

## Areas of concern

### The nineteenth-century metropolitan city quarters in Europe; criteria for action on their 'integrated conservation'. Part I

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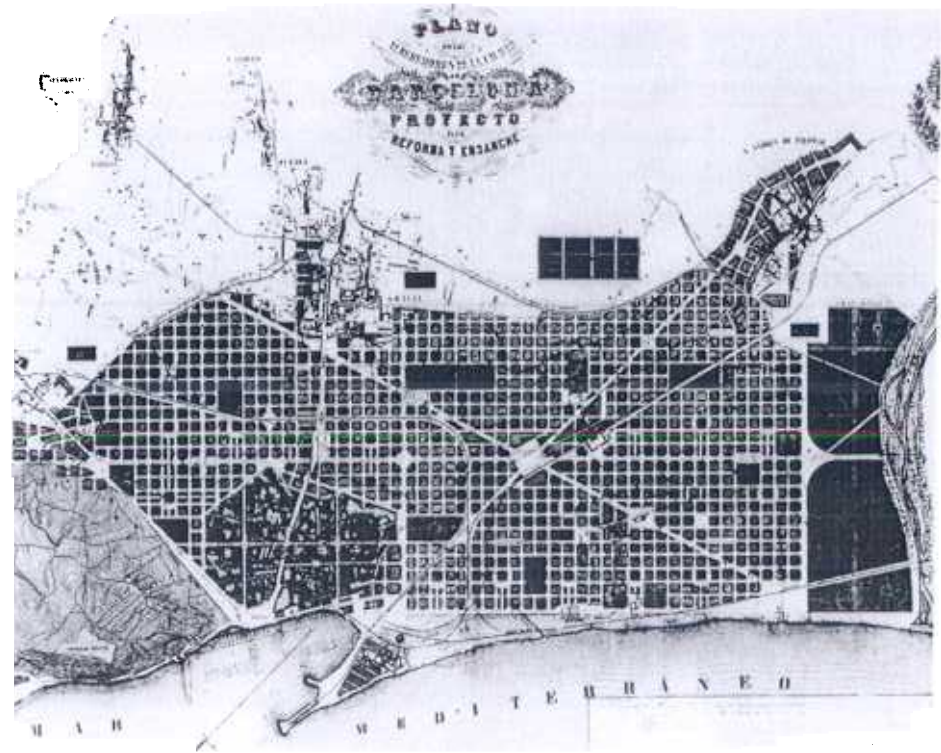


FIG. 1. Plan of Barcelona by Cerda, with the town's extension. 1859. Note the open contrast of street pattern and scale between the old and the new city. The diagonal arteries overlapping the grid-iron scheme represent the long distance connections to Madrid and Paris. Scale approx. 1:50 000.

Fifteen years ago, it was impossible to refer to the effort of integrated conservation. It was inconceivable—almost suspect—to consider such an approach to planning practice. No-one felt concerned. The issue was hardly seen as a problem.

Then the tide turned and a change in philosophy set in. We should point out, however, that circumstances—even constraints—helped bring about the doctrine of integrated conservation. Slogans such as ‘limits of growth’, ‘exhaustion of resources’, ‘being fed up with monotony of contemporary architecture’ and ‘loss of identity of urban environment’ reminded the contemporary citizen of the true underlying aspects that acted as catalysts.

Today two trends are clearly visible: on the one hand, the attempt to channel public funds for social housing towards real conservation, i.e., towards the restoration of buildings which can and should be conserved; on the other hand, the humanization of the urban space through specific care for the city image.

Both efforts exceed—fortunately—the traditional conservationists’ approach focussing on individual buildings, and are shifting to the so-called ‘ensemble-conservation’ with the accent on desirable urban preservation and renewal. However, for the time being, the measures remain sporadic and uncoordinated and are of relatively limited importance: recycling of usable ‘built’ substance in the first case, cosmetic work on the street image in the second!

Apart from these scattered efforts no coherent concept of an integrated conservation policy exists up to now. This could be achieved only by a ‘change in continuity’, i.e., by an integrated and balanced coexistence of city quarters of different periods which retain their image and remain faithful to their structure and their original concept. Such a coexistence of the various phases of urban development presents a thoughtful alternative to the blind reconstruction hunger and the chaos prevailing over the past thirty years. It would restore the continuity lacking in urban form.

Far-reaching misjudgments and irresponsible interferences with the structural order and form of existing city quarters could be avoided. In this connection, one should keep in mind the violent invasion of the city centre by rail traffic in the nineteenth century, and the appearance of high-rise buildings—completely out of scale—in the midst of the pre-existing coherent six-storey block structure of European metropolitan towns in the twentieth century . . .

