

### **Description and objectives**

This course introduces students to the social principles underlying the organization of our built environment. We'll see how buildings help organize society and, how in doing so, take the forms they do. Along the way we'll address some fundamental questions about buildings: we will look at how the first buildings emerged and what shapes they took, and, along the way, consider why buildings emerged within human settlements at all. We will ask why rectangularity dominates building shapes; we will reassess the commonly held belief that traditional environments are always environmentally sustainable, and, we will see how the shapes of buildings ultimately respond more strongly to social demands than to environmental or physical ones, and that the social dimension of buildings is strongly mediated by cognitive factors.

Students should thus expect to come away with an understanding of basic social forces that shape our built-environment, particularly at the scale of buildings. In addition, this course will also introduce students to current research on building morphology and spatial analysis.

### **Organization**

In the first part, we will deal with a set of empirical studies of buildings or building traditions on how our built environment structures the social world. These include work on the origins of buildings and settlements from archaeologists Kent Flannery and Baird; studies of comparative complexity of domestic buildings and societies from Susan Kent; attempts by ethnographers such as Mary Douglas, Henry Glassie, S. J. Tambiah, and Pierre Bourdieu to show that built form relates to cultural rather than the physical environment.

In the second part, we will focus on architectural contribution to the understanding of the relationship between buildings and societies. We will look at the emergence of the man-environment paradigm in the field of behavioral psychology and cultural anthropology, consider challenges to it offered by mathematical work on architectural form by Lionel March, Philip Steadman and their colleagues, and then explore a theory of the social logic of space developed by Bill Hillier, John Peponis, and their colleagues.

### **Requirements**

Student performance will be assessed on a term paper (graduate section) or a take-home essay exam (undergraduate section). It is possible for interested undergraduates to opt for a term-paper instead of the exam, but only after consulting with the instructor. Both the term paper and the exam questions will test students' understanding of the material presented; in addition, the term paper should show ability to synthesize the material into broader and practical design oriented insights. This will account for 80% of the grade. The rest of the grade (20%) will depend upon class participation.

There are no prescribed text-books; required readings will be made available in an electronic format to the students, or placed on temporary reserve in the library.

### **Main Readings**

Ballantyne, Andrew. 2002. *Architecture: A very short introduction*.  
Douglas, Mary. 1973. *Rules and Meanings: An Anthropology of Everyday Meanings*  
Fraser, Douglas. 1968. *Village Planning in the Primitive World*.  
Girouard, M. 1978. *Life in the English Country House: A Social and Architectural History*.  
Glassie, Henry. 1975. *Folk Housing in Middle Virginia*.  
Hillier, Bill, & Julienne Hanson. 1984. *The Social Logic of Space*.  
Kent, Susan. 1990. *Domestic Architecture and the Use of Space*.  
Steadman, Philip. 2008. *The Evolution of Designs*.  
Steadman, Philip. 1982. *Architectural Morphology*.  
Ucko, Peter J., Ruth Tringham, and G. W. Dimbley. 1972. *Man, Settlement, and Urbanism*.

## Schedule

Week 1	<p>Ballantyne, <i>Architecture—a very short introduction</i>          Introduction—on the shapes of buildings and settlements—relationship between building and architecture—social practice as culture—what systematic relationship exists between culture and shapes of buildings and settlements?</p> <p>Ayers + Whiting, “Influence of culture on house shape”; Hodges, “Domestic Building Materials”; Kent, “Social Spatial Segmentation”          The predominance of rectangular and circular shape in buildings within documented cultures (A+W)—building shape not determined by technology, material, climate / the argument against technological determinism (Hodges)—shape of houses consistently related to number of rooms and social complexity, but not to any other factors (A+W)—increased socio-political complexity of societies corresponds with increased differentiation of spatial use and increased partitioning of buildings (Kent)</p> <p>Flannery, “Origins of Villages”; Baird, --excerpts from excavations at Beidha--          Emergence of complex buildings along with social (political and economical) organization complexity in settlements and (Flannery)—questions about rectangularity of buildings—emergence of households as an economic unit, and of private property</p>
Week 2	<p>Leach, --excerpts on structuralism-- <i>Claude Levi-Strauss</i>          Introduction to structuralism—structural explanation as a variant of functional explanation—structuralism as a way of constructing systemic explanations of the shaping of buildings and settlements</p> <p>Bourdieu “Berber House”; Tambiah, “Classification of Animals in Thailand”; Levi-Strauss “Dual Organizations”          Douglas’s caution against reading social causes directly in forms—Structuralism’s positing of possible role of thought/cognition on building shape—do buildings help structure thought (Bourdieu)? Or, do structures of thought result in specific shapes of built form (Tambiah)?—the complex differences between actual forms and their structural perception by their inhabitants (Levi-Strauss)</p> <p>Glassie, <i>Folk Housing</i>          Complexity of environment-building relationship explored in Virginian folk-houses—integrated response to environment manifested in choices of techniques, materials, form—traditional buildings seem to evolve in order to fit an environment described as a cultural schema, rather than the physical one</p>
Week 3	<p>Douglas, “Symbolic Orders”          Contingent explanations of the shaping of built-form contrasted with systemic explanations—how historical practice interacts with built form—more precise techniques of documenting type and variation in form</p> <p>Girouard, <i>The English Country-House</i>; Evans “Figures, Doors, and Passages”          The role of internal forces in historical development of architecture—historical precedents as pre-structures—the friction between physical and spatial form</p> <p>Steadman, --excerpts--, <i>Architectural Morphology</i>          Introduction to topological structure of spatial organization in buildings—organization of space in actual buildings occupies a very restricted space of mathematically (topologically and geometrically) restricted possible forms—further confirmation from historical buildings that a sociological, perhaps symbolic, structure drives building shape rather than mathematical, technological, or environmental context</p>
Week 4	<p>Hillier and Hanson, <i>The social logic of space</i>; Markus --excerpts-- <i>Building and Power</i>          The social logic of space and the space syntax research program</p> <p>Does social practice determine the shape of our environment? Or does our environment determine social practice or structure? An argument for the reciprocal relationship between space and society—techniques of spatial analysis to uncover generic social function of buildings</p>

