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SOCIAL SPACE IN INTERDISCIPLINARY PERSPECTIVE

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SOCIAL SPACE IN INTERDISCIPLINARY PERSPECTIVE

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DRAMATIC and exciting challenges confront geographers today. Revolutionary changes in empirical social patterns have spelled obsolescence for many traditional analytical procedures; radical transformations in the scholastic world have raised questions concerning the philosophical basis of social-science procedures. Behaviorists and existentialists pose the fundamental question: can science continue to serve a useful function by measuring and explaining the objective face and underlying mechanics of social reality, or must it also penetrate and incorporate its subjective dimensions?[1] As Edward T. Hall[2] so convincingly poses it: does time talk, does space speak? How does the silent language of time and space influence mankind's cultural variations? Geographers ask themselves: should we be satisfied with drafting an opaque, objective map of social patterns in space, or must we supplement this with the subjective or inside view?[3]

This problem is certainly not new. Jules Sion's 1908 study of Normandy showed how differences in the mentality of Norman and Picard peasants reflected and reinforced the contrasts between two physically similar regions.[4] Pierre Gourou's cleverly applied notion of *civilisation* proved how attitudes and skills influenced the evolution of landscape in the Far East.[5] Walter Firey's well-known Boston study[6] demonstrated how cultural variations and traditions have influenced land values in an urban area, and Renée Rochefort's Sicilian study[7] left little doubt concerning the predominant influence in social life on that island: the Mafia! In principle and in practice, then, substantive work demonstrates the need for a penetrating analysis of this subjective component in geographical study. A recent article by Paul Claval[8] even suggests that the geographer's unique contribution might well be in comparative cross-cultural studies of group mentality. Few scholars, however, have given concrete and appli-

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[1] Martin G. Plattel: Social Philosophy (Pittsburgh, 1965); A. C. de Waehlens: L'existentialisme de Merleau-Ponty (Brussels, 1963).

[2] Edward T. Hall: The Silent Language (Premier Books; New York, 1965). See also *idem:* The Hidden Dimension (Garden City, N. Y., 1966).

[3] Paul Claval: Géographie et psychologie des peuples, *Rev. de Psychologie des Peuples,* Vol. 21, 1966, pp. 386–401; *idem:* Essai sur l'évolution de la géographie humaine (Paris, 1964). See also R. W. Kates and J. F. Wohlwill, edits.: Man's Response to the Physical Environment, *Journ. of Social Issues,* Vol. 22, No. 4, 1966.

[4] Jules Sion: Les paysans de la Normandie orientale: Pays de Caux, Bray, Vexin Normand, Vallée de la Seine: Étude géographique (Paris, 1909). See also the review of this work by Paul Vidal de la Blache in the *Annales de Géographie,* Vol. 18, 1909, pp. 177–181.

[5] Pierre Gourou: Étude du monde tropical, *L'Annuaire du Collège de France,* Vol. 63, 1962–1963, pp. 261–275; *idem:* Changes in Civilization and Their Influence on Landscape, *Impact,* Vol. 14, 1964, pp. 57–71.

[6] Walter Firey: Land Use in Central Boston (Cambridge, Mass., 1947).

[7] Renée Rochefort: Le travail en Sicile (Paris, 1961).

[8] Géographie et psychologie des peuples [see footnote 3 above].

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cable research leads to this kind of analytical endeavor. Among those who have introduced some creative precedents along these lines are two French scholars, Maximilien Sorre and Paul-Henri Chombart de Lauwe, who developed the notion of social space. The present paper is an attempt to sketch certain dimensions of the social-space concept that developed through the dialogue between geographer and sociologist in France, and to discuss its application in urban research today.

Sorre, a traditional geographer with an eye to many new horizons, and Chombart de Lauwe, a sociologist-ethnologist with an equally ecumenical horizon, have many characteristics in common. Both can be considered, in a sense, as prophets unacceptable in their own country. French geographers have paid little overt tribute to Sorre: they have tended to regard him as unorthodox, verbose, and perhaps inclined to confuse science and philosophy. Sociologists of the Sorbonne vintage have sometimes dismissed Chombart de Lauwe's work as superficial, value laden, and marginal to the mainstream. However, if the French echo is faint, the international one is not; Sorre's ideas have claimed a wide audience in disciplines outside geography, and the precedents laid down by Chombart de Lauwe have been welcomed by many schools of sociology and regional planning.

Among Sorre's many contributions to geography are the liaisons that he forged with other disciplines, particularly with biology and sociology. Volume 1 of his chef d'oeuvre, "Les fondements de la géographie humaine,"[9] is permeated with an ecological theme, as its subtitle "Les fondements biologiques de la géographie humaine" indicates. Volume 2 has a more sociological, and sometimes psychological, theme—social groupings were placed within the context of their environment and treated as "techniques of social life"—and Volume 3 deals with settlement patterns as the visible inscription of group activity, attitude, and cultural tradition in the rural landscape. It was in the third volume of Sorre's "Fondements" that Chombart de Lauwe found inspiration for his now famous study of Paris,[10] in which he applied and extended the notion of "social space," loosely defined by Sorre.

From his younger colleague's research Sorre then drew conclusions and wrote during the 1950's on further applications of his social-space concept.[11] At the same time Chombart de Lauwe and his colleagues were advancing along new fronts, leaning more toward urban problems and related spatial planning.

The Concept of Social Space

The concept of social space was first articulated and applied in the 1890's by Émile Durkheim, whose approach to the study of social differentiation was somewhat innovative. Durkheim objected to the environmentalism of Friedrich Ratzel's "Anthropogeographie," to the evolutionism implicit in Herbert Spencer's "Principles of Sociology," and to the formal-

[9] Maximilien Sorre: Les fondements de la géographie humaine (3 vols.; Paris, 1943–1952). For a summary of Sorre's publications, see Françoise Grivot: Bibliographie des oeuvres de Max. Sorre, *Annales de Géographie*, Vol. 72, 1963, pp. 186–191.

[10] See the introductory statement by Chombart de Lauwe *in* Paris et l'agglomération parisienne (by P.-H. Chombart de Lauwe and others; 2 vols.; Paris, 1952), Vol. 1, pp. 19–26.

[11] Maximilien Sorre: Les migrations des peuples: Essai sur la mobilité géographique (Paris, 1955); Rencontres de la géographie et de la sociologie (Paris, 1957); and La géographie psychologique: L'adaptation au milieu climatique et biosocial, *in* Traité de psychologie appliquée (Paris, 1958), Vol. 6, Chap. 3, pp. 1343–1393.

ism of Georg Simmel's "Soziale Differenzierung."[12] Durkheim saw social differentiation in purely social terms: sociology consisted of social morphology, which is the study of the *substrat social* (distribution of social forms) and of social physiology, which is the study of the segmentation, interaction, and "moral density" of society.[13] His definition of the substrat social was the social environment, or group framework, independent of the physical setting. Sorre considered Durkheim's definition of environment too narrow and cited many instances where physical conditions influenced social differentiation.[14] He believed the substrat social should incorporate both the physical and social environments, and for this twofold substrat he used Durkheim's term "social space," qualifying the original meaning to include the physical environment.

In the analysis of social space, the geographer's basic contribution would seem to consist primarily of mapping the distribution of various social groups (Durkheim's "social morphology"). However, the regional monographs of the Vidalian School also contributed to social physiology, showing, for example, the creative role of human groups in transforming their environment (substrat).[15] To place the concept of social space within Sorre's overall framework for human geography, we must recall a few general points laid out in the "Fondements." For Sorre, social life was an integral unity, and thus patterns of organization—from family and kinship groups to nation states and political blocs—were "techniques" of social life.[16] Consequently, he considered political space (the *Lebensraum* of a particular nation) or economic space (functional regions surrounding the *pôles de croissance*) to be constituent dimensions of social space. When he discussed the spaces of a more purely social nature (for example, religious, ethnic, or linguistic spaces), his language became confused and somewhat ambiguous.

On a global scale, then, Sorre envisioned social space as a mosaic of areas, each homogeneous in terms of the space perceptions of its inhabitants. Within each of the areas a network of points and lines radiating from certain "*points privilégié*" (theaters, schools, churches, and other foci of social movement) could be identified. Each group tended to have its own specific social space, which reflected its particular values, preferences, and aspirations. The density of social space reflected the complementarity, and consequently the degree of interaction, between groups.[17] This sounded unorthodox to Sorre's fellow geographers, but it inspired Chombart de Lauwe in sociology, who applied Sorre's ideas in empirical urban studies. Let us now examine some of these applications.

Perception of Habitat and Urban Social Space

Chombart de Lauwe's famous 1952 team study of Paris illustrated new dimensions of the

[12] Émile Durkheim: De la division du travail social (Paris, 1893; 5th edit., 1926). See also *idem:* Les règles de la méthode sociologique (Paris, 1895); Friedrich Ratzel: Anthropogeographie (2 vols.; Stuttgart, 1882 and 1891); Herbert Spencer: Principles of Sociology (London, 1876); and Georg Simmel: Soziale Differenzierung (Berlin, 1890).

[13] De la division du travail social [see footnote 12 above].

[14] Sorre, Rencontres de la géographie et de la sociologie [see footnote 11 above], Chap. 1.

[15] *Ibid.*

[16] Maximilien Sorre: L'homme sur la terre (Paris, 1961).

[17] Maximilien Sorre: L'espace du géographe et du sociologue, *in* Rencontres de la géographie et de la sociologie [see footnote 11 above], pp. 87–114.

social space concept. A distinction appeared, for example, between the objective and the subjective components of social space.[18] Objective social space was defined as "the spatial framework in which groups live; groups whose social structure and organization have been conditioned by ecological and cultural factors." Subjective social space was defined as "space as perceived by members of particular human groups."[19] Practically, then, urban spatial patterns were studied on two levels: each *arrondissement, quartier,* and *secteur* was described first in objective terms—that is, the spatial setting with its physical boundaries and communications network—and then in terms of the perceived dimensions and characteristics of that segment as these were subjectively identified by the occupants. In many cases objective and subjective "spaces" failed to coincide—subjective space reflecting values, aspirations, and cultural traditions that consciously or unconsciously distorted the objective dimensions of the environment.

The habitat-perception theme (*conceptions de l'habitation*) well illustrates the continuity between Sorre's original formula for social space and Chombart de Lauwe's subsequent research.[20] In Volume 3 of the "Fondements," Sorre suggested that every life style (*genre de vie*) tended to inscribe itself in a typical habitat form. In the case of rural habitat, for example, he showed how work rhythms, agricultural regimes, social structure, and economic activities were related to house types and village patterns. He wrote at length on the "ecology of rural life," on the harmonious nexus binding society, economy, and geographical environment into a cohesive whole, which was reflected in a region's habitat forms. But in the urban context Sorre's ecological formula failed to explain or describe the habitat in functional terms. Like Vidal de la Blache, Sorre was a ruralite at heart, and though he paid homage to urbanization as a tremendous social feat, he consistently deplored the debilitating influence of smog, pollution, racial disharmony, and the rupture of his beloved "habitat ecology." It was Chombart de Lauwe who really explored the ecology of urban habitat.[21] Two cardinal concepts that permeate his work are social space on the one hand and social milieu on the other.

SOCIAL SPACE

For Chombart de Lauwe, urban social space connotes a hierarchy of spaces, within which groups live, move, and interact.[22] First there is "familial space," or the network of relationships characteristic of the domestic level of social interaction; then "neighborhood space," or the network that encompasses daily and local movement; "economic space," which embraces certain employment centers; and finally the "urban sector," or "urban regional" social

[18] Chombart de Lauwe and others, *op. cit.* [see footnote 10 above]. See also Paul-Henri Chombart de Lauwe: Paris: Essais de sociologie (Paris, 1966).

[19] Chombart de Lauwe and others, Paris et l'agglomération parisienne [see footnote 10 above], and Chombart de Lauwe, Essais de Sociologie [see footnote 18 above], pp. 96–101.

[20] Paul-Henri Chombart de Lauwe: Famille et habitation: Vol. 1: La vie quotidienne des familles ouvrières (Paris, 1956), and Vol. 2: Science humaines et conceptions de l'habitation (Paris, 1959).

[21] Chombart de Lauwe's ecological and integrative tone is best illustrated in his lectures and articles; for example, in his lecture on "Sociologie, sciences humaines et transformations sociales," delivered at Louvain in November, 1966, and published in *Revue de l'Enseignement Supérieur,* Nos. 1–2, 1965, pp. 11–19. See also his "Des hommes et des villes" (Paris, 1965).

