

The Semiology of Orientation in Urban Space

by Georges Mounin

THE WORD "SEMIOLOGY" currently has at least two meanings. On the one hand, it means the scientific study of all human communication systems except natural language; the study of road signs, maritime signals, railway signals, etc., is part of this semiology. On the other hand, it signifies the study of all human phenomena to the extent that they have anthropological meaning; the study of the meaning of Cistercian architecture for the society that produced it, the study of the popularity of vacation homes, the study of the variation in car-body forms, etc., are part—at least in Europe, for the followers, conscious or otherwise, of Roland Barthes—of this semiology. This does not prevent certain phenomena—style of dress, for example—from belonging, depending on the society, to one or the other of these two semiologies or, in varying proportions, to both at once.

The opposition between these two semiologies arises not from a quibble over words, but from the very different natures of the phenomena they study. The semiology of communication studies codes instituted explicitly by society, working through units constructed to produce messages consciously sent and received as such. These units are signals, signs, and symbols. *One cannot send a signal, a sign, or a symbol without doing so on purpose*; one cannot receive one without knowing that it was purposely sent to be received as a message. In contrast, the semiology of meaning works with very different phenomena—indices or symptoms. They are phenomena that are not produced purposely as messages. The architect building a courthouse is not doing so to send a message to the society that will use it, much less to send a message about his own society's concept of justice to future societies. He is building it to house certain institutions and juridical services and the people who run them. It is only in addition to this that the building provides, or may provide, anthropological indications about justice in the society. One *interprets* (often with difficulty) indications lost in a mass of phenomena, while one *decodes* signs learned purposely and socially as such. The decoding of messages presupposes the learning of a code; the difficult discrimination and interpretation of indications in a given domain constitute the science of that domain.

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This being said, one can say first of all what a "semiology of orientation in urban space" is *not*. It is not a study of urbanism, intended to reveal the relationships between the physical structure of the city and the professional, economic, social, and cultural activities of its population. Nor is it a sociology of urban space, examining how the city organizes, allows, imposes, or prevents social functions and relations. It is not a psychology or psychosociology, studying how the city is experienced by its inhabitants. Still less is it a poetics of the city, attempting to discover how the city inspires and affects the imaginary life of those who experience it. Nor is it an anthropology of the city, studying the global "meaning" of the urban phenomenon for those who experience it or for man in general.¹

The problem of a semiology of orientation in space is much simpler in appearance: How do people orient themselves in moving within urban space? What points in the city do they choose, spontaneously or officially, to facilitate their orientation? How do they name the noteworthy and functional points in their space? Or, to put it another way, what landmarks do they use, either to find a given point in the city or to guide themselves toward the point or guide someone else, resident or outsider? This is a problem as elementary as that of the orientation of bees and how they communicate it. It is a problem, or a number of problems, of communication in the strict sense—not, for example, one of movement pure and simple. There is certainly a sender: either the tradition of the urban community or the administrative authority that makes spontaneously used references official or creates and gives substance to references that become signals (street and place names, arrows, numbering, etc.). There are certainly messages, partly or totally linguistic but very specific, limited to a single class of semantic information (orientation); they are messages constructed to achieve a particular object—a route. There are also channels for the transmission of information (street signs, maps, etc.). Finally, there are receivers—those who orient themselves or guide others through the city by these means.

The first semiological problem is whether this set of ways of communicating orientation constitutes a system—in the sense

¹ This suffices to explain the difference in point of view between this concrete, limited, but semiologically wholly operational study and other broader or more ambitious studies that deal more with the "meaning" of social space than with the "communication" of orientation in urban space—like those of Gilmore (1977), Gould (1972), Lynch (1960), or Wallace (1972). Here one will find only the study and analysis of a code in the strict sense of the term—truly a communication code concerning orientation in urban space. It would be the subject of another work to evaluate and on occasion criticize other works or approaches, especially Greimas's, or even to explain why they do not belong to the semiology of communication *sensu stricto*. Similarly, it would be another task to analyze the contribution, in a neighboring field, of the "new geographers" and especially that of the less well-known but probably just as remarkable members of the school around Hamelin at the Université Laval (Québec).

