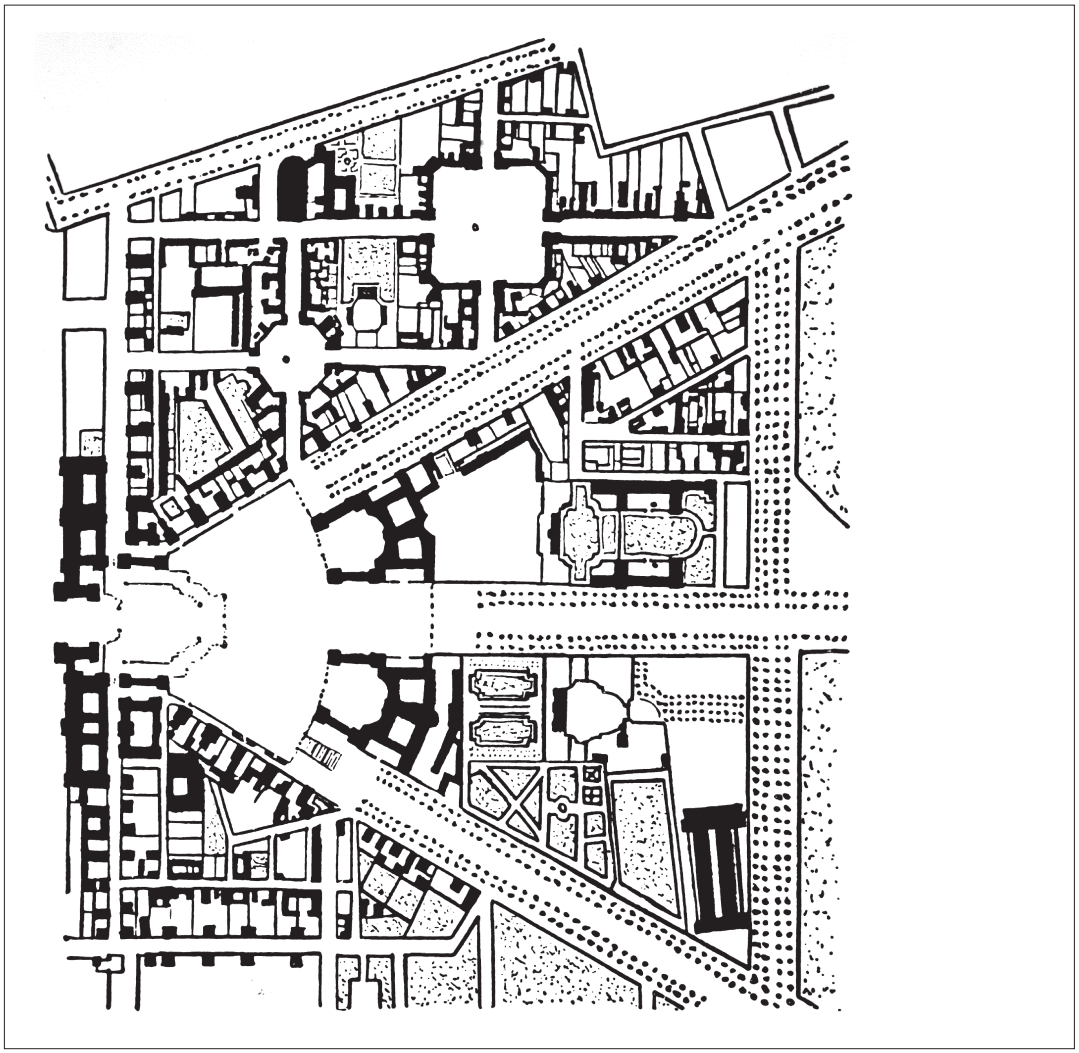
Time as an aspect of space

Figure 6.3b

global, few-step logic of the City of London is created almost exclusively by the arrangement and orientation of the ordinary buildings. Responsibility for the space structure is as it were 'distributed' – and distributed more or less equally – amongst the largest possible number of buildings. Where major buildings received special axial treatment, it was usually to bury them unobtrusively in the urban fabric. In Westminster the public buildings are much more obtrusive, in spite of the overall reduction in spatial scale and axial integration.