[22] Paul-Henri Chombart de Lauwe: L'évolution des besoins et la conception dynamique de la famille, *Rev. Française de Sociologie,* Vol. 1, 1960, pp. 403–425; and *idem:* Le milieu social et l'étude sociologique des cas individuels, *Information Sociales,* No. 2, February, 1959, pp. 41–55.

space. The progressively larger and overlapping dimensions of these spatial horizons reflect daily, weekly, and occasional orbits of group social activity and constitute the normal spatial framework within which groups feel at ease.

Chombart de Lauwe has calculated thresholds in space beyond which certain groups cannot travel without experiencing frustrations, tensions, and feelings of anomie; such thresholds provide useful references for the urban planner and constitute critical indexes of what a satisfactory housing or neighborhood unit might be.[23] An interesting complication arises, however, in that socioprofessional groups differ significantly from one another in their perceptions of space. For each socioprofessional group a general characteristic pyramid or hierarchy of spaces could be discerned, and numerous combinations of these hierarchies could be found within an urban region.[24] Viewed horizontally, then, social space comprises a network of roughly concentric bands or sectors that circumscribe the orbits of daily, weekly, and occasional circulation.[25]

Chombart de Lauwe has also explored the vertical dimension of social space. How many square feet per person constitute a desirable residential density? Few objective indices of satisfactory levels of residential density exist, though various density thresholds have been proposed for animals.[26] The effects of crowding and stress have been studied,[27] and the United States Office of Civil and Defense Mobilization has made specific recommendations concerning adequate space per person in shelters.[28] These indices, however, pertain to abnormal circumstances and provide tolerance thresholds under duress rather than optimal levels under normal conditions. When Chombart de Lauwe analyzed residential conditions among working-class families in Paris, he discovered that a density of 10–13 square meters of space per person per dwelling unit was optimal.[29] Where the density was less than 8–10 square meters per person, crime rates, anomie, and tension increased, probably because of overcrowding. Where the density was more than 14 square meters, other social and psychological problems arose, stemming from the patterns of parent-child relationships characteristic of an upwardly mobile socioeconomic class.[30] As a result, a specific, objective index of residential density desirable for one socioeconomic class was derived.

In retrospect, then, whereas Sorre's criteria for the delimitation of areas within social space were based on macroscopic and universal categories such as language and ethnic groups, nation states, and genres de vie, Chombart de Lauwe's criteria were microscopic and more

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[23] Famille et habitation [see footnote 20 above], Vol. 1; Des hommes et des villes [see footnote 21 above]. For the pathological consequences of unattained horizons, see Paul-Henri Chombart de Lauwe: Hypothèses pour une psychosociologie de la fatigue, *Rev. de Médecine Psycho-somatique et de Psychologie Médicale*, Vol. 3, 1966, pp. 275–286.

[24] Chombart de Lauwe, Des hommes et des villes [see footnote 21 above].

[25] Chombart de Lauwe and others, Paris et l'agglomération parisienne [see footnote 10 above].

[26] Neal M. Burns, R. M. Chambers, and E. Hendler: Unusual Environments and Human Behavior (New York, 1963).

[27] John B. Calhoun: Population Density and Social Pathology, *Scientific American*, Vol. 206, No. 2, 1962, pp. 139–148; W. Craig: Why Do Animals Fight? *Internat'l. Journ. of Ethics*, Vol. 31, 1921, pp. 264–278.

[28] "Guide for Executives" (Office of Civil and Defense Mobilization, Battle Creek, Mich., 1959 [OCDM NP-10-1]); "Guide for Architects and Engineers" (*ibid.*, 1960 [OCDM NP-10-2]). See also "Procedures for Managing Large Fallout Shelters" (Dunlap and Associates, Stanford, Calif., 1959).

[29] Chombart de Lauwe, Famille et habitation [see footnote 20 above], Vol. 2.

[30] Hall, The Hidden Dimension [see footnote 2 above], pp. 161–162.

sociological (for example, socioeconomic and special-interest groups). The contrast between them is not only in the approach, but also in the scale: one applies to the world in general and to rural settlement in particular; the other is strictly oriented to the urban environment.

SOCIAL MILIEU

In the urban context also, a complementary notion occurs in Chombart de Lauwe's work, namely the concept of social milieu. What is meant by social milieu? Every schoolboy knows that life in the Quartier Latin is not the same as life on Montmartre, nor is Montparnasse comparable to the XX[e] arrondissement, but what definition or formula could specify the actual ingredients that make up the social milieu of these places? Chombart de Lauwe identified three distinct levels: *milieu géographique*, or time-space framework; *milieu technique*, or level of technological equipment; and *milieu culturel*, or the traditional atmosphere perceived by the inhabitants or ascribed by others.[31] All three levels, in vital combination, constitute the effective social milieu, in the context of which all social behavior should be placed.

But how are these three levels to be separated for systematic analysis, while simultaneously maintaining a holistic conception of social milieu? Chombart de Lauwe criticizes the factor-analytic approach evident in American sociology; he refuses to employ such terms as "factors" and "elements," or to use other concepts that imply a unidirectional pattern of relationships. He regards it as more important to decipher the intricate and complex fiber that holds a milieu together than to deal with the actual mechanics of specific parts. Thus he speaks of variables that pattern themselves around certain recognizable *ensembles*. In practice, however, his own methodological procedure could be regarded as simply a carefully designed factor analysis of five major groups of phenomena: (1) population patterns within a time-space framework; (2) economic-activity patterns; (3) social groupings, relationships, behavior, and attitudes; (4) communications and cultural and spiritual life; and (5) educational level.[32] Each of these ensembles, then, constitutes a system, or organic whole, vitally linked with other ensembles by the value system, attitudes, and needs of its component groups. We see again the relationship between social milieu and the emergence of social-space hierarchies for particular groups. It is in fact the combined contrasts of social-milieu and social-space hierarchies that constitute the basic differences between eastern, western, and central Paris.[33]

SORRE'S RÉSUMÉ: AVENUES FOR COOPERATIVE RESEARCH

By the late 1950's Sorre could recapitulate his original ideas and could modify, contradict, and refine some of his original suggestions. He no doubt rejoiced to see empirical evidence that space assumed different meanings in the life patterns of different groups and that these differences influenced the geography of Paris. But did this apparent success also threaten obsolescence? Were these findings proof that physical "geographical" space was of little significance in urban study? On the contrary, Sorre cautioned that the problem for an urban geographer was not so much one of slicing up social space into a series of component "spaces," as of examining how these were harmonized in the concrete life situations of particular urban regions.[34] From the Paris study, there was some evidence, for example, that when a group's

[31] This is emphasized particularly in "Le rôle de l'obsérvation en sociologie" (*Rev. de l'Institut de Sociologie* [Université Libre de Bruxelles], Vol. 1, No. 1, 1960, pp. 27–43).

[32] *Ibid.* See also "Le milieu social et l'étude sociologique des cas individuels" [see footnote 22 above].

[33] Paris et l'agglomération parisienne [see footnote 10 above], Vol. 1, pp. 68 ff.

[34] Rencontres de la géographie et de la sociologie [see footnote 11 above].

aspirations transcended their attainable horizons, or when spatially juxtaposed groups held widely contrasting ideas about space, tensions arose, which influenced spatial movements, thus affecting the geography of that sector of the city.

The Paris findings reinforced some of Sorre's original hunches (for example, that the social rift which persisted in the dormitory village of Petit-Clamart was entirely due to differences of genre de vie[35]) and dispelled others (for example, the necessary relationship between habitation form and genre de vie in the urban context). Ecological principles governing rural habitat could not be applied in the urban context where functional relations between work and home were entirely different, and there was no obvious harmony of social structure, life style, and settlement type such as that found in the Breton hamlet or in the Lorraine village.

One of the most valuable conclusions Sorre drew was that geographer and sociologist could cooperate in the study of such complex questions as social mobility and migrations.[36] Only through such collaboration could one discover how social mobility relates to spatial mobility or unravel the psychological ties that make certain settlement forms forces that stabilize and others forces that stimulate migration of rural and urban groups. Resistance to change—for instance, the inertia of the *vignoble* in Bas-Languedoc, of the mining communities of Lorraine, of the textile workers of Lancashire—provided suitable subjects for interdisciplinary work. Thus throughout the late 1950's—and especially in his nunc dimittis volume, "L'homme sur la terre"—Sorre repeatedly advocated collaboration between geographers and sociologists.[37]

Chombart de Lauwe and Spatial Preferences

Since the early 1960's Chombart de Lauwe and his team have advanced along many new fronts.[38] "L'intégration du citadin à sa ville et à son quartier,"[39] for example, approached the study of social space on three levels: on the behavioral level (where and how people live and move), on the level of knowledge (where people know that alternative opportunities are available), and on the aspirational level (where people would like to go if they had the opportunity). The whole tone of their research has thus taken on a behavioral orientation, which again affords a potential link with current research in geography, the *géographie volontaire*,[40] so popular among French scholars at the present time.

Three questions, then, are posed. Where do Parisians live? Where would they like to live? And what prevents them from living where they wish? Parisians evidently would like to live

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[35] Chombart de Lauwe and others: Paris et l'agglomération parisienne [see footnote 10 above], Vol. 1, p. 243.

[36] Rencontres de la géographie et de la sociologie [see footnote 11 above], pp. 53–86.

[37] *Ibid.* See also "L'homme sur la terre" [see footnote 16 above], pp. 96–101.

[38] The headquarters of the main group, the "Centre d'Ethnologie Sociale," is at Montrouge. There one finds interdisciplinary research on the general theme, "evolution of social life," subsidized by the Centre National de Recherche Scientifique. An interesting offshoot, the "Centre d'Études des Groupes Sociaux," works on practical problems relating to urban planning, for example, work on the decentralization policy now being implemented in Paris.

[39] "L'intégration du citadin à sa ville et à son quartier (4 vols.; Paris, 1962–1965). See also their "Logement et vie familiale: Étude sociologique des quartiers nouveaux" (Centre d'Études des Groupes Sociaux, Paris, 1965), and "L'attraction de Paris sur sa banlieue" (Paris, 1965).

[40] Jean Labasse's work is probably most illustrative of this new trend among French geographers; see his "L'organisation de l'espace: Éléments de géographie volontaire (Paris, 1966). See also Jean Gottmann: Essais sur l'aménagement de l'espace habité (Paris, 1966).

outside the metropolitan area, and would migrate if their employer would move. But there are marked differences in the attitudes of socioeconomic groups regarding a choice of locale. Working-class families on the whole, if their housing conditions are reasonably good, do not want to leave Paris; but most other groups believe that the ideal place to live would be "en province." The three major poles of attraction are the Alps, the Midi, and Brittany, and the optimum size of the receiving town is in the neighborhood of 100,000 to 400,000 population.

Analysis of the internal spatial preferences yield more clear-cut differences among socio-professional groups.[41] (1) The flight to the suburbs is made primarily by the liberal professionals and the more wealthy executives. If industrial workers' families move at all, it is to the "inner suburbs," where they still have access to public transporation facilities. Persons employed in service activities tend to remain near the center, close to their clientele. (2) For most occupational groups the ideal place to live is in a neighborhood that has some kind of identity. This identity can be defined by clear-cut physical boundaries, by a traditional reputation, by a commercial atmosphere, or by other special earmarks that people attach to that environment. (3) Tendencies toward spatial segregation for social reasons are most marked among the clerks and office workers, are less marked among industrial workers, and are scarcely evident at all among the service-occupation group. Residential segregation and spatial mobility go hand in hand in most cases. (4) Among the most highly prized characteristics of an ideal place to live are privacy, space, and the freedom to choose either participation or no involvement in local life.

These generalizations offer interesting points of comparison with patterns evident in other countries. The evolving spatial order of metropolitan suburbs in the United States follows less definite lines, but also reveals a response to socially held values and attitudes. Recent literature suggests an increasing social consciousness in the design and selection of residential areas, and a correlative decline in the importance of economic forces.[42] Thus whatever the social or political context, we find a widespread acceptance of planning for social preferences rather than individual responses to the laws of a market economy, as a major determinant of spatial form today.

Practical Applications

On the basis of these French precedents one may speculate on the practical utility of the social-space concept in urban analysis today. On the whole, its primary value perhaps is in the connections postulated between the internal subjective order (attitudes, traditions, and aspirations) and the external spatial order, within an urban milieu. Research on these connections parallels recent work in other fields.

Notions akin to social space (for example, ethnic domain, biotope, and so on) can be found in anthropology, but for the most part they are approached from an ecological or psychological point of view. A biotope is defined in social psychology as the "habitat or locale to which an organism is attracted through some combination of learning, imprinting,

[41] These are some of the general results of the work, "L'intégration du citadin à sa ville et à son quartier" [see footnote 39 above].