of "system" in linguistics—or even a code. It seems easy to identify the units of the code; they are all landmarks, and one can make a list of them like the dictionary that presents the lexicon of a language. This list is generally presented alphabetically, on the back of a city map or in the form of a street-name guide. For this set of landmarks (and their linguistic designations) to constitute a system, however, and not just a nomenclature, it must be established that it is organized by rules (of naming, memorization, function?). One can also ask whether there is in this case one or several systems, or one of several operations of the same system: one for residents, one for outsiders; one oral, one written (on street signs, maps, etc.) and perhaps noticeably different from the former; or, again, one official (written), the other "lived" by the users and employing, if only partially but perhaps significantly, landmarks other than the official ones (as, for example, in the following messages: "Go up to Mignet Street, then take the third street to the right, Constantin Street, then the first left, Epinaux Street, etc.," and "Go straight as far as City Hall, go under the belfry, go on as far as the Labor Exchange, then on to the Pasteur Hotel, etc.'").²

I will set aside for the moment most of these semiological problems to concentrate on just one of them—one of the simplest even if not the most central. I choose it solely for the purpose of preliminary exploration, in order to examine the semiological possibilities in this field. This is the study of what, because it is created and propagated by the administrative organization of the city, I shall call official orientation. This orientation is expressed in maps and the street signs, directions, etc., that correspond to them on the ground. The research³ consisted in plotting and recording all the landmarks used on the map of a city and then analyzing the list obtained for regularities or recurrences that might indicate something like a system (or several systems) for facilitating the practice and communication of orientation. This analysis was done for a dozen contemporary cities chosen in terms of the researchers who happened to be available: Aix-en-Provence, Lausanne, New York, Montreal, Brasilia, Washington, Beirut, Tunis, Venice, Barcelona, Gap, and Tokyo. Jerusalem at the time of Christ (on the basis of the gospels and Flavius Josephus), imperial Rome (from an archaeological bibliography), and a science-fiction city, Paris in Barjavel's novel *Ravage*, were also studied. This comparative analysis was intended to have the advantage of offering a broader approach to the results obtained. It also showed that (in contrast to the method originally planned, a strictly synchronic analysis) the results demanded—because cities are products of history—diachronic examination.

As a result of this study, it appears, first of all, that man has always had to orient himself in space and that he has always done so using points in space that are notable no doubt both for their visibility from afar and for their uniqueness in the context. These points are what I have been calling landmarks; according to the *Dictionnaire Robert*, a landmark (*repère*) is "a mark serving to locate a site or place. . . . A precise place or object, recognized and chosen to be recognized." The first historic agglomerations had to use natural landmarks (trees, rocks, streams, springs, etc.), and one sees in many cities a persistence or reappearance of a layer of natural landmarks, even if they have lost all or part of their value. In Jerusalem, for example,

² Of course, this orientation "lived" by its users should also be studied, and the study will doubtless provide the sociologists, psychosociologists, or urbanists who are best qualified to undertake it with important information directly usable in the practice of urbanization.

³ This work owes much of its detail and documentation to my Master's students of 1972-73: M. A. Batifol, M. F. Bernard, G. Blanc, M. Mouret, M. Portron, A. Terrier, Abdelhamid Ben Fadhl, Chindji, W. Kehdi, Le-Cao-Huy, F. Marçon, Ch. Romagnan, and M. Vincent. I offer them my thanks and my fondest remembrance.

we find the Mount of Olives, the Ravine of the Cedar, perhaps Bethesda and the Pool of Siloam; elsewhere, there are boulevards of the North or South, West Streets, Woods Roads, etc. One of the most persistent of these is that which even today in practice divides a city into Upper and Lower parts. Lausanne seems, at least to its natives, particularly rich in landmarks of this type—iconic—because of the topography of the city, which lies on the edge of Lake Geneva on a slope cut by three streams, with views of the Alps and the Jura. Nearly half of its street names are linked to the terrain: Mountain, Hill, Valley, Stairway, Bridge, Gallery, and even, at the former edge of the city, Field. No doubt one would find something analogous for Gap and, to a lesser extent, Venice.