Time as an aspect of space

Figure 6.4



But they do not yet dominate the urban structure in the sense we find in, say, eighteenth-century downtown Versailles, shown in figure 6.4. Here we find three powerful axes striking the palace head on, one at right angles, two at about forty-five degrees. All therefore lead essentially nowhere but the Palace. In terms of natural movement, the Palace acts as a negative attractor. The effect of this is immeasurably increased by two further spatial devices. First, the width and uniformity of the spaces through which the major axes pass, so that axiality is quite the contrary to 'just about'. Axiality is equal everywhere in the space. Second, the everyday buildings – thinking of these mainly in terms of their size and larger numbers – are unlinked as far as possible from the major axes. Following this logic to its extreme, of course, we end up with a space structure in which only the public buildings and monuments constitute the major axial structure, while everyday buildings are removed as far as possible. We are in effect back in Teotihuacan.

This formulation even helps us to begin to make sense of Tikal (figure 6.1b) surely one of the strangest proto-urban objects in the record. This we can now see to be an extreme case of such a spatial logic. All that can be termed a global urban

Time as an aspect of space

structure lies in the complex of causeways and ceremonial centres that lie at the heart of the area. The scatter of everyday buildings is distributed, apparently randomly, in and around this global complex. They have no consistent spatial relation to the complex (apart from a consistent randomness), no relation to each other, and above all no relation to a system of space which might begin to constitute an overall urban structure. The disjunction of the ceremonial and the everyday, and of the local and the global, is in this case about as complete as it could be.

We may then attempt to summarise the complex of properties that seem to be associated with the axis as symbol rather than as instrument. There seem to be four headings: first, the degree to which axiality is 'just- about' rather than filled out into continuously fat spaces; second, the degree to which there is a few-step logic throughout the system rather than a one-step logic in some parts combined with a many-step logic in others; third, the degree to which strong and weak axiality is related to the entrances of buildings, everyday or public; and fourth, the angles of incidence of axial lines on building façades, varying from striking full on to glancing off.

Let me first suggest that there seems to be a rigorous social logic to these spatial choices. This social logic shows itself in the ways in which we find these properties concatenated in real cases. For example, the City of London combined 'just-about' axiality everywhere, with few-step (rarely one-step) logic, constitution of space by everyday buildings and glancing off angles of incidence of axial lines on façades. This is the opposite of the Teotihuacan or Versailles kind in which fatness is made greater and evened out along the length of the axis, one-step logic for public buildings and many-step logic for everyday buildings, constitution of major axes by major buildings and elimination of everyday buildings, and angles of incidence which are usually orthogonal, both creating the large-scale one-step logic and the small-scale many-step logic. We thus find a natural tendency for greater geometry in the plan – presumably implying a power able to conceive of a form all at one – to be associated with less integration of space and a greater tendency towards the symbolisation of the axis.

We easily associate the first type of concatenation with instrumental axiality and through this with urban situations in which the exigencies of production and distribution are the dominant social requirements. The latter concatenation is just as easily associated with what we may call symbolic axiality which prevails where bureaucracies or religious hierarchies, with their primary concern for symbolic expression rather than movement and communication, are the dominant forces shaping space, that is, where the needs of social reproduction are dominant over the needs of social production. It is through the use of the axis as symbol that forms of social power most naturally express themselves through domination of the urban landscape. This is fundamentally why we have two types of city: the common type of working city, and the more exceptional type of city specialised by the need to reproduce the formal structure of a society.

