Chapter 1

Activity areas and architecture: an interdisciplinary view of the relationship between use of space and domestic built environments

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Domestic Architecture and the Use of Space: An Interdisciplinary Cross-cultural Study is concerned with the relationship between domestic architecture and the organization of space. As archaeologists, we must deal with space and architecture. While reviewing the literature, I became aware that other disciplines are grappling with the same issues as are archaeologists. This realization has resulted in the present book which integrates the research of archaeologists with that of ethnographers, architects, and others who are asking the same questions and are exploring them from the same historical and/or cross-cultural perspectives, but are approaching them from different theoretical orientations and backgrounds. The end result is a more holistic examination of a most important issue confronting all archaeologists. As a generalization and with some notable exceptions, archaeologists, as well as scholars from other disciplines, have tended to work in discipline isolation. They have neglected the research and therefore the insights obtained in other disciplines confronting similar problems.

It is interesting that this is only selectively the case in archaeology. For example, archaeologists have enthusiastically embraced concepts, theories, and data from geology, geography, economics, and evolutionary biology. However, archaeologists involved with architecture and the use of space on an *intra*-site level have been more provincial in their outlook. This may not always be a result of reluctance to entertain perspectives developed in other disciplines: it may result from a basic ignorance of what has been accomplished that is useful to the archaeologists' own work. Such a lack of awareness might be particularly true concerning the disciplines of architecture and behavioral/environmental psychology (and these disciplines tend to be largely ignorant of relevant archaeological research: see chapter 2). The chapters in this book demonstrate precisely how an archaeologist can use the other disciplines' data and theories in a productive manner that does not violate basic archaeological assumptions, compromise the data, or simplify a theoretical orientation.

Interdisciplinary research provides more alternatives with which to view data. Awareness of different disciplines allows one to introduce novel approaches not considered before, to have access to a different data base which may enhance a discipline's pre-existing one, and to avoid mistakes already made and corrected in other disciplines.

The book is structured to investigate the relationship between architecture and the use of space through the study of disparate cultures around the world and through time. The authors from their different backgrounds together pursue the same fundamental question of what influences domestic architectural design and the use of space and how each is related to the other. In other words, how does the use of space affect domestic architectural design and vice versa? The insights contained within the conclusions of the individual chapters are a testimony to the value of the interdisciplinary approach.

While the focus of the book is on the complex interaction between domestic structures and spatial organization, specifically explored is the role of culture in this interaction, as expressed in technology, sociopolitical complexity, symbolism, and economics. The emphasis is on domestic rather than on public or strictly ceremonial architecture.

Scholars have traditionally analyzed buildings and the use of space within buildings without analyzing the interaction between the two or how the interaction articulates with specific aspects of culture. In order to fill this gap in the literature, the authors try to elucidate those variables that affect the interaction. This is then assessed from philosophical, theoretical, and descriptive perspectives.

There are a few books which include among their contributors scholars from various disciplines who address a somewhat similar theme, such as home environments (e.g. Altman and Werner 1985), or share the same philosophy of architecture, such as phenomenology (e.g. Seamon and Mugerauer 1985). While extremely valuable, these books do not contribute to an interdisciplinary view *per se* since authors discuss the books' amorphous common interest, rather than a common issue or problem. In fact, Rapoport has observed that studies of this kind "have not been cumulative; indeed their very number has become counterproductive. In the case of home environments there is a particularly daunting amount of diverse and unintegrated work" (1985a: 255).

This book attempts to integrate research. It does so by bringing together scholars with disparate expertise to investigate a single narrow concern – the relationship between domestic architecture and the use of space – and to discern those variables influencing the relationship. The goal of the book is not to have all the disciplines possible represented, but to have scholars from different disciplines which are investigating similar issues join together to provide their views on a single concern. By including architects, ethnographers, and prehistoric and classical archaeologists, we are able to provide a more integrated approach to the study of a particular issue. To facilitate feedback between the disciplines, all the authors have exchanged papers, and this has produced a more cohesive and integrated volume. An overview of the literature is not presented here in order to avoid repetition with the chapters that follow, despite the widely held tradition of the inclusion of one in the introductory chapter. The reader is instead referred to chapters 2, 5, and 6 for discussions of earlier attempts at interdisciplinary studies concerning the use of space and architecture.

A variable that influences the relationship between architecture and the use of space

Architecture creates boundaries out of otherwise unbounded space while the use of space can be seen as a means to organize that unbounded space. The type of space a boundary partitions depends on the culture and time period it occurs in and can range from inner–outer and public–private space (Korosec-Serfaty and Bolitt 1986; Lawrence 1984 and this volume) to sacred–profane (Kent 1982) and to ours–theirs (Rodman 1985b). Architectural partitions usually are conscious manipulations by humans to create boundaries where they do not exist in nature. While natural phenomena can also create the same type of boundaries in space in different cultures, architecture artificially partitions in a very visible way.