On the other hand, it would be rather naive to believe that city quarters of different eras could lead a parallel life in their original state (as far as structure, form and space of human interaction are concerned)—as if they were frozen museum districts.

Changes, adaptations, even innovations are not only permitted, but are actually desirable. They fulfil society’s indispensable requirement for modernization on the one hand, and permit the citizen a certain

identification with his urban environment by direct and spontaneous intervention with self-designed ‘secondary’ architecture, on the other.

While there is a gradually increasing consensus on the aspects dealt with so far, there are divergent views on the establishment of criteria for action in order to carry out the integrated conservation policy. Which elements of the existing substance should be regarded as preservable, which as changeable and which as definitely to be eliminated? Today, the answers to these questions are still subjective. And yet, there are certain characteristics which are of prime importance to a city’s identity in every single era. If we talk of integrated conservation, the retention of these must have priority.

As an illustration, suppose we consider the distribution of uses in city quarters of the nineteenth century. Certain areas of considerable size are earmarked for special uses: supermarkets, slaughter houses, hospitals, prisons, cemeteries, etc. They exist in the midst of dense housing districts. The relocation of such institutions is desirable usually in order to secure the correct functioning of these important services, but also to free the residential areas from disturbances. Such a relocation would not, however, change the life and use of the residential and business districts in a city of the nineteenth century. Therefore, such important interventions cannot be interpreted as an urban ‘distortion of character’ in spite of their large scale character. On the other hand, a different measure—for instance the disentanglement of the traditional intricate mixture of dwelling, handicraft and trade in the multistorey tenement houses and the striving for monocultures (i.e., places where only to sleep or to do business) would be a fatal alteration of the ‘climate of life’ in the still living nineteenth-century city quarters.

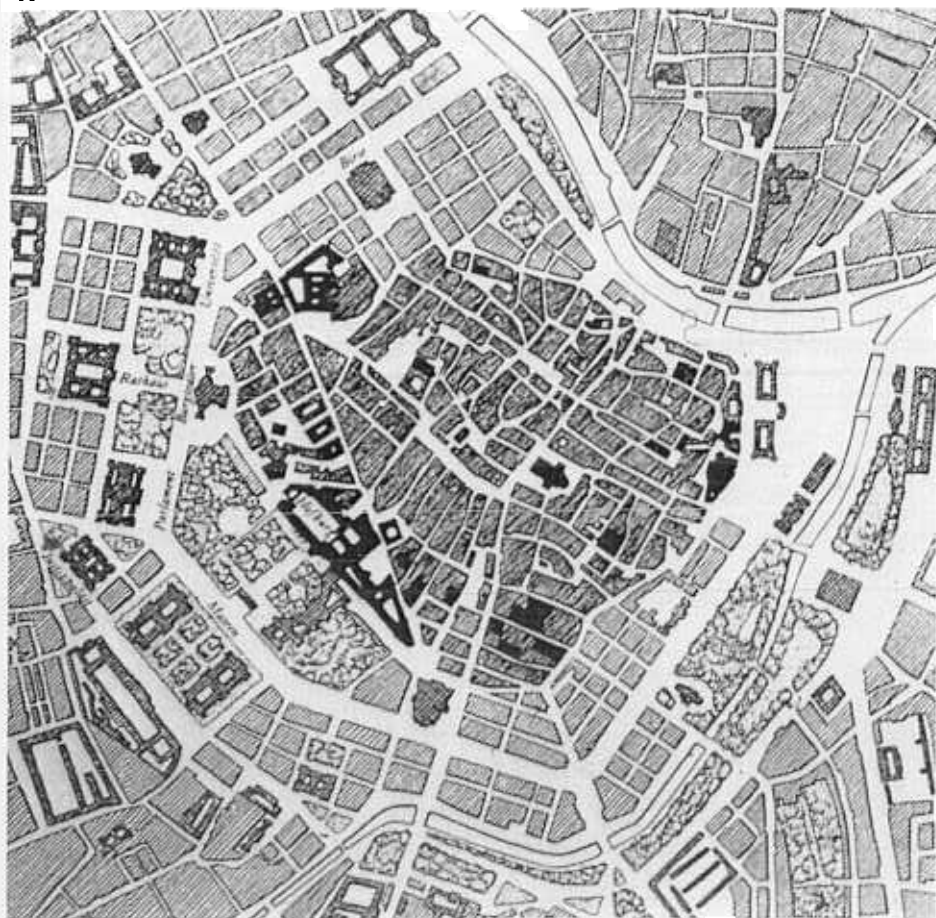
There are often conflicts connected with the definition of what is ‘preservable’ and what is ‘renewable’. They usually occur either when intended structural changes are detrimental to important form values or when the intended social changes threaten to break up the inherited ‘space of life’. This should not discourage or divert us from the necessity of establishing the missing criteria for action. It is self-evident that these criteria must not be interpreted as a generally valid panacea but as planning tools adaptable to each and every situation. On the following pages, an attempt is made to illustrate, taking some examples of European metropolitan city quarters of the nineteenth century, the establishment of the criteria for action. These are:

