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An Alternative Approach to Zoning in France: Typology, Historical Character and Development Control

KARL S. KROPF

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ABSTRACT *The paper describes an approach to development control taken in France, bringing together the zoning system of planning and geographical and architectural studies of urban form. The approach addresses a number of issues, in particular the maintenance of the historical and regional character of towns, often eroded under systems of land-use zoning. The principles and methods of the approach are set out and its application is illustrated by an example, illuminating both the approach and the context in which it was realized.*

1. Introduction

A great deal of value is placed on historic environments today. Heritage or, in France, 'patrimoine', and its protection are common concerns for governments, associations and individuals. This concern takes many forms, from *A Vision of Britain* (Wales, 1989) and the National Trust to English Heritage and Planning Policy Guidance Note 15, *Planning and the Historic Environment* (Department of the Environment, 1994) or, equally, in France, with associations such as Patrimoine Historique et Artistique de la France, the extensive planning regulations in Paris or the many Zones de Protection de Patrimoine Architectural et Urbain (ZPPAU) for smaller towns throughout France. As a result of this concern, planners face the task of balancing the desire to maintain the regional and historical character of towns while at the same time addressing social and economic issues normally considered part of the remit of planning.

Confronting that task raises several questions. First and most fundamentally, what specifically constitutes character? What is to be maintained or preserved, particularly in cases where there are no obviously important historic buildings? Secondly and more fundamentally, how can accounts of general character form the basis of planning policy and practice? What kind of description can provide a foundation for prescriptions?

This paper describes a means of addressing these questions, illustrating a fusion of two fields of enquiry and practice: the zoning system of planning and typomorphological studies of urban form. The result is a form-based, typological approach to zoning. The approach has been developed and applied within the context of the Plan d'Occupation des Sols (POS), the French local land-use plan.

The paper begins with an outline account of both the general context of planning in

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France and the specific context of a particular case and the different, contending interests that led to the preparation of the plan. The second section of the paper sets out the principles of the typological approach to zoning and shows how it fits into the French planning system. The paper concludes by discussing the potential of the approach for wider applications.

2. General and Specific Contexts

2.1 *The Planning Framework*

Development control in France is exercised through a system of zoning. It is a legally binding system set within the structure of administrative law. The relevant component of that branch of law is the Code de l'Urbanisme. The Code applies over the entire country and has provisions for regional and local control. Detailed accounts of French local government and planning tools and procedures can be found in Wilson (1983), Booth (1986) and Punter (1988). For the purposes of this paper, however, the most relevant point is the existence of three main regulatory, as opposed to procedural, tools through which local and regional control is exercised. One, applying to the larger scale, is the inter-communal schéma directeur. This is an optional strategic plan for the general direction of development within an area encompassing several communes, the commune being the basic administrative unit of local government. At a smaller scale, applying to areas of special historical or architectural value within towns, there is the Zone de Protection de Patrimoine Architectural et Urbain (ZPPAU). This is roughly equivalent to a conservation area but with legally binding regulations and provisions for state funding of conservation and restoration projects. The ZPPAU, too, is optional and used relatively infrequently.

By far the most commonly used regulatory tool is the Plan d'Occupation des Sols (POS). This is essentially a local or municipal land-use plan which is applied at the level of the individual commune. Though commonly used, the POS is also optional. The regulation of development in cases of communes without a POS falls to the field services of the département (the next level up in local government), based on the Code de l'Urbanisme (Booth, 1986). The POS thus functions as a legal tool allowing a commune a greater degree of control over the type and direction of development within its boundaries.

Typically, a POS is prepared for a commune by the Direction Départementale de l'Équipement (DDE), a field service of the central government Ministry of Works, Housing and Transport (Ministère de l'Équipement du Logement et des Transport), whose services are paid for or subsidized by the state. Following national legislation for decentralization in 1983, however, the right to prepare and administer the POS was devolved to the communes (Wilson, 1983). While the services of the DDE might still be used, it is not obligatory. Communes may hire private consultants to prepare a POS, but at their own expense.

The POS is constituted by four main, statutory components. The first is an introduction (rapport de présentation) which outlines the history of the commune and its present situation and conditions, in physical and demographic terms, and sets out the justification for the substance of the plan. The second component is a graphic zoning plan (plan de zonage) indicating where development may or may not occur. The third component is a set of written regulations (règlement) indicating the allowable uses and the allowable density and form of development in each zone. The fourth component is a plan showing land set aside for services and other public utilities (plan des servitudes) (France, 1995).

The minimum requirement in the Code de l'Urbanisme for a POS is only that the zones differentiate between built, or urban, and unbuilt, or natural, zones. While there are general categories for zone designations, not all zone types need be used and additional sub-zones can be included. There is a statutory format for the règlement but the specific contents are not

fixed. This provides the opportunity for the institution of zones and regulations with the purpose of maintaining local and historical character. The advantage of the POS for this purpose over the ZPPAU is that the POS is more flexible and can be more easily instituted. The ZPPAU involves state funding and requires the approval of the Architect de Bâtiment de France (ABF), a state official in the Ministry of Culture. It is therefore more suited to areas of special historical importance. The majority of communes are not of such quality but nevertheless would benefit from planning controls more sensitive to historical and regional character. The POS provides a tool to address this situation and, as noted by Punter (1988, p. 176), there has been a tendency to address some issues of conservation within the POS. More recently, an increasing amount of urban development, including that in areas of historical importance, is being directed by means of the *Zone d'Amenagement Concerté* (ZAC). Strictly speaking the ZAC is not a regulatory instrument but more akin to an enterprise zone. Within a limited area, it allows the municipality to become involved in the initiation of development, to apply for state funding and to set down specific design guidelines (Ducroux, 1996).

As a regulatory tool, the POS is limited in scope relative to some of the broader issues of planning, in particular social, economic and environmental aspects. Nevertheless, as mandated for the preparation of the *rapport de présentation*, the POS makes use of and responds to studies and policies concerning historical, socio-economic, demographic and environmental aspects of the town as well as transport, technical and social services (France, 1995). The following focuses on the control of the physical form of development addressed through the *plan de zonage and règlement* (zoning and regulation plan).

2.2 The Case of Mennecy

The specific case to be examined is the town of Mennecy, located about 40 km south of Paris and known for its eighteenth-century porcelain (Figure 1). With medieval or perhaps earlier origins, Mennecy has grown from a primarily agricultural village to a small town of about 12 000 people. Most of that growth occurred during the 1960s and 1970s with the development of a large housing estate on the periphery of the town on former agricultural land. The traditional centre is relatively small and interspersed with and fringed by new development. It contains a variety of buildings from different periods, though a majority date, in terms of fabric, from the eighteenth and nineteenth centuries. The most notable buildings are the early medieval church and the houses lining part of the *Place de la Mairie* which are the only completed buildings of an eighteenth-century project to improve the entire square. Overall, the town is attractive but, relative to nearby Milly-la Forêt or Fontainebleau, for example, is not exceptional in physical appearance or historical importance.