The variables that ought to be considered in this type of study are numerous and complex. Nevertheless, they are not so numerous as to invalidate predictive models based on the interaction between the built environment and space utilization. They can then be employed by archaeologists in their study of the past. The authors agree that the most important variables which influence the interaction between architecture and the use of space are some component of culture. While the term "culture" is notoriously vague, it includes technology, symbolism and world view, economics, social structure, and political organization. Where the authors differ is about which part of culture directly influences architecture and the use of space, and how. This actually represents a strength of this book because it illustrates how different facets of culture interplay with the interaction of the use of space and architecture and the very different interpretations and conclusions that result from emphasizing one component over another.

The chapters which follow indicate that the use of space influences architecture more strongly and consistently than the other way around. This has also been noted by Gutman (1976: 38) who wrote that architects "mention the numerous ways in which a user fails to carry out the intentions the architect thought he had incorporated into the design of the building. Architects themselves inhabit a curiously divided world. They adamantly assert that buildings are major determinants of the flow of human culture, yet they constantly complain that the inhabitants of buildings are 'unsympathetic users.'" A similar point has been made by Rapoport when he wrote that the built environment is neutral, inhibiting, or facilitating to behavior, but not determining (1976a: 9; also see chapter 2). The built environment may be seen as "suggestive" in that architecture can suggest new behavior (Zeigler 1986: personal communication), as well as being a mnemonic device for reminding users of particular types of behaviors (Rapoport 1982a). However, architecture does not determine behavior in my opinion. This also has been observed by Lawrence (chapter 6, this volume) who wrote that urban house planning does not necessarily determine urban house use. Even so, not all the contributors in this book would agree (e.g. Donley-Reid, chapter 8). The interaction between the use of space and architecture and the view that some aspect of culture is responsible for that interaction ties the chapters together so that they complement, without duplicating, each other.

If this approach is valid, and I think the chapters that follow attest to this, then the direct influence of culture on space use and space use on architecture (rather than the other way around) means that archaeologists need to be concerned with a group's bygone culture, as well as with the usual emphasis on past behavior and architecture. Ethnologists need

to be aware of a group's use of space and built environment and to regularly include them in their studies of a people's culture (see Kent, chapter 9, this volume). Architects need to seriously study those aspects of culture that are most likely to influence the use of space if they want to design compatible buildings. Geographers need to look beyond spatial concepts, urban planners beyond design concepts, and psychologists beyond mental concepts in order to fully understand a society's built environment or use of space. Some scholars are beginning to recognize this need. Their response has been to encourage the interdisciplinary studies mentioned previously. However, without the use of different perspectives to address one single issue, aided by the cross-discussion between articles as was done here, the studies remain fragmented, being just perhaps a little more conveniently located all in one place.

The best known pioneer of the type of research advocated in this volume is Rapoport who, despite his seminal work dating from as early as 1969, has, curiously, generated few actual progeny. Although he is often cited in studies of non-Western vernacular architecture, few researchers have actually looked at architecture and the use of space together, fewer have looked at them from a cross-cultural perspective, and even fewer have attempted to view them by examining a people's culture (though exceptions do exist; see for example Duncan 1976). The goal of this book is to address the dearth of studies of this type.

There is not always agreement between the authors in the book. Nor did I ever intend there to be total agreement. I believe such an important subject should not be restricted to a single theoretical orientation because to do so would limit and narrow the book's perspective and therefore its contribution. For instance, it is valuable to see how Donley-Reid considers architecture as structuring aspects of culture while authors from other orientations see culture as structuring architecture (e.g. Kus and Raharijaona). Another example is my attempt (chapter 9) to establish an evolutionary cross-cultural perspective of the use of space and architecture as influenced by a group's sociopolitical organization, which represents an approach that Bawden feels can be potentially misleading (chapter 10). However, all authors *do* agree on the historical and cross-cultural direction we must follow to begin to understand the fundamental issue of the relationship between architecture and space use and the factors affecting it. All authors also contend that an interdisciplinary approach produces deeper understanding and more powerful explanations than can be obtained by relying on data and/or theoretical orientations from a single discipline. In addition, the authors all find some aspect of culture as the variable most influential in affecting the interaction between the use of space and architecture. These similarities do not belittle the theoretical differences between authors. Such differences are seen not as a distraction but rather as a contribution to the overall strength and wide application of the book.