- (a) the structural order,
- (b) the urban form (three-dimensional image),
- (c) the space of human interaction.

The examples are taken from Barcelona, Berlin, Paris and Vienna, cities in which important city quarters evolved in the second half of the



FIG. 2. Plan of Vienna after the monumental development of the 'Ring'. About 1870. The medieval core in the dark tone. Note the different orientation of the several segments of the Ring. Their right-angle street patterns converge on the main radial-concentric arteries of the town's extension, forming pointed corner lots. Scale approx. 1:16 000.

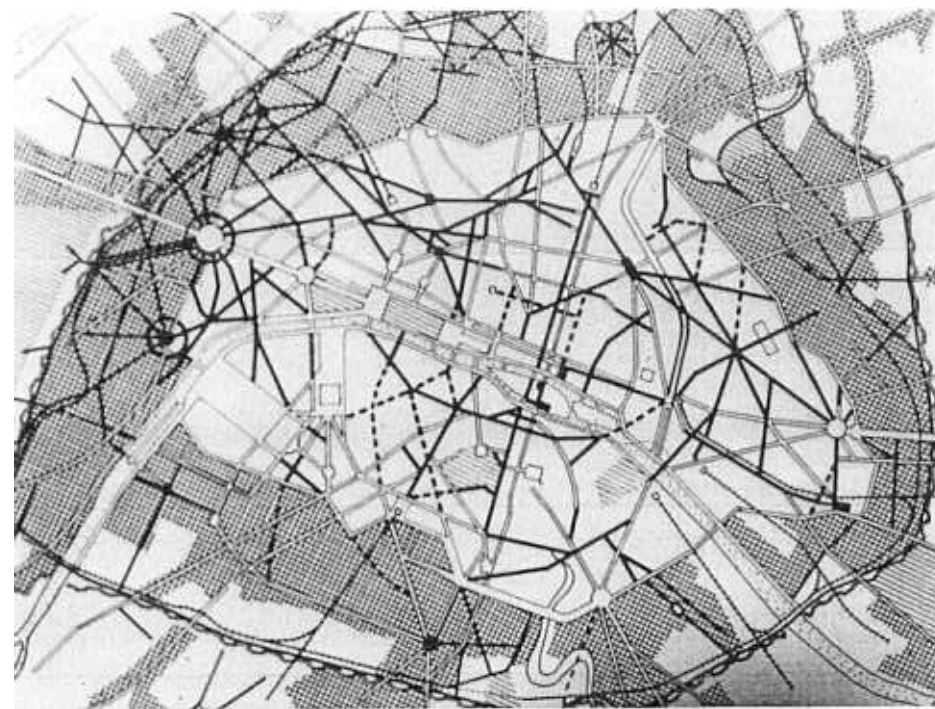


nineteenth century. While they have formal similarities, they also differ greatly in their structural order and growth.

### The characteristics of the structural order

#### 1. Location of the city quarter within the framework of the city

The quarters emerging during the course of the nineteenth century extended in a radial form outside the lines of earlier fortifications which were in the process of being demolished. An exception to this practice was Barcelona where, for topographical reasons as well as for practical considerations, Cerdà's strict grid-iron pattern was applied, in a somewhat one-sided way, to the pre-existing medieval historic city centre



(Fig. 1). In Vienna, the 'Ring' long remained an open military training ground separating the old town from the expansion areas until it was rebuilt as a monumental zone of public buildings and parks (Fig. 2). In Paris and Berlin, the 'new' nineteenth-century quarters are built in a purely concentric manner and in direct connection with the pre-industrial core which continues to play the role of the city centre as an administrative and business district. (Figs 3, 4).

