THE RELIANCE ON AESTHETIC CODES IN CONTEMPORARY ARCHITECTURAL CRITICISM

by

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Abstract

On an analytical level this study addresses architectural aesthetics; its structure; and the application of such a direction to architectural criticism.

Aesthetics is an aspect of architecture that, even though not crucial to the utilitarian purposes of building, influence our everyday appreciation of the environment. Our sense of the aesthetic is developed through culture as well as education and aesthetic judgement is based on experience, reason, and preference. In architecture the aesthetic is expressed through built form; the shape and arrangement of forms; space; light; and materials. Architectural aesthetics is thus understood as incorporating both values and form.

Through an examination of contemporary theories in architecture the essence and structure of architectural aesthetics may be explained. The notion of codes, as a tool for the understanding of meaning attribution, is seen as a valid concept through which it is possible to link aesthetics and architectural form. The nature of the aesthetic code is examined through an analysis of all major available critical texts for a selection of buildings in comparison with their formal articulations. This procedure makes possible a systemic collection of aesthetic connotations associated with specific formal arrangements and indicates that there are certain ways in which form can be linked to aesthetic value. These types of relationships, or aesthetic codes, are further examined and are
classified as associational, architectural, or spatial according to the cognitive and perceptive responses they evoke. The use of these codes as tools in architectural aesthetic criticism is discussed in one critical example.

The thesis concludes that the notion of codes can be applied to architectural aesthetics. Furthermore, such a theory is useful for the understanding of architectural criticism and thereby provides a concept which can be related both to aesthetic theory and critical practice.
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- I would also like to thank my friends here, in particular Irene Sakellaridou, who made my time in Vancouver most enjoyable, and whose informal discussions led to the formulation of the topic for this thesis.
The ideas and approaches presented in this thesis were initially arrived at through the work on a student paper in 1981. The theme of the paper was the concept of delight in contemporary architecture, and an attempt was made to identify the various issues of importance in contemporary architectural criticism. Issues such as appropriateness to our time, ambiguity, associated space, and indeterminate forms show the type of concern among critics.

This was followed by an exploration of recent theoretical literature in architectural aesthetics and various related fields. The basic aesthetic concepts were examined in order to discover a theory capable of explaining the reasons for, and the merits of, the above mentioned issues. The theoretical literature was generally found to approach the problem of architectural aesthetics from two basically different viewpoints. Some suggested that certain forms and organizations possess an inherent and objective beauty, while others took a more philosophical direction, referring to aesthetic values and taste preferences. The former were seen to exclude most current aesthetic issues, while the latter had a tendency to avoid the question of formal expression.

Thus it is suggested that a theory comprising both directions is essential in order to discuss architectural aesthetics in a socio-cultural context, a notion evident in the writings of, for example, Norberg Schulz.
On the basis of this, attention was once again turned towards architectural criticism, and Kresge College was selected as an example. Critical writings and pictorial material was studied in order to identify architectural forms and aesthetic values, and to attempt to link specific forms to particular values.

The criticisms consulted did not make evident any direct link between the forms and values. Positive statements about the building seemed to be of three different kinds; some referring to particular architectural features, some suggesting various aesthetic connotations, while some represented certain notions indicative of both formal expression and aesthetic essence.

To explore the applicability, and also the nature of these aesthetic notions, an analysis of 5 contemporary buildings was undertaken. The object of the analysis was to examine the content of published criticisms in relation to the formal articulation and composition of these specific buildings. This was expected to make it possible to identify the aesthetic notions and connotations as perceived by the critics.

The aim of such an approach was to understand how aesthetic values are expressed through architectural form, and to define this relationship in terms of its structure. Seemingly a structuralist idea, the notion of this relationship as a type of architectural code was introduced. It was assumed possible to examine such aesthetic codes in order to define their nature, possible categories, and their place in a broader context of general codes, examining their connection with, and differences from other architectural codes.
Thus the intention became to illustrate a method, by which one could relate aesthetic values to architectural form. An illustration of the method was also thought to provide a more complete understanding of the aesthetic 'essence' in a building as perceived by the architectural critic. Through such a method of aesthetic analysis, the aim became to arrive at a theoretically sound basis pertaining to architectural criticism. This could make such criticism less arbitrary without necessarily promoting an absolutist doctrine.
INTRODUCTION

A. INTENT OF THESIS

Architecture as a discipline, comprises pragmatic, functional, and theoretical concerns. Pragmatic issues are generally easily agreed upon due to their measurable nature: they possess facts and figures that may be analysed and compared. Theoretical concerns such as architectural aesthetics, however, are generally disputed. This may be reasoned in terms of the large number of factors influencing aesthetics. According to Webster's Third New International Dictionary, it is a "...philosophy (that) ... includes the psychology, sociology, ethnology, and history of the arts and essentially related aspects."¹

The field of aesthetics has a philosophical nature concerned with the ideas and beliefs about the aesthetic object. The main emphasis being the nature of the aesthetic experience. Architecture on the other hand, is a much more practical subject, and the main question that arises is not why, but rather what is experienced as aesthetic, and under what circumstances. This thesis aims primarily at gaining an understanding of the factors likely to produce delight in an architectural object, and how these are associated with aesthetic values.

Most recent theories on architectural aesthetics attempt to define and explain the field either in terms of the
architectural object possessing elements of eternal beauty, or in terms of qualities appropriate to people's value systems. The former is based on mathematical models and ideas of man's universal goals, while the latter is based on sociological and philosophical studies. Both approaches touch on important and relevant factors, but there have been few attempts to study the interrelationship between these two directions in architectural aesthetics: i.e., an inquiry into the connection between objective, formalistic criteria, and subjective, value-oriented aspects. How are the subjective values and intentions translated into expressive form? Is it possible to identify certain expressive forms and organizations in conjunction with a set of aesthetic values? And if so, what is the nature of this relationship? Another point of concern is the lack of relevance of existing aesthetic theories to architectural criticism. A critic makes use of certain criteria and methods which cannot be explained through the above mentioned theories.

The intention is to establish the aesthetic essence in architecture as presented by recent writers on the subject. Through this, it is intended to develop a method, which facilitates an analysis of expressive forms in relation to aesthetic values and intentions. Thereby it is thought possible to arrive at a theoretically sound basis for criticism placing architecture in a socio-cultural context. As writings on aesthetics tend to be of a more philosophical nature, the idea is to extract the general principles from these theories as a basis applicable to a more formal analytical system.

Certain directions within architectural semiotics
approach analysis by identifying the rules or codes, which indicate the "conventional associations between formations and meanings." A similar approach was thought suitable in an analysis of architectural form and values, although there is a distinct difference between meanings and values. A value is seen to imply preferential behaviour, and an aesthetic value is treated as a 'conceived value'. These have been defined by Morris, not merely as preferential, but as referring to preferences that can be felt or considered as justified.

The intention is to identify and develop a codification system that will be expressive of accepted or common associations between architectural form and aesthetic values. It is assumed that, through examining the aesthetic code, one is able to indicate how subjective values and intentions are translated into architectural form, and to illustrate the nature of this relationship.

In order to identify and explore such a system of aesthetic codes, the thesis undertakes to analyse a few recent architectural projects. The main objective of the analysis is to determine the aesthetic codes in each project in terms of aesthetic connotations and formal articulation. The data for the analysis is derived from a content analysis of the relevant criticisms in conjunction with an examination of the formal articulation of each example.

The formal articulations and values identified by the critics are discussed in terms of the aesthetic codes in order to explore the nature of these codes, as well as their classifications and relationship to other codification systems.
In summary, the intent is to explore how aesthetic values and intentions are related to architectural form. This relationship is seen as critical in the understanding of the essence of architectural aesthetics, and may prove useful in architectural criticism.

The structure of such a relationship may provide the designer with a better understanding of the aesthetic effect his building will have upon people. It may also be helpful as a guideline for architectural critics in an attempt to achieve more consistent and more objective architectural aesthetic criticism.

The different parts of the thesis will now be described and outlined in the context of the assumptions and justifications made.

B. ORGANIZATION OF THESIS

Initially the thesis consults recent theoretical writings on architectural aesthetics in order to establish the basic principles at work in this field. Selected examples from architectural criticisms are then examined to gain a more specific outline of how formal issues in architectural aesthetics are approached. The notion of aesthetic codes is introduced to explain and clarify two directions apparent in the theoretical and critical literature. The aesthetic code is suggested as a critical tool useful to the understanding of the
relationship between architectural articulation and aesthetic values. The validity of such a structure, as well as its potential advantages, has been indicated through developing a method of analysis which identifies the aesthetic codes in order to relate architectural form to aesthetic values. This relationship is discussed in an attempt to place contemporary architectural form in a socio-cultural context. An application of such a method is suggested in order to discuss its usefulness as well as its limitations in architectural criticism.

Chapter I establishes the conceptual framework which forms the basis for further assumptions and justifications. Recent theories on architectural aesthetics and critical doctrines from related fields have been examined in order to discover the basic structure of, and main influences on, architectural aesthetics. A review of this literature indicates that there are basically two main trends in architectural aesthetics. The first direction attempts to explain architectural aesthetics on the basis of specific formal articulations. The second refers to aesthetic values and preferences as the important factors. The notion of aesthetic codes is introduced to relate the formal architectural 'vocabulary' to the socio-cultural domain. It should be noted that these theories are presented in order to illustrate recent trends and ideas and do not necessarily correspond with the views of the author.

This idea introduces the concept of a possible rule-governed system of connections, a notion which is discussed in Chapter II. This system of connections is thought of as a set of
codes that are indicative of expressive forms as well as subjective values and intentions. After defining the level on which the aesthetic code is discussed, this chapter goes on to explore the nature and system of these aesthetic codes and their relationship to other codification systems.

In an attempt to clarify the relationship between formal expression and aesthetic value in architecture, chapter III presents a method of analysis. The suggested method applies a system of aesthetic codes in order to analyse specific buildings through selected documentation and criticisms. The methodology established is based on an analytical procedure previously demonstrated by Eco. Briefly, this consists of collecting various positive thoughts and obvious reflections presented by critics in accordance with any formal aspect in a building. These, in turn, are related through the aesthetic code to the specific relevant formal articulations. This chapter also offers some definitions of main terms and concepts.

Chapter IV presents one complete example from the analysis, stating the specific issues of concern. It became apparent that through identifying and summarizing the 'architectural connotations' presented in the criticisms, it was actually possible to arrive at certain concepts, or aesthetic codes, crucial to the aesthetic essence of the building. These codes were suggestive of specific aesthetic connotations, that could be related to more general aesthetic values. At the same time, they were also indicative of possible formal articulations. To ensure the generality of such a procedure, another four examples were analysed; the data from which is
summarized at the end of this chapter.

Thus in reference to the analysis carried out, chapter V engages in a discussion of the specific nature of the codes presented. Furthermore it attempts to define the principles, according to which, the code is able to connect architectural form to aesthetic values.

Chapter VI presents a suggestion for applying such an approach in architectural criticism. Based on the method as well as the results from the analysis, a critique of the Glasgow School of Art by Mackintosh is carried out. This application is included in order to discuss the usage of aesthetic codes in architectural criticism.

Finally, the possible advantages and disadvantages of applying such a model in architectural criticism is discussed; the ability of the aesthetic code to link architectural form and aesthetic value is summarized, and some ideas and directions for further research are suggested.
C. NOTES


3 Morris points out that the term 'value' can be "used to signify different aspects of value situations". He refers to 'operative value' which "signifies the direction of preferential behaviour of a given individual in a variety of situations"; 'conceived value', which represents a "positive or negative preferential behaviour {that} may be accorded to a signified object or situation"; and 'object value', which denotes "properties of an object considered in relation to its ability to reinforce preferential behaviour directed toward it by some organisms". See Charles Morris, Signification and Significance, Cambridge, Mass.; M.I.T. Press, 1964, pp. 12-20.

I. ARCHITECTURAL AESTHETICS

A. INTRODUCTION: PHILOSOPHICAL INQUIRIES

The English word 'aesthetics' is derived from the Greek aisthetike; meaning 'perceptible by the senses', and may be defined as 'a branch of philosophy dealing with beauty and the beautiful, esp., with judgements of taste concerning them'. But it may also be interpreted as meaning 'the philosophy or science of art: specif.: the science whose subject matter is the description and explanation of the arts, artistic phenomena, and aesthetic experience and includes the psychology, sociology, ethnology, and history of the arts and essentially related aspects'.