Time as an aspect of space

Time as an aspect of space

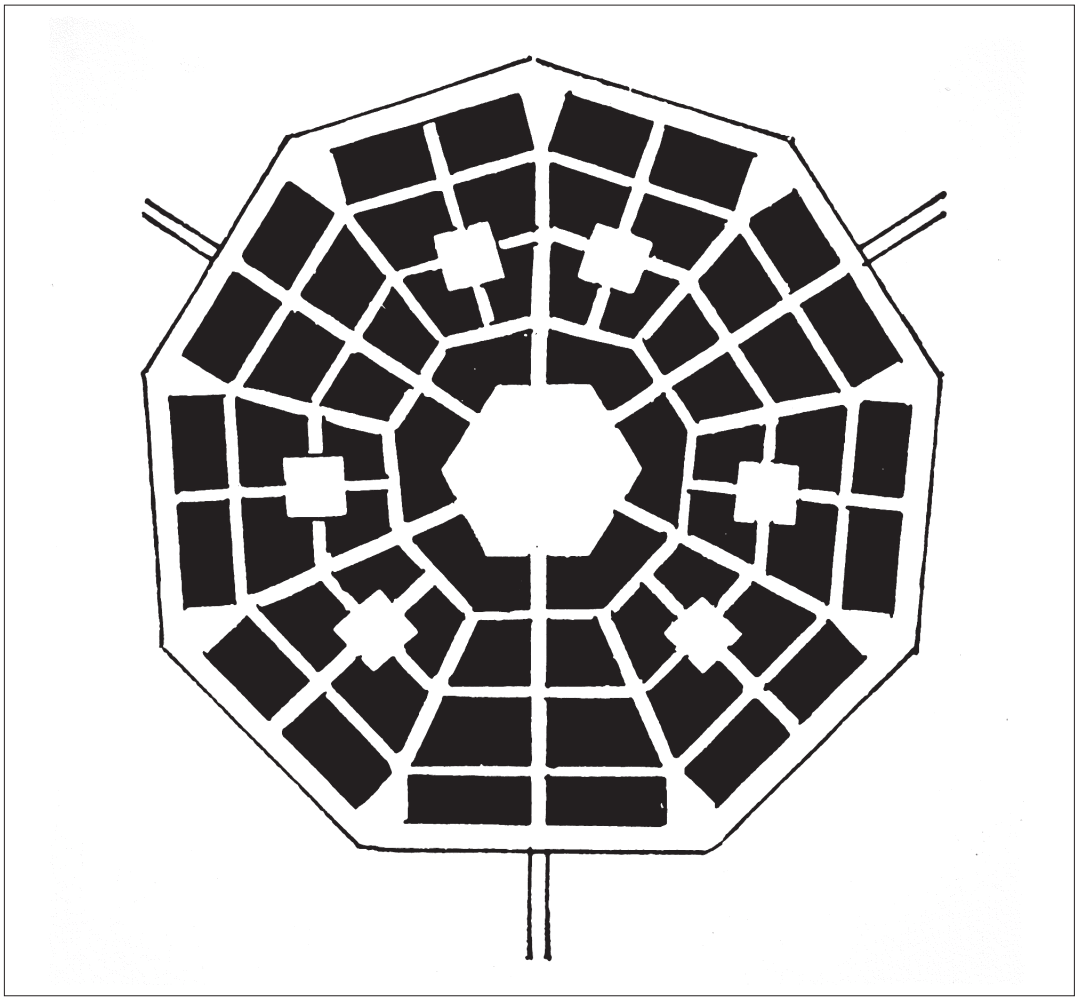
But why these spatial forms rather than others? To answer this we must build a small armoury of concepts. In *The Social Logic of Space*[6] it was suggested that the concept of time is useful, even necessary, to the description of space. Two concepts were suggested. The description of a space was the set of relations – or as we would say now, the configuration – in which that space was embedded, that is, which described how that space fitted into a complex of space: its relations to building entrances, its convex structure, the lines that pass through it, its convex isovist, and so on. The *synchrony* of that space was then the quantity of space invested in that description. These concepts were a response to the problem of finding a way of saying how two identical spaces with different named functions might be formally different from each other. The motivating case was a pair of hypothetical spaces, identical in shape and size, but one a military parade ground, the other a market place. Are the spaces the same other than in how they are used?