One can surmise that the very growth of cities, as well as the specialization of human constructions, contributed to creating and necessitating strictly man-made landmarks. These begin with the earliest historic agglomerations, even before truly urban life. Thus were born Temple or Church Street or Square, Mill Street, Town Hall Square, School Street, Market Street, etc. In another vein, landmarks grew out of the definition of the agglomeration's position in the geographical area. In Rome, for example, we find Labican Way (towards Labici); in Aix, we have Italy Street, Alps Road, Marseille Road, Avignon Road (all large-scale landmarks, accessible to outsiders), Puyricard Road, Vauvenargues Road, Eguilles Road, Berre Road (in a smaller area), and Bagnols Dale, Pignonnet Way (in a very narrow area).

As the city develops and the number of landmarks grows, one seems to be able to distinguish (mixed with the foregoing) landmarks that are purely man-made but not founded on the physical (or nearly physical) geography of directions and routes. These are social but still not arbitrary; they are visibly identifiable and easily recognized by anyone. First, there are monuments in the strict sense. In Aix, for example, we find Four Dolphins Square and Silver Fountain Street. It certainly seems that Lúcio Costa, the designer of Brasilia, decided (as L'Enfant had no doubt done before with Washington) consciously to use this type of landmark, apparently ornamental and gratuitous but in fact one of the most solidly functional. The east-west axis of the city is called Monumental Axis (although not all of the monuments in the city that are tall, in the open, and visible from a distance are on this axis). Perhaps the very important landmarks provided for centuries by the gates of fortified towns should be included here. In Jerusalem, for example, we have the Gate of the Ewes, the Gate of the Essenians, and the Gate of Gardens, in Tunis the Horses' Gate (still functional because of the horse market held there), etc. Towers might also be mentioned—for example, Jerusalem's Tower of Antonia, Tower of David, and those of Mariamne, Phazael, and Hippicus. Also in this category are public buildings which, because of their functions, are known to everyone: Forum, Temple, Church, Cathedral, Mosque, Convent, Synagogue, City Hall, Station. In parallel, and not always easy to distinguish from those just mentioned, are public buildings that are fairly large but perhaps not as well known to everyone: the Praetorium (in Jerusalem), the Lycaean, the Hospital, the Labor Exchange, the Prefecture, the Ministry, the Opera, the Theater.

Another type of landmark, still man-made and social and still not arbitrary (that is, to some extent iconic), becomes important at some stage of urban life in very diverse civilizations. This type might be called corporative. In Aix, we find Carden Street, Hatters' Street, Tanners' Street, Glassworks Street; in Tunis, the 17 streets or suqs (Slippers, Caps, Perfumes, Copper, etc.) remain specialized today; in Jerusalem, there was a whole series of such markets. The striking thing is that naturally over time, many of these landmarks have stopped being iconic—in Aix, for example, there is no longer a foundry on Foundry Street or a seminary on Seminary Street. Thus a system or subsystem of orientation can long outlive its concretely functional

value and come to be made up of names that are purely arbitrary in synchronic terms.

Even at a fairly early time, corresponding to a stage of civilization in which the population was predominantly illiterate, other iconic landmarks prospered—signs designed to be visible from afar. This is the source of such street names as Golden Arm, Black Mule, and Golden Eagle in Aix and, elsewhere, Fat Sheep, Red Hat, etc. Again, these fossil landmarks survive long after the disappearance of the signs that gave rise to them.

A turning point for orientation systems came when landmarks appeared that can be called arbitrary in the sense that, in contrast to the foregoing ones, they do not correspond to any truly iconic material indication. It would be tempting to believe that they were born of the spread of literacy, permitting people to read the arbitrary name of a street on a sign. In fact this usage is very old and serves to underline the fact that orientation systems (or some subsystems of them) are not born of a desire for them as such but used by chance, growing out of other functions attributed to points that became landmarks. Already in Jerusalem one sees that certain buildings bear the names of the persons to whom they are dedicated (the towers of Antonia, Mariamne, Phazael, and Hippicus, named by Herod after his wives and brothers); thus their names already had a primary function that may be called celebrative. In Rome, the Appian Way, the Domitian Way, the Aurelian Way, etc., have this character. Here, too, many streets bear the names of the persons who had the biggest (most conspicuous) houses on them, and this usage is found right up to modern times; in Paris, Conti Street is the street on which the Conti princes had their mansion, Nevers Street is where the dukes of Nevers had theirs, etc. Thus the use of purely arbitrary landmarks for naming streets may have developed not for purposes of orientation, but for celebrative or commemorative purposes: Cardinal Street, Mazarin Street, Royal Street, Dauphin Street, Thiers Street, Victor Hugo Street, Mozart Street, etc.

