

Section I

Theory



### Editor's introduction

The subject of environmental aesthetics has at its core more than the monitoring of volatile tastes. Instead, researchers and designers seek universal principles that can explain commonalities and differences in response. The consideration of the theoretical underpinnings of environmental aesthetics can enrich the questions, solutions, and approaches considered by researchers, designers, educators, and others in the field of environmental-design research. The theoretical papers here thus present a framework for further inquiry.

Environmental influences on appraisals of aesthetic quality have two components: formal and symbolic or associational. Formal analysis of aesthetics focuses on the attributes of the object as they contribute to aesthetic response. Such an analysis may consider such properties as size, shape, color, complexity, and balance. Symbolic analysis of aesthetics focuses on factors that through experience produce connotative meanings such that the object implies something else. Thus despite similar formal attributes, a Mercedes and a Ford may produce different meanings, or an artificial flower (although it may look like a real flower) will likely call up different meanings when the observer realizes it is artificial. Symbolic analysis focuses on such things as style and context.

Heath presents a theoretical review of formal factors in aesthetic response. His review considers environmental features and behavioral and cognitive aspects of a situation. He describes the role of complexity and order in relation to two kinds of behavior: instrumental and diversive.

Lang examines symbolic meaning. He suggests five architectural variables that may carry symbolic meaning: building configuration, spatial configurations, materials, illumination, and pigmentation. He discusses models of cognitive consistency and the potential role of culture. Five models for the acquisition of symbolic meaning are presented.

In the first of two papers describing formal aesthetic preferences, Appleton argues that an evolutionary perspective may explain some preferences. In particular, he reasons that prospect (open views) and refuge (protection or opportunity for protection) have aesthetic value because such preferences would have en-



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hanced human survival. Kaplan expands the evolutionary argument to suggest that aesthetic judgment is the product of two processes related to survival: one capturing the viewer's attention, and the other enhancing his or her comprehension. According to his framework, complexity, coherence, mystery, and legibility should enhance aesthetic value. In his second paper, Kaplan discusses the nature of aesthetic response. Is it an instantaneous affective response independent of cognition, or a function of cognitive choice? Seeing flaws in both views, Kaplan argues that aesthetic response is a complex interaction between cognition and affect in which the two components of affect – pleasure and interest – are influenced instantaneously by cognition.

The papers by Greenbie and Nohl focus in more detail on symbolic meaning. Greenbie applies an evolutionary analysis to environmental meaning. He argues that some aesthetic problems arise from the absence of expression of certain primitive symbolic forms. From an examination of animal territorial behavior, dominance, and mating habits, Greenbie finds certain forms that should be preferred because they have symbolic meanings grounded in evolution and survival. His analysis produces three hypotheses: (1) symbolic forms in the contemporary landscape have separated humans from nature, assertive symbols from sheltering ones; (2) built forms tend to suggest shelter; and (3) the most important aspect of built form is social neutrality.

According to Nohl, symbolic meaning results from three levels of response: perceptive cognition (which involves recognition, appraisal, and knowledge of a place), symptomatic cognition (in which objects disclose process behind them), and symbolic cognition (in which objects become symbols for something else). Using this framework, he argues that nature in urban open spaces is overdesigned and is lacking in variety, individuality, and historical context, such that these spaces fail as aesthetic objects.

Finally, Berleant challenges the traditional view of aesthetic response as involving "disinterested attention" and suggests that, at least for environmental aesthetics, a more appropriate model involves reciprocity and participatory engagement. According to this view, the environment is engaging and continuous with the observer. Such a transactional view has important implications for methods of research and design solutions.

Sancar's paper – although in Section III, Applications – explicitly addresses both theory and empirical research. She argues that "grounded theory," which integrates theory, research, and design, is needed.

In summary, these papers raise questions about the process of aesthetic experience and about the role of various formal and symbolic factors in that experience. Several of the empirical papers in this collection address the questions raised in these theoretical papers. With regard to design application, the theoretical papers



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offer the decision maker a framework of formal and symbolic concerns that are worth considering in attempts to control the visual character of urban areas. Where theory is supported by empirical data, planners, designers, and the courts have compelling evidence to guide public policy on aesthetics.