The town is well connected by roads, lying just off the A6, the *Autoroute du Soleil*, and served by a commuter train line to Paris as well as having good long-distance connections with Orly International Airport about 20 km distant. The economy of Mennecy is mixed, including retail, service, light industrial and agricultural activities. The centre contains shops, professional offices, several banks, one small hotel and several bars. There are several sub-centres which contain primarily retail activities. A large percentage of the residents are commuters, working either in Paris, the airport or the larger towns in the immediate area such as Evry and Corbeil-Essonne.

The proximity to Paris and other large towns, along with the shift away from a locally based to a commuter economy, has placed pressure on Mennecy for new housing. Over the past 20 years this development has taken four main forms: the large housing estate added to the south; smaller estates, called *lotissements*, usually involving the subdivision of large plots within or on the periphery of the traditional core; high-rise estates just on the edge of the

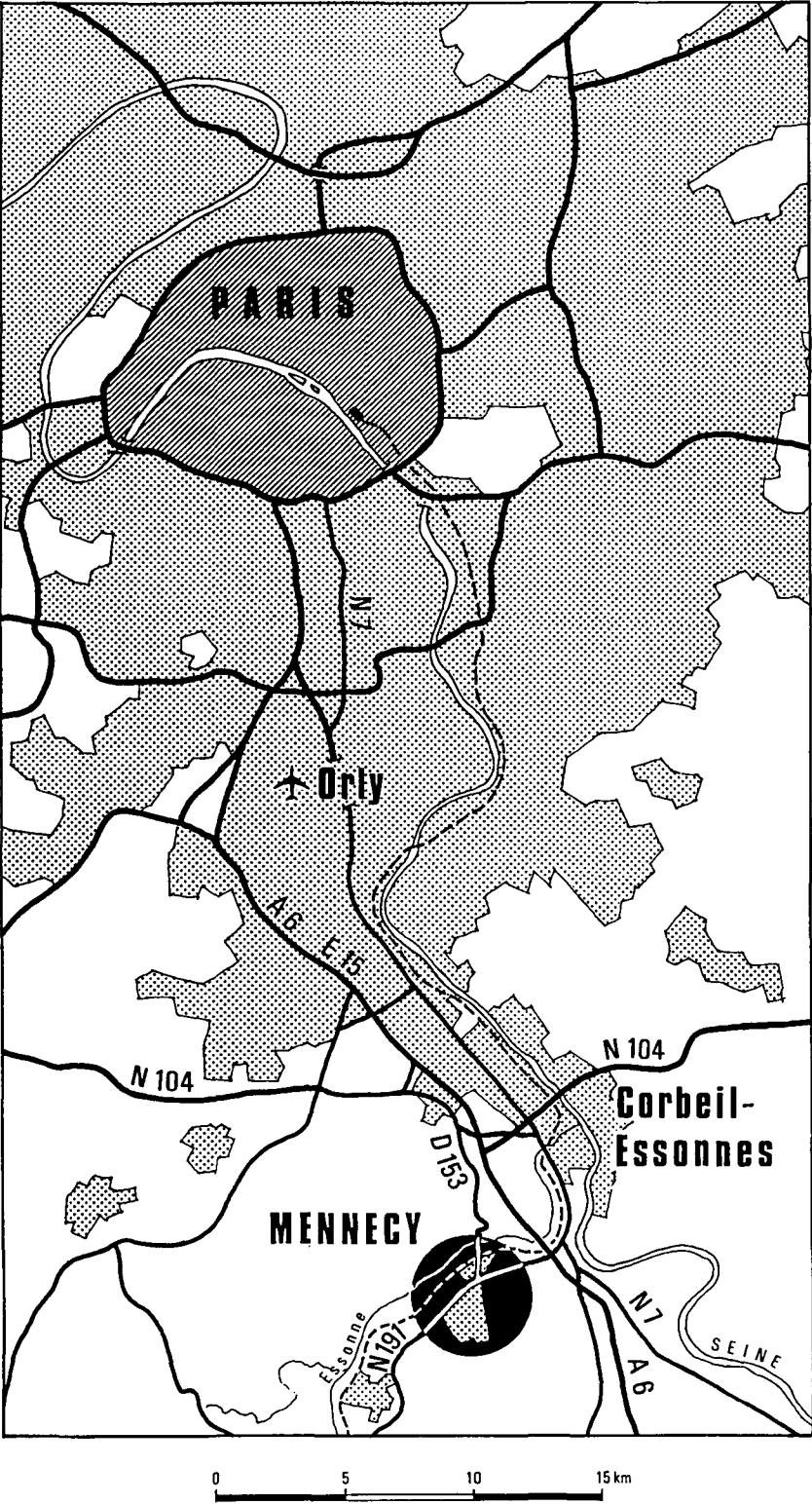


Figure 1. The area south of Paris, showing MenneCY.

traditional centre; and lastly, single infill buildings, either by replacement or by conversion of existing buildings to multiple occupancy.

While the demand for housing tends to be taken up by new building, there is a parallel tendency for existing buildings in the traditional centre to be neglected: there is thus a vicious circle—the more derelict the older buildings become, the more likely they are to be replaced. The degradation of neglect is reinforced by the active effacement caused by the replacement of old by new buildings which share few of the characteristics of the former. The cumulative effect is that the historical and regional character of the town is being eroded.

This situation was complicated and intensified by a number of factors. The project for Mennecy was for a revision of an existing POS. The move to initiate the revision was prompted by complaints from residents' associations: according to the associations, recent development in the town centre had been approved that was counter to the regulations of the existing POS. Specifically, the size and occupant density were said to exceed the limits in the regulations. Further, it was alleged that during construction, archaeological evidence had been found but the relevant authorities had not been informed in time and the evidence was either built over or destroyed.

In the view of the residents' association, this was a specific example illustrating a general trend followed by the mayor and council concerning development control. They felt that the commune was being overdeveloped and were working to reverse the trend.

Mennecy is not a show-piece or museum quality town. The character and general quality of the environment is of value more in terms of its effect on the day-to-day lives of residents as expressed by the residents' associations. The motivations for maintaining its character are thus less a matter of aesthetic or art-historical value than of its psychological value as a sign of continuity, a common point of reference and a particular history to which people might associate and identify. Like the many other issues that must be taken into account and balanced in the task of planning and development control, character and its value is a point of contention and contending interests. Given a position in this fundamentally political context, the questions that arise are what tools are available and how can they be most effectively used.

Promoting an application for a ZPPAU was considered by the residents' associations but deemed inappropriate, in part because it would involve more time and administrative effort and because the local office of the ABF, whose approval is necessary, was known to be unsympathetic.

The power of the associations is limited, on the one hand because legally they cannot be involved in decisions concerning the POS: they can only participate from a consultative position. On the other hand, in general, mayors in France have greater powers than their counterparts in Britain, a power that can be augmented by the accumulation of offices (Punter, 1988, p. 163). The mayor of Mennecy was both a member of the Conseil Général (an elected council at the level of the département) and a member of the National Assembly (députée or member of parliament). He thus had considerable power and influence and represented a formidable opponent.