The considerable growth of cities in the last century has caused this naming subsystem to proliferate to the point where it is undoubtedly statistically the most important in today's cities. This subsystem profoundly changed the workings of orientation in urban space; names could now only be created officially, by administrative act; relations with iconic indices were suppressed; and orientation, based on the existence of signs at street corners, became entirely dependent on reading and writing and thus inaccessible to the illiterate.

The growing complexity of the urban tissue, together with the necessity for certain services (taxation, mail, police, etc.) of mastering this complexity, brought the need to improve the workings of the orientation system; no doubt this is the source of numerical landmarks, which, from my point of view, are both arbitrary (there is no real agreement between my house number and me) and rational (the order of the numbers tells us about the distance from 1 or 2). The history of their invention—necessarily conscious, administrative, and not issuing spontaneously from social life—remains to be written. A survey of several dozen books published from the 16th to the 18th century in France shows no trace of this subsystem before 1789. One finds "In Lyon, at Christophe Fourmy's, Haberdasher Street, at the sign of the Occasion" (1663), "In Lyon, at Antoine Beaujollin's, Haberdasher Street at the corner of Thomassin" (1671), "At Lejay's, Saint James Street, above Friars', at the Great Crow" (1772), etc. It seems that numbering came into being in Paris during the Revolution, for police and/or tax purposes; the houses were numbered as an inventory, but by quarters rather than by streets, and there were very high numbers (1942, 2361, even 6133). This numbering, irrational and uneconomical from the point of view of orientation (a form of which still exists in Venice, based on a division into sixths rather than quarters), was apparently rather quickly abandoned, probably under the Empire, because

the present numbering system appears, barring error, in the Restoration period; but all the research on this subject remains to be done.

The system of numerical landmarks as we know it today—precise, economical, and rational—has been used in what one might call a quadrate way in certain modern cities, among them New York (which must have started it) and Washington. The usage is spreading in France, where I have seen it in the industrial area of Vitrolles-le-Roucas. It consists in designating the streets themselves by numbers. In New York, the system is very clear, at least for Manhattan north of Houston Street: north-south ways are called "avenues" and numbered from 1 to 11 east to west; east-west ways are called "streets" and are numbered 1 to 225 south to north. The system is not perfect; there survive Broadway, Lexington Avenue, Madison Avenue, etc., and the downtown area has 600-700 names of streets, squares, etc. One finds such mixtures of systems, much less clear and with more gaps, in the Bronx, Brooklyn, and Queens. It has been impossible, in the context of this exploratory research, to discover the exact historical origin of this way of organizing urban space. However, it should probably be sought in connection with Jefferson's land ordinance of 1785, and it was doubtless inspired by neoclassicism and the tradition of the Roman plan, by Masonic culture, and by the quadrate plan of Babylon, which satisfies the "philosophical" spirit. It was perhaps also inspired by the American conditions of generally starting from scratch, with freedom of space and land configuration. (The Roman plan was based on two perpendicular axes, the *decumanus maximus* [east-west], 12 m wide, and the *cardo maximus*, 6 m wide, which were the basis of a smaller-scale quadrate system.)

At the size attained by big cities at the beginning of the 19th century, and on the basis of the American quadrate numbering system, one sees the appearance of a generalized functional use of the cardinal points: in New York, building numbers are oriented with respect to 5th Avenue in east and west series, thus dividing the city in two and adding a bit of information to that contained in the avenue/street and number (for example, 249 East 86th Street or 42 West 58th Street). This subsystem has spread to many cities. In Montreal, the north-south origin axis is Saint Lawrence Street, and every street crossing it at right angles has two inverse numberings starting from it (for example, 1609 West Sherbrooke and 1609 East Sherbrooke). In Washington, the north-south streets have numbers and the east-west streets have letters.