The former definition implies that aesthetics is synonymous with the 'beautiful', and thus illustrates one of the major problems in aesthetics: how to arrive at an accurate definition of the term. If aesthetics is to be looked upon as the beautiful, this poses problems for the appreciation of art that is concerned with themes such as the sublime, and it does not explain the excitement and emotion that may be felt when looking at Edwards Munch's 'Scream'. The history of the sublime dates from the mid-18th century when a new direction emerged in the philosophy of aesthetics, including the sublime in addition to the beautiful. This direction was evident in Burke's Essay on the Sublime and Beautiful (1756), and further developed by Kant in Observations on the feeling of the Sublime and Beautiful (1764). Kant treats the sublime as part of aesthetic
judgement, but he makes the distinction that "beauty belongs to
the judgement of taste, while the sublime is rooted in an
emotion of the intelligence". He also claims that the sublime
has two distinct directions, one is mathematical and "excited by
objects which reveal the importance of sense to satisfy the idea
of totality", the other dynamical and "evoked by objects or
occurrences which reveal our powerlessness as natural beings to
overcome the forces of Nature."²

However, it has been seen as adequate to accept the more
general definitions of aesthetics, acknowledging it as a science
which attempts to describe and explain the arts in terms of
their impression on perception and cognition. As such, it is not
determined only by the purely visual aspects of art, and the
above mentioned conflict is avoided.

Aesthetic philosophy is generally more concerned with
describing the nature of aesthetic preference, rather than
explaining the reasons for such a preference. Scruton explains
that:

The philosopher wishes to describe aesthetic
experience in its most general terms, so as to
discover its precise location in the human mind, its
relation, for example, to sensation, to emotion and
to judgement. This task he conceives of as a
necessary preliminary to any discussion of the
significance and value of art.³

This, as Scruton has pointed out, may give the impression
that the study of aesthetics is of a general nature, and that
there is no real subject of architectural aesthetics.⁴ However,
through the aspects that are particular to architecture one may
make a case of for such a separate study:
Now as a matter of fact architecture presents an immediate problem for any such general philosophical theory of aesthetic interest. Through its impersonal and at the same time functional qualities architecture stands apart from the other arts, seeming to require peculiar attitudes, not only for its creation, but also for its enjoyment.

Scruton goes on to suggest that general aesthetic theories, such as those of Kant and Schopenhauer, tend to develop ideas that are not easily translated into architecture. In the case of Hegel, the theory is inappropriate to the other forms of art. For Hegel, "...architecture was a medium only half articulate, unable to give full expression to the Idea, and hence relegated to the level of pure symbolism, from which it must be redeemed by statuary and ornament."

There are, according to Scruton, several such distinguishing features that are peculiar to architecture. First is the aspect of utility or function, which would influence one's aesthetic judgement in so far that "...our sense of the beauty in architectural forms cannot be divorced from our conception of buildings and the functions that they fulfill". Secondly, architecture has a highly localized quality, so that one's aesthetic judgement is also influenced by the building's context or surroundings. Thirdly, architecture can be characterized as a public object, and as such, aesthetic judgement is passed, not only by a small group of interested art-lovers, but by everyone who cares to look at the building. Its public nature also becomes important through historical and technological changes, as one of our current ideologies is concerned with newness and change. And, finally, "...architecture is primarily a vernacular art: it exists first
and foremost as a process of arrangement in which every normal man may participate, and indeed does participate, to the extent that he builds, decorates and arranges his rooms."

On the basis of this, Scruton makes the case for a separate theory of aesthetics in architecture; one that is not based on achievements in criticisms of the other art-disciplines. He carries out an extensive analysis of the notion of taste or aesthetic judgement, where he argues that "...in imaginative experience, reasoned reflection, critical choice and immediate experience are inseparable ... {and} in the exercise of taste experience is transformed into a sign of deeper values, by being brought into relation with procedures of critical reflection and comparison, procedures which may be wholly inexplicit, but which inform the perception of the normal sensitive eye." He also claims that "experience, reason and preference each lay their separate constraints on aesthetic judgement", but at the same time "aesthetic judgement maintains an ideal of objectivity, and moreover a continuity with the moral life."  

Scruton's book *The Aesthetics of Architecture* has received a lot of attention and criticism. One of the main arguments against the book, is that its major theme, the dependence of the aesthetic sense on educated taste, is merely stating the obvious. In his eagerness to avoid dogmatisms such as functionalism or expressionism, Scruton focuses on enjoyment, appreciation, or interest of architectural taste. He concentrates on "appreciation in itself, in abstraction from its object". Thus the only conclusions he is able to draw
regarding architectural expression, are that "the central appreciation in all aesthetic taste ... is the sense of detail", and that a building needs a facade that stands before one.  

The theory presented by Scruton provides an insight into the philosophical aspects of architectural aesthetics: it is based on Kant, who saw aesthetics as a distinct faculty of the human mind. As such, it attempts to explain what architectural aesthetics is, rather than give an account of how architecture is capable of producing an aesthetic experience, and the reason for this. If one is to create a useful critical approach, it is important to have a background understanding of what architectural aesthetics is, but this does not form a basis for any aesthetic criteria, nor does it give any justification for such criteria. Aesthetic criteria are understood as a function of both formal articulations and aesthetic values. This assumes that there exists a structural relationship between architectural expression and values, and is based on the notion of structuralism. "A structure is a set of any elements between which or between certain sub-sets of which relations are defined."  

B. ARCHITECTURAL EXPRESSION AND AESTHETIC VALUE

Accepting that there is a case for a separate study of architectural aesthetics, while at the same time including the more philosophical notion that experience, reason, and preference play an important part in aesthetic judgement, one
may now turn to approach the argument from an architectural viewpoint. A survey of recent writings on architectural aesthetics reveals that there are basically two schools of thought. One of which may be regarded as an absolutist doctrine, claiming that aesthetic value is inherent in the object and independent of any subjective experience. Such theories emphasize the architectural form or organization of form, and, on the basis of certain configurations, attempt to develop certain principles or criteria for evaluation.

The other direction of theories accept that people have different tastes and preferences, both individually, and collectively, in terms of, for example, culture and social status, and that one of the basic criteria in aesthetics is the inclusion of values. These theories mainly attempt to uncover the differences in tastes and preferences from one social group to another.

In order to discover the basic structure of, and main influences on, architectural aesthetics, it would be useful to examine these ideas more closely. As mentioned before, the following theories and statements are presented in order to illustrate and examine recent trends and ideas in architectural aesthetics and do not necessarily correspond with the views of the author.

1

The question of architectural expression

Several attempts have been made through the history of architecture to form aesthetic criteria based on formal
principles. This assumes that architecture can be looked at in terms of categories of forms and organizations that will have inherent aesthetic quality or value. Such a way of looking at architectural aesthetics was first described by Vitruvius\textsuperscript{13}, and there are still theoreticians and critics determining beauty according to similar principles, explaining the aesthetics of architecture in terms of different forms and organizations. However, acceptance of the same formal principle does not always lead to the same point of view. Criteria, such as compositional coherence or patterns, are too vague to form an understanding of the aesthetic qualities, and they tend to be fitted to the personal stylistic preferences of the individual critic and thus becomes rather arbitrary.

In order to achieve a valid, objective basis for such formalistic criteria, analogies are often drawn from studies of the human body or from mathematics. Mathematical relationships have been analysed for centuries, and certain concepts, such as that of the golden section \((1-\sqrt{5})/2\) is still seen as valid by some writers. Still others look at the aesthetic implications of information theories and entropy, calculations of the frequency of expected possibilities. Maaloe\textsuperscript{14} carried out some experiments in Copenhagen where he asked students to choose, from a series of abstract pictures, those which aesthetically were most fascinating. His results showed that from visual impressions, there was a correspondence between aesthetic preference, complexity, and measurable order. Similar results have been published by Findlay and Field who carried out a study of human perceptions and of user satisfaction:
A process of arousal through recognition of complexity and of de-arousal through recognition of order, forms the basis of the aesthetic experience. Thus, it is the interaction of complexity and continuity that forms the basis of an aesthetic experience.\(^1\)

Findlay and Field, however, carry their idea a bit further, so as to cover meanings, even though they see this as totally separate from aesthetics.\(^2\)

Meaning is derived from the environment by the recognition of order derived through continuity. The meaning derived from an environment affects a person in a process called reification. This process affects the self-image of the person and has a strong bearing on the individual's value judgement concerning the environment. Thus, meaning is a more powerful tool than pure aesthetics.\(^3\)

Both theories are perfect illustrations of Maaloe's philosophy - it is better to be too general and correct, than specific and wrong. It is possible to conclude from theories such as these, that both order and complexity play important roles in architectural aesthetics, but this is also the whole message. A more complex theory, based on the same ideas, has been put forth by Krampen.\(^4\) He suggests an analogy between Birkhoff's formula of complexity and order, \(M=O/C\) (where \(M = \) the aesthetic experience gained by the aesthetic measurement, \(O = \) the order of the sign elements, and \(C = \) the initial effort due to complexity) and Shannon's formula of information theory: \(H=-\sum p_i \log_2 p_i\) (where \(H = \) information value) and arrives at a third formula: \(H_{\text{max}}=1/H_1-1/H_{\text{max}}\)\(^5\) (where \(H_{\text{max}} = \) the measure of aesthetic information, \(H_1 = \) mean information value, and \(H_{\text{max}} = \) maximum information value). He concludes that:
If this formula is applied to any of the diverse messages transmitted by the environment, their aesthetic information measures should be calculable if their sign repertory is known. The problem would simply be to assess the statistical distribution of the signs in the object message and subsequently to calculate ... the 'objective' aesthetic numerical index of that object. A comparison between aesthetic indices of different objects ... should permit us to predict which of the objects would trigger more and which less 'feelings of pleasure'.

Despite the thorough mathematical analysis preceding Krampen's conclusion, I will argue that such a theory would be difficult to use in criticism. There are a number of problems such as how to determine significant, or aesthetically valued information, as well as measuring the degree of aesthetic value.

Smith arrives at the importance of a combination of order and complexity, or rather, a perceived relationship between order and chaos, to create an aesthetic experience, approaching the problem through studying the human brain. He claims that the neo-cortex responds to "rational, classical criteria" while the limbic brain responds to non-rational values, and that aesthetic pleasure derives from a dialectic between the two brains, or "...bi-polar events. This can be demonstrated on the higher intellectual level when there is tension between the unity of the whole and autonomy of component parts in a particular building."

These theories display a desire to turn architectural aesthetics into a science which is measurable, so that the exact aesthetic pleasure of a building can be calculated and predicted. However, I do not believe that this is possible nor essential. It will be argued that aesthetics has an influence upon cognition as well as perception, an aspect the above
mentioned theories do not take into account. Nor do they accept values, expectations, and taste to play any role in the aesthetic experience, a fact I believe is difficult to ignore.

In an attempt to include the spectator, Winfield conducted a comparative study in which he classified common effects of forms irrespective of style. His conclusions were that simple shapes which give the impression of being at rest; line; the relationship of mass and shape; and the organization of forms through which movement is conveyed, can produce aesthetic architecture.²²

A much more complete study of the effect of built form has been carried out by psychologists such as Arnheim. His principal concern is that of discovering the direct influence of forms on perception. He explains the effects on perception of vertical and horizontal, solid and hollow, mobility, order and disorder, expression and function, and also symbols through dynamics, which he believes to be expressed through basic architectural terms:

The spontaneously perceivable analogy between the visual character and behaviour of an object and a corresponding mental or spiritual character and behaviour relies on very generic attributes, such as height or depth, openness or enclosure, outgoingness or withdrawal. In a conventional symbol, the generic nature of the signifier is applied to a specific thing signified, and the symbol is thereby officially withheld from the many other meanings it could convey. Without such limitation, the highly abstract qualities of the signifier remain open to an infinite number of potential applications.²³

Arnheim's thesis gives a thorough account of the effect on perception produced by certain basic types of forms. However, when he goes on to explain the aesthetic qualities of various
effects and forms, his thinking appears vague: "The meaning of beauty, ...emerges only if we understand beauty as a way of perfecting expression." His work may provide psychological explanations for why we see certain things in certain ways, but it does not form a basis for an understanding of the aesthetic.

A similar approach linked to architecture has been taken by Smith. He concluded that four aesthetic 'programmes' function cross-culturally. These are a sense of pattern; appreciation of rhythm; recognition of balance and sensitivity to harmonic relationships.