The answer proposed was that the spaces have identical synchrony – they have the same area in the same shape – but different descriptions – that is, the identical spaces are embedded in quite different syntactic contexts. The parade ground has the spatial relations of a military camp, that is, it is related to certain military buildings which are likely to be free standing and have a certain geometrical layout reflecting military statuses, and relations to camp entrances and ceremonial routes, symbolic objects like flagpoles, and so on. The market has the spatial relations of a certain location in a street complex and the buildings which constitute it. The description of the space is its social identity. The synchrony, or quantity of space invested in that description, is the degree of emphasis accorded to that description in the complex. Synchrony, we may say simply, reinforces description. The synchrony of the parade ground and market place may be identical, but the descriptions are different. Therefore a different description is being emphasised. Therefore the spaces are different.

Intuitively, it seems reasonable to use the term ‘synchrony’ to describe metric scale in space, since we must use movement, which occupies time, to overcome space, and since visibility substitutes for movement in this sense, expanding space metrically brings more of it into a single space-time frame. Underlying this there is a model of space in which space is seen and understood by a human subject who is essentially peripatetic. Any spatial complex is a system which can only be seen one part at a time and which requires movement to see and understand as a whole. To the peripatetic subject, to say that spatial relations are synchronised is to say that they are simultaneously present to the peripatetic observer within the same space-time frame. Therefore the fact of progressively moving through a spatial complex such as a town or building successively synchronises different sub-complexes of spatial relations. In these sub-complexes, the larger the convex space or the longer the axial space then the stronger this synchronising effect will be. Hence synchrony as the descriptor of the quantity of continuous space within which the same relations prevail.

Time as an aspect of space

Figure 6.5



Now consider another distinction, due to a colleague of mine,[7] between *structure* and *order*. Spatial complexes are intelligible to us in two ways: as artefacts we move about in, and learn to understand by *living* in; and as overall rational *concepts*, which can be grasped all at once, and which often have a geometrical or simple relational nature. The first we may call *structure*; the second *order*. Town plans make the distinction particularly clear. Ideal towns are dominated by rational *order*, and can be grasped as a single concept. Most real town plans, however, lack such simplicities. They appear irregular, almost disordered – though they are not so when we live in them and move around them. On the contrary, it is the ordered town that is usually confusing 'on the ground'. Real towns, as we have seen, have 'structure' which we discover by living and moving, but not an obvious rational 'order'.

Now consider this definition in terms of the time concepts we have introduced in relation to two town plans. One the 'ideal' town plan of Palmanova, shown in figure 6.5, and the 'organic' layout of the plan shown in figure 4.3a. The ideal town can be grasped as a pattern *all at once*, or *synchronously*, provided we are in a position to see it all at once, as we are if we consider it as a plan on the page or from the air. The reason it can be grasped all at once is not so much because it has a regular geometry, but for a simpler and more basic reason: it is made up of *similar parts* in

Time as an aspect of space

similar relations. Such compositions immediately reveal their nature because the mind easily grasps the repetitivity of the elements and relations that make up the form. It is this property of being made up of similar parts in similar relations we call *order*. We tend to associate it with the constructive activity of the human mind. Order is fundamentally rational. It can be grasped all at once because it is imposed all at once.

The 'organic' town has no such order. Elements can scarcely be identified, let alone repetitive elements. The same is true of relations. Very little repetition can be identified, if any. However, we now know that such 'organic' towns have powerful spatial patterning which appears to originate in function. For example, the distribution of integration in the axial map defines an 'integration core' which generates not only a movement pattern but also a distribution of land uses such as shops and residences which are sensitive to movement. We can call such patterns *structures*, and contrast them with *orders* because they have quite different, almost contrary, properties. Structures cannot be seen all at once, nor are they imposed all at once by minds. They are *asynchronous* both in their genesis and in the way we experience them. They arise from a lived process, and are intelligible through the processes of living in the town, and, most especially, by the process of movement. Without movement, an asynchronous system cannot be seen, let alone understood.