This functional system, which is very powerful but uses very abstract references, is never applied exhaustively to the whole urban area—not even, as we have seen, in New York or Washington. However, it is a true orientation system devised as such, even though its bases (neoclassical, Masonic, or "philosophical") do not take into account the psychological and sociological factors really at work in urban life. Systems of this kind vary a great deal from city to city. In this connection, it is interesting to note an original effort that seems to have been abandoned at the time of the reconstruction of certain German towns along the Rhine after 1945; in 1928, in Mainz and Koblenz, streets parallel to the Rhine had blue signs while streets perpendicular to it had red ones. Another attempt to rationalize orientation in urban space, also born in the American mushroom-cities, was taken up in some French localities after 1945; in peripheral areas, where construction is discontinuous, instead of waiting until the whole street was built up before giving numbers to houses a metric numbering system was used. Each house was given a number corresponding to the number of meters separating it from the beginning of the street (for example, 739 Georges Mugnier Street was 739 m from Neufchâtel Road, where the street began).

The most complete and rational of these alphanumeric ori-

entation systems in very large urban spaces has been devised for Brasilia. It is founded on a return to the cardinal points, the city being organized by two main ways, called Road Axis (east-west) and Monumental Axis (north-south). The big avenues parallel to Road Axis are called W-1 N, W-2 N, . . . north and west of Monumental Axis and W-1, W-2, . . . south of it, L-1 N, L-2 N, . . . north and east and L-1, L-2, . . . south and east. The same system is used for the avenues parallel to Monumental Axis: N-1 ML, N-2 ML, . . . , S-1 ML, S-2 ML, The city plan is complicated, however, by a second central landmark system, that of (the artificial) Lake Paranoa, around which residential areas are numbered with respect to the lake: Lake Quarters and Internal Quarters, numbered QL-1 . . . 16, QI-1 . . . 16. The quarters themselves, whether of the city proper or of the lake area, are indicated by alphanumeric references as well; for example, SQD-402 to SQD-416 designate the eight "superquarters" bordering on L-2 N, while SQ-202 to SQ-216 designate the "quarters" bordering on L-1 N; to the west of Road Axis, one has SQ-102 to SQ-116 and SQ-302 to SQ-316 (the odd hundreds). An address in Brasilia is therefore entirely alphanumeric; for example, W-2 N, SQ-308, Block F, No. 12.

It seems to be the very growth of cities that compels the evolution of the types of landmarks used from natural ones corresponding to widely visible and recognizable concrete points (iconic references) through increasingly arbitrary and abstract ones to coordinates composed entirely of numbers and letters—like those that define a ship's position on the open sea, where the environment generally presents no concrete landmarks.

What semiological observations can we make about the picture just sketched? The first, perhaps, is that the development of cities leads to the destruction of visible landmarks, and with the retention of their names the system becomes increasingly less functional in the concretely "lived" sense of orientation. Thus there is a conflict between the development of cities, which demands the transformation of the orientation system to keep it functionally concrete, and the principle of economy of memory, which causes the residents to retain a landmark's name even when it has disappeared.

Second, man has generally resolved the problem of orientation in urban space without posing it logically. It is usually a matter of empirical responses to empirically perceived needs—piecemeal, so to speak, with the means at hand. Since the problem has almost never been posed as such, it has almost always been solved by chance—that is, by the use as landmarks of points that were not devised for that purpose. Naming thus proceeded either in a spontaneously empirical way, workable enough as long as it used landmarks identifiable by sight, or (for roughly the last three centuries) by procedures that aimed to meet different needs: localization, census, administration, celebration, commemoration. This explains the tangle of subsystems that contribute to orientation in urban space but probably never solve the problem in an exhaustive or satisfactory way. There is certainly an orientation system, or rather a conglomeration of subsystems, in cities, in general, but it is almost never the most economical or the most rational one. (The only cities in which our exploration ended in a provisional check were Beirut and Tokyo. In Beirut, the study, lacking documents, revealed that orientation was generally seen as impossible and that the system employed was as follows: Indicate the position of the point to be reached with respect to the nearest big gas station; there, ask the way to the nearest grocery store; there, ask the location of the point sought, and when in despair phone the person whose house one is trying to reach and tell him where one is calling from. This system was also recommended for solving orientation problems in Tokyo, the structure of which seems to suggest the juxtaposition of a multitude of "quarters" or villages. No doubt our study suffered from the lack of good informants.)