## 1 Behavioral and perceptual aspects of the aesthetics of urban environments

Tom F. Heath

This paper offers a theoretical framework that relates the physical and the psychological factors operating in the aesthetic experience of urban environments, and from which hypotheses about preferences can be derived. The environmental features considered are order and complexity. It is argued that the experience of these features is mediated by behavioral and cognitive aspects of the situation. From the behavioral point of view, the significant distinction is between instrumental and diversive behavior. Cognitive aspects are environmental comprehension, or cognitive mapping; the reinforcement or inhibition of formal or informal styles of behavior; and the support or contradiction of beliefs and values.

The need for such a theoretical framework in environmental psychology in general and in the environmental psychology of the city in particular has been well brought out by Proshansky (1978) in his paper "The City and Self-Identity." The aesthetic psychology of the urban environment is a narrower field, and it is therefore possible to propose a scheme rather simpler than Proshansky's concept of "place identity," although certain parallels will appear.

It is not necessary here to discuss in any detail the aesthetic features or qualities of urban settings or to review the contributions of Berlyne (1971), Arnheim (1977), Frances (1977), and others to our understanding of aesthetic psychology in general and of environmental aesthetics in particular. Wohlwill's (1976) pioneering review is still generally relevant, and we can summarize the current state of the art by saying that the importance traditionally assigned to order and complexity as the essential aesthetic features of the environment has been repeatedly confirmed, while very much greater precision has been given to these concepts. It is, however, necessary to say something about the precise position, in this context, of the collative variables novelty, complexity, conflict, and uncertainty.

Consideration of these variables raises an important theoretical issue. If we are to have a subject, aesthetics, then in general it must be concerned with the features or qualities of the material. It is easy to show that it cannot be concerned with preferences, since preferences arise for all sorts of reasons, many of which



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are quite clearly not aesthetic. Aesthetic psychology therefore must study the responses of people as part of the task of distinguishing and classifying the features of the material – in this case, the city – to which they are responding. The collative variables are not features of the setting; they are mediating or intervening variables that modify the aesthetic response properly so-called. We might call them features of an aesthetic *situation*, which includes the observer or subject.

This can be illustrated in relation to the "Preference Framework" proposed by Kaplan and Kaplan (1982). This divides the environmental features into those that are present, or immediate, and those that are future, or promised. The former are coherence and complexity, which are synonyms for what have here been called order and complexity. The latter, which involve the inferential extension of the present features into the future, are legibility and mystery. Legibility "is characteristic of an environment that looks as if one could explore extensively without getting lost" (Kaplan and Kaplan, 1982, p. 86). Mystery, on the contrary, "involves the inference that one could learn more through locomotion and exploration" (Kaplan and Kaplan, 1982, p. 85). The emphasis is on the extension of experience into the future. Past experiences and plans may equally affect aesthetic responses; the effect of novelty and familiarity on the aesthetic judgment of individual buildings is demonstrated by Herzog, Kaplan, and Kaplan (1976), and the effect of category formation, also an aspect of past experience, by Purcell (1984a, 1984b, 1984c). In general, we must see aesthetic experiences as being mediated by the more general experiences, plans, dispositions, and so on of the individual.

Unless we can clarify, order, and simplify the variety of these experiences, plans, and dispositions, the value of research for the practice of environmental design will be limited. Let us begin with plans or objectives — that is, with behavior. It may be that it is not the detailed content of the plan or objective, but the *kind* of plan or objective that is significant. We may, in fact, be able to divide objectives, from the aesthetic point of view, into just two main classes, based on Berlyne's (1960, 1971) original classification of exploratory behavior.

There are, first, the *instrumental* (or *specific*) objectives: getting from A to B, as in the journey to or from work; finding a suitable place to have lunch, set up a street stall, or get out of the rain. As long as people have such specific plans, the order or interest of the city is likely to be experienced only casually or momentarily. Instrumental values of convenience, comfort, and absence of distraction will dominate. Places will be valued for the features that contribute to the success of the activity being pursued: the sunny nook, protected from wind and crowds, for eating sandwiches, let us say.