[42] Donald J. Bogue: The Structure of the Metropolitan Community (Ann Arbor, 1949); William M. Dobriner: Class in Suburbia (Englewood Cliffs, N. J., 1963); Herbert J. Gans: The Levittowners (New York, 1967); Gerardus Antonius Wissink: American Cities in Perspective, with Special Reference to the Development of Their Fringe Areas (Assen, Neth., 1962).

and instinct."[43] An ecological approach to the study of such biotopes is demonstrated in Barth's study of ethnic communities in North Pakistan,[44] and Hall's "science of proxemics" applies similar concepts to urban analysis.[45] Chombart de Lauwe's work would suggest, in these terms, that every biotope has an internal hierarchical structure composed of personal, familial, neighborhood, and regional spaces, and second, that this structure varies from one socioeconomic group to another. This raises the question of whether individuals within particular professional groups have a consistent pattern of biotope preferences with respect to housing design and location, to recreational needs, and to the propensity to move. Is there, for instance, any consistent relationship between workaday ("proximate") space facilities—for example, in office, classroom, or factory—and the weekend recreational preferences? Is there a relationship between the lack of sensory stimulation in routine urban occupations and the quest for sensory stimulation in outdoor recreational activities during vacations? Again, how is adjustment to biotope (defined in ecological and psychological terms) related to turnover rates in suburban housing developments? The spatial order of metropolitan fringe areas provides a fascinating field of research when viewed from this perspective.

Another possibility for the cooperative work between geographer and sociologist suggested by Sorre lies in the realm of mobility and migrations. It is a cliché that spatial mobility is closely associated with social mobility among middle-class Americans; however, the class differentials in propensity to move within metropolitan suburbs are less well defined than was previously imagined.[46] Chombart de Lauwe has unraveled some of the motivations behind changes of residence in the Parisian context and has shown that failure to attain the ideal leads to psychotic disorders and social tensions.[47] The notion of social space has thus served as a heuristic and seminal concept, producing a number of distinct research orientations, each of which could be analyzed more incisively by specialists in different disciplines. It may serve in the future as a coordinating framework for interdisciplinary research on the subjective dimensions of human behavior in space. Like so many other rich ideas in the history of social science, the disintegration and demise of social space as a single unified analytical concept is simply the necessary prelude to a new harvest of research endeavors.

Sorre and Chombart de Lauwe in Perspective

Despite their common philosophical and methodological ideas, Sorre and Chombart de Lauwe differed radically in one respect; Sorre could never reconcile himself to the idea of planning, whereas Chombart de Lauwe's work is almost entirely directed toward practical goals. This perhaps reflects a difference of generation, Sorre representing the prewar bourgeois "knowledge for knowledge's sake" tradition, and Chombart de Lauwe the postwar avant garde style of nonacademic applied knowledge. Because of their fundamental dif-

[43] Robert Sommer: Man's Proximate Environment, *Journ. of Social Issues,* Vol. 22, No. 4, 1966, pp. 59–70; reference on p. 62.

[44] Fredrik Barth: Ecologic Relationships of Ethnic Groups in Swat, North Pakistan, *Amer. Anthropologist,* Vol. 58, 1956, pp. 1079–1089.

[45] Hall, The Hidden Dimension [see footnote 2 above].

[46] See, for example, Walter T. Martin: The Rural-Urban Fringe (Eugene, Ore., 1953); Amos H. Hawley: The Changing Shape of Metropolitan America (Glencoe, Ill., 1956); R. E. Pahl: Urbs in Rure: The Metropolitan Fringe in Hertfordshire, *London School of Economics and Political Science Geographical Papers No. 2,* 1965.

[47] Chombart de Lauwe: L'attraction de Paris sur sa banlieue [see footnote 39 above].

ference in outlook, their writings must be evaluated from a different perspective. Sorre's work is essentially a kind of armchair conceptualization, which can serve as a preamble to, and an organizational framework for, empirical research. Chombart de Lauwe, on the other hand, seemingly so anxious to arrive at quick solutions to urgent social problems, often appears to slide too rapidly through the analytical part to arrive at readily applicable results.

In retrospect, what these two scholars have given us is a set of conceptual guidelines rather than readily usable research formulas. Sorre, the great humanist, has bequeathed excellent textbooks for teaching social geography, but he did not establish a research school; he had few students who, overtly at least, followed up his proposed leads. Chombart de Lauwe could in many ways be considered as the first great internationalist among French sociologists since the time of Marcel Mauss and Maurice Halbwachs. He has simplified and integrated many conceptual lines developed in American, German, and British schools of social science, and thus has helped to stimulate dialogue among the various traditions as well as among the specialists within particular schools. He calls for a common language that will enable sociologists to communicate with architects and engineers and that will permit citizens and planners to collaborate in the creation of the new social environment.

SOCIAL SPACE AND THE PLANNING OF RESIDENTIAL AREAS

ANNE BUTTIMER *(Sister Mary Annette, O.P.) received her B.A. and M.A. degrees from the National University of Ireland, and her Ph.D. in geography from University of Washington, Seattle. She taught at Seattle University from 1966 to 1968, undertook the research this report discusses at the University of Glasgow (Scotland), from 1968 to 1970, and then came to the Graduate School of Geography, Clark University, where she is currently Assistant Professor.*

> *Cities are an immense laboratory of trial and error, failure and success, in city building and city design. This is the laboratory in which city planning should have been learning and forming and testing its theories. Instead the practitioners and teachers of this discipline . . . have ignored the study of success and failure in real life, have been incurious about the reasons for unexpected success, and are guided instead by principles derived from the behavior and appearance of towns, suburbs, tuberculosis sanatoria, fairs, and imaginary dream cities—from anything but cities themselves.*
>
> *—Jane Jacobs [1961: 6]*

The livability of residential environments has become one of the most urgent challenges facing our industrial cities. Despite the volume of scientific research, experimentation, and evaluation, our understanding of the problem remains embarrassingly incomplete. Its very complexity baffles the investigator. One merely carves out slices of the problem and investigates them according to the concepts and procedures of specific disciplines.

Traditionally, residential areas have been studied within the framework of urban land use structure (Alonso, 1964; Muth, 1969). Norms and guidelines have been developed for the "rational" allocation of space and service functions throughout such areas (Harvey, 1970). Of late, serious efforts have been

made to explore the problem from the viewpoint of the resident. Studies have attempted to explore the dynamics of spatial behavior in microenvironmental settings (Proshansky et al., 1970; Moore, 1970), and several design implications have emerged from such behavioral research (Sommer, 1969; Alpaugh, 1970).

These studies also yield potential implications for planning of residential environments, but they are not yet readily translatable at that scale. Little substantial evidence is available regarding criteria on which the appropriateness of residential area design for different kinds of residents could be defined. Some studies suggest that there are important relationships between physical design and social behavior (Young and Willmott, 1957; Rainwater, 1966; Schorr, 1963; Yancey, 1971); others hold that little or no relationship is found between architectural design and social life (Gutman, 1966; Wilner et al., 1962; Gans, 1961). Confusion abounds partly because there is still no comprehensive framework within which research on different facets of the question can be coordinated and comparative studies implemented. This multidisciplinary research effort cannot as yet claim any unifying conceptual structure, nor has it a common language for interdisciplinary effort.

Meanwhile, the planner, charged with the responsibility for designing residential environments, combs through this literature for insight into practical issues, often only to abandon it, finding common sense, traditional "standards," or political pressure better guides for action than "scientific" research (Reade, 1969). Besides, the Ivory Tower ethos that has traditionally separated the planner from the academic world still constitutes a serious barrier to fruitful communication (Gans, 1968; Blair, 1969; Buttimer, 1971). Yet even when a *rapprochement* occurs, as has indeed happened on occasion in the context of residential area-planning, both social scientists and planners find themselves constrained by a predominantly Cartesian view of knowledge and by the peculiarly managerial perspective on urban life which this view has fostered. Both

tend to think of systems, of states of being, whether on the demand side (behavior patterns, interaction networks) or on the supply side (service networks, building design).

Livability, if this be our aim, cannot be defined adequately in terms of systems or states of *being.* For life in residential areas involves a dialogue of behavior and setting, of demand and supply; it is thus essentially a condition of *becoming.* Such a condition is seen to arise when resident communities engage in creative dialogue with their environments, molding, re-creating and eventually appropriating them as home. In this existential view, the planner can no longer be considered solely as the manipulator of supply; neither can the academician be seen merely as the investigator of resident aspiration and satisfaction. Least of all can the citizen be considered a passive pawn of external social or technological processes. This view demands that all engage themselves responsibly in the planning process itself.

For such a joint involvement in the *becoming* of residential areas, a radically new education is needed for both planner and social scientist. Each has to develop a more comprehensive understanding of urban life and the dynamics of urban systems. We need frameworks for investigation and reflection which do not segment and ossify parts of the city, as Cartesian practices have done. And we need an empathetic understanding of urban life as existential reality, as lived experience. An existential view of livability challenges the traditional rift between theoretical and applied disciplinary orientations. It calls for a unified, interdisciplinary approach to the study of environmental experience. Its essential focus on the meanings of phenomena in lived experience radically questions the assumptions and premises on which "objective" scientific analysis is traditionally based, and openly invites subjective involvement in the reality to be investigated.

This paper addresses itself to that manifold challenge. First, it attempts to define and clarify the notion of social space as a framework for a comprehensive understanding of environmental experience. Second, it applies this idea to residential area-

planning as illustrated by a preliminary investigation within selected housing estates in Glasgow, Scotland. The essay is intended to be provocative and suggestive; it does not offer rigidly tested hypotheses or guidelines for general application. Its aim is to raise rather than to resolve issues, to elicit curiosity rather than to provide conclusive answers.

TOWARD A DEFINITION OF SOCIAL SPACE

The concept of social space, as defined by Chombart de Lauwe (1956, 1952; Buttimer, 1969), offers a useful initial guide for an investigation of lived experience. As explained in his original Paris study, social space (*l'espace social*) is a framework within which subjective evaluations and motivations can be related to overtly expressed behavior and the external characteristics of the environment. Recent developments in sociology, social psychology, and other disciplines have greatly facilitated the analysis of specific dimensions of social space as defined in these terms.

In Anglo-American writings, however, semantic confusion surrounds the notion of social space. Sorokin (1928: 6) used the term to identify a person's "relations to other men or other social phenomena chosen as 'points of reference.' " Social space was defined as a system of coordinates whose horizontal axis referred to group participations and whose vertical axis referred to statuses and roles within these groups. Such a "system of social coordinates" could, in Sorokin's view, enable us to define the social position of any man. This purely sociological definition of social space differed from the psychologically oriented definitions of the term employed by other scholars, who stressed the subjective dimensions of reference systems (Park, 1924; Bogardus, 1925).

More recent definitions of the term favor the psychological orientation. One recent statement (Theodorson and Theodorson, 1969: 394), for example, holds that "social space is determined by the individual's perception of his social world,

and not by the objective description of his social relationship by any observer." This definition implies a close connection with reference group theory, a body of literature that provides useful insights into the nature of environmental behavior (Shibutani, 1955; Hyman and Singer, 1968). These interpretations reiterate the original Durkheimian sense of the term, which defines a person's position in "sociological space," and specifies nothing about his situation in physical space. This was the critical link provided in the work of Sorre (1957) and further elaborated by Chombart de Lauwe (1952; 1965) in his study of Paris.

Chombart de Lauwe (1952: 190-191) identified two distinct components of social space: (1) an objective component, "the spatial framework within which groups live; groups whose social structure and organization have been conditioned by ecological and cultural factors," and (2) a subjective component, "space as perceived by members of particular groups." Recent research by Anglo-American scholars has advanced our understanding of these two components, but little attempt has been made to integrate them into any comprehensive explanatory model.

Social area analysis provides one obvious approach to a definition of objective social space. Social spaces originally denoted groupings of census tracts which displayed a degree of homogeneity in terms of given sociodemographic characteristics (Shevky and Williams, 1949; Shevky and Bell, 1955). This interpretation was later adopted by geographers for factorial ecology studies (Berry and Horton, 1970; Brown and Moore, 1971). Whether or not the "spaces" derived from a factor analysis of census variables were considered to be "areas" by the resident population was not considered. Pioneers of social area analysis studied the isomorphism of social participation patterns and social spaces and matched activity patterns with the spatial morphology of social characteristics (Bell, 1959; Greer, 1956), but they made little attempt to examine the isomorphism of place identification with so called "social spaces" (see Greer, 1969: 99-104). The analysis of social activity patterns offers more dynamic variation on this theme. Action spaces, activity spaces, behavior fields, and other concepts related to spatial movements have been examined as

indices of social space (Chapin and Hightower, 1966; Cox and Golledge, 1969; Adams, 1969; Brown and Moore, 1971). In these studies, the nature and dynamics of people's movements in space are taken as critical clues to their relationships with their environments.