The empirical nature of the construction of an orientation

system in urban space is underlined by the inadequacy of the solutions proposed when the problem has been tackled more consciously (as in the numbering systems of Revolutionary Paris and Venice). It is also seen in the current proliferation of alphanumeric references, apparently rational but taking no account of the need for concrete landmarks or of the abstract and hard-to-memorize nature of alphanumeric symbols. Another unsuccessful effort that is very widespread nowadays consists in grouping street names belonging to the same semantic field in the same space. At Voisin-le-Bretonneux, near Paris, a residential area containing several hundred homes is organized entirely around streets bearing names of poets: Mallarmé, Valéry, Hugo, Musset, Lamartine, etc. An experiment there, during an hour's walk, yielded the result that no resident consulted was able to direct the walker to Baudelaire Street. In Nice, a whole area is made up of streets having the names of composers: Hérold, Berlioz, Mozart, Gounod, Rossini, etc.; here there is no other benefit than that of creating confusion and error for the nonuser. The area is functional only at the level of the whole; people are directed to "the musicians' quarter." The same can be said of residential areas in which all orientation is founded on areas named for flowers, trees, precious stones, or southern French writers. It seems, to use linguistic terms, wrong to base the paradigm on a series of syntagmata that does not constitute good orientation discourse.

The inadequacy of specific reflection on the semiological problems of orientation in urban space is also manifested clearly in the very parts of the space that require the most attention from this point of view: the peripheral quarters, new suburbs recently and incompletely urbanized areas, in which street names and signs often do not appear until several years after construction; the big complexes, with their labyrinths of buildings and staircases identified by alphanumeric reference anarchically distributed; the big administrative buildings, with their mazes of anonymous corridors and their frequently unnumbered doors. To recognize the importance of the problem it would suffice to interview taxi drivers, postmen, and delivery men. The movements of people living in great masses in urban space without easily identifiable landmarks should have demanded serious semiological reflection on the part of architects and city planners.

The destruction of living names passed on to new arrivals by the residents' daily practice, often undertaken by administrations for ideological reasons, disturbs the orientation system for a long time. For example, in Aix Our Lady Way has become Aristide-Briand Boulevard, Saint Louis Way has become Carnot Boulevard, Marseille Road has become Boulevard of the Belgians, Rotunda Square has become Liberation Square. Some of these changes are more than 50 years old, but the old names still survive. Two orientation systems thus coexist, not shared by the resident, the newcomer, and the outsider. This involves a process of disorientation in every sense of the word. One should never meddle with living and "lived" orientation—and if there is to be celebration and commemoration it should be done on new roads.

Orientation in urban space thus seems to have been characterized, through the ages, by the replacement of concrete, visible, identifiable, iconic landmarks by arbitrary, abstract, less easily memorized, nonlived ones. "Lived" orientation, which has not been examined here, seems forever in conflict with this tendency; it is always in the process of re-creating orientation around iconic landmarks or social ones widely experienced by the population.

Thus an apparently small problem—the orientation of people in modern cities—has been revealed as a nice methodological problem in the semiology of communication. Furthermore, it has been suggested to be more and more important in the practice of daily life in the heart of the 20th-century human labyrinths. It is far more necessary today than ever before to think about the task of helping people orient themselves in the city.

and it is even more necessary not to disorient them—because these things have psychological, sociological, political, and ideological consequences. We tend to speak in too literary a way about man lost in the city, the inhuman, suffocating, or accursed city, the anonymous anthill, the urban trauma. While becoming aware that the semiology of orientation in urban space raises a specific problem is not a magic answer, it is a step toward a study of urbanism without triviality.

Comments

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Mounin's stimulating discussion raises several interesting issues concerning aspects of symbolic communication within large sociotechnical systems. Cities are examples par excellence of such systems, but many of the same orientation problems apply to analogous systems such as road networks, office and apartment complexes, cruise ships, and railway cars. Abstract modes of orientation applying to all of these complexes are structural in that they presuppose that the system within which orientation will take place is a comprehensive whole and that it is useful to be able to identify and locate oneself at any subunit of that system. In this regard the shift from traditional to modern orientation systems within cities can be seen as a fundamental cognitive shift from viewing the urban space as atomistic but open-ended to viewing it as comprehensive but closed-ended.