It is an empirical fact that, regardless of their relative prevalence in geographical or planning texts, by far the great majority of towns and cities in human history display more structure than order. The reasons are not hard to find. For the most part, towns arise for essentially functional reasons, and, naturally enough, evolve according to a functional logic. However, if we consider another aspect of urban intelligibility, that is, the formal configuration of built forms, and especially of their façades, then we find that, intriguingly, matters are more or less reversed. Façades typically display a good deal of order, and anything we might call structure by analogy to the semi-regular patterns of the organic town is rare, if it can be identified at all. There is a simple reason for this, centred about the relations between space, form and time. Unlike urban space structures, which are asynchronous because they require the passage of time required for movement in order to see them piece by piece, building façades are, in their very nature, synchronous. They are intended to be read and understood all at once. They therefore do not require time for their understanding. Order, we might suggest, is as prevalent over structure in built forms as structure is prevalent over order in space. In both concepts, both kinds of case exist, but order is natural to form because it is intended to by read synchronously just as structure is natural to space because of its essentially asynchronous nature.

How forms, and especially façades, relate to space is then likely to be of interest. Let us then consider space from the point of view of the façades of buildings. It is clear that every façade will be partly visible from certain points in urban space and wholly visible from others. Both sets of points form a shape, defined by all that can be seen from the façade. We can draw both shapes, and call the first the 'part-façade isovist' and the second the 'full-façade isovist'. To

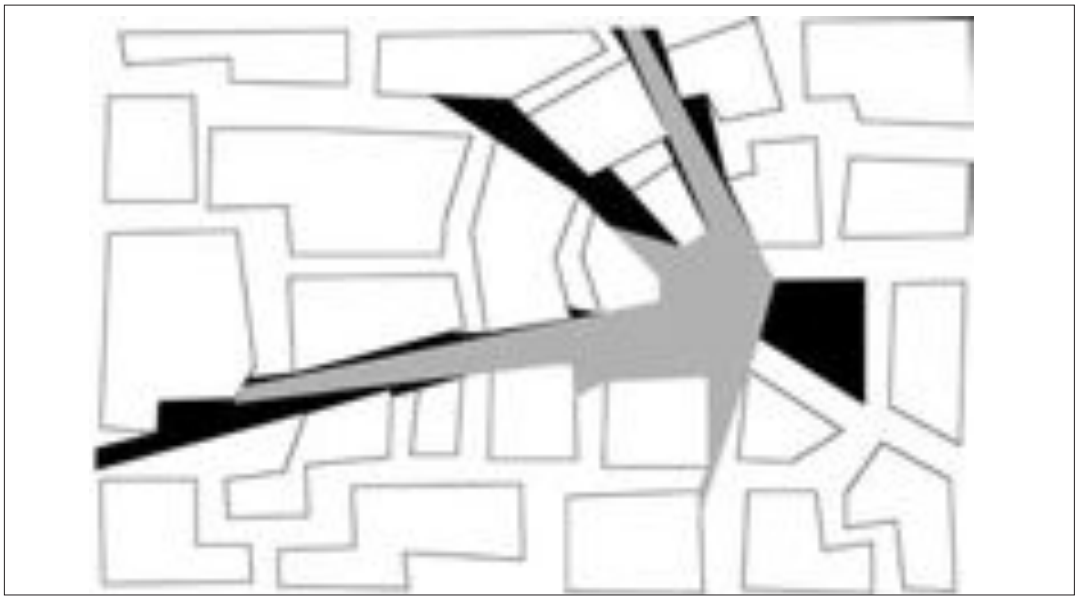


Figure 6.6
Façade isovist

draw them we first project each vertex of the façade as far as possible in all directions from which any part of the façade can be seen. The combination of the shapes swept out by the two vertices is then the part-façade isovist, and their intersection is the full-façade isovist. Figure 6.6 shows a hypothetical case, in which the part-façade isovist is lightly shaded and the full-façade isovist darkly shaded. Evidently, the full-façade isovist will be the region of space from which the façade is synchronously visible for the peripatetic observer.