Complementary perspectives on spatial experience are afforded by the literature on territoriality (Altman, 1970; Lorenz, 1966; Ardrey, 1966; Suttles, 1968), personal space (Sommer, 1969), and proxemic behavior (Hall, 1966). Processes whereby individuals and groups lay claim to space and organize and defend it in culturally prescribed ways have recently become a major focus of interest in studies of environmental behavior. Whereas research on social areas and activity spaces generally relates to "objective social space," the territoriality literature adds insights of "subjective social space" (Boal, 1969; Metton, 1969). The subjective component of social space has been explored primarily in social psychology, anthropology, and ethology, within the framework of such concepts as life space (Lewin, 1951), ethnic domain (Barth, 1956), cognitive maps, (Downs, 1971; Blaut and Stea, 1971), and urban images (Lynch, 1960; Strauss, 1961). These studies, though diverse in their approach, share a common focus on perceptual and cognitive evaluations as determinants of spatial meaning (Stea and Downs, 1970; Cox and Zannaras, 1970). Such research seldom attempts, however, to link cognitive structurings of space with the actual ecological characteristics of the environment. Exceptions include Lee's (1968), empirical study of "socio-spatial schemata," Michelson's (1966) analysis of life styles and value orientations, and Fried and Gleicher's (1961) work on "satisfaction" among relocated families in Boston. Each of these studies attempts to link value orientations, mental schemata, or traditions to externally manifest behavior in particular environments.

Can any common threads of meaning be derived from these diverse bodies of literature? Is there any comprehensive framework within which they can be integrated? Are the conceptual and methodological approaches so distinct that

research coordination is impossible? The literature reviewed appears to offer insight into at least five distinct levels of analysis:

(1) a social-psychological level investigating a person's position within society—that is, "sociological space";

(2) a behavioral level investigating activity and circulation patterns—that is, "interaction space";

(3) a symbolic level investigating images, cognitions, and mental maps;

(4) an affective level investigating patterns of identification with territory;

(5) a purely morphological level, in which population characteristics are factor-analyzed to yield homogeneous "social areas."

To appreciate fully the patterns yielded by any one level of analysis, they must be related to the other levels. But before any comprehensive framework can be formulated, it is important to identify some of the missing links in the chain of research endeavor.

INCORPORATING A SOCIOLOGICAL DIMENSION

An examination of the literature on spatial behavior suggests that one critical missing link is the sociological dimension. Most of the explanatory models rest heavily on generalizations about relationships of organisms to their environments; for example, perceptual/cognitive processes (image formation, distance and space perception); dynamic-movement processes (activity spaces); instinctual/cognitive processes (territorial defense, proxemic behavior); affective processes (identification with place); and various combinations of these. The sociological dimension in these processes is rarely given explicit attention. Similarly, life style, social stratification, status, and role are rarely treated explicitly in studies of environment behavior (see, however, Gerson, 1972).

If environmental behavior is taken as the external (spatial) expression of social reference systems (sociological spaces), it

becomes possible to integrate findings from the various levels of analysis. While genetic endowment, personality attributes, territorial instincts, and so on must be recognized in any study of environmental relationships, such personal characteristics are usually influenced by the individual's life style, group participations, and other activities involving interaction with others. The reference groups from which an individual derives his values and behavioral norms dictate certain aspirations and attitudes toward his milieu (Flachsbart, 1969; Rothblatt, 1961).

Investigation of the spatial expression of such reference systems requires an examination of spatial activity patterns generated by social interaction. A person's accessibility to social contacts, whether voluntary (friends, relatives, recreational centers) or involuntary (shops, schools, clinics), constitutes a set of congruence indices between his socially determined aspirations and his manifest behavior. The nature of a person's social relationships predisposes him to attach different significance to the routes taken, to the nodes at which interaction occurs, and to the places associated with particular events and circumstances. Discrepancies between an individual's socially dictated aspirations and his actual achievements may lead to anomalies in his spatial behavior, explicable in terms of social reference systems rather than of personality attributes or characteristics of the environmental setting (Runciman, 1966). For each social group, a network of preferred places, interaction spaces, safe and dangerous locales, and frequented and avoided paths could be mapped. Individuals and groups feel their way through a city in activity space orbits with the nature and extent of circulation patterns generating and influencing images and establishing affective relationships with particular places, routes, and nodes.

Such sociospatial reference systems can be viewed as filters through which the physical environment is known, evaluated, and used. Geodesic space is expanded and contracted by the ties of kinship, language, and special interests. Shops, schools, and churches stand out as focuses in the mental maps of their clientèle. Distances shrink or expand according to the frequency of use and the importance of destinations. "Behavior settings"

(Barker, 1968) and "situated activity systems" (Goffman, 1961: 8) are defined in terms of the life styles of their users. In sum, places and spaces (areas, nodes, pathways, edges) assume spatial dimensions that reflect the social significance they have for those who use them (Strauss, 1961; Lynch, 1960).

EMPIRICAL ILLUSTRATION: CRITIQUE OF RESIDENTIAL AREA-PLANNING

The notion of social space, formulated in this way, provides a useful framework for exploring a variety of urban problems. A preliminary investigation of residents' evaluations of different housing estates in Glasgow offered an opportunity to test the idea and to develop a widely applicable methodology. The detailed research design will not be described here. Only those aspects of the study that bear primarily on operationalizing the social space concept will be discussed.

The primary aim of the study was to assess the conventional standards used in residential area design by examining residents' attitudes and evaluations of the design and service provision in selected housing estates. Planning standards recommended for residential areas concern such criteria as optimal density, accessibility to various services, design norms for house size and layout, and safety. Such standards are generally based on tradition or estimates of average demand rather than any exploration of the subjective social spaces of residents. Even when standards are comprehensive, residents of well-planned estates are by no means always satisfied (Jacobs, 1961; Hole, 1959; Fried and Gleicher, 1961). This raises the question of whether the "objective" standards approach to residential area-planning in fact stems from warrantable assumptions about social behavior.

The central question in the Glasgow study was the degree of correspondence between residents' aspirations and values (subjective social space) and standards for the design of the physical environment (objective social space). It was felt that the appropriateness of particular area designs could best be gauged

by ascertaining the extent to which residents achieved the socially determined aspirations implicit in different types of spatial experience. Seen in this light, the relocation process involved more than a change of physical environments and losses and gains of services; it potentially ruptured bonds to place and to social networks. The adequacy of new environments might thus be evaluated in terms of residents' abilities to recreate satisfactory social space patterns in their new environments.

Out of eighteen districts originally chosen on the basis of (a) presence or absence of planning standards, (b) location vis-à-vis city center, and (c) socioeconomic level as defined by ratable property values, four districts were eventually selected for the pilot study. All were in the lowest socioeconomic category; two were located near the city center, two on the periphery. One

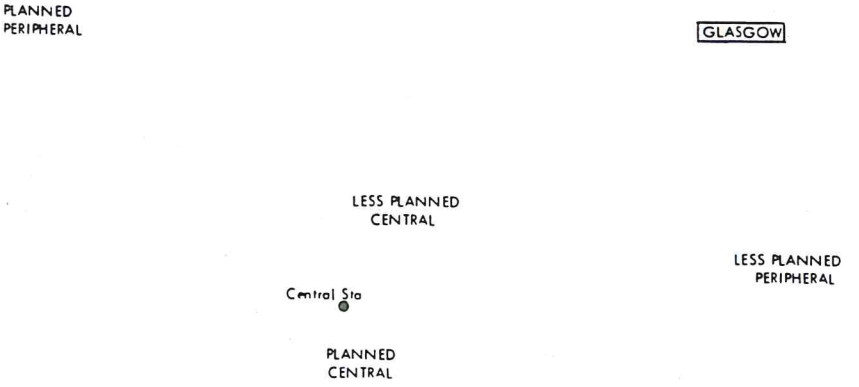


Figure 1: LOCATION OF STUDY AREAS

district from each location type evidenced the presence of planning standards; the other lacked them. The labels "planned" and "less-planned" identify these districts (see Figure 1).

Two distinct analytical perspectives were assumed in the study. One focused on the appropriateness of environments for people by eliciting direct assessments of actual site characteristics; the other focused on the nature of people's demands for residential environments, by exploring certain dimensions of behavior and aspirations.

The appropriateness of environmental supply was analyzed with regard to three major questions:

(1) Were residents in planned districts in general more satisfied[1] than residents of less-planned districts?

(2) How did the evaluations of external obervers compare and contrast with residents' evaluations of the same characteristics?

(3) Could residents' satisfaction with their environment be inferred from the evaluations of the external observers?

The environmental assessments of residents and external observers revealed interesting points of divergence and convergence. The presence of standards did not guarantee universal satisfaction. Contrasting evaluations were largely a function of the lenses through which objects were perceived. For the external observer, notwithstanding his efforts to achieve objectivity through the standardized scales and disciplinary research models, also evaluates the environment subjectively through the variegated prism of his experience, just as the resident does. The reference systems that influence the external observer's evaluations offer a valuable avenue for further research (see Craik, 1970).

The second approach, labelled "demand anticipation," explored residents' evaluations of site character in terms of their underlying sociospatial reference systems. We found that the inhabitants used, interpreted, and evaluated their residential environments through the filter of their sociospatial reference

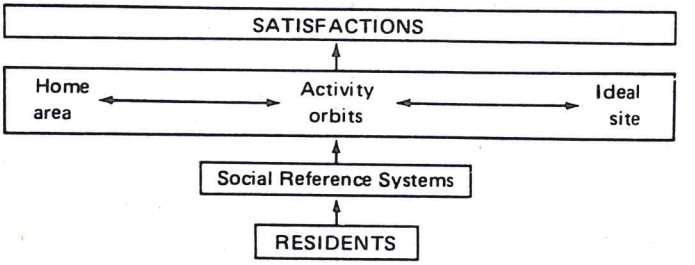


Figure 2: AN OPERATIONAL SCHEMA FOR THE ANALYSIS OF DEMAND

systems, operationally defined in this study in terms of three components; (1) territoriality, (2) activity orbits, and (3) expectations about site character (Figure 2). Overall satisfaction with the physical characteristics of the area and with life in the area are the cumulative result of congruence in three components of spatial experience—namely, ability to identify with a home ground, accessibility to aspired social and service destinations, and a perception of the architectural environment corresponding to an image of an ideal environment.

Although these three types of spatial experience can be treated separately for purposes of analysis, they cannot be considered separate entities in terms of lived experience. An image of an ideal environment theoretically subsumes aspirations about territoriality, accessibility to desired destinations, and ideal site character. Activity orbits (the spatial expression of social reference systems) contribute to and mold this image. Individuals establish affective relationships with particular urban places, routes, and nodes through the spatial activity patterns generated by interaction with their social reference systems. Their expectations about residential area character are also influenced by the norms and values transmitted within this reference system.