In the end, a solution was negotiated. The mayor initiated a revision of the POS using consultants recommended by the associations. The associations selected the group *Doits de Cité*, working with Ivor Samuels and the author, as consultants, forming a team comprising urbanists, urban designers and lawyers. The core of the team first came together to prepare the POS for the town of Asnières-sur-Oise (see Samuels, 1993) which provided the testing ground for the typological approach.

Again, the basic concern motivating the revision of the POS for Mennecy was the erosion of historical and regional character due to excessive and inappropriate development.

The basic goals of the plan were made in discussion with the mayor, council and residents'

associations. The central shared goal was to maintain the existing character of the town while still allowing for growth. The intention was not to fix the town in its present state but to identify the character and special features of the town and indicate the desired result of future development in defined areas. The question was then how to achieve that within the structure of the POS.

3. Typomorphological Studies and Typological Zoning

3.1 *Geographical and Architectural Roots*

In terms of methods and underlying principles, the typological approach to zoning as applied in Mennecy derives, on the one hand, from criticisms of standard forms of land-use zoning and their physical results and, on the other, from attempts to identify the character of traditional towns. The principle at the core of the typological approach is the idea that information gained in the study of existing towns can be used within the framework of zoning to improve the zoning system and so help to maintain the character of towns.

The fields of study that have most directly contributed to the formulation of typological zoning, in terms of analytical methods, have developed independently within the disciplines of geography and architecture. On the one hand, within the field of geography, there is the discipline of urban morphology, in particular as developed in Britain based on the work of Conzen (1960) and the Urban Morphology Research Group (see for example, Larkham, 1994; Slater, 1990; Whitehand, 1992). On the other hand, within the field of architecture, there are the sub-disciplines of building typology and architecturally based urban morphology. Originating mainly in Italy and France, these fields of study have developed primarily around the seminal work of the Italian architect Saverio Muratori (see, for example, Muratori, 1959; Caniggia & Maffei, 1979, 1984; Aymonino 1964; Cervellati, 1977; Rossi, 1982) and within the Enlightenment tradition of typology in France, augmented and developed with the work of urban geographers and sociologists (see, for example, Castex *et al.*, 1980; Devillers & Huet, 1981; Divorne *et al.*, 1985; Panerai *et al.*, 1980). The different 'schools' share many concepts and methods and, through active interchange, have reinforced their common interests (see, for example, ISUM, 1994). The two sub-disciplines of urban morphology and building typology represent a common approach to a common object of study and are sometimes referred to collectively as typomorphological studies (Moudon, 1994).

3.2 *Typological Zoning*

At first glance, typomorphological studies and the zoning system of planning might seem at odds. Building typology and urban morphology have, in part, developed in reaction to the results of zoning. Typomorphology, as pursued within the fields of architecture and urban design, was to a large degree conceived as an operational tool in an effort to solve some of the problems raised by zoning as used in Modernist planning. The Modernist approach was avowedly Internationalist and hostile to regional and historical differences. Despite the apparent conflict, typomorphology and zoning are not necessarily at odds; rather, they have the potential to complement each other.

Simply stated, zoning is a system of development control, usually legally binding, in which a town is divided into areas or zones. Development within each zone is controlled by a separate set of regulations or bylaws, sometimes referred to as an ordinance. Generally, the zones are divided into 'use' zones, for instance, residential, commercial and industrial areas. The respective activities are then limited to their designated zone. Zoning can be hostile to regional and historical character because along with the segregation of uses, the regulations,

in general, restrict the range of forms allowed within each zone. In some cases, such regulations exclude traditional building types. This situation is to some extent ingrained within the system. In France, this is so due in large part to the use of standard zoning designations and regulations by the DDE. While these do take account of 'areas of traditional urban character', they remain generalized and do not account for the specific differences which give a particular settlement its identity. It was, in part, this issue that gave rise to the approach set out in this paper when it was first developed for the commune of Asnières-sur-Oise (Samuels, 1993).

The problem is not, however, a matter of the general idea and structure of the zoning system. Rather, it is a matter of the specific content of the zoning ordinances. The mechanism of zoning—defining areas controlled by regulations—is a vehicle that can be used in different ways. It is relatively neutral, even if it might have problems of its own.

Use-based and form-based zoning. To address issues of historical and regional character within a system of zoning, it is necessary to reconsider the content of the regulations and the basis on which the zones are defined. A general means of doing so is to shift the emphasis from use to form. Such a move is not a new idea: systems of land-use zoning have, for the most part, always regulated form as well as use and so have constituted a kind of form zoning. Over the past decade, a more explicit use of form-based zones has been taken up in some urban design work, notably that of Duany and Plater-Zyberk (DPZ) in the US.

While this work has made important advances, a number of fundamental questions remain. If this recent work has adopted an approach that creates zones defined in terms of form, the question arises, what is the source of the forms prescribed? What is their relation to any existing built fabric, either in the immediate surroundings or the region in which the development occurs? In many cases, the source and relation is not clear. Taking the work of DPZ as an example, the types of street/block pattern and building types they use tend to be much the same wherever the development takes place. To a large extent they have created their own style, paying little attention to local, historical forms (Figure 2). The question remains, however, what constitutes the character of a town and how can it be described.

The seat of character. At a basic level, the character of a town, both historical and regional, is sensed through our perception of the town itself. Character is something we perceive when we see and experience the town directly. What we perceive, first and foremost, is the physical substance of the place, the stone of old walls, the wood and glass of windows and doors, the steel of bridges and high-rise buildings. As much as the materials, however, we perceive the pattern or arrangement of materials. The character of a stone wall, for example, lies as much in the shape, size and coursing of the stone as in the stone itself. Building materials and the pattern of their arrangement are interdependent aspects of a structure. The shape and size of the stones allow for a limited range of arrangements in constructing a wall and a given arrangement demands a particular size and shape of stone. Materials and patterns of construction are a primary characteristic used in distinguishing buildings and their regional and historical origins. This is palpably demonstrated in such books as *The Pattern of English Building* (Clifton-Taylor, 1972) or *Illustrated Book of Vernacular Architecture* (Brunskill, 1971).