#### 2. Basic patterns of the traffic network. Traffic systems

The city's spatial attributes in the nineteenth century will be dealt with later. Here, the traffic network as a main factor of modern infrastructure is remarked upon. City developments and redevelopments about 120 years ago show, for the first time, important street patterns, conceived on the one hand to accommodate a substantial carriage traffic in town, and on the other hand rail traffic made possible by the large dimensions and suitability of the streets. Railway lines often cut through the city; tramways on the middle tract of the street; and underground and elevated vehicles on their own 'railway tracks'. In some special cases, as in Berlin,

FIG. 3. Plan of Paris 'intra muros' (fortifications of 1870). In black, the new Boulevards cut through the town's fabric by Baron Haussman. In grey the 'new' city districts. Note the clear peripheral radial-concentric expansion of the town and the corresponding basic street system. Scale approx. 1:60 000.

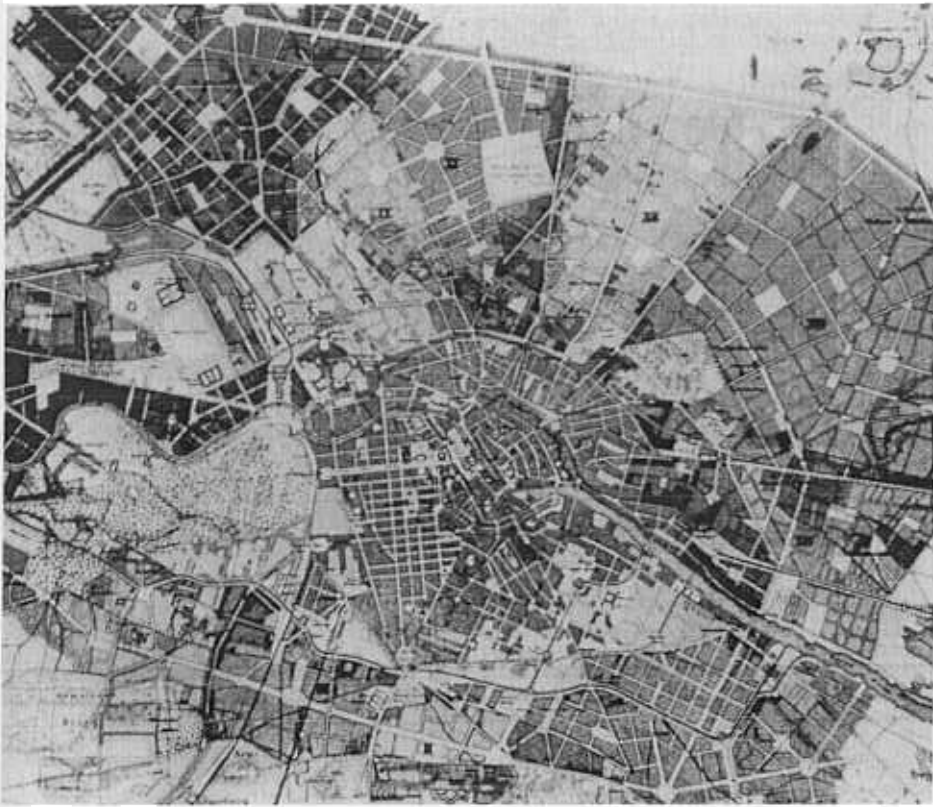


FIG. 4. Plan of Berlin, 1862. First integrated approach of development planning of the city and its surroundings, by James Hobrecht. In the centre of the medieval town and as a western expansion of the baroque period, the triangular shape of the so-called 'Friedrichstadt'. Note the proposed peripheral new boulevard, conceived as link between preexisting suburbs and new developments integrated into the city. Scale approx. 1:50 000.

the railway tracks even cut through the areas of city blocks or, as in Barcelona, were placed into the city streets themselves (Fig. 5).

These well-conceived large scale street systems still carry millions of cars in the central part of the cities! The main network consists basically of circular streets (boulevards) crossed by radial main arteries leading out of the city. This radial concentric pattern can be detected also in the special case of Barcelona (in spite of the grid-iron pattern): the diagonal arteries combined with the streets of the grid-iron scheme form a system of concentric connections (Fig. 1).

### 3. Building and dwelling density. Land property patterns

In the nineteenth century, inadequate housing conditions were the result of speculation during the development of middle-class residences, and of exploitation of the working class. Densities of up to 1500 inhabitants per hectare, a floor space ratio of 5 to 7, and a ground coverage of more than

70 per cent were standard values. These deficiencies, together with an often inadequate sanitary provision, are the most important problems to be faced in the rehabilitation of these city quarters. On the other hand, the generous inner room distribution of flats enhances the possibility of change and adaptation to present needs.