These relationships are illustrated for two hypothetical polar types of resident: the "localite" and the "urbanite" (Figure 3). Two distinct types of activity space were measured: (1)

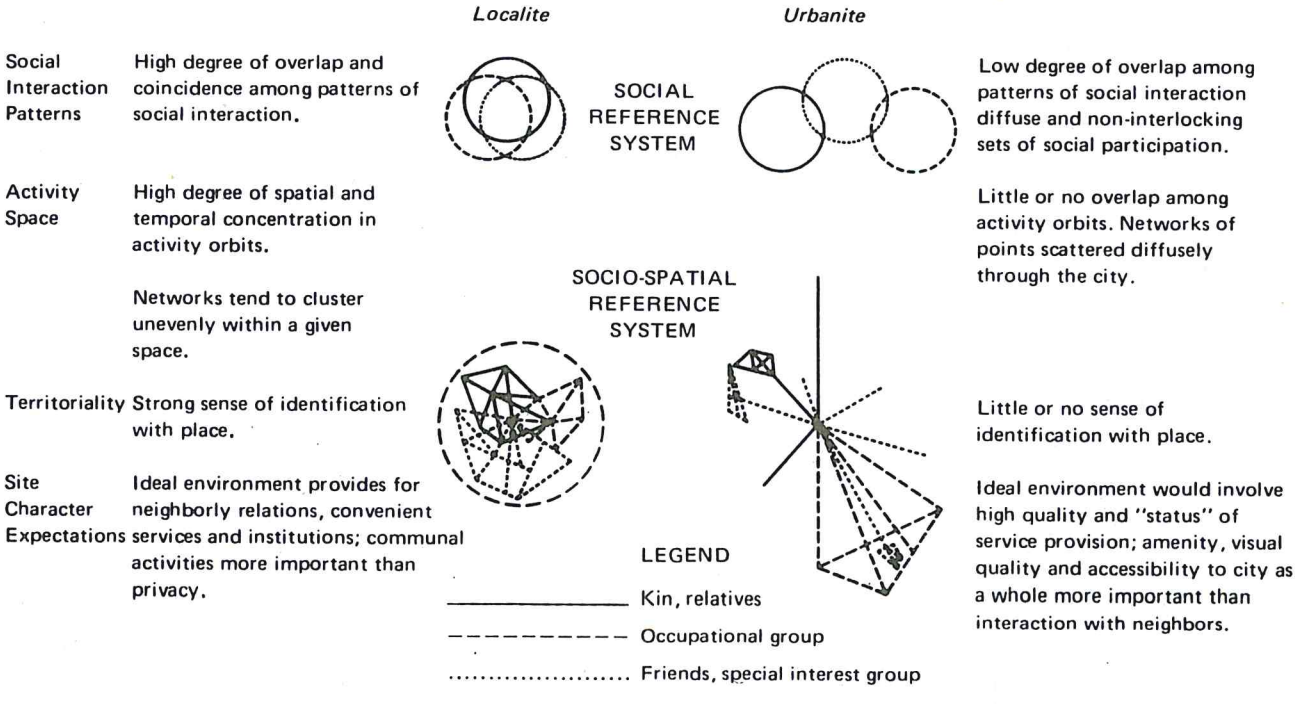


Figure 3: IDEALIZED SKETCHES OF SOCIO-SPATIAL REFERENCE SYSTEMS

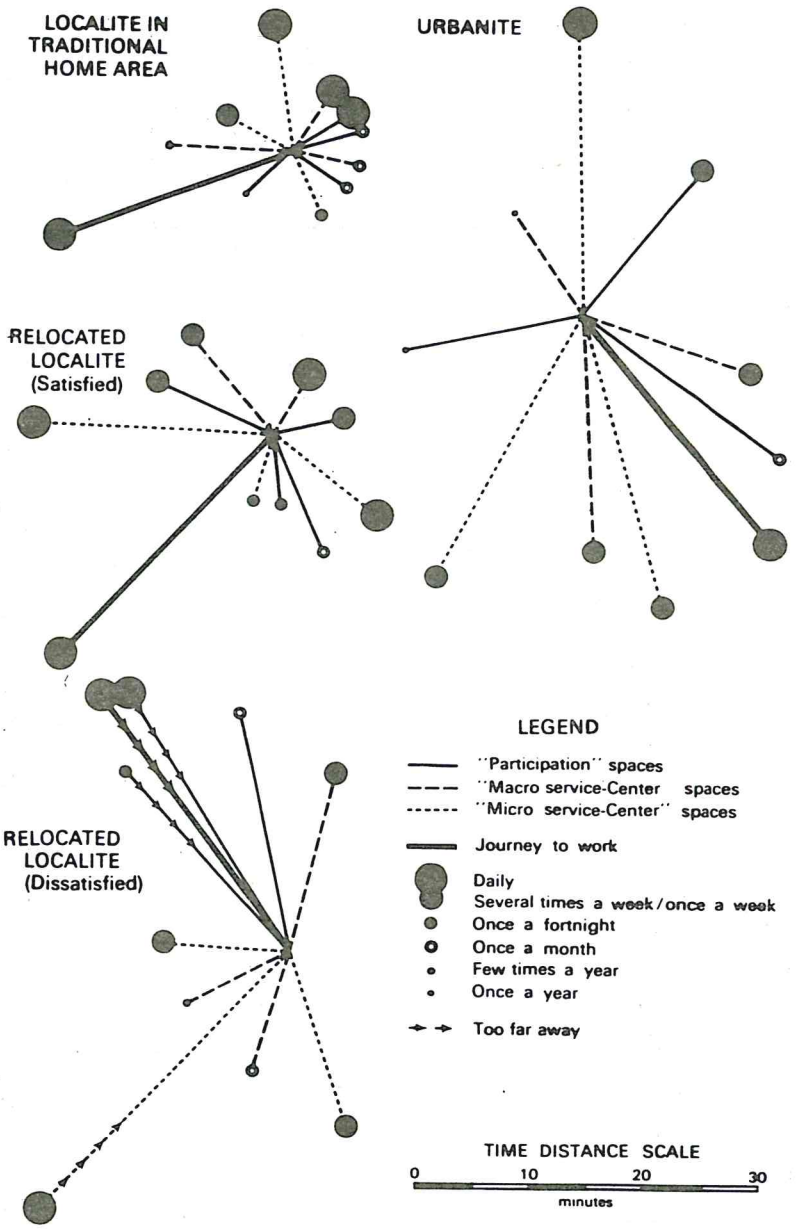


Figure 4: IDEALIZED ACTIVITY SPACE PROFILES

participation spaces defined by reference groups, shown here for relatives, friends, and occupational and special interest groups; and (2) circulation or interaction orbits, defined in terms of macro-service spaces represented by trips to schools, shops, post offices, and doctors; and micro-service spaces, which include trips to bus stops, public telephones, nursery schools, play area, pubs, youth clubs, community centers, libraries, parks, and gardens. Participation spaces are clues to a person's sociological space, while his circulation orbits are clues to his behavior field.

Three distinct layers of socially significant spaces can be defined for each individual: social participation, macro-service, and micro-service. The degree of overlap among these layers reflects the internal homogeneity or restrictiveness of an individual's social space. In spatial terms, analysis of spatial and temporal concentration in movement patterns was expected to yield a horizontal zonation of socially significant spaces: (1) a local zone defined in terms of trips to shops, schools, play areas, and of casual but frequent interaction with neighbors; (2) an intermediate zone defined in terms of regular trips to occasional shops, church, doctor's office and of visits to friends, relatives, and special interest group meetings; and (3) a more diffuse zone defined in terms of interaction with close friends and relatives of primary importance even when their residential location makes visiting difficult. The ideal situation in terms of planning would be one in which the first of these zones would correspond with facilities within a five-minute orbit from home, the second would correspond to facilities located within a ten-minute orbit and the spatially more discontinuous outer zone would accommodate longer movements through space in search of a higher intensity of social meaning.

Spatial and structural overlap among these three kinds of spaces was expected to be greatest among "localites" and least among "urbanites" (Figure 4). Hence, territorial identification would be greater among the former than among the latter. It was also expected that high levels of spatial and temporal concentration in activity spaces would be associated with a

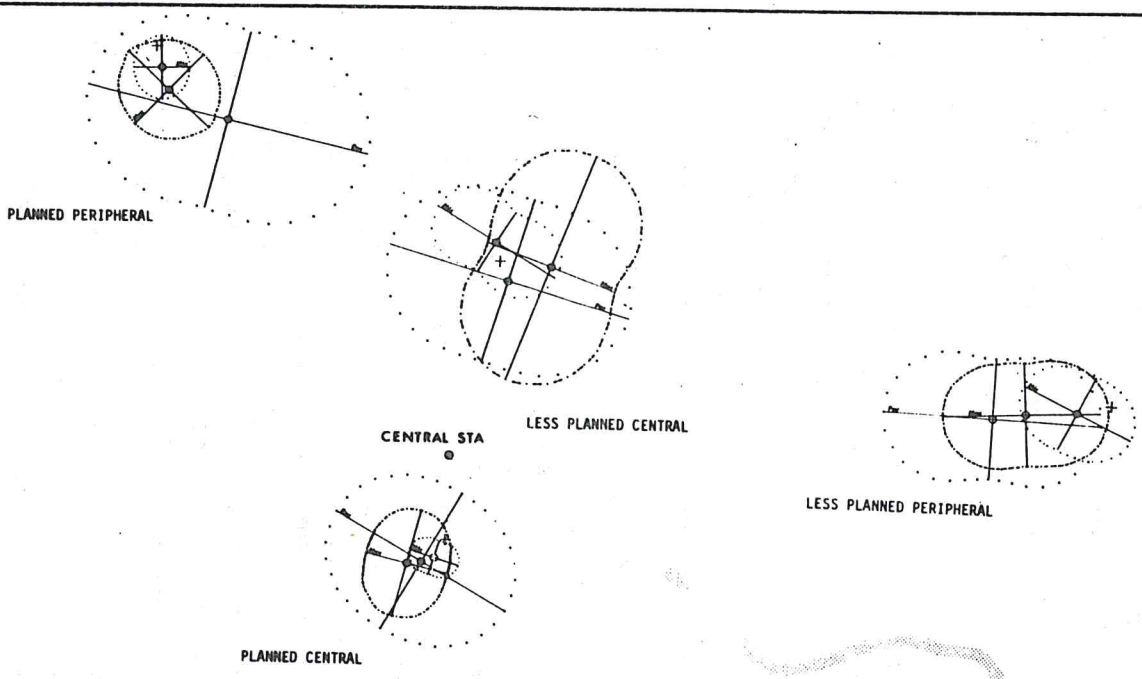


Figure 5: STANDARD DEVIATIONAL ELLIPSES DESCRIBING ACTIVITY SPACE PROFILES WITHIN THE FOUR ESTATES

propensity to value the social characteristics and micro-service features of the local environment, while diffuse patterns of activity would involve greater concern for neighborhood visual quality and "status" and for accessibility to the city as a whole, but would place little emphasis on local neighborhood interaction. An analysis of images and associated behavior patterns could yield a typology of expectations both for local design (site) and for accessibility (situation), ranging from the polar positions of localite to urbanite (Webber, 1964). Such a typology might not parallel socioeconomic status or social class (Gerson, 1972), but there is some evidence that local network interaction contributes more to overall satisfaction with area among working-class families than among others (Yancey, 1971).

The general hypothesis outlined in Figure 4 suggests a restricted, roughly circular profile for the typical localite, with most daily and weekly destinations except the journey to work concentrated in the five- and ten-minute zones. The urbanite's profile, by contrast, is highly diffuse, involving little interaction with the zone closest to home. A relocated localite might be reasonably satisfied if his new activity space profile remained somewhat restricted, with frequently visited destinations still no more than ten to fifteen minutes from home. But, if the profile is greatly altered, diffuse in space, and directionally biased, he will be dissatisfied.

A centrographic technique known as the Standard Deviational Ellipse (Caprio, 1969; Hyland, 1970) made it possible to describe several dimensions of the aggregate activity space orbits of each resident group.[2] Ellipses (Figure 5) provide a graphic description of

(1) the overall volume of interaction as defined by the area of each ellipse;

(2) the degree of spatial concentration as expressed in the dimensions of minor and major axes;

(3) the general shape of the distribution expressed as a coefficient of circularity, dividing the minor axis by the major;

(4) the directional bias as indicated by the tilt of the major axis;

(5) the nature of activity space orbits, with separate ellipses for participation spaces, macro-service spaces; and micro-service spaces.

Such indices of activity space orbits form a good basis for comparing districts (that is, planned against less-planned), population sectors (households with or without children), and different territorial orientations (people who could or could not define a home area).

Once the idealized sociospatial reference system was developed, two major avenues of research could be pursued: (1) the congruence perceived between each of the three levels of spatial experience (activity orbits, territorial identification, and image formation) and overall satisfaction with residential environment; and (2) an overall social space profile for each district based on relationships among the three levels of spatial experience.

The first line of research yielded promising clues about the appropriateness of different residential designs. For example, residents who thought of destinations as near enough were on the whole more satisfied than those who considered them too far away. Those who demonstrated a high degree of territorial identification[3] were more satisfied than those who appeared not to identify with their area. Those whose expectations about site character were realized[4] evinced greater satisfaction than those who felt that their immediate environment did not measure up to their ideal. Sectors of the population varied, to be sure, in their ranking of the importance of destinations (Figure 6), of neighborhood identity and of various site characteristics (Figure 7), and the differences have implications for planning.