The notion that certain formal relationships transcend cultural differences is also discussed by Colquhoun.

The building which, long after the fashionable idioms of its time have degenerated into cliches, still continues to contribute some memorable quality to human life is the building which draws its communicative force from the unchanging emotional associations of the archetypal elements in the architectural language, those which are most deeply rooted in the common sensory experience of humanity.

One may conclude that form, and in particular, formal relationships, is an important factor in architectural aesthetics. Architecture has its own formal vocabulary, and it is only through this, that its aesthetic message can be conveyed. However, these theories do not relate experience and reason to the suggested formal articulations, and it is difficult to determine how they may relate to any aspect of aesthetic value.
The question of aesthetic value

If Scruton's notion that experience, reason, and preference are essential to the outcome of any aesthetic judgement, then the subject rather than the object of form becomes important. The concept of values becomes an important aspect in a discussion of architectural aesthetics. Values have been compared with preferences or desires, but not all preferences are values. Scruton, among others has made this distinction.

Some of our preferences (for example, in food and wine) we regard as reflections of our own personality or constitution, these we are content to regard as mere preferences, and we consider ourselves under no obligation (although we may have a desire) to justify them when challenged. Values are more significant, and have a kind of authority in practical reasoning that no mere preference could acquire. Not only do we feel called upon to justify them with reasons when necessary, we also learn to see and understand the world in terms of them.  

A value thus, can be "characterized ...by its depth, by the extent to which it brings order to experience." For Scruton, values come about from thought and education. Reasoned argument can support, overthrow, or modify them. If this is so, aesthetics is not a mere matter of taste. Those with similar education could be expected to share value systems.

Secondly, some distinctions need to be made in order to define the notion of aesthetic values. It is not merely a matter of the way something looks as opposed to what it really means. Scruton has stated that "...there is no clear distinction
between 'the way it looks', 'what it means' and 'what it does'. In the art of building, the study of 'how it looks' and the reasoned apprehension of one's true end of action, are inseparable." An aesthetic value is for its own sake, it does not necessitate any behaviour.

As an example Scruton considered the reasons for the purchase of a denim suit. The purchaser may choose a denim suit because it is functional and cheap. It is neither particularly useful nor particularly cheap. It expresses those aspects through its appearance, and the experience of the man who wears it is thereby anticipated. So the reason given is not the full reason for acquiring a denim suit. It is rather "a sense of the accommodation of the suit to all present and future aims ..., [a] sense [which] involves the acquisition of values" that was the decisive factor. Scruton concludes that:

Here we begin to see one way in which something that we might wish to call 'aesthetic value' might be an essential ingredient in our understanding of what we are doing when we purchase clothes, decorate a room or build a house. All these acts have consequences which lie beyond the satisfaction of any desires that we could presently confess to. Nevertheless, we are still obliged to search for the forms and details that will be appropriate to our lives. That sense of the appropriate requires some kind of imaginative understanding, it requires us to reflect on the look and feel of something, and to imagine what it would be like to live with it.30

On the basis of this, an aesthetic value in architecture can be seen as the understanding and appreciation of certain concepts that somehow reflects one's ideals.

Venturi and Scott-Brown31 have pointed out that in architecture "...because buildings and cities are big, they
inevitably serve wide taste publics; because they last a long while, over the length of their lives they serve many different people." Scott-Brown suggests that one should try to "...isolate and characterize the various architectural audiences ... encountered in design practice, to promote an architecture of greater social awareness through a more sophisticated understanding of form and meaning." While important to the design profession, user differences in taste are not crucial to the theme of this thesis. Since the aim is to examine the relationship between aesthetic values and architectural form, the values identified in the critical texts have been accepted, even though they may be representative of only a small group of contemporary architects and critics.

The claim is made that architecture exists in a socio-cultural climate, and that the formation of aesthetic values has some influence on our attitude towards architectural form. Mukarovsky developed such a theory of aesthetics in the late twenties. Between the subject and the object "...lay the paradigm of socially existing aesthetic norms which condition and determine any subject-object interaction which is to be considered aesthetic." In order to illustrate the aesthetic function, he suggests the example of physical exercise:

Insofar as physical exercise is conceived in its practical function (strengthening of the body, training in dexterity, etc.), the action that the body performs is considered only with regard to these results, as a means to their attainment. Let us suppose, however, that an aesthetic consideration becomes concomitant or even predominant. Immediately the action performed in the exercise will acquire value in itself, and attention will be directed to all the stages and details of its course and continuation, ... with the aesthetic sign, attention
is concentrated on the very reality which becomes a sign. The entire wealth of its properties appears before our eyes, and so do the entire wealth and complexity of the act by which we perceive it. The thing that becomes an aesthetic sign reveals and allows man to perceive the relationship between reality and itself.\textsuperscript{34}

C. CONCLUSION

The embodiment of values is essential to any architectural theory of aesthetics if it is to take on a more specific nature. Scruton builds his argument on such an inclusion.

...if we provide an objective theory of the value of aesthetic taste, we will have some basis for translating our accumulated critical judgements into an architectural ideal. We shall know what kind of thing we are looking for in architecture, and what kind of style might serve to thwart or further it. For example, we can at least say that certain features of good architecture, while they may not be necessary in every successful style, bear a relation to architectural success which is far from accidental.\textsuperscript{35}

Scruton goes on to give examples of such perennial effects; the use of mouldings, and a vertical facade in order to represent the 'moral force of human posture' through the feeling of upward movement of lines. This, it could be argued, is not an eternal value, it reflects an individual's ideal. Its aesthetic value would depend on others holding the same ideal; the relationship to the surrounding context; and the validity of such an ideal for that particular type of building. The claim is
made that a successful method for criticism in architectural aesthetics depends on its ability to raise issues of general importance as well as its flexibility for use in different styles and circumstances.

Another approach to explain the significance of architectural form has been made by semiotics. Most semiotic analysis attempts to identify the meaning of a built structure rather than its aesthetic implications. There have been some attempts at linking the two. A critique of work done on the relationship between architectural semiotics and aesthetics has been carried out by Bunt. He refers to Brandi who believes that in addition to the message there is also a need for a presence or an essence before the building can be considered a work of art, which he reckons to be found outside the cultural dimension. This, according to Bunt, is similar to Zevi's idea of an "experiential dimension of architecture". He goes on to say that the limitations of a semiotic approach to aesthetics is due to granting a concrete experiential reality to the architectural design. This basically means that the essence of architecture cannot be represented by any indirect means of expression. Thus he concludes his essay:

Accordingly, we must conclude that the entire enterprise of a semiotic study of architecture based upon such premises must be confined within an aesthetic convention which either remains self-referential within the plane of expression, or else refers us to a 'content' which is so abstracted from any evidence of specifically cultural activity that it would be difficult to speak of a 'meaning' being present, other than in the mind of the perceiver.

Bunt seems unable to establish a useful link between
meaning and aesthetics because he views architectural aesthetics purely in such terms as geometry and figuration. These aspects of aesthetics might have, but they do not depend on an assigned meaning for their appreciation. However, their effect on people might be established through the application of architectural psychology.

Architectural aesthetics can be understood not as a whole, but as a corpus comprised of several aspects or aesthetic codes. Some gain their beauty or value from an inherent meaning while others achieve validity from emotional effects, for example. Then it is possible to appreciate the value underlying that particular code, and a formal expression in terms of that code can be suggested.

Based on these theories and ideas, it is claimed that architectural aesthetics relies on both form and aesthetic value for its recognition. It is seen as determined by the ability of certain forms and organizations to charge one's perception and cognition in such a way that they can be related to one's inherent system of values. It is suggested that this relationship can be discovered and examined through a notion of aesthetic codes. These codes form a similar ordered body of rules to that of other architectural codes.
D. NOTES

These definitions were found in Webster's Third New International Dictionary, Springfield, Mass.: G. and C. Meriam Company, 1963, p. 34.


"If philosophy is to be as abstract as I claim it is, ought it not to consider the aesthetic experience in its full generality, in isolation from the accidental constraints imposed by particular art forms and particular conceptions of success? Why is there any special need for a philosophy of architecture, other than the purely ephemeral one, that architecture is misunderstood by so many of its present practitioners? Is there not one and the same concept of beauty employed in the discussion of poetry, music, painting and building, and is there not one single faculty involved in the appreciation of all those arts?"


The amount of interest in the book may partly be attributed to the lack of other recent serious writings on the subject.

R. Scruton, op.cit., p. 5.


Findlay and Field keep the notion of meaning totally separate from the notion of pure aesthetics. Maaloe, however, goes even further towards a mathematical description of pure aesthetics, as he defines aesthetics as a concept capable of creating perceptual pleasure, and that is contrary to emotions, visions and ideals.


This is really a simplification of a formula in information theory developed by Bense; Einfuhrung in die Informationsasthetik, 1968. See M. Krampen for further references.

M. Krampen, op. cit., p. 255.


Jencks, however, strongly disagrees with the notion that forms possessing abstract qualities are more effective as symbols than specific ones. On the contrary, Jencks claims that such abstract forms are endowed with meanings from outside the realm of architecture and thus make people feel alienated and take on a negative attitude. See for example Jencks' analysis of Sterling's Olivetti building, which, according to Jencks, has been likened to a bus, a train, a letter-box or an Olivetti machine. Charles Jencks, "A Semantic Analysis of Sterling's Olivetti Centre Wing", in Signs, Symbols, and Architecture, pp. 233-242.

R. Arnheim, op.cit., p. 256.


27 R. Scruton, op. cit., p. 32.

28 ibid, p. 32.

29 ibid, p. 35.

30 ibid, p. 34.


32 D. Scott-Brown, op. cit., p. 47.


34 ibid, p. 20.


37 ibid, p. 437.
II. AESTHETIC CODES

A. INTRODUCTION

It has been argued that architectural aesthetics is dependent upon both its formal expression and aesthetic values. The latter are determined by the socio-cultural climate. The problem thus becomes one of relating architectural form to aesthetic values. The argument will be made that this is possible through codification and that one may identify the connections between architectural form and aesthetic values, which form a rule-governed system or a body of codes. A literature search was undertaken to justify this approach.

Most theories of architectural aesthetics tend to look for the overriding principle governing the discipline.¹ Few writers suggest a composite approach. Garroni proposes a series of abstract models, based on the typology of for example use, spatial, or geometrical elements, in architectural criticism. He argues that in order to discover the specificity of an architectural object

...we must employ not a single abstract model, but an interrelated series of such models which, between them, are capable of covering a whole range of attributes which embody the distinctive properties of any architectural phenomenon - that is properties which are specific to the realm of architecture.²

This is an attempt at looking at the aesthetic aspect in terms of several unrelated models, but it becomes a rather lengthy process, and it seems to imply that each architectural object has its own aesthetic quality; i.e., it is not comparable
to other architectural objects.

This illustrates the problem that each formal expression, as such, is difficult to link to an aesthetic value. There are too many variables outside the realm of expression of architectural elements such as the function of the building or the location.

Norberg-Schulz has also touched on the problem of linking architectural expression to values.

The study of the expressive problems above all tells us that there is no opposition between 'expression' and form (order). We can only express ourselves by means of order. The expression is not 'added' it belongs to the form. But a form, as we have seen, is not expressive as a matter of course.³

The intention of the 'expression' means that the 'feelings' come to dominate perception. The feelings, however, are not mystical qualities which exist independently of the objects. They also have to be described 'in terms of objects', and are to be understood as a particular kind of intermediary object where 'values' (or cultural objects in general) 'colour' the situation. This means that particular feelings are not connected with the things a priori; in other words, the qualities are culturally determined.⁴

The architectural forms do not express values directly, but through aesthetic codes (cf. Norberg-Schulz's 'feelings'⁵). It is because the forms can be understood in terms of the aesthetic codes that they can be combined with certain values. The aesthetic code thus provides the link between values and forms. This leads to the structuralist notion that it is the relationship between architectural form and aesthetic values that is important in the understanding of architectural aesthetics.
1.

**Structuralism**

Structuralism presents the idea that "man has an innate structuring ability, which determines the limits within which the structure of all social phenomena can be formed." On this basis there are certain rules, or notions which govern the relationship between man and the built environment.

Given that there is an active interdependence between man and environment, we can no longer simply investigate human responses to buildings and treat them as isolated dependent variables. We must instead explain this active interdependence in terms of equilibrating mechanisms existing in the form of relatively stable structures regulating the nature of the interactions.