The arrangement of materials and details of construction are, however, only one level of organization in the structure of towns. There are other, larger-scale objects which we identify when describing towns, most obviously entire buildings but also plots, blocks and streets. Similarly, there are patterns of these objects, all of which contribute to the character of a town. Differences in street and block patterns, plot patterns as well as in arrangements of buildings within plots and shapes of buildings can create very different environments. Even illustrated

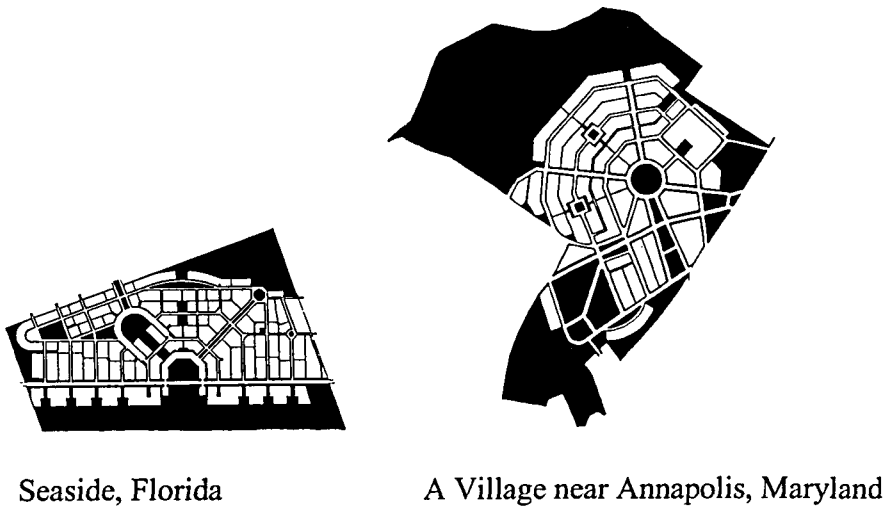


Figure 2. Planning projects by Duany and Plater-Zyberk, showing the similarity of street-block patterns (from Krier, 1991).

only in plan (Figure 3), the difference between modern high-rise development and traditional streets and blocks of row houses clearly involves more than materials and construction details. In the examples shown, the overall size and shape of the individual buildings is distinct, as is the position of the buildings relative to open space and the street.

Typomorphological analysis systematically distinguishes these different elements and element patterns in the fabric of a town and brings them together in the concept of urban tissue.

3.3 *Urban Tissue*

The notion of urban tissue is a fundamental element in typomorphological studies. It is also the key to realizing the principles of typomorphology within a system of form-based zoning. As a tool in analysis and explanation, it helps us to understand both the physical structure and historical development of urban areas and the relation between urban areas and individual buildings. While the concept of urban tissue is in general use within the discipline of typomorphological studies, perhaps the most fully developed concepts contributing to it are those of Conzen and Caniggia (Caniggia & Maffei, 1979, 1984; Conzen 1960; Whitehand, 1981). A synthesis of their work (Kropf, 1993) has provided the basis for the idea of urban tissue as applied to the task of zoning for the project described in the following section. It is a conception that combines Conzen's ideas of plan unit and building fabric, on the one hand, and Caniggia's *tessuto urbano* on the other.

This synthetic conception sees urban tissue as an organic whole whose form can be described at distinct levels of resolution. The levels correspond to the different elements identified in typomorphological analysis. Again synthesizing Conzen's and Caniggia's conceptions, the elements are:

- (a) streets and blocks (or plot series);
- (b) plots;

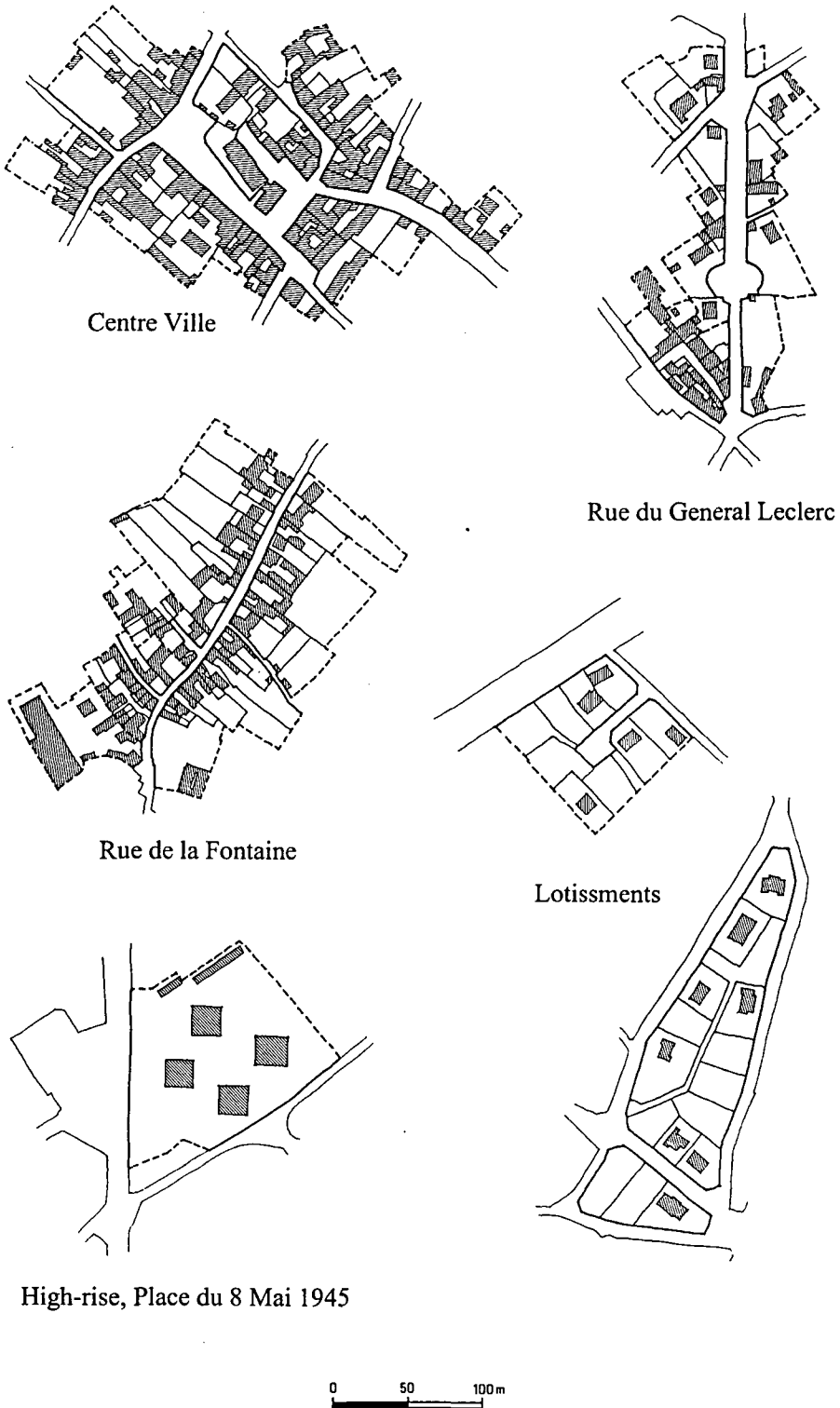


Figure 3. Examples of urban tissues from Mennecy, France.

- (c) buildings;
- (d) rooms or spaces;
- (e) structures, such as walls or roofs (encompassing details of construction) and
- (f) materials.

As in Conzen's and Caniggia's general conceptions of built form, these different elements are interrelated in a hierarchy. Smaller scale elements combine to form larger scale elements which in turn are parts of still larger elements. Using the hierarchy as a framework, it is possible to define tissues systematically at different levels of specificity by describing the constituent elements step-wise through the levels of resolution. At the most general level, a tissue can be described as an arrangement of streets and blocks. Greater specificity is achieved by describing the component plots of the plot series and so on through component buildings, rooms, structures and materials, depending on the level of specificity appropriate to the task (Figure 4).