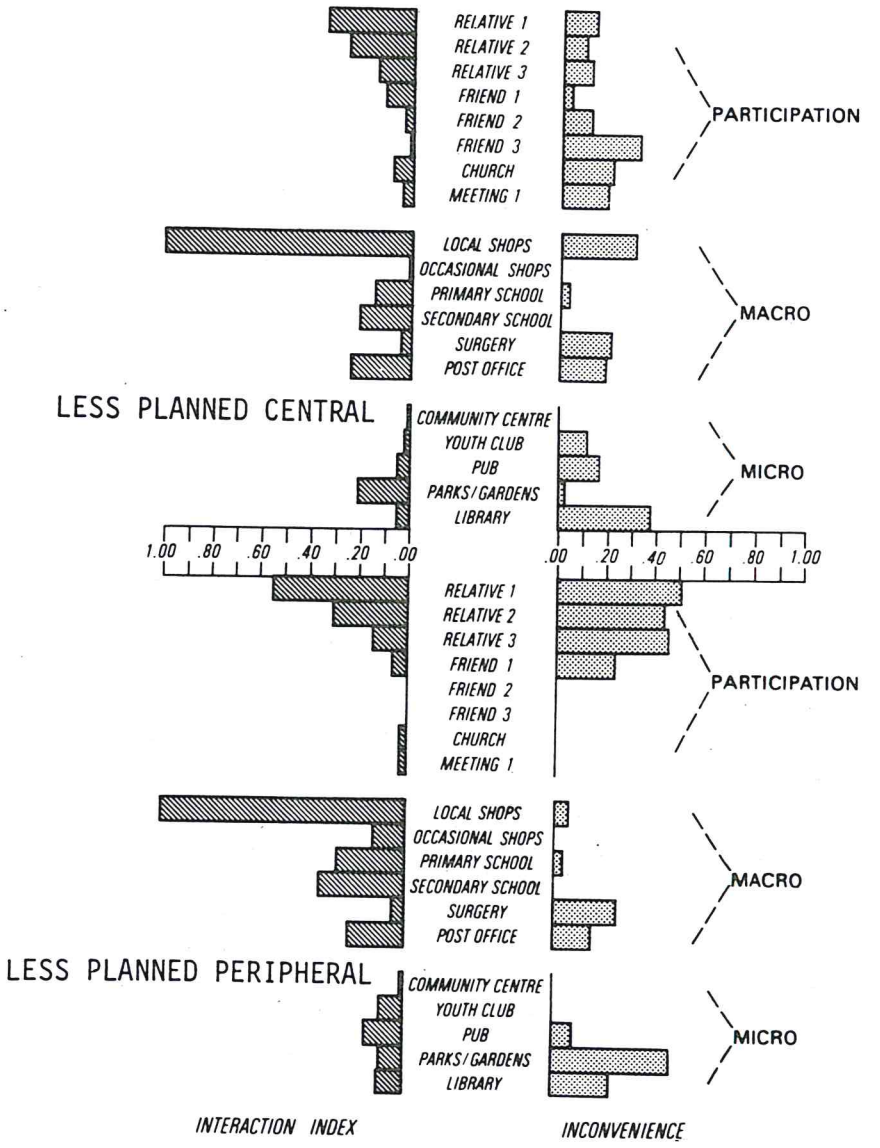
The main thrust of this essay, however, is toward the second question: Is there any group consistency in experience of residential environment? Can one discern any consistent pattern of association among the territorial, interaction, and image characteristics of people within given districts? To see how resident groups have endeavored to integrate these different

levels, it will be useful to describe briefly the characteristics of individual districts as a whole.

THE CENTRALLY LOCATED PLANNED ESTATE

Of all the districts studied, this one has the most integrated pattern of interaction (Figure 5). The ellipse describing micro-service center interaction is not annular but lies within 0.5 T.D.U.'s (time distance units = 10 minutes) of the zero/zero coordinate. The slight displacement of its mean center toward the Southwest reflects two characteristics of the site: a physical barrier to the north (the River Clyde), and a concentration of services slightly south of the residents' homes. The same characteristics influence the shape of the ellipse describing macro-service-center interaction, but trips for occasional shopping and to secondary school may explain the north-south orientation of the macro-service ellipse. The ellipse describing participation interaction is slightly larger: friends, relatives, and kin are distributed more extensively. But the critical point is that the shift of its mean center away from the zero/zero coordinate is not great. All mean ellipse centers within this estate are located at an average distance of 0.6 T.D.U.'s from the original zero/zero coordinates. The relatively integrated nature of this estate's ellipses is reflected in the residents' high degree of territorial identification. Of the 36 respondents, 83% always felt at home, 75% could define a circumscribable home area, 56% had very much wanted to move into their present estate, and only 22% expressed any desire to leave the area.

The priorities attached to various features of the local site reveal cleanliness (1.0), view from living room (.83), neighborly contact (.81), and greenery (.81) to be the most important.[5] Fortunately, residents appeared satisfied with these features (Figure 7). Such features as freedom from noise (.44), general appearance (.67), and play facilities for children (.42) were not considered as important. A good neighborhood was more important than a good house to 68% of the housewives. The fact that they found features they felt important to be



INTERACTION INDEX: Based on mean monthly time spent traveling to a given destination

INCONVENIENCE INDEX: Percentage of respondents who felt a given destination was too far away

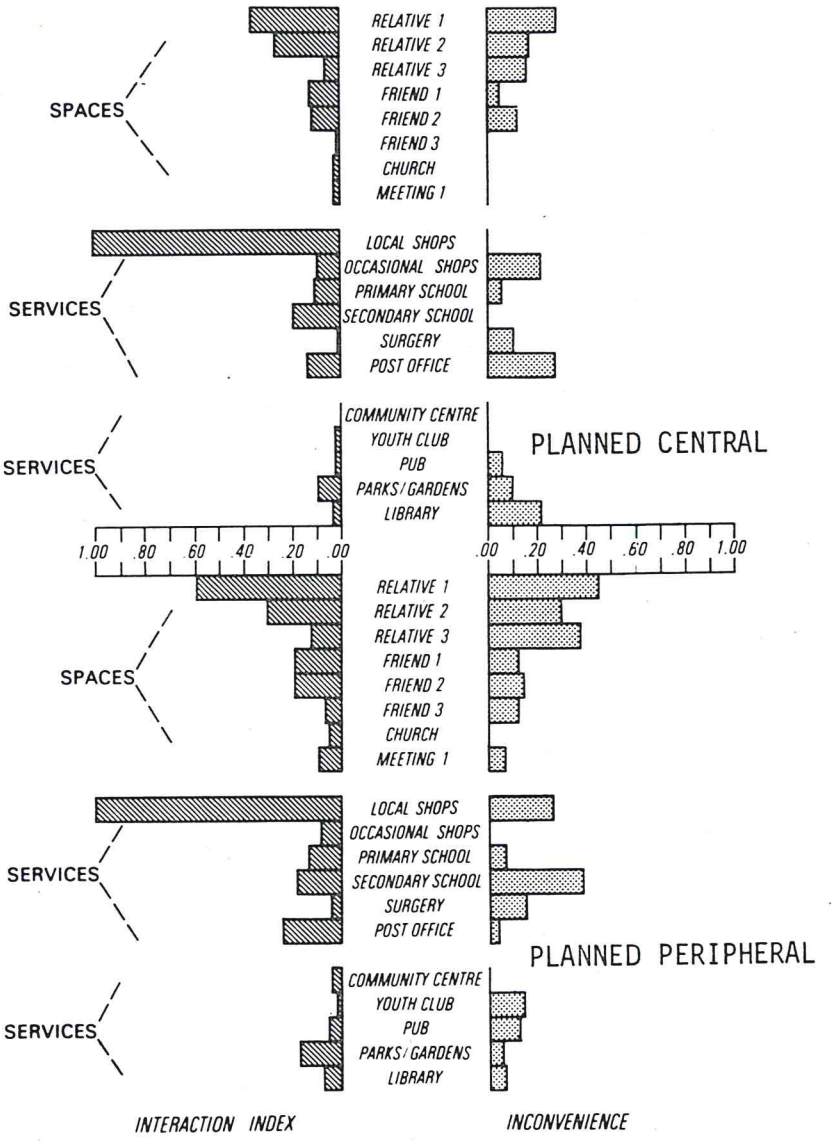
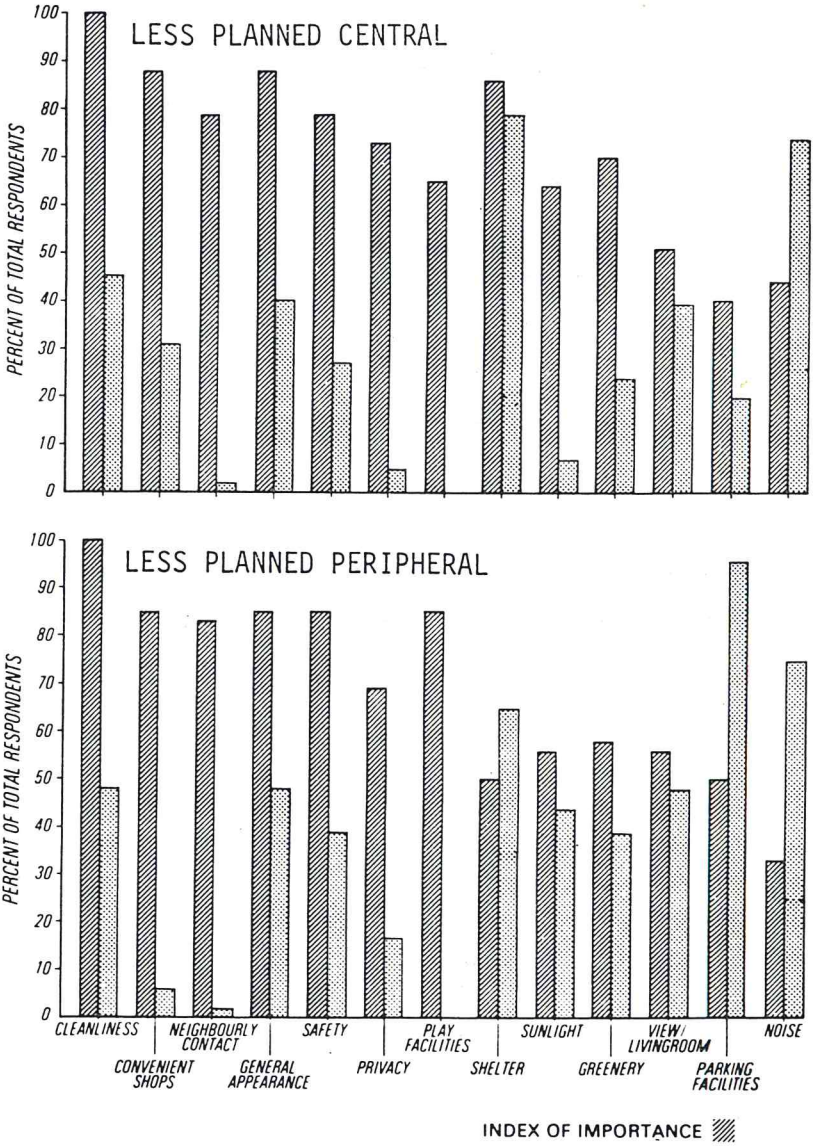
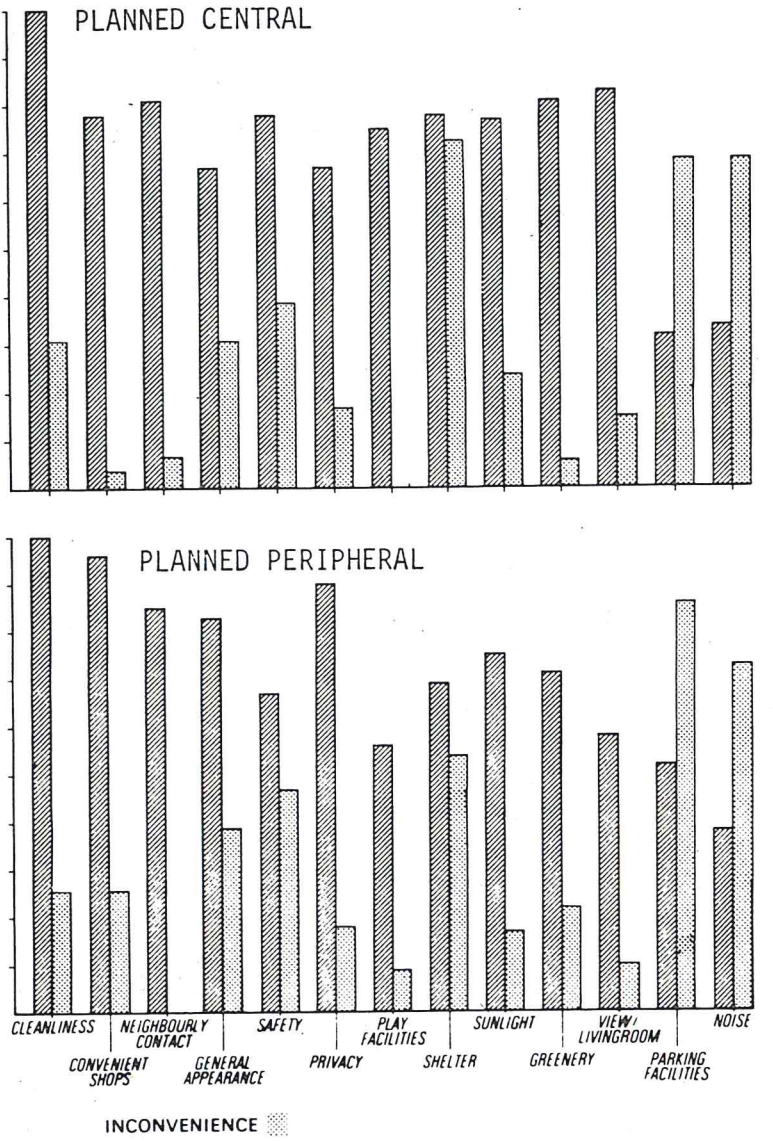