These structures, can be seen as codes "...which are used to generate architectural form and to connect a whole range of intended meaning to three-dimensional form", and at the same time, they also "regulate the understanding and experience of the building."

Such a system of architectural codes would include a series of more specific rules; for example, pragmatic, technical or aesthetic codes. The advantage of looking at an object in structuralist terms is, according to Barthes, its nature as "...a mode of thought (or a poetics) which seeks less to assign completed meanings to objects it discovers, than to know how meaning is possible, at what cost and what means." Here one may see the similarity to studies in architectural semiotics.
2. 

**Architectural semiotics**

Architectural semiotics is another field that aims at providing a scientific basis for analysis. It assumes cognition as a principle element of man's structuring ability, and relies on the acceptance of the idea that culture and society can be understood as communication. In these terms, architecture can be seen as a system of signs that convey meanings. Eco attributes the significance of architecture to its ability to allow "...us to recognize in architectural signs sign vehicles capable of being described and catalogued, which can denote precise functions provided one interprets them in the light of certain codes, and successive meanings with which these sign vehicles are capable of being filled, whose attribution can occur, ...not only by way of denotation, but also by way of connotation, on the basis of further codes."¹⁰ Through the critical use of semiotics, it is possible to analyse architectural elements and the meanings connotated by them. However, it is merely an analytical tool, it is not an evaluative process, and as such, it does not directly address the question of aesthetics. The relationship between semiotics and aesthetics has however, been considered by several semioticians. Morris suggests that:

...(an) approach to the problem of aesthetics via semiotic and axiology would be to attempt to isolate a special form of aesthetic behaviour, and then to investigate the relation of such behaviour to signs and values. One candidate for such behaviour is often called 'aesthetic perception'. As contrasted
to cognitive perception (where the sign is perceived as giving information about something other than itself) and as contrasted to practical perception (where the sign is responded to as a way of accomplishing some purpose), aesthetic perception is 'for its own sake'. What is perceived aesthetically may, but need not, be a sign.\textsuperscript{11}

Morris' idea of forms of aesthetic behaviour can be considered as a system of codes. Preziosi defined code as "...an ordered body of rules which specify the conventional associations between formations and meanings, and between the signs themselves and other signs, of the same or of different types."\textsuperscript{12} As such, codes become important tools for understanding one's experience of the built environment, not only the meaning but also the aesthetic significance.

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{architectural_code.png}
\caption{Architectural code}
\end{figure}
B. AESTHETIC CODES

In her thesis on architectural codes, Sakellaridou concludes that codes "have been discussed only on an analytical level. But through their identification and systemic operation hidden intentions can be uncovered."\(^1\) This corresponds with Tafuri's idea that "- the ideology underlying architectural work is always, after all, a vision of the world that tends to pose as a construction of the human environment."\(^1\)

By making rational, what, normally, in aesthetic activity happens outside a strict logical check, and by discovering the ideological values of formal choices often made out of habit, criticism can face the architect with the responsibility of a continuous and pitiless check on the sources and symbolic systems to which he, consciously or unconsciously, trusts himself ...\(^1\)

Tafuri proposed that in this sense, architecture is a representation of utopia. Furthermore, that a method of criticism which could pay attention to the relationship between the formal articulation of one particular building and the system to which it belongs would uncover the elements of this utopia. The aim of introducing the notion of the aesthetic code is consequently one of naming these utopian ideals and the way in which they are represented through architectural form.
1.

The nature of the codes

Aesthetic codes can be seen as linking forms and aesthetic values: they are ideas rather than physical objects. They represent the perceptive and cognitive thoughts (which might be unconscious) initiated by certain forms and relationships which pertain to aesthetic connotations and values. The aesthetic code establishes a reference. It represents a concept on the basis of which various aesthetic connotations can be constructed. These ideas or codes are structured in a specific manner that may be identified in order to gain a better understanding of the aesthetic experience. Similarly the relationship between architectural form and aesthetic value can be examined. It is assumed that codes may be classified according to certain types which would represent different aspects of the aesthetic experience. It is suggested that aesthetic codes form a system that is similar or related to other codification systems in architecture. By examining the similarities and differences between these systems, it may be possible to define the status of the aesthetic as distinct from other signs in architecture.

In so far as the aesthetic code is represented by architectural forms and relationships, it can be assimilated to other architectural codes. The establishment of a relationship to aesthetic values provides the aesthetic code with an evaluative quality quite distinct from the purely analytical nature of other architectural codes. Because the aesthetic code
includes value judgements, it touches on what is aesthetically good and bad, in a building.

These codes are specific to architecture. They deal not only with formal organizations but also with spatial manipulations. They may refer to values concerned with phenomenological ideas such as the spirit of a place as well as the more general notion of recognition of pattern.

2.

System of Aesthetic Codes

In an attempt to describe the architectural sign, Hjelmslev argues that the sign is situated between the two entities of expression and content. He claims that "...there will never be a sign function without expression and content, and those two will never appear together without the sign's function between them." The same distinction has been made by Jencks, who suggests that codes can also be looked at in terms of content and expression. This model of content and expression has been elaborated by Sakellaridou, and is illustrated in Fig. 2.
Sakellaridou advocates this model, because "...not only does it explain the way content is tied to expression, an issue of particular relevance to design, but also, through the further subdivisions of form and substance, it offers a useful tool for the understanding of the formation of expression out of a general intention in all levels." The same model may prove useful in illustrating the structure of the aesthetic code, however, with some modification.

The content of the general architectural sign or code as shown in Fig. 2 refers to the activity of architecture at the same time as it places the building in a socio-cultural context. When analysing the aesthetic code the activity and its meaning is no longer the central theme. The content will have to relate to aesthetic values and specific connotations, while still placing the building in a socio-cultural context. Similarly, this thesis is dealing with the perception and understanding of architectural aesthetics rather than the design process. This changes the emphasis of the substance of expression (see diagram) to that of the knowledge of the range of means.
Accordingly, the aesthetic code links architectural expression to aesthetic associations. Thus the formal expression can be seen as aesthetic in terms of the reference to the aesthetic code through the filter of formal content. Similarly, the associations are seen as aesthetic because they arise from aesthetic values which are dependent on a socio-cultural context. The aesthetic code and its relationship to formal expression and values can be represented as in Fig. 4.

Figure 3 - Content and Expression in Architectural aesthetics

Figure 4 - Aesthetic code as interpreted by the author
C. CONCLUSION

In an attempt to determine the types of aesthetic codes, as well as to clarify the relationship between formal expression and aesthetic value in architecture, we may now turn to architectural criticism. By carrying out an analysis of the written criticisms for a particular building, it may be possible to identify specific forms and their associated aesthetic value. Their relationship based upon codification can be explored. The different types of codes may be identified and some useful conclusions about the application of aesthetic codes to architectural criticism may result.
D. NOTES

1 According to Norberg-Schulz, this is typical of our culture: "No perception is in reality completely free from an emotional content; it is only in the laboratory of the psychologist that we can isolate those pure schematizations which have been mentioned above. In our culture though, it is typical that we consider the pure objects as our ideal goals." See Christian Norberg-Schulz, Intentions in Architecture, Cambridge, Mass.: M.I.T. Press, 1965, p. 49.

2 Richard Bunt, "Linguistics into Aesthetics won't go", in Signs, Symbols, and Architecture, p. 435.

3 C. Norberg-Schulz, op.cit., p.73.

4 ibid, p. 49.

5 I find the expression of architectural codes more appropriate than feelings. The architectural code is quality loaded and it evokes various feelings, but most codes also involve a cognitive process, and it is thus not merely a question of sensory feelings, which the term feelings tends to give an impression of.


7 Linda Clarke, "Explorations into the Nature of Environmental Codes", Journal of Architectural Research, vol 3. no 1, January 1974, p. 34.

8 For a more complete description of the general notion of codes see Ireni Sakellaridou, Architectural Codes, M.Arch., School of Architecture, Univ. of British Columbia, Vancouver, Canada, 1982, unpublished, pp. 96-99.


13 I. Sakellaridou, op.cit., p. 135.

14 Manfredo Tafuri, Theories and History of Architecture, Great

ibid, p. 201.


ibid, p. 30.


I. Sakellaridou, op.cit., p. 52.
III. METHOD

A. INTRODUCTION

A textual analysis of selected examples of architectural criticism for particular buildings was adopted to demonstrate that the relationship between formal expression and aesthetic value is a function of aesthetic codes. There is precedent for the type of textual analysis used, in the work of Eco. Initialy, a procedure was devised to reveal the codes by which the critics formulated their ideas about the buildings. Then, the texts chosen for each building were analyzed in detail to link the formal elements and the connotations with the codes that were understood to connect expression with aesthetic values. To further elaborate the function of codes a building was analysed without consulting texts. The codes revealed in this procedure were then compared with those evident in selected criticisms. The results of both the first procedure and the second indicate that aesthetic codes can be used not only by critics but also by students of aesthetic to introduce more objectivity into the discipline of architectural aesthetics.

Eco, using 'componential analysis', collected and related several statements about the column. From these statements he compiled an inventory of connotations associated with that building element. The connotations were organized according to content. It was evident to him that there were three types of connotations: architectural, historical, and aesthetic. The statements used by Eco were generated through conversations with several architects and from an article "Eternidad de la Columna"
by Dora Isella Russell which had been printed in the daily paper "La Prensa", 26. July, 1970. For Eco, the article provided "...obvious reflections {which} correspond precisely to an inventory of the current tradition of thought about the column."

These meanings may be viewed as 'endoxa' in the Aristotelian sense of the term (that is: general opinions or socially codified acquired habits). Society, that is, recognizes several obvious morphological features in the column, such as presence of shaft, base, the capital, and so forth. One may also extrapolate from a number of 'pseudo-poetic' statements several semantic features such as 'verticality', 'support', etc.²

Collating all the connotations under the three categories, Eco arranged the units as related sets.

<table>
<thead>
<tr>
<th>architectural connotations</th>
<th>historical connotations</th>
<th>aesthetic connotations</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. tree-trunk</td>
<td>1. the winds of time blow around it</td>
<td>a. affirms its timeless destiny</td>
</tr>
<tr>
<td>B. apparent fragility</td>
<td>2. venerable</td>
<td>b. amongst them wanders the shadow of melancholy</td>
</tr>
<tr>
<td>C. supports without being supported</td>
<td>3. last relic left standing of vanished grandeur</td>
<td>c. it rises aristocratically</td>
</tr>
<tr>
<td>D. effortless</td>
<td>4. unscathed document</td>
<td>d. universal</td>
</tr>
<tr>
<td>E. enriches monuments</td>
<td>5. commemoration of events, great deeds, heroes</td>
<td>e. pure</td>
</tr>
<tr>
<td>F. gives solidity to façade</td>
<td>6. mast of ship of time</td>
<td>f. legendary</td>
</tr>
<tr>
<td>G. gives sumptuousness to façade</td>
<td>7. has the patina of millennia</td>
<td>g. audacity of imagination</td>
</tr>
<tr>
<td>H. gives grandeur to interior</td>
<td>8. allegory of the miracle of survival</td>
<td>h. mounts vertiginously upwards, pointing towards heaven</td>
</tr>
<tr>
<td>I. unity in repetitive variety</td>
<td>9. time-defying</td>
<td>i. poetized by lyrical raptus</td>
</tr>
<tr>
<td>J. unity in modulating variety</td>
<td></td>
<td>j. neck of beloved</td>
</tr>
<tr>
<td>K. irremovable</td>
<td></td>
<td>k. slender body</td>
</tr>
<tr>
<td>L. mast of ship</td>
<td></td>
<td>l. shapely arm</td>
</tr>
<tr>
<td>M. airy</td>
<td></td>
<td>m. perfectly formed leg</td>
</tr>
<tr>
<td>N. gives harmony to building</td>
<td></td>
<td>n. obstinate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o. arrogant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>p. solitary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>q. sacred remains</td>
</tr>
<tr>
<td></td>
<td></td>
<td>r. Greek miracle</td>
</tr>
<tr>
<td></td>
<td></td>
<td>s. prodigious</td>
</tr>
</tbody>
</table>

Figure 5 - Connotations of the column as seen by Eco
The intent of Eco's method was not to discover the connotations associated with the column or any other architectural element in particular, but rather to establish the possibility that form and aesthetic connotations can be linked.