Culture, use of space, and architecture

Rapoport (chapter 2) begins the discussions with a summary of previous work and some interesting views of future research. He briefly mentions that culture and the built environment are neither the same units nor on the same scale. As he rightly points out, this one fact has led to much confusion on the part of scholars and has resulted in problematic interpretations. My own view is that architecture is a reflection of behavior or the use of space which, in turn, is a reflection of culture – in other words, they are not one and the same (Kent 1984; 1987b). Admittedly, the physical environment is given a very minor role in this scheme. It is seen only as a broad limiting factor – for example, igloos are not built in the Kalahari and open brush huts are not winter abodes in the Arctic. Once again, not all the authors agree with this view of a passive role of the environment, as the reader can explore in the following chapters (e.g. see Sanders, chapter 5).

Rapoport maintains that once issues of scale and comparability have been solved, the built environment, features within it, and use of space – systems of setting and cultural landscapes – are the result of highly culture-specific and at times temporal-specific designs. Some authors, including Kus and Raharijaona (chapter 3) and Wilk (chapter 4), try to delineate precisely what it is about economics or symbolism, as parts of culture, that make them influential in the organization of space and architecture of a single group. Others like myself try to delineate cross-cultural variables in order to identify those which are culture-specific. Rapoport also shows how activity settings guide behavior through other people's activities and through semi-fixed furnishing or features (elements) that act as cues.

Whereas Rapoport assumes that archaeologists will be constrained by his notion that only suites of activities or "activity systems in systems of settings" should be studied, I think experimental studies have shown that it is very difficult if not impossible to reconstruct anything *but* such systems from the archaeological record. Individual activities are simply not usually discernible (see Brooks and Yellen 1987). They are also probably relatively unimportant to our understanding of the past (Binford 1981; Kent 1987a). That is, we are actually constrained to study only activity systems within systems of settings or what Rapoport refers to as systems of environmental settings (e.g. Schiffer 1976; 1983; 1987; Kent 1987a). Other archaeologists have argued that even if we could delineate single events, it is not single-activity reconstructions that are important to the understanding of past uses of space. Rather it is the patterning of activities that is crucial (Binford 1987) or what Rapoport calls activity systems (chapter 2).

Often invisible in the archaeological record is the differential sequential use of public space by distinct groups – whether the distinction is based on ethnicity, gender, age, or some other factor. These different groups may use public space for separate functionally discrete activities, referred to as a "ballet" of people and their activities (Rapoport, chapter 2; Seamon and Nordin 1980). Archaeologically, these areas may

appear to be multipurpose since minute time intervals of twenty-four-hour periods cannot usually be discriminated. Therefore, it might be more productive for archaeologists to identify such areas as generic public spaces and to concentrate more on delineating activity patterning in and near nonpublic architecture, such as domestic dwellings. This is why the focus of the book is on domestic architecture. This is not to imply that archaeologists can ignore nondomestic built environments for the reasons specified by Rapoport in chapter 2; however, it is to suggest that the more labor- and analysis-intensive studies needed to discern activity areas in the archaeological record might be most productively spent on the domestic built environment. As with all research, the appropriateness of this suggestion lies in the research design of the project.

Whatever differences may exist between authors, the consensus of the chapters is the need for an integration of those disciplines which focus on mutually relevant concerns, specifically archaeology, ethnography, and architecture. As Rapoport wrote in his chapter, the investigation of past, present, and future built environments and use of space will profit from interdisciplinary research and it is hoped that this book acts as a catalyst for stimulating that type of research.

An integrated approach

As alluded to above, an integrated approach does not necessarily produce a single view nor should it necessarily be expected to do so when examining the diversity of time periods and societies represented here. Instead what it does accomplish is an enhancement of each of the views presented.

For example, in chapter 3, in which symbolism is looked at from an idealist perspective, insights into the use of space and architecture are presented for a single culture – the Betsileo of Madagascar. Kus and Raharijaona use their hermeneutic perspective to link architecture and the use of space within Betsileo symbolism. They mention forces of change and their impact on architecture and the use of space, giving the article a diachronic perspective. Domestic structures embodied in symbolism are compared to tombs, also embedded in symbolism. This results in the study of what Rapoport (chapter 2) calls "a system of settings." It is an attempt to gain an appreciation of the entire context of the domestic environment. Kus and Raharijaona accomplish this by contrasting the dwellings of the living with the dwellings of the dead, or tombs, which together comprise the Betsileo activity system in a system of settings.