The subdivision of city blocks shows all kinds of property patterns which, however, have certain details in common: there is a quasi-constant width of the lots, varying between 10 and 20 metres. This results in a characteristic 'street rhythm' according to the width of the façades. The lots often show a considerable depth (Berlin) resulting in adjoining backyards easily accessible to a fire-brigade, but also to delivery vehicles, by covered passages (Figs 6, 7).

Of particular interest are the corner sites: not taking into account all functional considerations, they are mostly of pointed or circular shapes. This is the result of a formalistic preference for star-like squares developed during this time and inevitably producing such formations (Fig. 8).

FIG. 5. One of the main axes of Barcelona at the time of the turn of the century, with the characteristic dwelling blocks with cut angles. The brutal insertion of the railway into the street image—in an open trench—stands for the 'proto-technocratic' approach of this period.







FIG. 6. Part of the statutory plan of the 'Kreuzberg' district in Berlin. Typical working class sector of the second part of the nineteenth century. The lots are narrow and long with many inner courtyards. The width of the individual buildings—in strict street alignment—is almost constant. The geometric clarity and the formal diversity of the urban spaces is obvious. Scale approx. 1:8000.

#### 4. Separation and/or mixture of uses

The nineteenth century developed a particular trend towards the spatial separation of urban uses (particularly with reference to industry, traffic installations and wholesale facilities) although never to the same extent as in our century. A certain spatial integration of functions was maintained at all times (especially that of housing, handicraft and retail trade) which we desperately try to regain today. Hospitals, administrative buildings, cultural facilities, even asylums and prisons were also scattered throughout the city.

On the other hand, a tendency developed towards a special segregation of social groups. This greatly influenced the building policy in the course of the last century. Thus, not only 'workers' settlements' for the labour force of entire industries and residential quarters for the upper middle class came into being, but also the quarters within the city core took on a character of social differentiation. And strangely enough, the middle-class quarters developed in all major metropolises (Paris, London, Berlin) to the west, while the so-called proletariat populated the east [a curious

coincidence for which I have as yet to find any plausible explanation—unless it should be regarded as purely accidental].

#### The changes in the structural order

In the twentieth century, the cities merging with their suburbs grew into gigantic metropolises (covering between 50 000 and 100 000 hectares). Today, the nineteenth-century quarters occupy a peripheral yet relatively central location within these metropolises—covering a total surface of 5000 to 10 000 hectares. They now represent the 'city centre' and house about half of the city population.

In recent years, their eminently urban character was more and more emphasized by several infrastructural measures (underground rail networks, city thoroughways at the periphery), by the gradual increase of dwelling density (filling of empty sites and interior courtyards) and intrusion of uses of the tertiary sector. At the same time, these quarters lost contact with the surrounding countryside and nature.

FIG. 7. Aerial view of the block structure in a workers 'Mietskasernen'—district of Berlin, illustrating the three-dimensional aspect of the built fabric on a statutory plan as the one presented in Fig. 6.