These instrumental objectives do not occupy the whole of life, however. There is a different kind of behavior, the behavior of the tourist, the vacationer, the



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window-shopper, and the stroller. Having completed or set aside immediate tasks, they seek experience for its own sake. The various possibilities of the city for interest and excitement, for calm and order, or for some alternation of these are now positively sought out and appreciated rather than casually encountered. This is *diversive* behavior.

The hypothesis, then, is that instrumental behavior will inhibit aesthetic response, whereas diversive behavior will permit or even enhance it. There is not as yet much empirical support for this theory. A study by Peterson and Neumann (1968) distinguished two groups of beach users: one preferring "scenic natural beaches," attracted by trees and natural growth, and disliking crowding; the other preferring urban beaches and more interested in sand quality and "attractiveness" of the surrounding buildings. These data were interpreted in terms of environmental *personality*, but they may equally be understood in terms of differing objectives. A similar interpretation might be given to the factors found by Shafer and Thompson (1968) in responses to Adirondack campsites. There are no parallel studies of urban settings. It might prove fruitful to treat the specific objectives as a "set" that obstructs aesthetic interaction with the environment. The effects of set on environmental awareness and, specifically, on aesthetic awareness have been demonstrated by Leff, Gordon, and Ferguson (1974).

Way finding is a part of both instrumental and diversive activities. Aesthetic quality may be assumed to contribute to the character or identity of a place: its "placeness." Even this hypothesis has not been adequately tested, although it is supported by qualitative studies (Cullen, 1961; Lynch, 1960; Sitte, 1889/1965). Cognitive-mapping research suggests that our mental map of a city is constructed from landmark places (Devlin, 1976). This goes beyond our first getting to know a city; as Ittelson (1978) points out, exploration is a constant feature of urban existence.

We may then construct a second level of hypothesis: Places of high aesthetic quality will tend to become landmarks, over and above their specific roles in the activity system of the individual. (They cannot, of course, become landmarks unless they are encountered, so there is *some* dependence on the activity system.) A still further hypothesis is that where places of high aesthetic quality are also significant paths or nodes of the pedestrian or transportation network, their aesthetic affect will be reinforced (that is, more people will attend to their aesthetic qualities); but where they do not relate to way-finding activities, their aesthetic effect will be reduced or inhibited by the effects of set.

A city is more than a collection of paths, however well marked. It is a stage on which much of the drama of life is enacted. It provides, or fails to provide, the backgrounds and props that the various human activities it contains require to support them. As Proshansky (1978) says: "For each of the role-related specific



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identities of the person, there are physical dimensions and characteristics that help to define and are sustained by those identities." Here, again, the aesthetic qualities of the setting, it may be hypothesized, either reinforce or contradict the roles enacted, and conversely the aesthetic response will be either reinforced or inhibited.

The various place identities and roles of individuals will, once again, be very numerous and different. But here, too, it is possible to propose a simplifying hypothesis – that the most significant division of roles is that suggested by Goffman (1959) in his book *The Presentation of Self in Everyday Life:* "front" and "backstage." The dimension of behavior involved is formality—informality. "Front" areas are those in which we know ourselves to be in a sense on show; in "backstage" areas, we can unbutton and "be ourselves." As a matter of observation, cities have their "front" and "backstage" areas. The squares and boulevards of historic cities and the fashionable shopping areas and financial districts of modern ones are obvious "front" areas. By contrast, service districts like Soho, factory districts, and dormitory suburbs are more or less "backstage," although there is some gradient of formality. This leads to the further hypothesis that a high degree of formal order is most appropriate in "front" areas, where it serves to reinforce formal behavior.

In responding to or inhibiting behavior, the city expresses social values. Closely related but distinct is the expression of the social significance of places. As Ittelson (1978) puts it: "The city, like any environment, has the potential of enhancing value systems." It also has the potential of contradicting them. Social importance is generally linked to formality of behavior, which, it has been argued, is supported by order, or "good Gestalt," in the physical environment. However, observation of existing settings suggests that importance is also expressed by means of association and of interest, or formal complexity.