Also similar in his emphasis on a single society, Wilk in chapter 4 analyzes the relationship between the built environment and space among the Maya. He accomplishes this from an economic perspective rather than from the symbolic perspective utilized by Kus and Raharijaona. Wilk's emphasis on economics as a determining factor results in interesting conclusions that differ in some respects from those reached by other authors. Wilk sees the house (architecture) as a consumer good and the use of space (behavior) as consumption. This raises questions as to the appropriateness of formal economic

analysis for the study of the relationship between architecture and the use of space – is it appropriate to consider houses as consumer goods and space use as consumption?

One striking difference in orientations among the authors is evident in Wilk's view that "to understand decision-making in housing [in terms of the built environment], we should not begin with a grand, overarching theory of the complex balance of function, aesthetics, meaning, and social position. Instead we should study the full range of human factors that affect decisions to buy, design, build, alter, improve, sell, and destroy houses, to see how people themselves achieve a balance through an interaction of cultural knowledge and pragmatic action." His suggestion is "that the amount of effort devoted to construction, and the shape and form of the built environment, are the result of allocation decisions, choices that are conventionally considered to fall within the realm of con- sumption behavior or consumer decision-making." Contrast that with the hermeneutic approach adopted by Kus and Raharijaona (chapter 3), Sanders' (chapter 5) assertion that cultural conventions influence architectural form and use of space more than do economic and other factors, or my view (chapter 9) that a group's segmentation, as measured by relative sociopolitical complexity, is most influential in the organization of space and architecture.

In one of the few chapters in this volume to regard the physical environment as a determining force in architectural form and the use of space, Sanders (chapter 5) provides a model that integrates ecological and cultural factors. He attempts to incorporate semiotic, proxemic, and behavior– environment analyses of Early Minoan Bronze Age architecture on Crete. By so doing, he analyzes the relationship between the built environment and the use of space from a more ecological perspective than that taken by other authors in the volume. Hence, the chapter provides an additional way to view the architecture–space use interaction.

Going from Sanders' behavior–environmental view of a group at one general point in time to a historical view from a different orientation, Lawrence in chapter 6 presents an important attempt to combine individuals' use of space with architectural design. He contrasts "micro" personal/individual parameters with "macro" social/shared ones. Lawrence justi- fiably laments the paucity of history (and I would add prehistory) in many previous studies dealing with architecture and the use of space, a concept he develops in full elsewhere (Lawrence 1982a; 1985a; 1987). Although concerned primarily with Western peoples, Lawrence's theorem that "the relation- ship between habitat and resident is dynamic or changeable, and it includes factors [in the architectural design] which may remain unresolved over a relatively long period of time," is equally applicable to non-Western societies. A particularly good example can be found in Oswald's (1987) description of Zulu hut life-histories. Lawrence's chapter examines variability in the frequency of functionally restricted space and partitioned architecture through time in one Western culture – the Swiss. His chapter complements the more synchronic cross-cultural

study of this variability presented in chapter 9. Through the critique of selected earlier studies, Lawrence shows in chapter 6 that limiting research to elucidating the relationship between the use of space and built environment can be misleading unless we also analyze the variables influencing the relationship through time. For Lawrence, this includes "those transactions between the spatial, cultural, social, and personal variables implicated in domestic environments through the passage of time" (chapter 6). It is precisely for this reason that all of the authors have gone beyond merely describing the interaction between architecture and use of space to posit those factors accounting for the interaction. It is furthermore the reason why a time depth is a central concept to most of the chapters that follow.

The historical perspective is also present in Jameson's discussion (chapter 7) of Classical Greek domestic architecture and use of space. By combining archaeological, ethnohistorical, and ethnographic data, Jameson is able to provide a vivid picture of the relationship between buildings and space utilization from a diachronic vantage. Using this approach Jameson demonstrates his conclusion that architectural history is inevitably social history. This is accomplished by examining as many of the factors affecting the use of space and the built environment as possible, including economic, social, religious, material, and physical environmental ones.

Also concerned with a diachronic view, Donley-Reid (chapter 8) applies Giddens' theory of structuration (not to be confused with the theoretical orientation of structuralism) to understand the relationship between the use of space and the built environment. Unlike other authors, she contends that architecture plays an active role in structuring social hierarchies and creating power strategies. Donley-Reid presents a twist in the conception of people, behavior, and material culture by maintaining that humans can become material culture when they are passive and powerless objects (chapter 8). This, then, becomes important in her understanding of the interaction between space use and architecture in which social, political, and economic power are the important variables behind interactions and relationships.

Acculturation and assimilation are processes which occurred prehistorically, although they have been almost neglected by most archaeologists studying architecture and the use of space. Donley-Reid shows how acculturation (used here to signify contact between cultures, in contrast to assimilation) is another variable that directly affects this relationship. Although probably always present in less pronounced forms in the past, acculturative forces today are affecting the traditional architecture, use of space, and indigenous culture of groups over wide geographical areas. The spread of Western, Islamic, and other cultures must be taken into account when viewing modern or past peoples. Donley-Reid shows how the dissemination of Islam results in changes in the use of space and architecture which are visible in the archaeological record. She is then able to demonstrate how the archaeological data support her view of native–Arab contact which contrasts with other

scholars' view of the dispersal of Arab traders and their interaction with indigenous African populations.