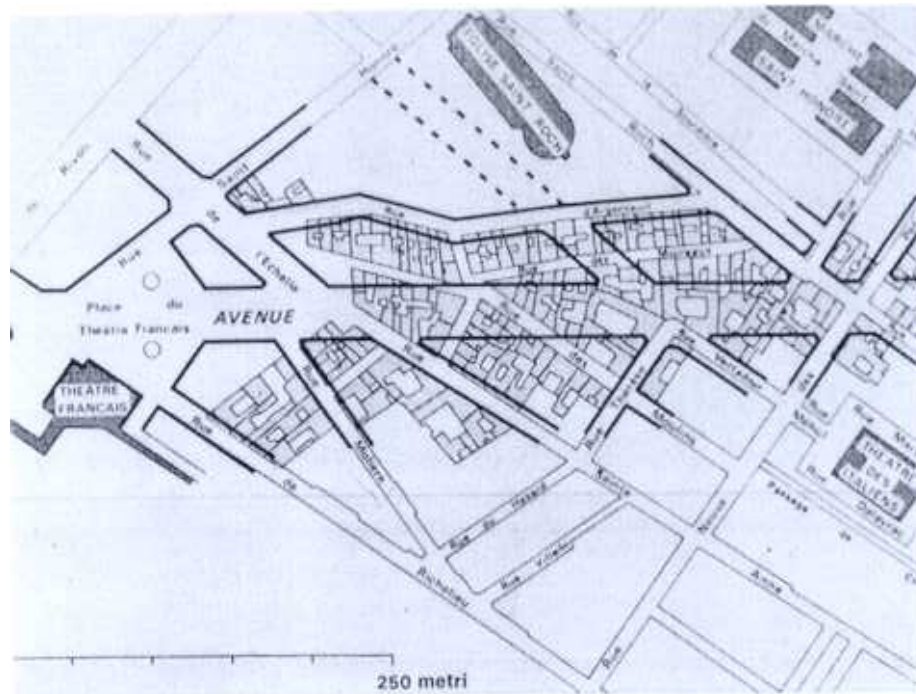


FIG. 8. An example of the 'break-through' of new boulevards\* in the heart of Paris in the days of Napoleon III. The new 'Rue de l'Opéra' cutting through pre-existing town fabric. Note the frequent sharp angles of the resulting new building blocks, creating difficult problems for the layout of the corner buildings. Scale 1:3000.

Up to now the basic nineteenth-century city traffic network has hardly changed. Apart from the newly built 'city throughways' which run—far more discretely than in the USA—tangentially or as outer belts around the city without crossing it, the changes are always minor and have no serious consequences.

The gradual dismantling of elevated railways and electric tramways as well as the disappearance of their rail tracts which spoil the street image were important changes. Others were the extension of the underground network and the numerous underpasses for pedestrians—all done in order to relieve the city's traffic.

The sacrifice of important open spaces—as for instance the promenade along the Seine in Paris—and their being turned into urban transit roads were regrettable mistakes. Another such mistake would be the removal of trees along avenues that are so characteristic of the nineteenth-century townscape. Fortunately, this has happened only seldom so far.

\* The term 'boulevard' is derived from the German word 'Bollwerk', i.e. fortification. Avenues built on the site of eliminated fortifications.



FIG. 9. Radical 'urban renewal' as practiced in the fifties and sixties: Entire blocks of sound urban fabric, like the one seen on the right of the picture, have been sacrificed to blind 'modernism' and in fact speculation. Only the relocation of disturbing uses and/or the clearance of real slum areas justify such radical interventions.



FIG. 10. A street of Berlin in the late nineteenth century. Uniformity of building heights and continuity of the street front, create the feeling of spatial enclosure.

<sup>1</sup> In this connection it should be mentioned that the radical change in the functions of the open city spaces, as suggested by Adolf Abel early in the fifties, seems to be most questionable. Abel thought of a 'reversal', so to say, of the city core structure. He pointed to the possibility of creating a second street network (by clearances of block yards and specific break-throughs at the rims of the block area) which he allotted to pedestrians while traditional streets should be the realm of motorists. Even if shops were relocated to the interior surface of block areas—though it would be a difficult undertaking—there would still be two substantial drawbacks to this solution: the frequent intersecting of the proposed two street networks on one and the same level, and the loss of the traditional and interesting street image to the pedestrian. It is now worth noting that this concept has never been adopted up to now.

## Résumé

Il n'y pas à ce jour de théorie cohérente à l'échelle d'une grande ville pour une politique de conservation intégrée qui devrait absolument tenir compte du 'changement dans la continuité' ou de la coexistence intégrée de quartiers datant de périodes différentes. L'existence parallèle de telles phases du développement urbain suggère une alternative fructueuse à la manie de la reconstruction et au chaos qui ont dominé ces trente dernières années et pourrait redonner aux espaces urbains cette continuité de forme qui leur manque en général aujourd'hui.

Il y a plusieurs conceptions quant aux critères d'action à adopter pour 'une conservation intégrée'. Quels sont les éléments qui doivent être préservés, quels sont ceux qui peuvent être transformés, quels sont ceux qui peuvent disparaître? Les réponses sont encore très subjectives mais l'auteur de cet article essaie de proposer des critères—fondés sur des caractéristiques essentielles—pour la conservation de

Most significant new alterations, imposed on these inherited urban traffic networks which still function well, would be an elevated pedestrian deck (proposed several times already but never executed) and the introduction of electric 'mini-trains' guided by remote control, or moving gangways in the middle part of streets, built on a supporting beam structure. All these developments—maybe desirable for traffic reasons—would cause a radical change in the street profile and a gross deterioration of the urban street image.