The specific characteristics used to describe each element are its position, outline and internal arrangement (Figure 5). Position is described in terms of the element's place relative to other elements in an arrangement making up a larger scale entity. Thus, a plot can be described in terms of its position within a block, relative to other plots and the street (i.e. the edge of the block). One can then identify corner plots or plots on the long or short edge of a block. With rectangular plots, one can also distinguish between wide or narrow frontage plots, that is, between those with a long or short side on the edge of the block.

The outline of an element is specified by describing its external boundaries in terms of shape, size and proportions. In some instances, either for convenience or because of lack of information, this is limited to the plan outline, that is, the two-dimensional outline on the ground plane.

Arrangement is described in terms of the type of component parts, the number of parts and their relative position. In turn, the types of component parts are distinguished by their outline (as above). As an example, a plot (Figure 5) can be described as an arrangement of a house (one), a garden (one) and a boundary wall (one, in three segments) all in the relative positions shown in the figure.

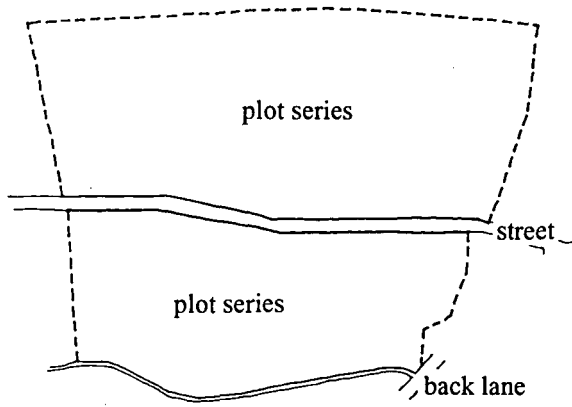
Returning to the tissue, different types of tissue can be systematically identified in analysis and described in terms of the characteristics of the constituent elements at each level of resolution. A typology of tissues can then be generated through comparative analysis (Figure 3).

The product of the analysis is the identification of the distinct tissues constituting the town and their characteristic components. The full process of analysis involves examining the different specific elements and element patterns at all levels in order to identify and then describe the distinct zones in detail.

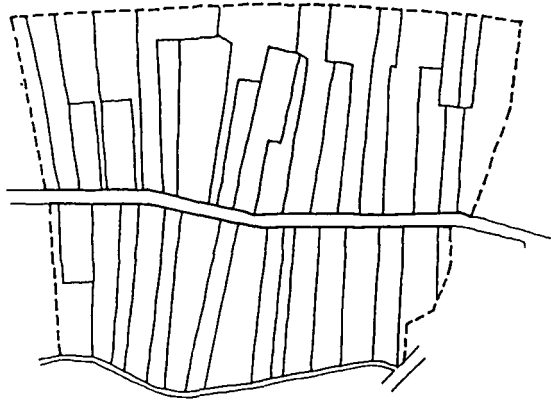
A working assumption in analysis is that a distinct tissue is the result of a distinct process of formation; usually, that means different tissues are the product of different stages in the development of the town. Tissues are in effect historical units, their characteristics attributable to the constraints and conditions as well as principles of design applying at the time. In general, towns grow by the addition of tissues and change by the transformation of existing tissue, in part or whole.

Following methods developed from the work of Conzen (1960), Caniggia and Maffei (1979) and Slater (1981, 1990), two interrelated modes of analysis are used. One, geometrical analysis, is concerned with the physical structure of the elements of the town, the other, chronological comparative analysis, is concerned with the development and change of that

**STREETS AND
PLOT SERIES**



PLOTS



BUILDINGS

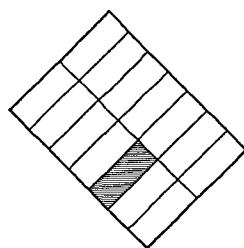


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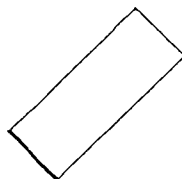
Figure 4. An urban tissue shown at increasing levels of resolution.

POSITION

In the case of the plot, this characteristic is set in terms of the orientation of the plot to the street and its position relative to the sides of the block, e.g. long side, short side or corner.

**OUTLINE****Shape, Size, Proportions**

In this case, showing the two-dimensional *plan outline*. Other two-dimensional outlines include elevation and section outlines.

**ARRANGEMENT****Type of component parts, Number of parts, Relative positions**

The example shows one building, a boundary wall in three sections and a single open space

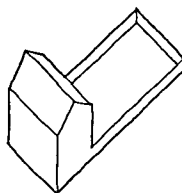


Figure 5. Characteristics used in identifying types, taking the plot as an example.

structure through time. The two modes are not separate but carried out in parallel, one informing the other.

In geometrical analysis, the components at the various levels of resolution are examined with the aim of specifying their form and arrangement. This mode is framed in the terms described above, that is, the hierarchy of elements and the position, outline and internal arrangement of each element. These characteristics are used as a basis for identifying a range of 'types' for each element. That is, for each generic element, such as plots or buildings, examples with similar outline, component parts and internal arrangement are grouped together and identified as a type. In general, for any given generic element, a range of types is found, any one type being included in the range either because of its numerical prevalence or its historical importance. Tissues are also identified as types, being areas containing a similar set and arrangement of constituent types of the different elements.

In chronological comparative analysis, the different states of the town in time are examined to determine the general order of its growth and transformation and to help determine the outlines of tissues. As far as possible, a variety of archival material, historical maps, cadastral surveys and information concerning archaeology and architectural history are used to check and corroborate the results and provide a picture of the historical development of the town. Again, the two modes of analysis are interdependent. One mode might suggest an outline for a tissue that is corroborated, contradicted or altered by information gathered from the other mode.

3.4 *The Urban Tissues of Mennecy*

For Mennecy (Figure 6), in brief, the analysis suggested that the Centre Ville, Rue de la Fontaine and l'Emplacement (settlement) de la Fontaine were built up early in the life of the town, followed by the growth of Rue Bel Air and Rue de l'Ormeteau, Rue de Milly and the creation of Rue du General Leclerc and the transformation of the Place de la Mairie (Centre Ville). Peripheral development followed, first of single family houses along and between the routes into the centre (Les Quartiers Peripheriques and Places Peripheriques) and then by the high-rise estates (Les Tours). Interspersed among the major zones are smaller zones and single parcels that constitute zones including public places such as the church, town hall, schools and police station (Lieux Publics); farms and large detached houses with large grounds (Les Fermes et Les Grandes Demeures); and collections of small houses around courtyards (Les Cours).