A different example of the importance of acknowledging the presence of acculturation where appropriate is the need to question the extent to which acculturation is influencing the patterns which Wilk observes (chapter 4, this volume) among modern Mayan Indians. The necessity to take acculturation into account need not be a problem for archaeologists. Acculturation usually, though not always, occurs piece-meal, showing up as aberrations in otherwise consistent patterning. As a result, what may at first sight appear to be anomalies might in fact be explained by acculturation (e.g. Kent 1983b). If nothing else, this represents a more accurate way to view the past, since probably very few if any societies ever lived in isolation.

In direct contrast to Donley-Reid's discussion, I try to show in chapter 9 that culture structures behavior in terms of the use of space and that the use of space structures cultural material in terms of the built environment. A model is presented which describes the architecture–use of space relationship as one influenced by culture, specifically sociopolitical complexity. Using this model, it is possible to approach the question of why some groups segment or differentiate their space and built environment more than others. A consistent relationship emerges through the use of a cross-cultural method: the greater the amount of sociopolitical complexity present in a group, the higher the ratio of functionally restricted to multipurpose activity loci and the more compartmentalized the architecture (also noted by Rapoport in chapter 2). Segmentation in various parts of culture, behavior, and cultural material increases with the development of sociopolitical complexity. This is consistent with concomitant increases in the ratio of gender-specific to nongender-specific activity areas as well as in the ratio of function-restricted to multipurpose areas. The model can lead to the beginning of a sociopolitical theory of space and architecture directly relevant to the development of complex societies.

The resistance to looking at space in terms of spatial segregation has been surprising, but it does highlight current misconceptions concerning the organization of space and architecture and, therefore, misconceived interpretations and conclusions. Such problems are especially visible on the cross-cultural level: hence their relevance to this book. An in-depth study of these misconceptions is also warranted here because it highlights the important need to include, rather than exclude, a variety of theoretical orientations when attempting to examine the interaction between architecture and the use of space from a holistic perspective.

A particularly good example of the problems which occur from not taking the approach advocated by the authors in this book is provided by Adams' (1987) review of *Analyzing Activity Areas* (Kent 1984) where the propositions tested in chapter 9 were originally formulated. Coming from a materialist theoretical orientation, Adams sees architecture as primarily structuring space use, rather than space use as primarily structuring architecture. Adams writes, "I think that the

number of monofunctional activity areas is directly proportional to the size of the structure and number of occupants. A small house, like a hogan, must have multiple function areas" (1987: 106). Cross-cultural studies do not support such a stance. For example, there are a number of African societies which use several small huts within a single compound for functionally discrete activities in contrast to others which use similar-sized huts for many types of functions (see chapter 9). Even more insightful for understanding Adams' orientation and, therefore, his conclusions is his statement:

> I take exception to characterizing Euroamerican homes as having monofunctional rooms like bedrooms and kitchens. I would guess that not a single monofunctional bedroom exists in any Euroamerican house. (For that matter, for real behavior, no monofunctional room exists in any Euroamerican home.) The "typical" bedroom is used for many activities. A bed is used for reclining one's body upon but its functions include providing a place to sleep, rest, get well, die, have sex, procreate, watch TV, read, nurse babies, wrap presents, lay coats, and serve as trampoline...Sorry, toss out monofunctional activity area, for in Euroamerican culture it does not exist and probably never did, despite Kent's assertion.

(Adams 1987)

This raises an important question of the utility of viewing space in terms of such concepts as functionally restricted, segmented, multipurpose, gender-specific, and so on. In chapter 9, functionally restricted areas are defined as loci at which related functions are performed in contrast to multipurpose areas where disparate activities take place. Gender-specific areas are loci used predominantly by one sex in contrast to those used by either. For example, a study of 309 Euroamerican houses show that 86 percent of the tasks associated with cleaning the kitchen and 88 percent of the tasks associated with meal preparation are conducted by women (Berk 1980: 70). Euroamerican kitchens are considered to be gender-specific even though they may occasionally be used by males. Women in the aforementioned study conduct 92 percent of the laundry tasks (ibid.), making a separate laundry room also a gender-specific locus. British use of kitchen space is described as mediating "a categoric segregation, that between men and women...Thus the relations of this [kitchen] space articulate in a very strong way the domination of everyday transactions in the household by women. The household is a 'sociogram' not of a family but of something much more: of a social system" (Hillier and Hanson 1984: 159). As has been noted by a number of authors dealing with Euroamerican architecture, "there is a close correlation between the way houses have been designed and socially sanctioned ideas of sex roles and domesticity" (Rock, Torre, and Wright 1980: 93).