The decrease of the building and dwelling density is the main task of an integrated conservation policy in the nineteenth-century city quarters. This can be done by a skilful clearance of the cores of city blocks and by an imaginative remodelling of the flats without altering the exterior appearance of the buildings. At the same time, there is a possibility of incorporating interconnecting passages for pedestrians and green areas which might become private gardens for individual tenants.<sup>1</sup>

Mention was made earlier of the relocation of several use categories to the outskirts. It was also pointed out how important it is to retain the present blend of city dwelling, handicraft and retail trade because it balances urban life. A serious problem arises though when such relocations take place: the clearance of large sites implies a completely new development of a city area (*Fig. 9*). When redeveloping, planners should not only maintain the existing city form (closed blocks, street alignments, building heights, etc.) (*Fig. 10*) but should also aim at the retention of the mixture of functions by specifically selecting uses that complement each other.

l'ordre structural, des formes urbaines (en trois dimensions) et de l'espace réservé à l'activité de l'homme. Les exemples choisis sont Barcelone, Berlin, Paris et Vienne. La première partie concerne l'ordre structural, les articles suivants examineront les deux autres aspects.

Les nouveaux quartiers édifiés au cours du XIX<sup>e</sup> siècle s'étendent en général radialement à partir d'un centre historique, bien que Barcelone soit une exception avec son quartier de Cerda, un quadrillage ajouté sur un seul côté de la ville médiévale. Il y a environ cent vingt ans, les extensions urbaines étaient axées sur des circuits routiers capables d'assurer une assez forte circulation et ces systèmes à vaste échelle (boulevards ou périphériques coupés de grandes artères qui mènent hors de la ville) sont utilisés encore aujourd'hui par des millions de véhicules. A la même époque, la spéculation immobilière aboutit à des conditions inadéquates de logement: une densité pouvant aller

jusqu'à 1.500 habitants par hectare, la surface plancher formant de 5 à 7 de l'espace général et une occupation des sols de plus de 70 per cent étaient des proportions habituelles. Ces standards ajoutés aux mauvaises conditions sanitaires créent les problèmes les plus difficiles à résoudre quand il s'agit de réhabiliter ces quartiers. En revanche, les proportions généreuses des espaces intérieurs des appartements permettent les adaptations nécessaires aux besoins actuels.

Déjà au XIX<sup>e</sup> siècle, il y eut tendance à la division de l'espace urbain suivant les différents usage mais qui n'atteignit jamais la rigidité actuelle. Une certaine intégration des activités était généralement maintenue (en particulier, l'artisanat et le commerce de détail restaient dans les zones résidentielles) mais ils y avait aussi une tendance à la ségrégation sociale. Au cours du XX<sup>e</sup> siècle, les grandes villes ont fusionné avec leurs banlieues et sont devenues des métropoles géantes couvrant de 50 000 à 100 000 hectares de terrain dont les quartiers du XIX<sup>e</sup> siècle occupent une position relativement centrale sur 5000 à 10 000 hectares. Ces quartiers représentent maintenant le noyau central de la ville où environ la moitié de la population est logée. Leur caractère éminemment urbain est accentué par leur infrastructure (réseau souterrain de transport, grandes artères à leurs abords), par l'accroissement graduel de la densité de la population et par l'intrusion du secteur tertiaire d'activités.

Les points saillants de l'étude de la structure de ces quartiers sont les suivants:

- (a) Le réseau pour la circulation construit au XIX<sup>e</sup> siècle n'a pratiquement pas changé mises à part les nouvelles 'voies express' qui courent soit tangentiellement soit en cercle autour du centre, mais sans jamais le traverser. Le sacrifice d'importants espaces ouverts pour la construction de ces voies à grande circulation fut une erreur regrettable mais, heureusement, les arbres que bordent les grandes avenues (tellement typiques du XIX<sup>e</sup> siècle) n'ont été que rarement supprimés.
- (b) La réduction de la densité de l'occupation des sols et de la population est l'un des objets principaux d'une politique de conservation intégrée. Celle-ci pourrait être obtenue par un remodelage prudent des intérieurs ou une reconstruction qui n'altérerait pas les extérieurs. Cette opération devrait inclure la création d'espaces publics comme des voies piétonnières ou des parcelles de verdure dans les cours.
- (c) Il est souvent souhaitable de transférer dans les faubourgs certaines constructions telles que les

installations ferroviaires, les entrepôts, les usines ou les installations de commerce de gros. Mais il est aussi important de conserver le mélange traditionnel des résidences, de l'artisanat et du commerce de détail qui créent une atmosphère urbaine équilibrée. Le transfert de certaines activités entraîne la vacance de sites importants, ce qui implique inévitablement le développement immobilier. C'est là qu'une politique de conservation intégrée doit jouer son rôle afin que la silhouette traditionnelle de la ville soit sauvegardée ainsi que le mélange d'activités complémentaires.