To give only a few examples of some of the internal characteristics distinguishing the different tissues, the Centre Ville zone is distinct at the level of the street pattern because it is constituted by a square and the adjacent short streets. In contrast, the other zones are constituted by relatively longer streets. Of these, Rue de la Fontaine, Rue Bel Air and Rue de l'Ormeteau are distinct because of the irregular curving plan outline of the streets. This is most likely the case because the street was an existing route into the centre which was subsequently built up. The Rue de Milly and Rue du General Leclerc are relatively straight. In the case of the former, this is probably the result of active planning, straightening an existing pathway for the purpose of providing more accessible land for building. In the case of the latter, the street was cut through existing plots as part of the eighteenth-century project to create a grand approach to the central square. At the level of the plot pattern, Rue du General Leclerc is distinct from Rue de Milly because in the former the plots are oriented diagonally to the street (due to the street being a later addition not orthogonal to the plots) and in the latter perpendicularly to the street. Rue de la Fontaine, Rue Bel Air and Rue de l'Ormeteau are distinct from each other primarily at the level of individual plots, in terms of the outline dimensions and proportions of the plots and the arrangement of the buildings within the plots. They are also distinct at the level of individual buildings, in terms of overall form, storey number, details and materials. The Centre Ville zone is also distinct from the others at the level of building form and details because of the more uniformly designed three-storey buildings facing the square which were part of the eighteenth century project.

3.5 *Making Prescriptions*

The tissues found in analysis provide the basis for defining the principal zones for the POS. Zone boundaries in general correspond to the boundaries of tissues. The types of their component parts are then taken as the basis for the prescriptions applying to the zones, thus the term typological zoning. The specific characteristics that identify the types are translated into prescriptive requirements for new building as well as for changes to existing buildings. Thus, for the plot (Figure 7), the regulations include the frontage dimension and the maximum area (corresponding to the plan outline), the general distinction between built area and unbuilt area and the possible arrangements of buildings within the built area (corresponding to arrangement), as well as the type of buildings (corresponding to component parts).

The prescriptions work as a minimum requirement allowing for variations within the limits of the requirements. For a new building to be approved within a given zone, first the dimensions and proportions of the plot on which it is to be built must fall within the range specified in one of the plot types. Secondly (among other requirements) the arrangement of buildings and the type of component building must correspond to one of the range set out in the prescriptions (Figures 8 and 9).

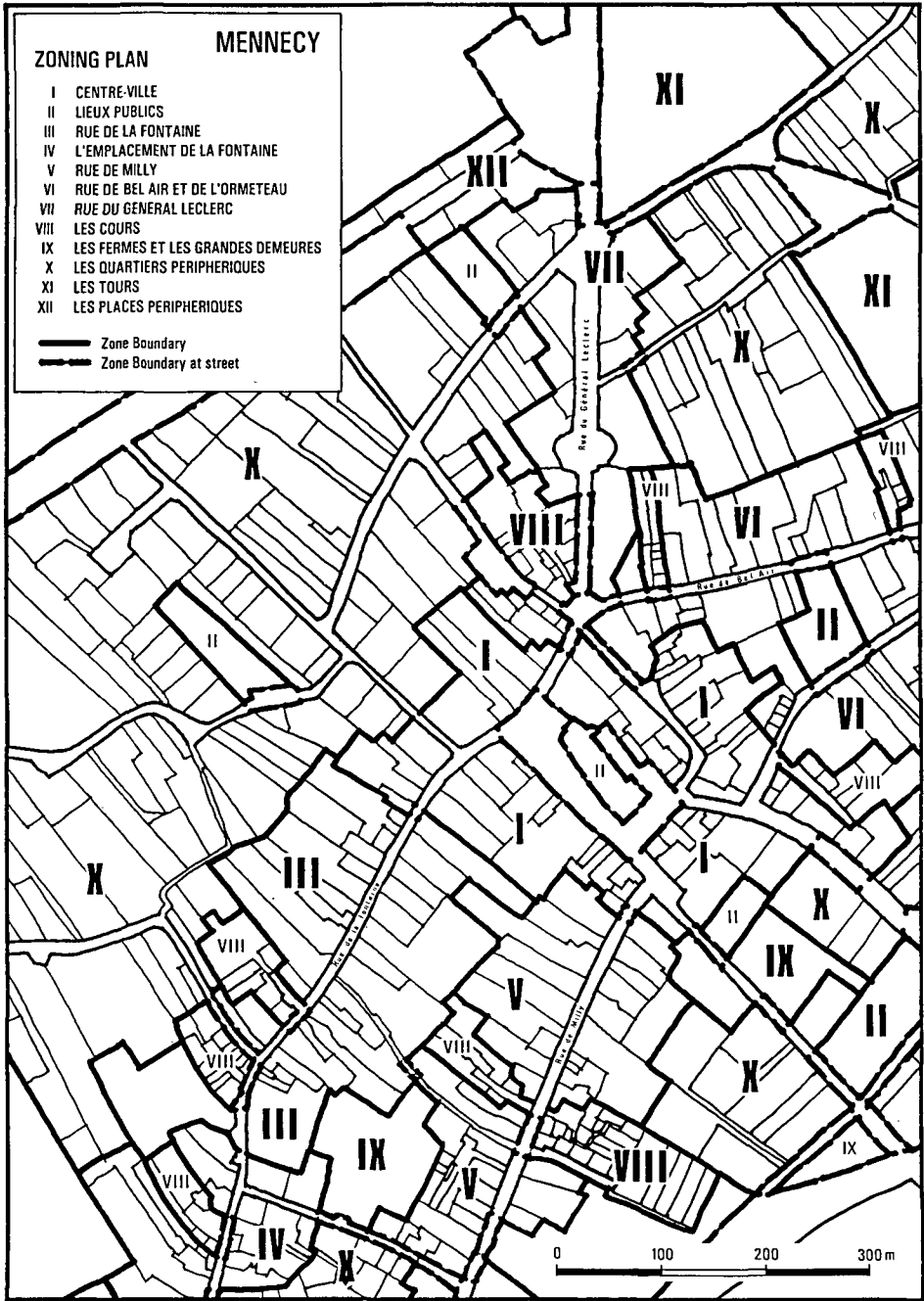
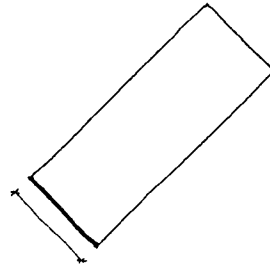


Figure 6. Part of a proposed zoning plan for the centre of Mennecey.

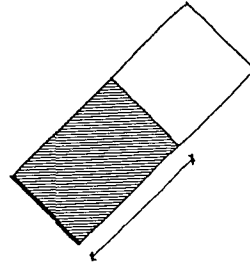
OUTLINE

- frontage dimension: min 8; max 15;
- total plot area: min 135m.square, max 250m.square;



BUILDABLE AREA

- buildable area: up to 30m from frontage;
- coverage: up to 60% of buildable area.



ARRANGEMENT

Type 1A

- building type 2.1 or 2.1v1,
- facade on frontage,
- gables on lateral plot boundaries,
- with or without porte cochere.

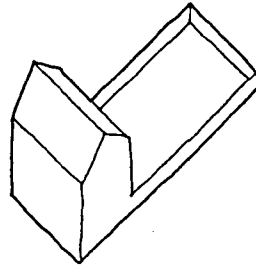


Figure 7. Example of regulations for plots from the Centre Ville zone. The regulations indicate minimum requirements.