Eco's work suggested that the procedure could be applied to criticism of buildings rather than mere elements. Five buildings, designed and completed within the last 10 years but of different styles were selected. A corpus of critical literature including comments by the architect for each was then analyzed to identify positive thoughts and obvious reflections. It was anticipated that, by extending Eco's method, the significance of aesthetic codes, rather than merely connotations could be revealed.

B. METHODOLOGY

The 5 buildings examined, were selected according to certain criteria. The buildings chosen were designed within the last 10 years. This is the same time period as for the theoretical literature on architectural aesthetics which had been consulted. Following Jencks' classifications of building-styles\(^3\), the designs chosen belong to different categories. This was done in an attempt to get a broader view of the current situation, and also to show that the identification of the aesthetic code is not limited to one particular architectural
style. The buildings were finally chosen in terms of the availability of textual material by critics as well as the architect for the buildings. This should ensure a cross section of opinions, and thereby present a relatively objective view.

Using these criteria, the five buildings selected were: Kimbell Art Museum, Fort Worth, Texas, Louis Kahn, 1966-72; Kresge College, Santa Cruz, Cal., Charles Moore, 1972; Sainsbury Centre for the Visual Arts, Norwich, Great Britain, Norman Foster, 1974-78; The Atheneum, New Harmony, Ind., Richard Meier, 1979, and San Juan Capistrano Library, San Juan, Cal., Michael Graves, 1981. A bibliography of critical writings consulted is presented with each example.

The texts for each building were examined to identify the various positive thoughts and obvious reflections given by the authors about the formal aspects of the buildings. The procedure will be explained briefly for only one of the buildings, Kresge College. This was chosen as an illustration because of the variety of aesthetic codes in operation in this building. Below is a paragraph from Bloomer and Moore, describing Kresge College.

Formal aspects identified in the text are designated by , aesthetic connotations by and aesthetic codes by .

The scheme, then, was based on a pedestrian street
winding up the ridge in the forest tightly flanked
by buildings, their fronts painted white to bring
light into this passage in the dark forest. (The
other side of the buildings, facing the forest, are
painted a dark ochre, so as to merge into the trees.) The imagery of whitewalled galleries along a winding street is of course of a village, and the intimacy of a village is a useful model. But this is only a partial metaphor here; there is no mayor, no rich and poor, no overt hierarchy of power. There are, instead, aspects of make-believe, or an urgently important four-year-long operetta. (A reviewer delighted the architects by thinking he had wandered into a Sicilian production of "The Student Prince".) The choreographic possibilities of such a vision fascinated the architects, and they fashioned the white gallery walls, which they painted bright colours on their reverse sides, into cut-out planes, like stage-flats, adding other cut-out walls so that people walking in the street, especially conscious of their own bodies moving through planes, would feel themselves important, like dancers on a stage. (That happens, to a remarkable extent, and to the objection of some.) The buildings are carefully and consciously stage sets, for a drama improvised by the inhabitants. An exciting moment for the architects came one Halloween, when the twilight jack-o'-lanterns appeared along the gallery rails and white-sheeted figures wailed ghostly sounds as they danced up the street.

As evident from the textual scoring, aesthetic connotations could be individual words or sentences designating
implicit positive associations. They were seen as associations that somehow suggested aesthetic values; i.e., values that could be interpreted as existing for their own sake, or for man's self-realization. The aesthetic connotations were seen as denoting such associations, either by themselves, for example ('aspects of make-believe'), or by the way they relate to the formal aspects. An illustration of this would be the expression ('to merge into the trees') which is seen in relation to 'their fronts painted white to bring light into this passage in the dark forest'. The other side of the buildings, facing the forest, are painted a dark ochre'.

The phrases or sentences identified show what was thought to be the most precise denotation of that particular association in that particular context. In the phrases ['adding other cut-out walls'] so that people walking in the street, especially conscious of their own bodies moving through planes, would feel themselves important, like ('dancers on a stage'), only ('dancers on a stage') was identified as an aesthetic connotation. The aesthetic connotations might also sometimes express an aesthetic value directly, such as in the case of ('intimacy').

The formal expressions identified are of an architectonic nature, and as such, they do give an indication of the type of aesthetic connotation that can be linked to them, e.g., ['a pedestrian street winding up the ridge in the forest tightly flanked by buildings']. Purely descriptive terms such as an explanation of the planning have not been extracted as they do not give any indication of qualities or aesthetic values. Similarly, phrases that do not designate any form of description
have also been left out, as they do not give any justifications for the superlatives. The excerpts that were extracted show the connotative referents of architectural issues.

The aesthetic codes establish a basis for the ordering of various aesthetic connotations as well as crucial formal articulations. For example, the sentence in the text, "The imagery of whitewalled galleries along the winding street is, of course, of a village, and the intimacy of a village is a useful model" link formal features by the aesthetic code village to the aesthetic connotation intimacy. The aesthetic code establishes a reference: it represents a concept on the basis of which various aesthetic connotations are constructed. The idea of the village gives an indication of articulations and organizations. The critic, as well as the designer, can use the code to elaborate the formal similarities between the village and Kresge College. Once introduced, the notion takes over. It becomes a vehicle for the attitudes towards these formal aspects. Aesthetic connotations are adopted through the code village rather than by formal descriptions such as 'small scale buildings' or 'second-floor balconies'. Similarly, the phrase 'whitewalled galleries along the winding street' may be regarded as denoting the aesthetic. It will be argued that this occurs, not because these are forms possessing objective beauty, but because of a poetic use of the language, creating a description resembling that of an idyllic village in the sun. The aesthetic connotations are still formed through the reference to the village. The aesthetic codes are identified as the notions or the terms of reference that collect certain formal aspects and determine the aesthetic
connotations associated with these aspects. By naming the reference, it is possible to specify aesthetic connotations as well as architectural formations. The code thereby implies its own principles and rules.

All the critical writings consulted for Kresge College were analyzed in this manner. By comparing the statements of several writers, a more precise notion of the aesthetic codes and the several connotations associated with them was arrived at. The idea of the village, for example, was formulated more precisely as an Italian village. Photographs and drawings were also consulted to verify the codes. Each code was then tabulated along with values and forms as in Fig. 6.

<table>
<thead>
<tr>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesthetic</td>
<td>Formal</td>
</tr>
<tr>
<td>Value</td>
<td>Expression</td>
</tr>
<tr>
<td>Aesthetic</td>
<td>Abstraction</td>
</tr>
<tr>
<td>Connotation</td>
<td></td>
</tr>
<tr>
<td>Aesthetic</td>
<td></td>
</tr>
<tr>
<td>Code</td>
<td></td>
</tr>
</tbody>
</table>

Figure 6 - Tabulation of the aesthetic code

Two value-oriented categories have been identified in terms of the aesthetic code. One, aesthetic connotations, is more specific, and refers directly to architectural space and elements and their effect. It presents the implicit positive associations connected to the forms, as seen by the critics, and thereby may give an idea of why a particular code is seen as aesthetic. Each aesthetic code is linked to several related connotations, which, in turn, point to a more fundamental
concept that may be seen as the aesthetic value. Thus, aesthetic values illustrate the more general aspect of significant connotations: they represent their preference weighting.

Likewise, the formal aspects are also presented in two different categories; formal expression and elaboration/abstraction. The category, formal expression gives a descriptive account, as perceived, of the formal aspects that join together to articulate the code. The category elaboration/abstraction offers a more general description of those elements in order to illustrate how they, through cognition, can be related to the aesthetic code and connotations. It attempts to explain the particular architectonic aspects of the form in that particular context. For further explanation of these notions, see C. Definition of terms and concepts on page 54.

An example of the tabulation is given in Figure 7. For the code Italian village it is evident that the connotations refer to familiarity and intimacy. The implication can be drawn that aesthetic values refer to values common to all aspects of life and not merely to architecture. They are seen in terms of the aesthetic connotations rather than the code, and as such, are not always linked directly to the code. The aesthetic connotation elaborates and describes the aesthetic code in a positive semantic field, while the aesthetic value relates the notion to a much broader and more general system of values that influence our well-being in life; or, as we are dealing with aesthetic values, a feeling of pleasantness.
C. DEFINITION OF TERMS AND CONCEPTS

1. Aesthetic code

Preziosi's definition of codes as "...an ordered body of rules which specify the conventional associations between functions and meanings ...",5 has been accepted. An aesthetic code represents the rules according to which architectural articulations are linked to aesthetic associations. The

---

<table>
<thead>
<tr>
<th>Value</th>
<th>Aesthetic Connotation</th>
<th>Aesthetic Code</th>
<th>Formal Expression</th>
<th>Elaboration Abstraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>familiarity</td>
<td>(i) pleasantness affection (ii) reinforcing the students sense of living in a social place (iii) protection</td>
<td>Italian village</td>
<td>(i) informal building arrangement (ii) small scale buildings (iii) white colour (iv) second-floor balconies</td>
<td>similarity in scale, organization of form colour and one typical feature, to the Italian village</td>
</tr>
</tbody>
</table>

---

Figure 7 - Aesthetic code - Italian village

The description of the method along with how the data from the content analysis was marked makes possible a clearer explanation of the concepts used throughout the thesis.
aesthetic code is an illustration of a concept which has specific formal articulations governed by the code, and on the basis of which aesthetic connotations are formed. The aesthetic code provides the terms of reference which collect certain formal aspects and determine the aesthetic connotations associated with these aspects. It relates architectonic formations to aesthetic associations, or vice versa.

2.

Formal expression

The formal expressions identified in the analysis are architectural forms and organizations that are talked about in a positive manner by the critics. As such they are of a nature similar to Preziosi's architectonic codes.

The architectonic code is essentially a system of relationships in which significative entities are defined in terms of their relative positions in a multidimensional network of relationships. For this reason, two apparently identical formations in different systems are only superficially 'homonymous', since each belongs to, and is defined principally in relation to, the overall system of signs of which each is an exemplar or material realization... Its 'vocabulary' is spatial and geometric in nature, and architectonic formations are organized according to the parameters of topological, perspectival and Euclidean metric formative features.

Thus, the formal expression is architectural form perceived in relation to formal substance. See Figures 3 and 4 on page 41.
3. **Formal elaboration**

The formal elaboration suggested in the analysis is an attempt to concentrate on the function of the formal expression relative to the aesthetic code. According to Preziosi, "...architectonic formations are inherently **multifunctional** in nature, and ... referential association or intended (and effective) **usage** is but **one dimension** of architectonic function. An architectonic object may be said to function **referentially** through an orientation upon the contextual associations or usages which a corpus prescribes." The formal elaboration points to those aspects of the formal expression that are important for the denotation of each particular code.

4. **Aesthetic connotations**

Aesthetic connotations refer to architectural connotations which have an aesthetic nature. An aesthetic connotation represents the implicit positive associations initiated by the formal expressions, and as such they are formed on the basis of an aesthetic value. See Figures 3 and 4 on page 41.
5.

Aesthetic values

An aesthetic value is seen as a value that can exist for its own sake. It is not a value that depends on preferential behaviour. It is a value that allows attention to concentrate on the aesthetic object itself without any further motive. Scruton has suggested its importance among other value systems.

The process of self-realization is possible only when the world responds back to me an image of my true fulfilment. The aesthetic sense, ...is precisely devoted to the task of endowing the world with an order of that kind.\(^8\)

D. CONCLUSION

Following this methodology, a content analysis was carried out, collecting all aesthetic connotations and formal articulations of aesthetic significance. These positive thoughts as expressed by the critic, were then compared and summarized in order to arrive at the aesthetic codes and their significant expression and value. To illustrate this process, the following chapter presents the extracted reflections and connotations, a description of the formulation of a code, as well as a detailed formal description of each code seen to operate in Kresge College.
E. NOTES


2 ibid p. 224.

3 Charles Jencks, Late Modern Architecture, New York: Rizzoli, 1980. His stylistic variables in late-modern/post-modern architecture includes: supersensationalism, slick skin/hybrid expression; second machine aesthetic/expression of content and semantic appropriateness towards function; extreme articulation/semiotic articulation; structure - construction as ornament/pro-organic and applied ornament; complex simplicity/complexity; extreme isotropic space/variable space with surprises; extreme repetition/eclectic; sculptural form/conventional and abstract form; humorous; representational; metaphorical; historic, and symbolic.


6 ibid, p. 2.

7 ibid, p. 64.