There are groups that differentiate space according to function more than others. The mere fact that there are separate linguistic terms for specific loci implies this for Euroamericans – i.e., kitchen, bedroom, closet, bathroom,

dining room, family room (generally a multipurpose area), study/den, and others. In some societies, such as the Euroamerican one, these loci are often physically partitioned by walls. The presence of segregated gender-specific space, again using Euroamerican society as an example, can be seen in Saegert's (1985: 293) observation of governmental regulations for public housing which state that "A single mother with a daughter gets one bedroom; with a son, she gets two." While food preparation and consumption, and family discussions may all occur in the wider kitchen area, the activities do not necessarily regularly occur at the same locus in a kitchen. Food preparation, for instance, usually occurs at the counter near the sink or stove. Other activities often occur at a multipurpose locus in the kitchen. This may be a multipurpose alcove within the functionally discrete kitchen. In most cases, to a non-Euroamerican observer, I think the locus would represent a separate activity area. Research among Euroamericans shows that the use of space in the kitchen is consistently functionally restricted and gender-specific. Euroamerican kitchens sometimes also have an adjacent multipurpose, nongender-specific activity area represented by a table (Kent 1984). Such multipurpose loci are occasionally partially partitioned from the rest of the kitchen area and at other times are not.

Adams' comments also raise the question of how we are to characterize cross-cultural differences if not in terms of functionally restricted and multipurpose or gender-specific and nongender-specific areas. How else do we explain the differences in the use of space between Navajos and Euroamericans occupying similar three-bedroomed Euroamerican-style houses (Kent 1984)? And even if these are imperfect concepts in their ambiguity, once they are recognized and characterized as such do they not nonetheless provide information and understanding that we would otherwise not have? Chapter 9 gives the reader the opportunity to decide.

An interesting study of prehistoric Peruvian architecture, use of space, and social structure, particularly in terms of sociopolitical complexity, is outlined in chapter 10 from a more diachronic perspective than that presented in chapter 9. Bawden offers a model that attempts to elucidate the integrating mechanisms between the built environment and space utilization using social structure as a framework. He is able to show how all three interact with one another through time and between different pre-Hispanic civilizations in Peru. This study delineates a trend which permits insights into what otherwise may be erroneously interpreted as an anomaly in the archaeological record.

Summary and archaeological implications

Despite their varied disciplinary orientations, the authors all concentrate on a single issue – the interaction between domestic architecture and the use of space. The authors bring their specialized knowledge to the examination of this interaction and the investigation of the variables influencing it. By doing so, they are able to provide insights valuable for both synchronic and diachronic studies that cross-cut any single

discipline but are essential to all. The cross-fertilization of ideas which results from the interaction of the authors with their backgrounds in different disciplines culminates in ten chapters that have more depth and breadth than any single chapter would have had if written in isolation. In this way the individual chapters go beyond the contribution they make in their own right. They are good demonstrations of the utility of interdisciplinary collaboration.

The authors do not present a single view of architecture and the use of space: to do so would be premature at this point in our knowledge. In fact, there may never be a single view. However, by studying the narrow issue of the interaction between architecture and space use and the role of culture in influencing the interaction from the viewpoint of different disciplines, it is possible to examine the issue holistically and thoroughly. An integrative view is not necessarily a single view and vice versa. We do not need more fragmented studies, but we do need more integrated ones investigating an issue from different disciplines and from different perspectives. It certainly is better to have a diversity of orientations in the infancy of any new study. It is premature at this point to say which theoretical orientation(s) will ultimately prove to be most productive for archaeologists concerned with understanding past architecture and the use of space. Even so, the ideas contained within these chapters can be operationalized by archaeologists, from Rapoport's conception of activities occurring within settings to my model of changes in architecture and the use of space specifically linked to a group's sociopolitical organization. For example, if my model of the interrelationship between sociopolitical organization and the built environment is valid, and it is possible to predict how architecture and the use of space are organized by knowing a group's sociopolitical organization, then it should be equally possible to predict the sociopolitical organization of a group by knowing its architecture and the use of space.