Figure 6 shows part of a zoning plan for the centre of Mennecy, indicating the regulatory zones. Since the goal of the plan was primarily to maintain the existing character of the town, the zone boundaries and regulations correspond for the most part to the tissues identified in analysis. Each zone represents, to some extent, a district with a distinct character derived from its particular position and historical development.

As the intention was not to freeze the town in the state as analyzed, the zones do not in all cases correspond to the outline of the tissues. The zones are intended to indicate the desired result of future development in the area defined. In effect, they represent a range of possible modes of development for the town. So, for example, the Centre Ville zone, which allows for relatively dense development, was extended beyond the boundaries found in analysis in order to reinforce the character of the centre and provide the potential for growth.

The existence of a range of different modes of development is of importance for the overall aim of the POS. As shown by the morphological analysis, the character of the commune is not uniform but diverse. Maintaining character is thus a matter of maintaining differences which in turn allows for choice. It is distinct areas with which people choose to identify and to which they attach value.

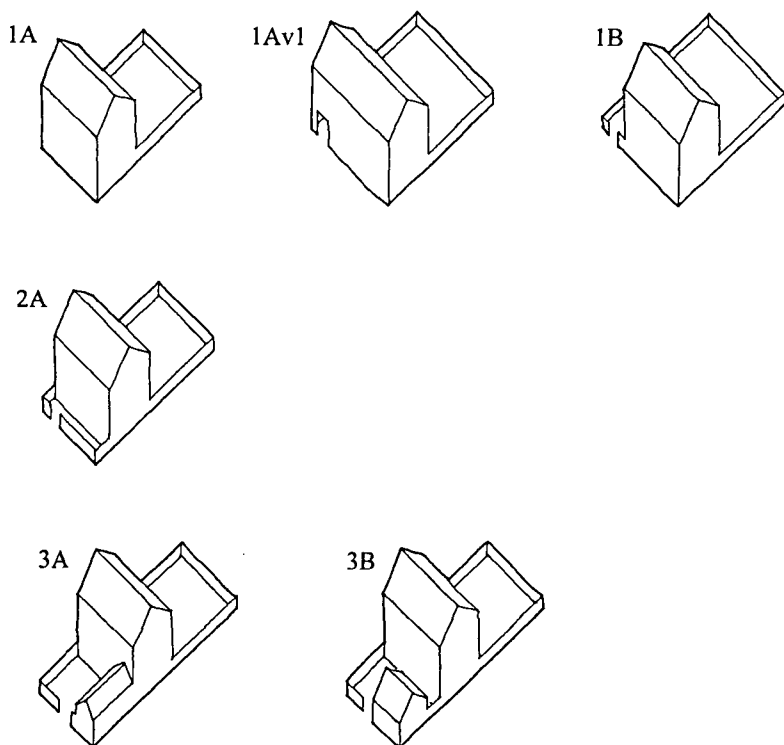


Figure 8. Diagrams illustrating a selection of allowable types of plot arrangement. Some types are allowed in all zones and others are limited to particular zones.

3.6 Fitting the Approach to the Context

French architectural and planning culture and the more specific context of French law and the Code de l'Urbanisme proved generally amenable to the typological approach while still presenting certain specific obstacles. At the most general level, France already accepts and uses a system of zoning for urban planning. The introduction of an alternative based on zoning is thus not a radical departure. In cultural terms, the French are, relative to the British or Americans, more inclined toward theory, classification and typology in architecture and planning. The Enlightenment tradition of typology remains an active part of French architectural culture. The idea of building typology is generally accepted and thus the idea of a typological approach to zoning is not entirely foreign.

However, essential to the acceptance of any approach to development control introduced from outside the DDE was the legislation for decentralization of 1983 allowing individual communes to initiate, prepare and administer their own POS. The possibility to develop the typological approach came about because a commune sought to make use of that provision to overcome what they saw was a restrictive standardized approach used by the DDE.

As a context for the typological approach, the POS proved to be a relatively flexible instrument, though only after a close examination of procedural aspects of the Code de l'Urbanisme. As noted, the *Doits de Cité* team includes lawyers whose expertise was essential for finding the leeway within the Code that makes it flexible. Several legal issues did emerge, however, as fixed points within which the typological approach had to fit. One issue

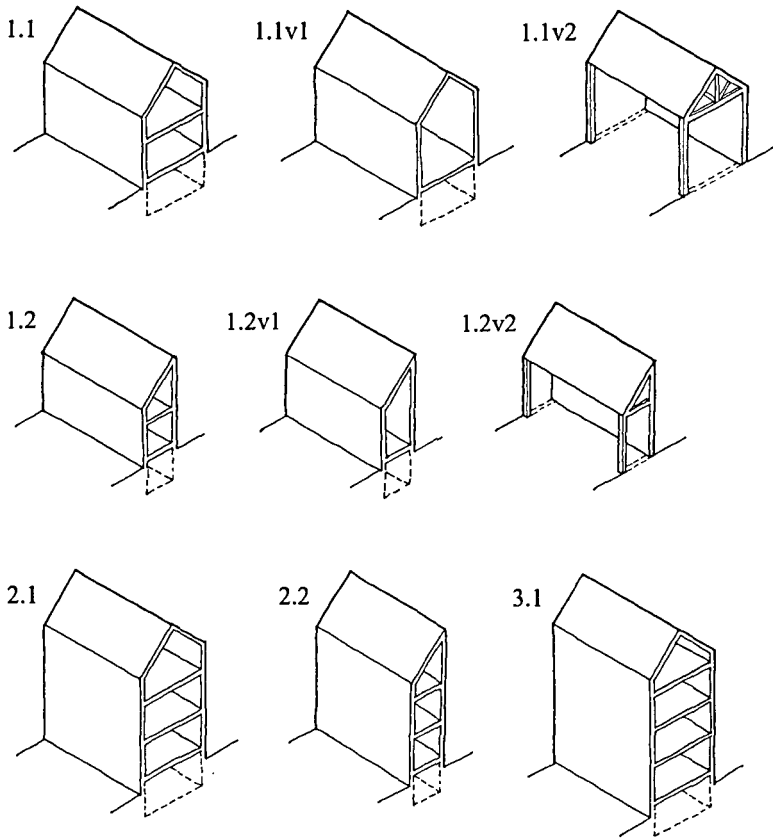


Figure 9. Diagrams illustrating a selection of allowable type of building form.

concerns property division and arose because of the precedence of civil law over the Code de l'Urbanisme. Essentially, because of statutes in civil law it is not possible to regulate the size and shape of property by regulations in a POS. This proved problematic in relation to the regulation of plot widths. The issue was overcome by using the notion of buildability or developability. Instead of attempting to regulate the size of the plot, the regulations state that a plot can only be built upon if it falls within certain size limits. Control was thus shifted from the property *per se* to the extent of the building that might occupy it.