IV FORMULATION OF CODES

A. INTRODUCTION

As already explained, aesthetic codes function to relate architectural forms to aesthetic values. Codes are not synonymous with the elements from the textual analysis. The connotations were tabulated as elements or issues to illustrate the formal aspects of aesthetic concern. Not all formal aspects have an aesthetic connotation. It is only through a careful examination of the connotations associated with certain formal elements and how these are treated in a particular building that the codes may be identified.

As mentioned above, statements from the several texts consulted were combined to identify formal aspects, aesthetic connotations, and how codes directly or indirectly linked them. Figure 8 is a compilation of the architectural elements and the connotations evident in the textual corpus of Kresge College. The texts consulted were:


Brubaker, W., "Kresge College", Progressive Architecture, January 1970, p.82.


It should be noted that some of the connotations in figure 8 refer to several elements, but have been listed with the element which is most important to the statement. This apparent discrepancy is remedied by the identification of the codes, which serve to link several formal aspects and their connotation.
### Figure 8 - Formal elements and their connotations for Kresge College

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>CONNOTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organisation</strong></td>
<td>- adopting a model of a shopping centre; i.e. Put crowded gathering centres (dining and assembly quarters plus offices) at opposite ends of a pedestrian street providing a resiliency that should promote a feeling of community as well as a sense of awareness of self. (K.C. Bloomer and C.W. Moore)</td>
</tr>
<tr>
<td>- the imagery of whitewashed galleries along a winding street resembles the intimacy of a village which is a useful model as well as providing aspects of self-belief which is thought suitable for students. (K.C. Bloomer and C.W. Moore)</td>
<td></td>
</tr>
<tr>
<td>- the design choreographs our movements to make us constantly aware of the position of our body within the space. (W. Hubbard)</td>
<td></td>
</tr>
<tr>
<td>- the linear space brings to mind streets and squares in Italian villages and thus suggests reasons analogous to the viewer, and as one investigates the space, the dual imagery is not overthrown but is reinforced and articulated. (W. Hubbard)</td>
<td></td>
</tr>
<tr>
<td>- the strongest image is that of the Italian village and the design thus embodies a patterning whose sense will engage our sympathy and so our complicity; it gives real form to an aspiration about what an academy could be, and thus makes us want it to be the way it is and not some other. (W. Hubbard)</td>
<td></td>
</tr>
<tr>
<td>- the sense of the units connects well with the overall plan for Santa Cruz, which is an idea which is consistent with the overall concept. (Arch. Rev.)</td>
<td></td>
</tr>
<tr>
<td>- the organization of the units connects well with the landscape. (W. Hubbard)</td>
<td></td>
</tr>
<tr>
<td>- the buildings crowd a narrow street on to which face the communal living areas in an attempt to create a community relationship. (Arch. Rev.)</td>
<td></td>
</tr>
<tr>
<td>- the spine is a less-than-true-scale auto-free pedestrian street which provides an analogy to Disneyland. (Interiors)</td>
<td></td>
</tr>
<tr>
<td>- the spine is bent to mirror the natural contours. (Interiors)</td>
<td></td>
</tr>
<tr>
<td>- inflecting the main street creates a richer space-time sequence. (Interiors)</td>
<td></td>
</tr>
<tr>
<td>- a pattern of space constricting, then widening, then narrowing, etc., results in a pulsating space. (Interiors)</td>
<td></td>
</tr>
<tr>
<td>- buildings wrapping around the outdoor area provides an entrance court. (Interiors)</td>
<td></td>
</tr>
<tr>
<td>- the ensemble of structures is highly irregular which makes the return journey more interesting, not just a mirror-image. (Interiors)</td>
<td></td>
</tr>
<tr>
<td>- it is a masterpiece of urban design stagecraft. (Interiors)</td>
<td></td>
</tr>
<tr>
<td>- the way residential, academic, social and administrative functions are distributed through the college reinforces the students sense of living in a sociable space. (Interiors)</td>
<td></td>
</tr>
<tr>
<td>- the winding street is an element of protection. (Interiors)</td>
<td></td>
</tr>
<tr>
<td>- the building-fronts are painted white which brings light into a dark passage. (K.C. Bloomer and C.W. Moore)</td>
<td></td>
</tr>
<tr>
<td>- the sides of the building facing the forest are painted dark ochre, so as to merge into the trees. (K.C. Bloomer and C.W. Moore)</td>
<td></td>
</tr>
<tr>
<td>- supporting facilities have distinct forms or paint treatment to set them apart as special. (W. Hubbard)</td>
<td></td>
</tr>
<tr>
<td>- the white, stuccoed Spanish colonial present clear analogies with that style, a romantic, white walled international style. (Arch. Rev.)</td>
<td></td>
</tr>
<tr>
<td>- the backs of the buildings are clad differently from the fronts which is another analogy to Disneyland. (Interiors)</td>
<td></td>
</tr>
<tr>
<td>- the exterior walls are painted a dull brown to be minimally obtrusive in the forest. (Interiors)</td>
<td></td>
</tr>
<tr>
<td>- the side that face the public circulation spine are painted white to maximize the light and to set off the playful architectural forms. (Interiors)</td>
<td></td>
</tr>
<tr>
<td><strong>Balconies</strong></td>
<td>- the white gallery walls are painted bright colours on the reverse side and fashioned into cut-out planes, like stage flats, which make people walking in the street especially conscious of their own bodies moving through planes, so they can feel themselves important, like dancers on a stage. (K.C. Bloomer and C.W. Moore)</td>
</tr>
<tr>
<td>- the buildings are carefully and consciously stage set for a parade improvised by the inhabitants. (K.C. Bloomer and C.W. Moore)</td>
<td></td>
</tr>
<tr>
<td>- buildings like stage sets can support the action of human bodies and encourage the strengthening of fantasy in human experience. (K.C. Bloomer and C.W. Moore)</td>
<td></td>
</tr>
<tr>
<td>- each housing block is given the same type of screen wall which provides contingency. (W. Hubbard)</td>
<td></td>
</tr>
<tr>
<td>- the forms themselves can recall images of people occupying them, making the spaces feel peopled. (W. Hubbard)</td>
<td></td>
</tr>
<tr>
<td>- the shape of screen-walls, windows and painted decorations brings to mind images of town halls of northern Europe. (W. Hubbard)</td>
<td></td>
</tr>
<tr>
<td>- the openings in the screen walls have a syncopated rhythm that has little to do with the widths of fenestration of the walls behind, this makes us freed and enabled to construct reasons about why the openings have the size and the spacing they do and they can be arranged according to what feels right. (W. Hubbard)</td>
<td></td>
</tr>
<tr>
<td>- the breaking up of the continuity would tell of people's inherent need to form themselves into groups. (W. Hubbard)</td>
<td></td>
</tr>
<tr>
<td>- the white, stuccoed Spanish super colonial of simulataneous simplicity and flamboyant waive is consistent with local traditions and sets up analogies with art-deco, another Santa Barbara convention. (Arch. Rev.)</td>
<td></td>
</tr>
<tr>
<td>- the style is an affectionate tribute to vernacular building and a playful indictment of architectural pretensions. (Interiors)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONNOTATION</th>
<th>ELEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>- the long street needs landmarks to be comprehensible and to signal students where they are. (K.C. Bloomer and C.W. Moore)</td>
<td></td>
</tr>
<tr>
<td>- the use of trivial monuments, such as stage entry, a fountain; bright paint over outdoor post-office, non-monumental entrance to the laundry, a speaker's rostrum painted red, white and blue with a garbage collection room underneath it (in contrast, juxta posed with a rainbow, the lopsided triumphal arch beside the library, and a yellow lined entrance, none of which bear any hierarchal connotations, and is thus suitable to a college. (K.C. Bloomer and C.W. Moore)</td>
<td></td>
</tr>
<tr>
<td>- the specialness of the activity is reflected in the form of the architecture, but in no case is the activity named, thus because of slippage we are given the gift for constructing reasons as to why the form is the way it is, but we are not bound forever and only to that reason. (W. Hubbard)</td>
<td></td>
</tr>
<tr>
<td>- the fountain in a partially closed atrium is reminiscent of the courtyard of a house in Mexico, and the shape of the phone booth resembles one of a triumphal arch, this suggests resonant analogies to the viewer and as one investigates the space, the dual imagery is not overthrown but is reinforced and articulated. (W. Hubbard)</td>
<td></td>
</tr>
<tr>
<td>- to give people opportunities for spontaneous action, the scheme has contestable spaces; usually they have no specific boundaries; they are wedged between things, and they have walls, columns and other props that help people use them for a variety of purposes. (D. Lyndon)</td>
<td></td>
</tr>
<tr>
<td>- the forms and details mock the notion of great gestures and monumentality even as they flirt with those very qualities. (Interiors)</td>
<td></td>
</tr>
<tr>
<td>- symbolically portrayed 'event' - buildings along the route enriches the space-time sequence. (Interiors)</td>
<td></td>
</tr>
<tr>
<td>- the physical complexity allows different activities to take place in different areas. (Interiors)</td>
<td></td>
</tr>
</tbody>
</table>
Each element in the textual analysis may have a range of diverse connotations which refer to different articulations of the element. An element may thereby establish the formal basis for several codes. See for example the central street in Kresge College which is one of the main elements both in the code Italian village and in Pulsating space. Also, the aesthetic code must be expressive of both a formal element, or possibly several, and its articulation or organization. It is only through its articulation that it is capable of expressing any kind of quality. As such, the basic element does not seem to be very important, even though various styles have their favoured elements, see for example the idea of space in the modern movement.

The aesthetic code is then understood as denoting a reference which governs the articulation of the architectural forms in order to relate them to specific connotations. The sample text from Bloomer and Moore for Kresge College given in Chapter III, indicates that identification of forms and connotations is a separate but simultaneous process, by which statements are gathered and related, in order to arrive at an inclusive representation. The code, however, is only partially presented in any one text, as in the case of village for Kresge College. The idea of the village accounts for the aesthetic connotations presented. However it is thought too vague to explain the architectural articulation; it does not give any indication of for example the colouring or the second-floor balconies. Through carefully collecting and comparing all the combinations of aesthetic connotations and architectural forms
from all the texts consulted, a more comprehensive aesthetic code is arrived at. The scheme was thought of as a Sicilian production of The Student Prince, which reinforces the notion of an Italian setting. This, in conjunction with the idea of the village, is seen as an adequate representation of an aesthetic code. The concept of the Italian village is seen to contain the essence of the aesthetic connotations presented, as well as the formal articulation of Kresge College. The aesthetic code is sometimes evident from only one word and sometimes from a whole sentence. It attempts at providing the most effective representation of a reference, on the basis of which, aesthetic connotations can be linked to specific architectural formations. This can be compared to Barthes' notion of lexia in the analysis of the written text.

The tutor signifier will be cut up into a series of brief, contiguous fragments, which we shall call lexias, since they are units of reading. ... The lexia will include sometimes a few words, sometimes several sentences; it will be a matter of convenience: it will suffice that the lexia be the best possible space in which we can observe meanings; its dimension, empirically determined, estimated, will depend on the density of connotations, variable according to the moments of the text...

On the basis of the texts analysed, Kresge College has 5 aesthetic codes; Italian Village, Stage Set, Points of Interest, Pulsating Space and Varying Rhythm.
B. FORMAL ARCHITECTURAL EXPRESSION OF CODES

Each aesthetic code is seen in terms of several aspects of form and organization. The number and types of formal articulations vary according to the complexity of the aesthetic code. The formal aspects presented below are those seen as essential, in this particular design, in order to express each individual code.

1.

Code: Italian village

One of the aesthetic codes have been labelled Italian village. It relies on a perceived similarity between some of the main formal aspects of Kresge College and a Mediterranean village, in order to recall the aesthetic connotations suggested by the critics. The formal aspects that have been used to create such an association is seen as; informal building arrangement; small scale buildings; the white colour; and the second-floor balconies.
Informal building arrangement
The scheme is composed of a range of separate buildings. These units are placed close to each other, facing a winding path in the centre, and closing off the path at either end. This arrangement is supported by level changes that are articulated in an informal way, thus reinforcing the natural path. This layout is seen as similar to that of an Italian village, at the same time as it is appropriate to the college community, as well as to the tree-covered sloping site.