Now let us consider the effects on façade isovists of different kinds of axiality. First let us look at the City of London again, but this time from the point of view of its façade isovists. Two points can be made. The guild buildings are available to the street from rather short isovists, usually ending in right angles, and also usually ending in an enclosed space. Interestingly, the only exception to the short line rule is the Guildhall, and here the long axis also ends in an enclosed space, suggesting some consistency in the rule for that type of building. Public buildings are in general on larger-scale spaces, but have very restricted isovists which we can for the most part only see sideways, and with a relatively small-scale isovist. This is particularly true of the three major buildings at the heart of the city: the Mansion House, the Bank of England and the Royal Exchange. Major buildings do not seem to occur at the points where major axes strike whole building façades.

This quasi-concealing of the public buildings has three marked effects. First, the degree to which their views are axially synchronised is very restricted. One comes across them rather suddenly. Second, one usually approaches them at an angle so that whatever order is present on the façade is obscured by perspective. Third, and perhaps most important, the effect of approaching the building sideways is that what one sees changes quite rapidly as one first arrives at the building and then proceeds beyond it. One might say that the effect of this type of façade isovist is that from the point of view of movement, the order in the façade of the building is never freeze-framed, but is constantly shifted and distorted.

Time as an aspect of space

Now consider how the contrary can be achieved. The most effective means would be a single long 'tunnel' isovist striking the building at a right angle. This would mean that the longer this tunnel isovist, the more protracted the time during which, for the moving observer, the façade of the building would be freeze-framed, and the more invariant would be any symmetry that façade possessed. By placing an observer moving through space on the axis of symmetry of the building façade, and extending the spatial axis as far as possible away from the building at a right angle, the presence of the symbolic buildings becomes more pervasive and more invariant. The more convex the axis, then, the more invariant would be this effect throughout the region passed through by the line.

We can also relate this to the global urban structure by bringing integration into the picture. The more integrating the 'symbolic axis', the more whatever is freeze-framed by the line would be dominant in the urban structure. The effect of converting space from instrument to symbol would be amplified by the fact that a large-scale object at right angle to a key axis will act as a negative attractor in the urban form, that is, whatever its degree of integration, natural movement rates will fall away in the direction of the negative attractor, though this may of course be compensated by the numbers of people attracted to the building for other reasons. In short, the logic of the symbolic axis is in its way as consistent as that of the instrumental. Its object is not to organise a pattern of movement and through this to generate encounter, but to use the potential of urban space for another kind of emphasis: the communication throughout space of the symbolic importance of certain buildings or locations. The role of the symbolic axis tends to be focussed in certain locations rather than diffused throughout the form, but its role in creating the overall urban structure is no less powerful.

We can see then that Teotihuacan is built according to a 'formula' no less than the city of London, but the formula is different. In spite of initial doubts, its internal logic, and presumably its social logic, are just as consistent. Just as London is the expression of one kind of social logic, so our strange towns are consistent expressions of another.

Notes

1 Banister Fletcher's *A History of Architecture* (edited by Professor John Musgrove), Butterworth London, 1987.
2 Hillier & Hanson, 1984, Chapter 5.
3 The plan is by Horwood.
4 See Figure 4.3a in Chapter 4.
5 See *The Social Logic of Space*, Chapter 3.
6 Hillier & Hanson, Chapter 3, pp. 95–7.
7 J. Hanson, Order and structure in urban design: the plans for the rebuilding of London after the Great Fire of 1666', *Ekistics*, Special Issue on space syntax research, vol. 56, no. 334/5, 1989.