In the modern Western world, a simple abstract designation allows one to locate any given business or living unit, and these are thus the smallest identifiable subunits of the system. In many other parts of the world, principally non-Western societies, the smallest subunits turn out to be neighborhoods or quarters. As in Beirut, where Mounin seems to have had so much difficulty, to discover smaller units one must usually enter the quarter physically and inquire of the residents, just as one would have to do to locate an individual house in a large village that had no public designations of place. Such an operation is impossible without a guide, whereas with many abstract orientation systems it is possible to locate a dwelling unit or business without making any human contact whatsoever.

Far from being difficult to memorize, the best-designed alphanumeric grid systems are extremely easy to use—provided they are consistent. Highly redundant indexing systems such as that of Tulsa, Oklahoma, where avenues running in parallel east of Main Street are named in consecutive alphabetic order for cities east of Tulsa and avenues west of Main in alphabetic order for cities west of Tulsa, further simplify the detached search process. Nevertheless, such systems seem not really to be made for natives of a city, as Mounin points out. Despite the formal elegance of such systems, among themselves natives revert to the traditional locational system based on landmarks, monuments, and neighborhoods. Faced with the task of producing a street address for a well-known restaurant or shop—a typical "grid-orientation" task—natives are often stymied. They are more likely to locate the targeted place with formulations like "two or three blocks past the post office on the right." Despite this, they are not cut off from the abstract system entirely. They too can come up with a location in terms understandable to someone not sharing their "lived" orientation.

The abstract urban locational system reminds one of the "etic grid" of ethnoscientific studies (cf. Kay 1966). Etic grids constructed on universally recognized semiabstract patterns of contrast, but they are really part of no one person's cultural system. For residents of cities, alphanumeric grids and other abstract systems are overdetermined in their construc-

tion—and thus too redundant for everyday use. One says, "the bank," not "the bank at 200 Main Street," if there is only one bank in town. Why, then, did such systems evolve and persist? As Mounin indicates, the answer must be found in an understanding of the dynamics of communication within the urban environment.

For inhabitants of a city, use of such an orientation system admits the existence of and need to deal with the social category "stranger." Indeed, the pattern of modern urban life implies a much greater probability of the presence of strangers compared with that of the 17th and 18th centuries—a likely consequence of the Western industrial age, with its attendant advances in transportation and communication. Moreover, modern urban "strangers" may not be from out of town at all; they may well be from another area of the same megalopolis miles away. Schegloff (1972) has pointed out that "formulating place" is a negotiated communicational operation. Admitting that strangers are persons that natives are likely to have to deal with in locating urban places brings into play some sort of "etic" locational system for simple purposes of expanded communication. The alternative would be to say, "If you don't know where you want to go already, or if you can't find someone to take you, you can't go there."

If we consider these communicational necessities, the systems of urban orientation discussed by Mounin can be seen not as sets of detached semiotic phenomena, but rather as the natural products of very real systemic communication needs. Mounin's observation on the alienation found in modern urban spaces is apt in this context: it is precisely these abstract orientation systems that have evolved to reduce the entropy arising from potentially large numbers of persons adrift in a strange environment by providing an overdetermined reference system that can potentially bridge the gap between stranger and native. Paradoxically, by allowing the stranger to locate himself through the exercise of his own logic without recourse to human contact, overdetermined abstract orientation systems may also serve to minimize contact between stranger and native in the city.

Even so, different orientation systems "leak" into one another. Abstract systems can take on the quality of "lived" orientation over time. To New Yorkers 42nd Street is far more than just a street 42 blocks north of a given baseline. It is a location in its own right—a kind of urban "monument" with its own special quality. The reverse is also true. The numbered quarters of Paris have their own history and particular character but still serve as a rough numeric grid system for orientation.

Thus, given the quality of modern urban life, with its mix of native and stranger, it may be impossible to separate the "two orientation systems" entirely. Their relationship may be even more dynamic than Mounin implies.

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Surely "the scientific study of all human communication systems except natural language" is comfortably ensconced within the realm of "all human phenomena to the extent that they have anthropological meaning," and hence there can be no "opposition" between the semiologies suggested. Rather, the latter, broader semiology is a derivative of the former, narrower one; some would say that it is achieved by logical extension, others that by sloppy thinking. This distinction does not, however, affect the main theme of the paper, concerned as it is with the types of landmarks which people use to find their way about towns.

Is there an optimum system of street labelling? An observa-