Figure 9 - Kresge College-Informal Building Arrangement

Small scale buildings
Kresge College consists of a series of small scale buildings, 1, 2, 3 and 4 stories high. This creates a similarity in scale to that of an Italian village, with an approximate height difference of 1 storey from one building to the next. This is also seen to provide a friendly, humane environment appropriate both to the function of a college and to the surroundings, as well as allowing the trees to be seen over and above the buildings.

Figure 10 - Kresge College-Small scale buildings

The white colour
All the buildings are painted a crisp white colour on the side facing the street. This is
reinforced by the exterior side (the edge facing the forest) being painted a dark ochre. Thus the street is reinforced, showing a bright, light, man-made colour, that is similar to that used in southern climates as well as being consistent with local traditions.

Second-floor balconies
The housing blocks have tall, open, second floor balconies. Also there are cantilevered enclosed balconies appearing on the second floor. See Figure 11. This suggests a similarity in style to that of an Italian village.

Figure 11 - Kresge College-Second floor balconies

2.

Code: Stage-set

The second aesthetic code is also of an associative nature. Some of the aesthetic connotations depend on a perceived allusion in the buildings that would be reminiscent of a stage-set. This is achieved through; the screens in front of the balconies, which do not seem to correspond to architectural function. In addition, the front of all buildings and screens are painted; the white colour, which makes the forms stand out more clearly.
The Screens
The thinness of the screens, as well as the proportions of the openings, which do not correspond to what is behind, is seen as having a fake appearance. This makes the screens stand out as cardboard facades, or stage-props.

The white colour
All external surfaces; i.e., facing the street rather than the building, are painted white. This makes the forms stand out more clearly against the dark trees and the buildings in shadow.

Figure 12 - Kresge College-The Screens

3.

Code: Points of interest

Rather than creating an atmosphere, as was the major aim of the two previous codes, points of interest sets up references in the space - time continuum. This is an attempt to engage one's interest and thus draw one through the design. It is achieved through the introduction of colour to an otherwise all-white scheme, and the use of recognizable and distorted 'monuments'. These include; a paint-decorated entrance gate; a mock-monumental entrance to the laundry; a lopsided triumphal arch beside the library; a fountain; painted decorations; and unlikely connections, such as the speaker's rostrum with a garbage collection room underneath. Another important aspect is the placing of the points of interest.
Entrance gates
A painted and decorated open gate through the wall at the entrance to the college creates a definite point of entry and thus celebrates coming into a place. Also, an undecorated mock-monumental entrance to the laundry and an undecorated lopsided arch which has been likened to a 'triumphal arch' beside the library set these activities apart as special, they are made distinct from housing and classrooms.

Figure 13 - Kresge College-Entrance gates

Fountain
A fountain set in a partially closed atrium is similar to what is found in for example Mexican atriums, and thus stands out as separate from the rest of the scheme.

Painted decorations
A bright red rectangle painted over the post-office, a speaker's rostrum painted red, white and blue, telephone booths joined with a rainbow, and a yellow-lined rotunda, are all set apart as special through their colourful decorations.

Figure 14 - Kresge College-Painted decorations
Telephone booths joined with a rainbow
Unlikely connections, puns.
The mock-monumental entrance to the laundry and the speaker's rostrum with a garbage collection room underneath, comment on the activities and their assumed accepted meaning and value.

Placing of the points of interest
The points of interest mentioned above are spaced apart, along the whole length of the street. This does not give major importance to any one place, rather it draws one through the scheme from one point to the next.

Figure 15 - Kresge College-Placing of the points of interest

4.
Code: Pulsating space

This aesthetic code is similar to the last one, in that it describes a space that is continually changing, and thus makes a reference to the spaces immediately preceeding as well as beyond. The central street is constantly changing in width, and the degree of open/closedness, gives the street a different feeling, or a different identity from one place to another. The significant formal aspect is seen as; Contraction/Expansion.
Contraction/Expansion
The central street is constantly contracting and expanding, constricting the visible space by trees and buildings spaced far apart or close together, lining the street at an angle, so that the street is slowly closing in and opening up. Occasional vistas through to the forest behind adds to the feeling of changing open/closed space. This provides an interesting space that has room for different places.

Figure 16 - Kresge College-Contraction/expansion

5.
Code: Varying rhythm

The last aesthetic code denotes the rhythm that has been set up by the screen walls. The fenestration in the screen walls provides a beat that gives order with variation. Thus the reference on which the aesthetic connotations are based becomes architecture itself, in that it refers to an accepted structuring of elements; rhythm.

Figure 17 - Kresge College-Rhythm
As mentioned before, certain formal aspects can be part of several codes. The organization of the street, for example, is part of both Pulsating Space and Italian Village. Similarly, the screen walls in front of the balconies contribute to three different codes, Italian Village, Stage Set and Varied Rhythm. Such formal articulations, which form part of several codes, constitute the key elements in the design in terms of aesthetic connotations.

The same element may be evident in several codes. However, the form is not treated merely in a morphological way, but contributes to the formal articulation through the function of more than one code. This is implied in the textual descriptions of these elements. In the case of the Italian Village, the organization of the street is referred to as 'staggered, informal arrangement of buildings', while in the case of Pulsating Space, it is referred to as 'contraction and expansion'. The way in which the elements are described in the texts, is related to the aesthetic code, and suggests that the forms are seen as aesthetic in terms of the code.
C. AESTHETIC CONNOTATIONS AND VALUES

The aesthetic connotations represent the positive ideas and superlatives put forth in the texts. By identifying the positive connotations suggested by the critics, the aesthetic values expressed by Kresge College are indicated. Lang proposed how values can be understood in architecture.

Values are related to motivations for they define the attractive and repulsive elements of the world... Values represent a linkage between a person's emotional feelings, motivations and behaviour.2

What the critics write about reflects their own ideals and values. These could be personal values. However, similar connotations appeared in several of the texts. A group of architectural critics, in a given short period, may accept the same aesthetic connotations and values. The values derived from the examples are particular to contemporary thought amongst architects and architectural critics in North America and Europe. The values discussed in the texts, or thought important, may change over time and from one culture to another. They reflect a specific socio-cultural climate.

The aesthetic connotations found in the analysis of Kresge College are of two different kinds; emotive and cognitive. Some of the connotations involved emotive qualities of the design and expressed such feelings as pleasantness, affection, friendliness, protection, importance, privacy, and excitement. These emotions were seen to reflect two deeper values; one concerned with familiarity or intimacy, the other
with self-awareness.

The remaining connotations were of a more cognitive nature, dealing with drawing one's attention, signalling where one is or setting up a rhythm. These were seen to reflect aesthetic values such as movement, comprehension and order.

Once the function of the codes was understood with respect to the connotations of the formal elements, the aesthetic values could also be explained by the codes.

D. AESTHETIC CODES IN RELATION TO VALUES AND FORMS

1.

Kresge College

Fig. 18 shows the aesthetic codes identified in Kresge College, in relation to their formal expression and aesthetic values. A distinction has been drawn between aesthetic connotations and aesthetic values. As mentioned before, the aesthetic connotations represent the implicit positive associations connected to the forms as seen by the critics. Aesthetic values illustrate the more general aspect of significant connotations: they represent their preference weighting. Formal expression gives a descriptive account of the formal aspects that join together to articulate the code. Elaboration/abstraction attempts to explain the particular architectonic aspects of the form in that particular context.
Figure 18 - Kresge College – Aesthetic codes, values, and forms

(See p. 61 for the texts consulted.)

<table>
<thead>
<tr>
<th>Value</th>
<th>Aesthetic connotation</th>
<th>Aesthetic code</th>
<th>Formal expression</th>
<th>Elaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>familiarity,</td>
<td>(i) pleasantness, affection</td>
<td>Italian village</td>
<td>(i) staggered, informal arrangement of buildings</td>
<td>similarity in scale, organization of form, colour, and one typical feature, to the Italian village</td>
</tr>
<tr>
<td>intimacy</td>
<td>(ii) reinforcing the students sense of living in a social place</td>
<td>(a) also, analogies with cubic, internat. style</td>
<td>(ii) small scale buildings</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(iii) protection</td>
<td>(iii) white colour</td>
<td>(iii) white colour</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(iv) second-floor balconies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>self-awareness</td>
<td>(i) make the students feel important, like dancers on a stage</td>
<td>Stage-set</td>
<td>(i) screen-walls</td>
<td>the apparent fakeness of the screens, i.e., their proportions do not seem to correspond to architectural function</td>
</tr>
<tr>
<td></td>
<td>(ii) offers aspects of make-believe, suitable for students and encourages the strengthening of fantasy in human experience</td>
<td></td>
<td>(ii) uniform white colour</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(iii) protects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>comprehension</td>
<td>(i) to engage one’s interest and thus draw one through the design</td>
<td>Points of interest</td>
<td>(i) entrance gates</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(ii) to signal students where they are</td>
<td></td>
<td>(ii) fountain</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(iii) painted decorations</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(iv) unlikely connections, puns</td>
<td></td>
</tr>
<tr>
<td>movement</td>
<td>(i) attention through an alternation between intimacy and openness</td>
<td>Pulsating space</td>
<td>(i) central street contracting and expanding</td>
<td>the space is constantly changing in width thus changing in its degree of open/closedness</td>
</tr>
<tr>
<td></td>
<td>(ii) give people opportunity for spontaneous action</td>
<td></td>
<td>(ii) vistas</td>
<td></td>
</tr>
<tr>
<td>order</td>
<td>(i) rhythms, with variety tying the architectural elements together</td>
<td>Varied rhythms</td>
<td>(i) 4 different sizes of spacing of openings, combined in a random way to form the screen walls</td>
<td>varied rhythm</td>
</tr>
</tbody>
</table>

Given this distinction, the way in which codes may link value and form for any of the remaining four buildings studied through textual material, can be represented in a table.
2. Additional data

Figures 19 - 22 show the aesthetic codes identified in Kimbell Art Museum, The Sainsbury Centre for the Visual Arts, The Atheneum, and San Juan Capistrano Library. The codes have been related to their formal expression, and also to the aesthetic connotations as described by the critics.

2.1. Textual material

Kimbell Art Museum:


The Sainsbury Centre for the Visual Arts:

Sir Robert Sainsbury and Peter Cook, "East Anglia

The Atheneum:


San Juan Capistrano Library:

### 2.2.

#### Tabulations

**Figure 13 - Kimbell Art Museum - Aesthetic codes, values, and forms**

<table>
<thead>
<tr>
<th>Value</th>
<th>Aesthetic value</th>
<th>Aesthetic connotation</th>
<th>Aesthetic code</th>
<th>Formal expression</th>
<th>Elaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>movement</td>
<td>(i) relieve the interior space, liveliness</td>
<td>Changing quality of light</td>
<td>(i) use of natural light</td>
<td>3 different ways of letting natural light into the building, making use of large expanses of glass, small slots, diffused, bounced and direct light</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(ii) encourage movement</td>
<td></td>
<td>(i) 3 different ways of letting light into the building; diffuse overhead light; light from courtyards and slots of direct light at vault ends</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>(iii) giving the materials an ever-changing, luminous glow</td>
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<tr>
<td></td>
<td>(iv) express changing moods, calm from the diffused soft light, and up-lifting from the direct light</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(v) natural light offers the control of knowing the time of day</td>
<td></td>
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</tr>
<tr>
<td>Legibility, understanding</td>
<td>appreciation of the skill</td>
<td>Careful detailing</td>
<td>(i) materials and elements meet, leaving a small visual gap or a noticeable overlap</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>unity, visual continuity</td>
<td></td>
<td>(ii) structural articulation by means of slender lines and lunettes of daylight</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>(i) grace, pleasure</td>
<td>Subtle materials</td>
<td>(i) subtle and similar colouring</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(ii) knowing and appreciating the efforts and skills of architectural workmanship</td>
<td></td>
<td>(ii) similarity in texture</td>
<td></td>
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<tr>
<td></td>
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<tr>
<td></td>
<td>(i) similarity of materials makes the building monolithic, but not completely the materials create patterns</td>
<td></td>
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<tr>
<td></td>
<td>(ii) materials similar and appropriate to surrounding landscape</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Legibility, understanding</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>order</td>
<td>Porch - open vault</td>
<td>(i) the structure of vaulted roof and columns left open at the entrance of the building</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>unity, visual continuity</td>
<td></td>
<td>(ii) different materials for different functions</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>a typical element left open at the entrance</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(i) mark the building entrance</td>
<td>Rhythm</td>
<td>(i) the vaulted structure is repeated 6 times, spaced apart and connected with flat-topped infill wall</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(ii) a symbol of welcoming</td>
<td></td>
<td>repetition of the basic structure, creating a simple, regular rhythm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(iii) express the structural character of the building</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>(iv) different materials for different functions give definition and visual interest to the spare forms</td>
<td></td>
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<tr>
<td></td>
<td>(v) a symbol of the building itself</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>unity, visual continuity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(i) the gentle curve reinforces the continuity of the space</td>
<td>Proportion of vault</td>
<td>(i) shallow cycloids</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(ii) appropriate to the size of the individual, thus a feeling of being home and safe, protective as well as welcoming</td>
<td></td>
<td>gentle curvature</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 20 - Sainsbury Centre - Aesthetic codes, values, and forms