A rather simplistic example of the application of the model to archaeological data can be drawn from the Southwestern region of the United States. Some archaeologists have suggested that prehistoric Southwestern Anasazi Basketmaker III villages were organized on a band level with little sociopolitical differentiation (Cordell 1979, Steward 1937, and Birkedal 1976). Gillespie (1976) contends that Pueblo I and later villages were lineage residence groups (e.g. tribal). Other archaeologists have proposed that chiefdoms developed in some areas (e.g. Chaco Canyon). How can we demonstrate such a contention using the archaeological record? As noted by Cordell (1984: 225–230), models of the relationship between social organization and architecture in the prehistoric Southwest have been unsatisfying because their proponents rely on unfounded assumptions and/or on ethnographic analogy whereby the Big Man system of New Guinea is uncritically plopped on to the Southwestern data. The model of the cross-cultural interrelationship between sociopolitical organization, architecture, and the use of space predicts that there should be increasing architectural partitioning and functionally restricted

activity areas at later sites as the sociopolitical system becomes more hierarchical and segmented or stratified (see chapter 9). This is precisely what occurs. Anasazi sites tend to develop from homogeneous camps with little architectural differentiation to sites with increasing heterogeneity and architectural partitioning. This can be seen by contrasting Anasazi Basketmaker II sites with later Basketmaker III, Pueblo II, or Pueblo III sites. Depending on the site, Mesa Verde Basketmaker II villages contain pithouses, middens, and occasional storage pits whereas later Pueblo sites characteristically contain kivas, storage rooms, habitation rooms, middens, formal storage loci (pits and granaries), and other special-activity areas etc. (Kent 1984, 1989b; Cordell 1984; and others). This observation can then be used to support claims of increasing sociopolitical stratification and hierarchies in the prehistoric Southwest. The above represents but one simplistic illustration of the application of the proposed model of sociopolitical complexity, architecture, and use of space to archaeological data. The model can be employed in similar ways in different regions and at different time periods. Its utility in the study of the development of complex societies is potentially great.

Bawden, Donley-Reid, Jameson, and Sanders all use the archaeological record, ranging from the New World to the Old World, to operationalize concepts outlined in the more theoretical chapters. For example, Donley-Reid demonstrates how archaeologists have misunderstood the archaeological record in relation to indigenous peoples and contact with Arab traders, particularly with respect to power relationships. Lawrence concurs with Donley-Reid's position of the importance of power relations between groups of people for designing and maintaining a specific built environment. Kus and Raharijaona show the symbolic relationship between houses and tombs and imply that archaeologists can understand one by understanding the other. Bawden and Jameson show how a society's social structure affects residential patterns and how those then are reflected in the archaeological record. Sanders uses the archaeological record to demonstrate how behavior and environment interact together to produce the built environment.

Together the chapters in this volume present an integrated, but not a single, view of domestic architecture and the use of space. The book represents but a small step in what will, I hope, be a long journey to explore, on culture-specific and cross-cultural levels, why past and present humans utilize space and build dwellings in particular and general ways. The chapters represent an exciting beginning. I hope readers will, as a result, be stimulated to embark on their own research relevant to the understanding of the interaction between past and present architecture and the use of space from an inter-disciplinary perspective. Such a perspective will permit them to elucidate the factors influencing this interaction and changes through time. An interdisciplinary, cross-cultural perspective will also enhance archaeology's understanding and explanatory powers, as I hope the following chapters demonstrate. I think the reader will discover that the end result of an inter-

disciplinary approach is better interpretations, more holistic explanations, and fuller understandings of past architecture and the use of space.

Acknowledgements

Chapter 2

Systems of activities and systems of settings

Amos Rapoport

Introduction

This book implicitly makes several rather basic assumptions which need to be discussed before I can address the specific topic of this chapter: the nature of the relation between culture, as expressed in human behavior, and the built environment. These implicit assumptions concern, firstly, the nature of the relationship between culture and built form and, secondly, that architecture encloses behavior. After discussing these two assumptions I will propose a particular conceptual and theoretical approach to activities and the cultural use of space. This approach has been developed over a number of years and has a number of implications, both for research and for design, some of which will be explored.

The approach itself, however, can be summarized in a very few major points. The first is that the notion of "activities" is not at all self-evident and needs clarification both regarding the relation of activities to culture and also in terms of four aspects of activities. These range from (1) instrumental aspects which are the most manifest (the nature of the activities) through (2) how activities are carried out, (3) how they are associated into systems, to (4) their meaning, their most latent aspect. (See below, "Systems of activities and systems of settings," for more detail.) One consequence of point (3) of this analysis leads to the second major point, that one cannot discuss single activities but only *systems of activities*; moreover the three other aspects of activities also play a role in the settings used. One way in which they do is through a major mechanism which links settings with people and their activities – *meaning*.