Importance is expressed by association through scale and quality of execution. The effects of scale are anecdotally obvious, but inadequately tested, although there is some evidence from way-finding and cognitive studies (Appleyard, 1969; Carr and Schissler, 1969). The size of a building or public space is historically strongly linked to its social significance, whether it is a medieval cathedral, the palace of Versailles, or "the tallest building in the world," on the one hand, or the Piazza San Marco in Venice, on the other. Conversely, the size of some modern office buildings may be perceived as an *undue* claim for significance and may account for part of their unpopularity.

The quality of material, execution, and detail – what Arnheim (1966b) calls "high definition" (pp. 123–35) – are also commonly associated with importance. One thinks of the Erectheion or the Barcelona Pavilion by Mies van der Rohe; in the same way, the quality of paving, of street furniture (such as railings, lamps, and fountains), and of the surrounding buildings has often been used to



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mark the importance of public places. Again, we have only anecdotal evidence about people's response to these elements, although a study by Hall, Purcell, Thorne, and Metcalfe (1976) suggests a possible approach.

Interesting, or complex, forms make a call on our attention, and the elaboration of form that we often find in public buildings and places is therefore unsurprising: Complexity, too, marks importance. This is supported to some extent by the study by Herzog et al. (1976), in which judged complexity was shown to be significantly correlated with preference in relation to cultural buildings. This correlation was less strong in relation to buildings of other social content—commercial and entertainment—which might be interpreted as implying that the significance expressed by this sort of aesthetic quality was felt to be appropriate to cultural buildings but not to buildings of more utilitarian kinds.

In summary, the hypotheses proposed are that the experience of the aesthetic qualities of urban settings that are the objects of urban design, and the resulting expressions of preference, are inhibited by instrumental behavior but enhanced by diversive behavior. When major communication paths or nodes lack character, or aesthetic quality, aesthetic experience will, again, be inhibited. Correlation between order as an aesthetic quality and expectations of formal behavior will increase appreciation; contradiction will inhibit it. Finally, correlation between aesthetic qualities and the perceived social importance of a setting will enhance the aesthetic experience; contradiction will inhibit it. These are experimentally testable hypotheses and are important for our understanding of urban aesthetics.



# 2 Symbolic aesthetics in architecture: toward a research agenda

Jon Lang

#### Introduction

One of the fundamental goals of design has always been the aesthetic one—the creation of "delightful" rooms, buildings, townscapes, and landscapes. In attempting to understand the nature of the aesthetic experience, a number of people (e.g., Santayana, 1896) have found it useful to distinguish among sensory, formal, and symbolic interactions between people and their built environments. Sensory aesthetics is concerned with the pleasurableness of the sensations received from the environment. It involves the arousal of one's perceptual systems, is multidimensional, and results from the colors, odors, sounds, and textures of the environment. Formal aesthetics in architecture is concerned primarily with the appreciation of the shapes, rhythms, complexities, and sequences of the visual world, although the concepts can be extended to the sonic, olfactory, and haptic worlds. The appreciation of the associational meanings of the environment that give people pleasure is the subject matter of symbolic aesthetics.

The systematic, empirical, and often experimental study of aesthetics has been under way since the pioneering work of Fechner (1876). This research has focused mainly on the formal issues of pattern perception, sequential experiencing of vistas, definition of complexity and simplicity, and form empathy. There are many limitations to this research, but it has yielded a number of positive, if controversial, statements on formal aesthetics (e.g., Arnheim, 1977; Kepes, 1944). The research has not, however, yielded much in attaining an understanding of symbolic meanings, the importance of these meanings to people, or the enjoyment that people derive from them. The subject has, indeed, been largely neglected in environmental-design research. The study of symbolic aesthetics in architecture has been the purview of art historians (e.g., Gideon, 1941; Pevsner, 1936; Wöllflin, 1886). The focus in art criticism has been more on architects and their intentions than on the experiencing of the environment. Where the latter has been the focus, conclusions have been drawn from the introspective analysis of the critic. Thus we have many normative statements on symbolic aesthetics but