A more general legal issue arose in using the typological approach in different towns due to differing interpretations of the Code in different départements. All POS must be checked for legality and approved by the office of the administrative head, or prefect, of the département of which the commune is a part (Wilson, 1983). The prefects have some discretion in their application of the Code. Thus, while the structure of regulations used in the POS for Asnières-sur-Oise (Val d'Oise), differs from that used by the DDE, the differences were accepted by the prefect. In another case, submitted in the l'Oise département for the commune of Aumont-en-Halatte, it was necessary to reorganize the regulations to fit the standard structure. This was relatively simple because of the modularity of the regulations as set out in terms of levels of resolution and the distinction of arrangements and components.

Further, the standard format is not significantly different. The primary difference is that the standard format tends to group regulations by interrelations of structures between plots while the typological approach groups them by interrelations of structures within plots.

One of the reasons for using the latter organization was to make the regulations more accessible to the public. The aim was to focus on identifiable objects to which people could more easily relate rather than abstract and isolated dimensions and relationships. This aim also led to the extensive use of diagrams which raised a further legal issue. Because, legally, graphic representations are subordinate to written descriptions, the diagrams could only be considered as clarifying illustrations or examples and could not be referred to as part of a regulation.

3.7 Typological Zoning and the Issues of Performance Standards

The primary innovation in the typological approach involves the identification of zones and the regulations for building form in built up areas. These differences have little effect on other concerns such as services and natural areas. Issues of form do, however, have implications for use. In this respect, the POS again proves flexible and amenable to an alternative approach. The French zoning system allows for mixed-use development and particular uses are often not specified. Control of conflicting activities is to a large extent based on the concept of nuisance. The regulations concerning form create implicit, if general, restrictions on possible uses because of the inherent limitations of particular types and the specific regulations concerning nuisance prevent particular conflicts. For Mennecy the allowable uses within the zones were based on those existing at the time the plan was prepared. The result works to maintain the existing situation which has a greater mix in the central areas—including office, retail, residential, public services and workshops—and some individual zones of relatively unmixed uses in the fringe areas, including residential as well as commercial and industrial.

With regard to issues of public health and safety such as occupant density and access to light and air, the typological approach combines the learning embodied in traditional forms and modern, universalist studies of human shelter. Types are selected based on an evaluation of both existing forms, old and new, and modern standards as used by the DDE. Making use of minimum standards as a point of reference when evaluating traditional forms helps to avoid sub-standard forms and satisfy contemporary needs while maintaining the regional and historical character of the town.

3.8 Implementation and Results

If the legal and administrative context of the POS is an important consideration for the success of an alternative approach to development control, the political context, and in particular the power of the mayors is equally, if not more important. As is true of any plan, formulation is one thing and implementation another. The circumstances of the proposed revision of the POS for Mennecy were not entirely hospitable, not least because of the mayor's position and the openly adversarial relation between him and the residents' associations. The revision of the POS became, in effect, part of a political battle and as such its fate depended on the results of the battle. So far, the revision has not gone past a draft phase. In contrast to the situation in Mennecy, the instances in which the typological approach has been fully backed by the mayor, the plan has proceeded successfully, and in the case of Asnières-sur-Oise has received full approval. Already in Asnières a number of new buildings have gone up under the new POS.

The experience of applying the typological approach within the context of the POS sheds light on both the French system of development control and the typological approach itself.

Concerning the French system, the experience shows there is perhaps more flexibility within the system than might be expected. Most obviously, decentralization has allowed for more direct local control and the possibility of addressing the specific concerns of a commune by the commune itself. More specifically, within the structure of the POS, the system allows for the application of different criteria in the identification and classification of zones. Thus, it is possible to employ form-zones rather than use-zones in order to more directly achieve the aim of maintaining the physical character of individual areas and the town as a whole. In terms of specific regulations, the emphasis can be shifted from abstract quantities and relations to identifiable types of form, making it possible to base regulations on the forms and specific differences that are characteristic of the town, its place and history. The POS can thus be used as a tool for maintaining historical and regional character that is more accessible to the people of the commune and without the additional administrative layers involved in other instruments such as the ZPPAU.

Taking advantage of the flexibility, however, demands a certain amount of agility and perseverance. The flexibility only emerged on scrutiny of the underlying legal basis of the POS and an understanding of the legal principles. Further, taking advantage of the possibilities within the system demands a mayor and council with the interest and energy to make use of them.

It might be argued that the flexibility in the French system is in any case minimal relative to that of the British system. In response it might also be argued that the French system is correspondingly less arbitrary. The fact that the POS is a publicly accessible document set out in detail including a rationale for the substance of the plan, makes administration of the plan more open and provides a clear framework in which to work, avoiding patently unacceptable proposals and the likelihood of appeals.

The experience of developing and adapting the typological approach within the French system also points out how the approach itself can be flexible and remain specific and precise. Formulating regulations using levels of resolution and types defined in terms of outline, component parts and their arrangement, in effect sets up limits within which variation and change is possible. Different arrangements are possible within fixed outlines and different parts are allowed within fixed arrangements. Using the notion of an allowable range, either of outlines, arrangements or parts, makes it possible to, so to speak, screw down or loosen up the limits by widening or narrowing the ranges.

Alternatively, in some situations it might be considered appropriate to do away with some limits while keeping others. For example, new development might be regulated at the level of street/block pattern, plot outline and arrangement as well as building materials, but left open with regard to the building types.

Another point brought out in the application of the typological approach is the value of setting regulations in terms that are easily accessible. The types used as a basis for the regulations are identifiable entities that can be experienced directly. Taken together, regulations in effect illustrate the diversity of form constituting a place, promoting a richer view of the town and allowing for more informed evaluation and decision making.

3.9 Wider Applications

Though the specifics of typological zoning as outlined in this article were developed for the particular context of the POS, the general principles informing the approach are relevant to other contexts and would seem to have potential for wider application. Within France, another context in which the approach might be applied is the ZAC. ZACs often involve a number of developers working over several years in areas where issues of character are important. As a basis for design guidelines, the typological approach provides specific and

clear limits within which development might occur with more or less flexibility depending on the sensitivity of the site.

Outside France, typological zoning would most easily translate to other planning systems based on zoning. The difference between typological and use-based zoning is, in the end, a matter of emphasis as both approaches regulate form as well as use. Equally clearly, specific legal and procedural differences between systems of zoning will present issues to be resolved in order to accommodate different concerns.

Within a discretionary system such as that in Britain, the approach is not directly applicable but some of the general principles might prove fruitful in some contexts. In particular, the concepts of urban tissue, levels of resolution and the distinction of outline, component parts and arrangement could provide useful tools for character assessment and design guidelines in conservation areas. Similar concepts have been suggested by Larkham (1994) and Hall (1996). Descriptions of areas set in terms of these concepts could prove of value as a common point of reference for negotiation before submission of a proposal for planning permission. Equally, if necessary, the descriptions could be used as part of case in an appeal against refusal of planning permission. More generally, the descriptions might help to raise awareness of the richness, diversity and value of the town.

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