## Resumen

No existe todavía ningún concepto coherente para una política de conservación integral a escala de ciudad metropolitana, lo cual podría conseguirse sólo mediante un 'cambio de continuidad' o una coexistencia integrada de distritos de períodos distintos. Esta existencia paralela de varias fases de desarrollo urbano ofrece una alternativa más sensata a la manía de reconstrucción y al caos reinante durante los últimos treinta años, y podría restablecer la continuidad de forma que suele faltar actualmente en los espacios urbanos.

En la actualidad, hay varios puntos de vista sobre los criterios de acción para una política de 'conservación integral'. ¿Cuáles son los elementos existentes que deben ser considerados como conservables, cambiables o eliminables? La respuesta sigue siendo subjetiva, pero se intenta aquí proponer criterios de conservación del orden estructural, la forma urbana (imagen tridimensional) y el espacio de interacción humana, basados en el conocimiento de sus características esenciales. Los ejemplos empleados son Barcelona, Berlín, París y Viena, y la primera parte considera el orden estructural; otros artículos examinarán los otros dos aspectos.

Los nuevos distritos surgidos durante el siglo diecinueve suelen extenderse en forma radial alrededor de un centro histórico, aunque Barcelona resulta la excepción en el cuadrículado de Cerdá que se añadió a un lado de la ciudad medieval. Unos 120 años atrás, el desarrollo urbano se basaba en esquemas viarios designados para un tráfico sustancial, y estos sistemas a gran escala (que básicamente consisten en bulevares o carreteras de ronda cruzadas por arterias principales que salen de la ciudad) siguen siendo utilizados por millones de coches hoy en día.

Durante el mismo período, la especulación del suelo resultó en viviendas inadecuadas. Densidades de hasta

1500 por hectárea, una proporción de suelo hábil de 5 a 7 y un cubrimiento de más del 70 por cientos resultaban valores usuales. Estos valores, junto con facilidades sanitarias inadecuadas, son los problemas más importantes para la rehabilitación de tales distritos. Por otra parte, la generosa capacidad interior de los apartamentos contribuye a la posibilidad de cambio y adaptación a las necesidades actuales.

Durante el siglo diecinueve hubo la tendencia a la separación espacial de usos urbanos, pero nunca llegó a los límites de nuestra propia época. Solía mantenerse una integración de empleos (sobre todo de vivienda, artes y comercio al por menor), pero existía también la tendencia a la segregación social. Durante el presente siglo, las grandes ciudades se han fundido con sus suburbios y se han convertido en gigantescas metrópolis que cubren de 50 000 a 100 000 hectáreas. En su interior, los distritos del siglo diecinueve ocupan un emplazamiento periférico, pero relativamente central, que cubre unas 5000 a 10 000 hectáreas, las cuales representan ahora la zona central y albergan alrededor de la mitad de la población. Su carácter eminentemente urbano se acentúa mediante varias características infraestructurales (red de ferrocarriles subterráneos, cinturón de ronda en la periferia), el incremento gradual de la densidad residencial y la invasión de actividades terciarias.

Los aspectos que se desprenden del examen del orden estructural son:

- (a) La red viaria básica introducida durante el siglo diecinueve apenas ha cambiado, aparte de las

nuevas 'vías de tránsito' en la periferia o como cinturones de ronda que no atraviesan la ciudad. El sacrificio de importantes espacios abiertos y su conversión en vías de tráfico urbano ha sido un lamentable error, pero afortunadamente la destrucción de árboles a lo largo de las avenidas principales (tan característicos del paisaje urbano del ochocientos) no ha ocurrido con frecuencia.

- (b) La reducción de la edificación y de la densidad residencial es una de las tareas principales de una política de conservación integral. Esto puede llevarse a cabo mediante el cuidadoso remodelado o reconstrucción interior sin alterar el aspecto externo de los edificios, y, en este sentido, debe considerarse la posible incorporación de espacios públicos como, por ejemplo, zonas peatonales y espacios verdes.

- (c) A menudo resulta aconsejable transferir algunos usos a las afueras; por ejemplo, tendidos ferroviarios, almacenes, instalaciones industriales y facilidades para ventas al por mayor. Pero también es importante mantener una mezcla tradicional de usos residenciales, artesanales y de comercio al por menor que proporcionan un ambiente urbano equilibrado. El cambio de emplazamiento y la evacuación de grandes espacios significa ineluctablemente una nueva orientación, y en una política de conservación integral esto requiere mantener cuidadosamente la forma de la ciudad existente así como retener la combinación adecuada de usos que son complementarios.