Figure 6: VOLUME OF INTERACTION AND CONVENIENCE OF DESTINATIONS WITHIN THE FOUR ESTATES



INDEX OF IMPORTANCE: Percentage of respondents who considered a particular feature "very important"



INDEX OF INCONVENIENCE: Percentage of respondents who found a particular feature less than "very satisfactory"

Figure 7: EVALUATIONS OF SITE CHARACTERISTICS RANKED BY THEIR IMPORTANCE FOR THE RESIDENTS

satisfactory no doubt contributed to the residents' overall satisfaction with the environment. Of the inhabitants of all four estates, these people were the happiest: 64% here were "very satisfied" with their area, 58% were "very satisfied" with life in the area. Although no statistical evidence is yet available, it is highly likely that congruence among the three levels of environmental experience contributed to this overall sense of satisfaction with the residential environment.

THE CENTRALLY LOCATED LESS-PLANNED ESTATE

The obvious directional bias and the considerable displacements of all mean centers of interaction ellipses away from the zero/zero coordinates for this estate (Figure 5) provide a stark contrast with the integrated nesting of ellipses in the other centrally located estate. The areas enclosed within the macro- and micro-service ellipses for the less-planned estate are the largest in the entire sample. The macro-service ellipse is particularly striking: it is twice the size of the next largest, that of the peripheral, less-planned estate. This largely reflects trips to a denominational secondary school south of the Clyde, to churches (south of the estate), and to occasional shops (in the city center). Lacking convenience or shopping services on the estate itself, the housewives had to travel (often on foot, since bus service is not convenient) to shops on a main arterial road northeast of the estate. The mean centers of the three distributions in this estate encircle the original zero/zero coordinates. Whereas shifts of mean centers are unidirectional for the other estates, here each one shifts in a different direction. Thus, when the three types of interaction are viewed together, the resultant ellipse has an annular form.

Because this is a part of Glasgow that many of these housewives consider their own, they display some sense of territorial identification: 53% of the 44 sampled could define a circumscribable "home area," and familiar landmarks such as churches, railroad yards, even the cemetery, contributed to the feeling of belonging. Moreover, 73% always "felt at home" in

the district, 53% had wanted to move into the area, and only 26% wanted to leave. Even among those who were less than very satisfied with the area, only 40% desired to move away. Site characteristics considered "very important" were cleanliness (1.0), general appearance (.88), convenient shops (.88), and shelter (.86). That "view from living room" was not emphasized may reflect the fact that windows were too high up for most people (Figure 7).

Most of the features residents considered important, however, they did not find satisfactory. They confront a peculiarly squalid landscape, with large-scale railroad and engineering works of the late nineteenth century, a cemetery, and a generally grey-black industrial landscape on three sides. A passenger train passes beneath their windows twice every hour. Concrete, noise from traffic, and the lack of greenery or play space characterize the immediate environs. Unsatisfactory bus service, elevators nearly always out of order, rifled telephone kiosks, and a fear of "rowdies" make life in the estate peculiarly hazardous and unsatisfactory for many residents, particularly the elderly. Why, then, the relatively high degree of satisfaction with life in the area? Whereas only 40% of the residents were "very satisfied" with the area, 58% were "very satisfied" with life in the area. Could it be that familiarity with the surroundings, a sense of belonging to the locality, compensates for the lack of amenities?

But the relatively high degree of satisfaction derived from this sense of belonging to the place should not be used as a justification for neglecting the specific sources of strain noted above. The provision of macro-services within a ten-minute radius of the estate would lend greater cohesion to residents' service-center orbits. Better transportation facilities might not reduce the spread of participation spaces, but they could reduce the strain for those who feel their participation destinations are too far away. This district demonstrates the need to integrate the planning of residential areas with that of the city as a whole. Many of the sources of strain in this estate emanate from citywide functions, such as rail transport, job locations, arterial

routes, and school locations. Located closed to the center, the estate pays for city "efficiency" while reaping few of its benefits.

THE PLANNED PERIPHERAL ESTATE

The provision of "standard" services is apparent in the micro- and macro-service ellipses for this estate (Figure 5). The mean center of the mircro-service ellipses (maximum axis 0.55; minimum axis 0.5 T.D.U's) is slightly displaced toward the south, reflecting the location of the new shopping center on the estate. The southerly displacement of the mean center of the macro-service ellipse is explicable in terms of occasional shopping downtown, visits to doctor, friends, relatives, and special interest groups in northwestern Glasgow, from which most of the residents came. In terms of planning standards, it is interesting to see that these service ellipses correspond with the outer limits of the ideal time-distance for the services; only the slight displacement of their mean centers detracts from the success they reflect in minimizing time traveled.

Participation shows a definite linear trend (coefficient of circularity 0.65) with the major axis inclined toward the central business district. This reflects the visits to kin and special interest groups in northwestern Glasgow, however, which are not necessarily trips to the CBD. The area of this ellipse is the largest for that class in any estate. This may reflect the location of traditional kinship ties or the willingness of upwardly mobile families to travel longer distances for special interest groups.

Of the residents of this estate, 45% (n=48) felt that their closest relative was "too far away." Given relatives' high priority ranking among all social interactions,[6] the inconvenience of reaching them presumably induced significant strain, but the length of residence in the area (87% had been there more than three years) and the convenience of most services seemingly had led to a sense of territorial identification: 66% could define a circumscribable "home area," 73% always "felt at home" in the area. In fact, among those who were less than

very satisfied with the area, only 40% expressed a desire to leave it. The similarity between these dispositions and those of the residents in the centrally located less-planned estate suggests some kind of trade-off between planning amenities and sense of territorial identification.

The site features most important to residents of this estate were cleanliness (1.0), convenient shops (.96), and privacy (.90)—characteristics generally considered important by upwardly mobile suburban populations (Gans, 1959). Such social considerations as neighborly contact also ranked high (.85), but esthetic features were most frequently remarked on. In their free responses, residents said they like the area for its clean, healthy, and open atmosphere: "It's good for the children, away from the noise and congestion of the city." The high degree of satisfaction with the area (81%) and with life in the area (64%) reflects the congruence between residential aspiration and achievement. The site features considered most important were by and large satisfactory to residents. Only the difficulty of access to friends and relatives appeared to induce some strain.

THE LESS-PLANNED PERIPHERAL ESTATE

The micro-service ellipse of this estate contrasts sharply with that for the planned peripheral estate (Figure 5). The area enclosed within this ellipse is almost three times as large as the other; the displacement of its mean center is 50% greater. The macro-service ellipse is almost twice the size of its planned counterpart, and the displacement of the mean center is almost twice as great. By contrast with the roughly annular tendency of service ellipses in the planned peripheral estate, the ellipses here are linear. This estate's participation ellipse is rather small; only half that of the planned peripheral estate and definitely oriented toward the CBD. Again, however, this need not reflect trips to the CBD itself. Instead, the directional bias probably reflects visits to that section of Glasgow, slightly east of the city center, from which many residents came. Especially important

are visits to celebrated football grounds (Ibrox, southwest of the city center, and Parkhead, east of the city center) and to special interest groups associated with these grounds.

The physical and social isolation of this estate is reflected in residents' relatively low degree of territorial identification. Only 50% (n=48) said they "always felt at home" or could define a circumscribable "home area"; only 23% had very much wanted to come into the area, and 65% very much wanted to leave it. And of those who were less than "very satisfied," 80% very much wanted to leave.

Estate features considered important were by and large those that housewives felt were lacking in their immediate environs: cleanliness (1.0), convenient shops (.85), general appearance (.85), safety (.85), and play facilities for children (.85). In terms of most of these critical criteria as well as others—privacy (.69), view from living room (.56), sunlight in all rooms (.56), shelter (.50), and freedom from noise (.33)—the estate failed to meet residents' aspirations.

TOWARD AN INTEGRATED PERSPECTIVE ON SPATIAL EXPERIENCE

At each level or mode of spatial experience, one finds a set of clues to design appropriateness. Yet there is no common metric, no coordinate system that can accommodate all the processes involved. Data for basic activity patterns—Cassirer's (1944: 42-47) "organic level of spatial experience"—have been analyzed in a Cartesian coordinate system, but how is one to relate this to perceptual experiences of space (Michelson, 1966; Harvey, 1970)? Frequently visited places and localities of high social significance apparently stand out; points never visited though nearer home, fade into insignificance. One appears to be dealing with a topological field, expanding and contracting according to a person's perceptual memory, normal orbits of movement, and ideas about places. And, in considering images —those abstractions about places and space that people con-

sciously or unconsciously construct—one is dealing with a symbolic level of spatial experience that demands a still different metric and coordinate system.

If one's main purpose is to unravel the dynamics of discrete processes involved in different levels of spatial experience, then metrical coordination is a gargantuan task. But if one believes that spatial experience in daily life may be perceived as a whole, then the focus of attention changes. One poses the question of how social reference systems, collective memories, and customary forms of interaction are expressed in the way groups assign a common meaning to space. One is concerned with the felt nature of "experienced" spaces—for example, "safe" and "dangerous" places, sacred and secular spaces, focuses of social activity, highly valued zones that each group defines in its own appropriate style (Suttles, 1968; Strauss, 1961).

The main conceptual and technical points made in this paper are summarized in Figure 8, a model for an integrated perspective on environmental experience. The social reference system is seen as the critical measure of significance and meaning on several dimensions of environmental experience. Whereas the Cartesian approach to measuring discrete processes seeks order and generalization, the existential view suggested here seeks meaning, specifically that ascribed to various kinds of order surrounding residential environments. Such meanings may be uniquely defined by households, but social reference systems may project collective social meanings. Such integration is evident in the consistency of the externally manifest behavior and the free-answer responses of our Glasgow residents.

CONCLUSION

What hypotheses about spatial behavior can be derived from this pilot study? What implications are suggested for the planning of residential areas and the provision of social services? More generally, what can the existential perspective contribute to our understanding of cities?