The third point is that settings also cannot be considered singly but only as systems, so that systems of activities actually occur in *systems of settings*. These are organized in varying and complex ways, not only in space but in time and in other ways, all related to culture. It follows that what happens in one part of the system greatly influences what happens, or does not happen, elsewhere.

What is proposed is a particular way of addressing an important question regarding environment–behavior interaction: *Who does what, where, when, including or excluding whom (and why).* The implications of this approach will be traced for the study of the cultural use of space and for cross-cultural studies within the context of my field of Environment–Behavior Studies.[1] Some more tentative suggestions will also be made about its possible implications for others concerned with activity–space relations – such as archaeologists.

The relation of culture to built form

I accept the intimate link between culture and built form and the absolute necessity to study the topic cross-culturally. These seem almost to be givens. But two issues need to be clarified regarding this extremely large and complex topic. This can be done only briefly since a more detailed discussion would take us too far afield (for more detail see Rapoport 1986a).

The first issue concerns the nature of statements about the relation of culture and built form. These tend to assume implicitly that culture and built form are equivalent units, in the sense that they are equal in "scale." They are not. Culture is a vast domain, built form a small part of it and also a subset of it. The latter is, as it were, embedded in the former. This makes the nature of the relationships between them, and the nature of the translation process of one into the other, rather difficult to grasp. Without resolving either the nature of the relationship or the translation process, it is essential that this difficulty be borne in mind as our discussion proceeds.

The second issue concerns the utility of the concept "culture" in trying to understand built form and how it is used. It can be suggested that "culture" is both *too abstract* and *too global* to be useful. It is often useful to clarify excessively abstract and broad concepts by "dismantling" them and then studying the components and their various interrelationships with each other and with other variables. In the present case two ways of doing that seem to be useful.

The first of these addresses the view that "culture" is too abstract. It begins with the frequently found references to "sociocultural" variables. It can reasonably be asked whether "social" and "cultural" might be different, so that lumping them together is less than useful. This has, in fact, been argued. One recent suggestion, for example, is that they are best seen as distinct in the sense that *social* refers to more concrete variables, to the actual social structures, groups, networks, relationships, and behaviors which are manifestations of culture. *Cultural*, on the other hand, refers to more *ideational* variables, describing the "blueprint" for the social variables (Wallace 1983).[2] This offers one way of dismantling the concept of culture and making it more operational by discovering the social manifestations of culture which are potentially observable. These, in turn, can be related to the built environment, influencing the latter or being influenced by it. Social expressions of culture, such as groups, family structures, institutions, social networks, status relations, and many others, often have settings associated with them or are reflected in the built environment. These can be both studied and designed. Thus, we can use as points of departure these more specific, more concrete social expressions of culture, rather than the more ideational concept of culture *per se*, and this offers one way of relating culture to built form.

While it is virtually impossible to link culture to built form (as I will discuss below) it is feasible to relate built form to family structure, clans or moieties, religious institutions, sex roles, or status hierarchies.

At the same time it should be noted that culture is a *theoretical construct*. No one ever has seen or ever will see or observe culture – only its effects and products. In other words, one is making inferences about unobservable entities. That presents no problems if one avoids the tendency to use theoretical constructs such as "culture" as though they were "indirect observables," i.e. "individuals of a larger and more elusive type than usually encountered" (Kaplan 1964: 81). In fact, of course, groups and individuals and their properties, relations, and products are the indicators and referents for the collective term. "Culture" exists by definition: it is a conceptual summary shorthand (and proposed explanation) for particular conjunctions of a great variety of human phenomena (cf. Bennet 1982).

The second way of dismantling the concept of culture follows from its being too global. This is one that I have repeatedly advocated since the early 1970s and which has particular relevance to this chapter. This begins with the observation that it is not possible, at least at this stage, to link culture and the built environment at that level of generality. To be asked to analyze the relation between culture and built environment, or to "design for culture," is to be given an impossible task. Greater specificity may be thought to help. To "design housing for culture A" (or analyze the relation between them) is indeed more concrete but no more helpful; it is essentially neither easier nor more feasible. This is also the case for the still more concrete relationship between culture A and its housing.

It may, however, be possible to show that particular parts of the environment are congruent with or supportive for specific "lower-level" components (or *expressions*) of culture, given some understanding of the mechanisms that link them. While, as already discussed, social variables may be useful, I have used a particular sequence, of increasing specificity, going from culture through world views and values to lifestyles and activities (fig. 2.1; Rapoport 1976a: 24–26; 1977: 20; 1980a, 1985a).

Values can be useful: the study of environmental

Fig. 2.1 Two ways of "dismantling" the concept of culture

Culture → World view → Values → Lifestyle → Activities

Culture → More concrete and potentially observable social expressions, such as family and kinship structures, institutions, status, roles, etc.