- Week 5                      Further questions about shapes of buildings: Why built-form cannot be seen as emerging directly from their context? Peculiarities of built-form--Why is so much attention paid to visual design in buildings? Why are there recognizable styles in the design of buildings? What makes our urban environments so searchable?
- Steadman *The Evolution of Designs*; Peponis *The City as a search engine*; Hill, *The consequences of design*; --
- Steadman's thesis that a purely functional specification of buildings is not possible since the boundary between form and its environment is not pre-defined and that fit is relative concept depending upon the structures of Popperian world 3—extension of Steadman's argument by proposing three mediating elements 1) imaginative form 2) cognitive constraints on design activity, and 3) the human organization of space—the idea of space syntax and the theory of built space

## Literature

1. The key ideas and empirical material in the course are drawn from the following:

Ballantyne, Andrew. 2002. *Architecture: A very short introduction*.

Douglas, Mary. 1973. *Rules and Meanings: An Anthropology of Everyday Meanings*

Girouard, M. 1978. *Life in the English Country House: A Social and Architectural History*. Yale NH: Yale Univ Press.

Glassie, Henry. 1975. *Folk Housing in Middle Virginia*.

Hillier, Bill, & Julienne Hanson. 1984. *The Social Logic of Space*.

Kent, Susan. 1990. *Domestic Architecture and the Use of Space*.

Steadman, Philip. 2008. *The Evolution of Designs*.

Steadman, Philip. 1982. *Architectural Morphology*.

Ucko, Peter J., Ruth Tringham, and G. W. Dimbley. 1972. *Man, Settlement, and Urbanism*.

2. The following essay is a comprehensive survey of sociological, ethnographic, and psychological research on the relationship of society and spatial form before the 90s, with an extensive bibliography on the subject.

Lawrence, Denise & Setha Low. 1990. "The Built Environment and Spatial Form." *Annual Review of Anthropology*, 19: 453-505.

3. Weekly readings (may be modified as necessary)

Bafna, Sonit. 2000. "On the Idea of the Mandala as a Governing Device in the Indian Architectural Tradition." *Journal of the Society of Architectural Historians* 59 (1): 26-49.

Bourdieu, Pierre. 1970. "The Berber House or the World Reversed." *Social Science Information*, 9 (2): 151-170.

Douglas, Mary. 1972. "Symbolic Orders in the use of Domestic Space." In Ucko et al (ed.) *Man, Settlement, and Urbanism*, pp. 513-521.

Flannery, Kent. 1972. "The Origins of Village as a Settlement Type in Mesopotamia and the Middle East: A Comparative Study." In Ucko et al (ed.) *Man, Settlement, and Urbanism*, pp. 23-53.

Gombrich, Ernst. 1979. "The Psychology of Styles." In *The Sense of Order. a Study in the Psychology of Decorative Art*, pp. 195-216. Oxford: Phaidon.

Goodman, Nelson. 1979. "The Status of Style." In *Ways of Worldmaking*, pp. 23-40. Indianapolis: Hackett.

Hill, Richard. *Designs and their Consequences*. Yale NH: Yale University Press, 1999

Hodges, H. W. M. 1972. "Domestic Building Materials and Ancient Settlements." In Ucko et al (ed.) *Man, Settlement, and Urbanism*, pp. 523-530.

Hutchins, Edwin. 2001. "Distributed Cognition." In Smalser and Baltes (ed.) *The International Encyclopedia of the Social and Behavioral Sciences*, pp 2068-2072. New York: Pergamon.

Keller, Charles M. and Janet D. Keller. 1998. --selections-- *Cognition and Tool Use*. Cambridge: Cambridge Univ. Press.

Kent, Susan. 1990. "A Cross Cultural Study of Segmentation, Architecture, and Use of Space." In Kent (ed.) *Domestic Architecture and the Use of Space*, pp. 127-152. Cambridge: Cambridge Univ Press.

Kent, Susan, 1991. "Partitioning Space: Cross Cultural Factors Influencing Domestic Spatial Segmentation." *Environment and Behavior* 23 (4): 438-473.

Levi-Strauss, Claude. 1963. "Do Dual Organizations Exist?" In *Structural Anthropology*, pp. 132-163. New York: Basic Books.

Scruton, Roger. *The Aesthetics of Architecture*. Princeton NJ: Princeton University Press, 1980.

Tambiah, S. J. 1969. "Animals are Good to Think and Good to Prohibit." *Ethnology* 8 (4):424-59.

Whiting, J. M. W. and B. Ayers. 1968. "Inferences from the Shape of Dwellings." In K. C. Chang (ed.) *Settlement Archaeology*, pp. 117-133. Palo Alto: National Press Books.

### **Term Paper / Exam**

Students in the graduate section will submit a paper on a suitable topic of their choice. The paper should be an investigation of a specific question related to the material discussed in class—its main purpose will be to assemble and review work already done on that question, assess its completeness, and identify either possible lines of further inquiry, or implications to design practice. Try to keep the paper within a limit of 5000 words, but the main determination of length should come from the content matter.

Exam questions for the undergraduate sections will be handed-out one week before the due date.