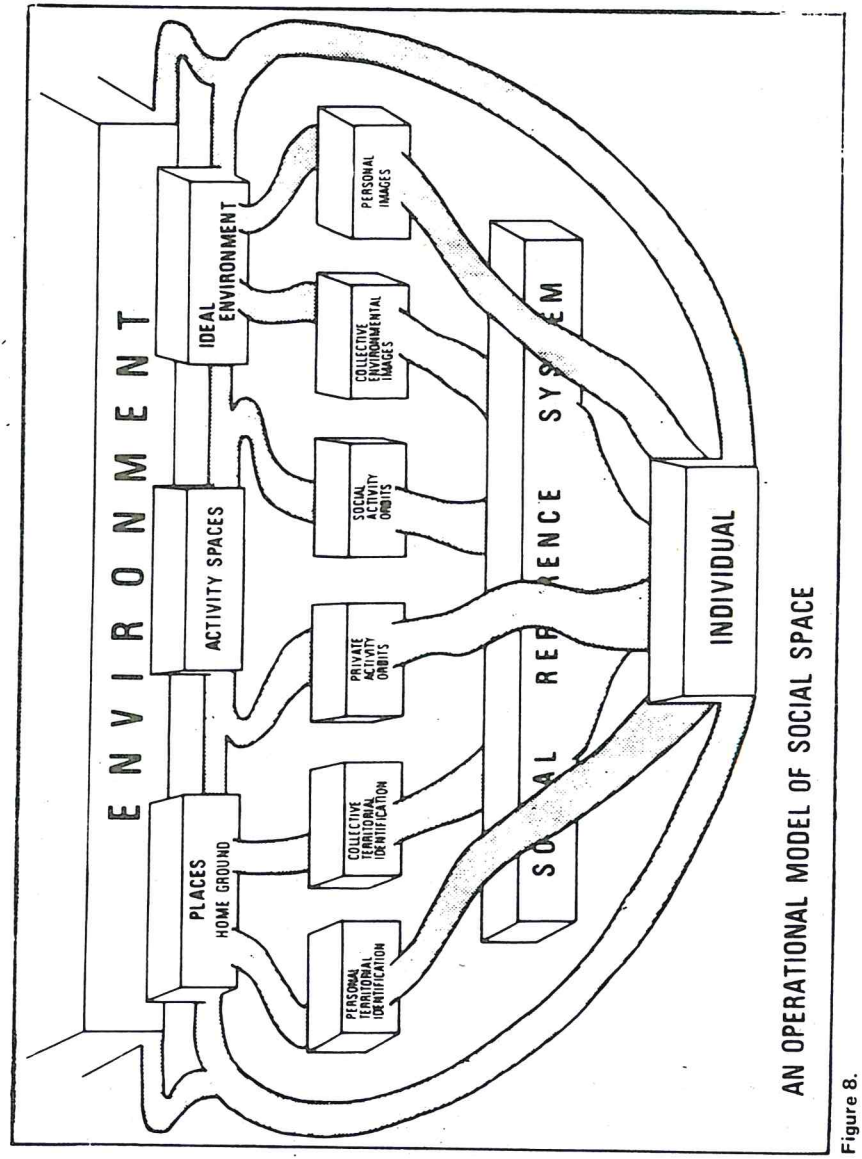

ENVIRONMENT
PLACES
HOME GROUND
ACTIVITY SPACES
IDEAL ENVIRONMENT
PERSONAL TERRITORIAL IDENTIFICATION
COLLECTIVE TERRITORIAL IDENTIFICATION
PRIVATE ACTIVITY ORBITS
SOCIAL ACTIVITY ORBITS
COLLECTIVE ENVIRONMENTAL IMAGES
PERSONAL IMAGES
INDIVIDUAL
AN OPERATIONAL MODEL OF SOCIAL SPACE

Figure 8.

It may be useful first to specify the inferences that cannot justifiably be derived from the study. One is the suggestion that people in dilapidated sections of our industrial cities should be ignored, "saved" from the redevelopment bulldozer, simply because they appear content with their traditional and cohesive life style. Some studies, glorifying the esthetic and anthropologically exotic characteristics of slum communities, have taken redevelopment and renewal planners to task as arch-villains bent on destroying the beauty of a viable sociospatial order (see Jacobs, 1961). While large-scale "bulldozer" renewal programs can certainly be charged with insensitivity and have perhaps occasioned more problems than they have sought to eliminate, it is nonetheless inevitable that there be public intervention in the construction and design of residential areas. The redevelopment and renewal of slum areas, however, demands the joint response of both residents and external systems. This study attempted to isolate certain criteria and guidelines for a more productive dialogue between people and plans, between residents and planners of housing developments.

It is also a false inference that people vary so in their aspirations, tastes, and perceptions of the ideal residential environment, as to make it impossible to derive generalizations for planning, While the existential lived experience of individual families may ultimately be unique, certain consistencies in their overtly expressed attitudes and behavior patterns nonetheless contribute to their overall satisfaction with their environments. The example of "at homeness" may illustrate this point. Among the variables associated with residential environmental satisfaction, the most significant indicated a sense of belonging to the area. The components of this phenomenon vary among districts, families, and social strata, but the phenomenon itself (an existential variable) clearly deserves further exploration. Within the small sample studied, certain measurable variables—duration of residence, location of district, stage in the family cycle, type of social interaction—appeared to be consistently related to the subjective experience of "at homeness." Place identification within the centrally located planned estate, for example,

accompanied a high index of interaction among friends and relatives, whereas place identification in a peripheral estate accompanied a relatively higher index of interaction with service centers. This suggests that people who remain near their traditional homes continue to base their feelings of "at homeness" on proximity to kin and friends, whereas those on the periphery require the interaction generated around services to feel "at home." While duration of residence in the peripheral estates is strongly related to the presence of "home area," this is far more evident in the planned than in the less-planned estate. This is certainly an argument for the provision of services, particularly in areas where residents have been moved far from their traditional homes. It has often been argued that residents of whole blocks or streets be moved together (Young and Willmott, 1957). Recent experiences have shown, however, that over time people are capable of building social networks in new housing estates (Young and Willmott, 1963). As suggested in a development plan for Middlesbrough (Glass, 1948), services such as schools, shops, and post offices could become the catalysts for social interaction if strategically located within a redevelopment area.

Yet it is not so much the quantity and spacing of services that raises fundamental issues as the quality, scale, and social relevance of these services. Several instances could be cited from our study in which services were said to be conveniently located, but which were the main focus of complaint in open-ended responses. Often, too, services were said to be convenient though seldom, if ever, used. In the case of doctors' offices and places of worship, for example, people sometimes preferred to travel longer distances in order to maintain contact with familiar doctors, teachers, and religious communities. Familiarity, ease of social interaction, and a variety of other factors appear to weigh quite as significantly as physical access in residents' evaluations about services.

Does this imply better transportation facilities so that people can continue to travel to familiar shops, clinics, churches, and friends and a moratorium on service provision within new

residential areas? A good case could be made for transport facilities to traditional social destinations (for example, relatives and special interest groups), but a similar logic cannot in the long term be applied to services. Here the distinction between macro- and micro-services is critical. While most communities need a planned network of schools, shops, post offices, and health facilities, they vary widely in their needs and tastes regarding such micro-services as youth clubs, community centers, play areas, libraries, and nursery schools. The former should be considered mandatory from the start, the latter could be added as people grow used to one another and to their new environments.

The central implication of our study is this: the success of a residential development is contingent on the existential meaning it acquires for its residents. Who better than they can derive and infuse meaning into an environment? As far as possible, then, decisions concerning building design specifications and the range and quality of services should emerge from an active dialogue between order and meaning, the rational spatial order of technological, economic, and architectural standards and the growing self-awareness of new communities. For demand cannot be considered solely in terms of the traditional life styles of stable communities in the slums. This would yield a set of standards which might be quite as inflexible, quite as insensitive, as standards based on the efficiencies of supply. On the demand side, one has to consider a dynamic, changing surface, evolving as people move spatially, socially, and communally. Only when a particular area design has acquired social meaning, only when its neighborhoods and physiognomy are stamped with the character of its residents and its service facilities are attuned to their needs does an ecological harmony between people and milieu emerge (Sorre, 1957; Chombart de Lauwe, 1956: 61; Gerson, 1970; Jacobs, 1961).

The problem ultimately becomes one of education both for suppliers (politicians, planners, architects) and demanders (residents). The supply structure should not be regarded as a prefabricated network of physical provisioning rationally allo-

cated according to the constraints of technological efficiency, scale economies, and market-area potentials. It should be regarded as a potential supply system, a potential to be tapped and molded by the consciously articulated demands of resident communities.

How to enable communities to grow and develop to the point of appreciating and claiming their rights and responsibilities within the framework of the urban system as a whole is, of course, the critical problem. In a civilization imbued with the values of Promethean individualism, however, is it not likely that people feel responsibility primarily for environments they have helped create, for services they have helped organize? Is it not conceivable, then, that the collective challenge of designing and provisioning their environments could become a learning experience, generating a sense of community responsibility and contributing to identification with place? Why have we been so hesitant to experiment at different stages of the relocation process?

Why not, for example, in some areas subject to renewal, present the range of available choice a year or so beforehand to all those who are about to be moved? Ideas could be exchanged and action initiated upon consultation and collective decision. Broad decisions of building style and layout could be based on specific sociodemographic characteristics of the population, and a basic supply of macro-services built in prior to occupancy .

Through preparatory dialogue and interaction, a sense of collective community consciousness might emerge. After relocation, families would still be able to count on the support and challenge of a preexisting social order, and the business of finishing the estate design could be confronted collectively. The number, quality, and range of community centers, clubs, gardens, swimming pools, and the like could be decided as need arises and as budgetary and other constraints allow. This should prevent the appalling redundancy evident in many planned environments, where empty community centers and looted "youth clubs" offer glaring evidence of inappropriate provision.

Such experimentation would counteract the conventional

model of fitting a population into an environment prefabricated on the basis of technological, political, and economic constraints. But it would also check the utopian or Promethean model of having everyone choose his own house style and location. It calls for education toward responsible community appropriation of the rights and responsibilities for the design of environments within the context of the urban system as a whole.

The value of this model as a framework for dialogue with planners depends on refinement of analytical techniques and on comparative studies in other contexts. It provides an alternative perspective on the planning process, taking into consideration socially determined influences on demand as well as the efficiencies of supply. The value of the concept as a framework for interdisciplinary research on environmental behavior, however, poses unresolved conceptual and technical problems. The aim of this exploratory investigation in Glasgow was to open a dialogue between social scientist and planner, to provide a framework in which each could contribute his unique disciplinary expertise in a climate of mutual concern over a planning dilemma. It has to some extent achieved this objective and has also pointed to ways in which research efforts on the behavioral implications of building design can be coordinated.

"The way to get at what goes on in the seemingly mysterious and perverse behavior of cities," wrote Jane Jacobs (1961: 8), "is to look closely, and with as little previous expectation as is possible, at the most ordinary scenes and events, and attempt to see what they mean and whether any threads of principle emerge among them." Particularly in residential areas, the "ordinary scenes and events" should be the primary criteria for defining design appropriateness, yet so often they have either been ignored or dismissed as extraordinary by social scientists and planners.

To discover the principles that underlie ordinary behavior in urban social worlds, and then to design a physical framework to accommodate it, are the challenge and the hope of the seventies. It is scarcely conceivable that this can be achieved

without a sensitive and more unified perspective on the varying life styles of urban communities. Planners lacking an integrated understanding of the existential character of urban life cannot be expected to design and organize its physical shell. Joint exploration of the issues involved, however, and the increased participation of citizens in the planning process itself, may enable communities, in Aristotle's phrase to "not merely come together in cities to live, but to stay to live the good life."

NOTES

1. This method was used for comparability with other studies of this nature (see Davis and Roizen, 1970) despite the limitations of verbally expressed "satisfactions" as indicators of people's relationships to their environments. However, satisfaction with life in the area is a potentially better indicator of livability than conventional measures of satisfaction with dwellings and with the physical characteristics of the area.

2. The employment of geostatistical techniques in recent geographical research has demonstrated the value of the standard deviational ellipse as a measure of areal distributions (Smith et al., 1968; Caprio, 1969; Hyland, 1970). The mean center of the distribution is located at the intersection of the means of the x and y axes of an arbitrarily placed Cartesian grid. Orthogonal axes are constructed through this point, and the deviations from the y axis are calculated for each location in the distribution. The standard deviation is plotted along the appropriate x axis (positive and negative). The axes are rotated through the degree 0 (usually 5° or 10°), and the procedure is repeated until the axes have been rotated through a full circle. The tracing of the standard deviations along the rotating orthogonal axes produce the standard deviational ellipse.

From this one technique, there is a yield of several comparative quantitative measures. For an areal distribution, the mean center provides a measure of the central tendency; the orientation of the major axis of the ellipse shows the locational trend; the ratio of the minor to the major axis of the ellipse gives an index of circularity, while the shape and area of the ellipse are further indicators of the dispersion. This technique has generally been applied to the distribution of data in geodesic space, but our data on individuals' perceptions of time-distance were nongeodesic. Variations in perceived distance were assumed to be either minimal or normally distributed. Ellipses were used primarily for descriptive rather than analytical purposes. (The writer is indebted to Gerard Hyland for this analysis of activity spaces:)

3. Territorial identification was measured in terms of (a) feeling at home, (b) ability to define a home area, and (c) desire to move into the area or no desire to move away from the area, and (d) duration of residence in the area.

4. Various design characteristics were ranked in terms of their perceived importance and then evaluated by the residents. Figure 7 graphically places the

evaluation of site characteristics in the context of respondents' images of ideal residential environments.

5. The "Index of Importance" for each feature was based on the percentage of the population who considered it to be "very important"; for example, .81 for "greenery" means that 81% of the respondents considered that feature very important.

6. Destinations were ranked within each estate in terms of an interaction index based on mean monthly time spent traveling to that destination.

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