<table>
<thead>
<tr>
<th>Value</th>
<th>Aesthetic connotation</th>
<th>Aesthetic code</th>
<th>Formal expression</th>
<th>Elaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>appreciation of technology</td>
<td>(i) sophisticated, seductive</td>
<td>High-tech Imagery</td>
<td>(i) ribbed aluminium panels and neoprene gaskets</td>
<td>materials, detailing and space-arrangement similar to that of industrial building, with exposed technical and structural elements and careful attention to mechanical precision</td>
</tr>
<tr>
<td></td>
<td>(ii) an image of industrial perfection</td>
<td></td>
<td>(ii) exposed structure and services</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(iii) signifies detachment from nature</td>
<td></td>
<td>(iii) apparent inter-changeable system of panels, with glazed and louvred panels at random intervals</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(iv) the large hall</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(v) prefabricated elements with careful attention to joints</td>
<td></td>
</tr>
<tr>
<td>impression,</td>
<td>(i) awe-inspiring, seductive, transcending everyday life and its disorder into peace and calm</td>
<td>Immense space</td>
<td>(i) the building is one large hall</td>
<td>no perceived subdivisions as well as designed for open panorama views throughout the building</td>
</tr>
<tr>
<td></td>
<td>(ii) the drama of entering that space</td>
<td></td>
<td>(ii) partitions are kept low and away from ceiling</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(iii) the landscape acts as a surreal backdrop to the exhibitions</td>
<td></td>
<td>(iii) similarity of colour on all surfaces, light grey</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(iv) uninterrupted views through completely glazed end-walls no visible division of sitting of building</td>
<td></td>
</tr>
<tr>
<td>mystique</td>
<td>(i) shimmering, abstract magic</td>
<td>Filtered light</td>
<td>(i) wall and ceiling louvres filtering the sunlight</td>
<td>several small lightslots</td>
</tr>
<tr>
<td></td>
<td>(ii) creating lacework patterns</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Figure 21 - The Atheneum - Aesthetic codes, values, and forms

<table>
<thead>
<tr>
<th>Value</th>
<th>Aesthetic connotation</th>
<th>Aesthetic code</th>
<th>Formal expression</th>
<th>Elaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>unity appreciation of impression</td>
<td>(I) unifying element, sculpture</td>
<td>Amorphous, shimmering membrane</td>
<td>(I) a combination of straight, angled and weaving</td>
<td>a tight, white and shiny building skin stretched around amorphous form</td>
</tr>
<tr>
<td></td>
<td>(II) form related to context, grid refers to street grid, diagonal to the edge of the town, and weaving to the river</td>
<td></td>
<td>(II) white, square enamelled steel panels put together with clean, crisp detailing to form sheer, unified planes of wall</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(III) stunning, spectacular, fascinating, powerful</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(IV) the last white icon of the Enlightenment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>anticipation</td>
<td>(I) reveal glimpses of the intricacy of levels within</td>
<td>Open - closed building form</td>
<td>(I) a mixture of solid and glazed walls</td>
<td>voids created in the building skin</td>
</tr>
<tr>
<td>legibility, understanding</td>
<td>(II) a continuous experience</td>
<td>Ramped, open circulation spine</td>
<td>(II) open</td>
<td>a centrally, located, open circulation ramp that widens and narrows</td>
</tr>
<tr>
<td></td>
<td>(II) contraction/expansion continually draws one on</td>
<td></td>
<td>(III) two overlaying grids, so that it continually narrows and widens</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(III) sets the building in motion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(IV) a key to comprehending the building</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(V) the building as a place of social interaction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>complexity</td>
<td>(I) the complexity creates intricate abstract patterns</td>
<td>Complex interior space</td>
<td>(I) the interior space is generally only partially revealed, in the causeway approaches in the various access stairs, from the circulation ramp, past screens and columns and through railings and beams</td>
<td>interior space complex, element and space perceived only partially at one time</td>
</tr>
<tr>
<td>anticipation</td>
<td>(II) gradual unravelling of space</td>
<td></td>
<td>(II) a multitude of different natural light sources</td>
<td></td>
</tr>
<tr>
<td>Orientation</td>
<td>(I) adds to the visual complexity, but at the same time provides orientation</td>
<td>Framing</td>
<td>(I) views are selected and framed through the use of large windows, narrow window bands and picture-size windows</td>
<td>windows and stop-points are provided at possible viewpoints, so that the windows and the building form a frame around the view</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(II) pausing-places are provided at view-points</td>
<td></td>
</tr>
</tbody>
</table>

*Table continued.*
Figure 22 - San Juan Capistrano Library—
Aesthetic codes, values, and forms

<table>
<thead>
<tr>
<th>Value</th>
<th>Aesthetic connotation</th>
<th>Aesthetic code</th>
<th>Formal expression</th>
<th>Elaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appreciation of inspiration</td>
<td>(i) evoke the spirit of the mission</td>
<td>Exaggerated, varied and exotic metaphor</td>
<td>(i) differentiation in roof shapes and heights, some sloping and covered in red tiles</td>
<td>A similarity in form, materials and light, creating special places that extend beyond the scale one expects to see.</td>
</tr>
<tr>
<td></td>
<td>(ii) relate to surroundings</td>
<td></td>
<td>(ii) alternation between solid walls and balconies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(iii) show the inspiration of exotic, vernacular images</td>
<td></td>
<td>(iii) protruding elements such as boxes, towers, turrets, etc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(iv) interest through varied, animated facades</td>
<td></td>
<td>(iv) small, regular windows placed high up on the wall</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(v) exaggerated proportions to make the project seem larger and heavier and thus give it the substance and importance of a real civic building</td>
<td></td>
<td>(v) stucco walls painted a light creamy colour, combined with red and black roofs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(vi) heavy masonry walls</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(vii) enclosed courtyard</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(viii) everything is scaled down</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(ix) circulation and entrance are tall and narrow</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(x) reading rooms are short and stocky</td>
<td></td>
</tr>
<tr>
<td>Intimacy</td>
<td>(i) a sense of personalized space</td>
<td>Special places</td>
<td>(i) individually articulated spaces, such as the garden reading rooms, the story nook, the entrance to the auditorium and the enclosed courtyard</td>
<td>A differentiation in form and light quality, creating special places</td>
</tr>
<tr>
<td></td>
<td>(ii) visual interest of surprise spaces</td>
<td></td>
<td>(ii) a regular rhythm established by the repetition of small windows, turrets and columns</td>
<td>Repetition of elements creating a simple, regular rhythm</td>
</tr>
<tr>
<td>Order</td>
<td>(i) establishing a beat repetition and rhythm tying the architectural elements together</td>
<td>Orderly rhythm</td>
<td>(i) a regular rhythm established by the repetition of small windows, turrets and columns</td>
<td>Repetition of elements creating a simple, regular rhythm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(ii) circulation occurs along straight axis</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(iii) circulation axis lined with parallel collonades</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(iv) variation in light levels at axis intersections or at special places</td>
<td></td>
</tr>
<tr>
<td>Anticipation</td>
<td>(i) direct movement</td>
<td>Directional space</td>
<td>(i) circulation occurs along straight axis</td>
<td>Linear circulation routes emphasized by corresponding collonades and light</td>
</tr>
<tr>
<td></td>
<td>(ii) encourage movement</td>
<td></td>
<td>(ii) circulation axis lined with parallel collonades</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(iii) convey movement as processional and measured</td>
<td></td>
<td>(iii) circulation axis lit through clearstory</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(iv) variation in light levels at axis intersections or at special places</td>
<td></td>
</tr>
</tbody>
</table>
E. CONCLUSION

The componential analysis of a column by Eco, prompted the procedure by which to establish that the notion of aesthetic codes can function in architectural criticism to connect formal articulations with aesthetic values. The graphic illustration of the codes so established suggested that a building project may be understood through the identification of codes without consulting texts. Before conducting such an analysis, the notion of code is to be further elaborated.
F. NOTES


A. INTRODUCTION

To gain a better understanding of aesthetic codes and the way in which they operate, this chapter discusses the codes discovered through the analysis. It is suggested that through the understanding of the nature of aesthetic codes it is possible to develop a method of criticism that would identify critical issues without imposing the biases of the critic.

The aesthetic codes present in the examples were found to belong to either one of three, slightly different, structuring principles. These can broadly be named as associational, architectural, and spatial codes.

B. THE NATURE AND TYPE OF CODES

1. **Associational codes**

Some of the codes identified in the examples were of an associational nature; i.e., the architectural expression relies for its aesthetic communication on a perceived association with something else, generally a place or a structure. The aesthetic code may present a reference to, and a relationship with the architectural object in question and some known structure. The aesthetic experience is, to a certain extent, dependent on one's attitude towards the known structure. An example of this is evident from the analysis of Kresge College. One of the
aesthetic codes is the Italian Village, see Fig. 7 - Aesthetic code - Italian village p.54. In this example, the aesthetic code relied in its formal expression on similarities to the Italian village in scale; organization of form; colour; and one typical feature. The aesthetic connotations were similar to those initiated by a real Italian village. The final aesthetic judgement relied on the appropriateness of such connotations in the case of Kresge College.

The effect of the associational values depends on the spectator's ability to recognize the established association and also his belief in its validity. Colquhoun explained this in terms of the ability of images to summarize, gather, and represent several experiences so as to be more effectual, and thus create a richer and more complex architecture:

The effectiveness of figures and tropes resides in their synthetic power. They draw together and crystallize a series of complex experiences, which are diffuse and imperceptible. The figure, therefore, is a condensation, the immediate effect of which is to suggest the richness and complexity of reality. In this way the spectator or listener is able to establish a relation between that which he sees or hears and his own experience.¹

Similarly, Prak claimed that by creating an architecture of association, the architect is also able to engage people's emotions which, in his mind, is the most essential aspect, as "the meaning of art is primarily one of feeling; the works of art are symbols of emotion."²

The expression of these codes depends on similarities between formal aspects; e.g., form, organization of form, scale, proportions, colour, materials, detailing, space-arrangement,
light, and the formal expression of whatever it is associated with. Jencks discusses the cognitive tendency to group objects which are similar.

People invariably see one building in terms of another, or in terms of a similar object; in short as a metaphor. The more unfamiliar a modern building is, the more they will compare it metaphorically to what they know. This matching of one experience to another is a property of all thought, particularly that which is creative.³

The designer should consider what kind of associations he wants to evoke. This type of code is the most effective in creating the spirit of the place. From the texts examined the most successful application of such a code is the Italian Village, where the spirit of an actual Italian village is closely related to the spirit of Kresge College and its setting. An example where the metaphor is less successful would be the Sainsbury Centre. A few critics questioned the connection between the spirit of high-tech imagery and the spirit of the green open site and the function of an art gallery. An aesthetic value is not created merely through the conscious creation of associations, but through the creation of associations which can be perceived as appropriate to the essence of design concerns other than aesthetic ones.

From the texts analysed, it seems that most often, the strongest effect from setting up associations results from formal expressions derived from borrowing typical elements, such as columns, balconies, or turrets. However, associations can be established through a direct re-use of forms, or the elements can be distorted. As suggested by Brolin, there are basically
four ways of making connections and images. He suggests copying existing design motifs, which has been done in the Frick Museum Addition, or using basically similar forms rearranged, as in the Brant House, Bermuda. He also suggests inventing new forms which have the same visual effect as the old, which can be seen in Quincy Market, Boston, or abstracting the original forms as in the National Permanent Building, Washington, D.C.\

Jencks is more specific with respect to the expression of forms when he discusses aesthetic codes. Some of these codes are suggestive of specific modulations of form to achieve very specific aesthetic intentions. They do not rely on the associational spirit for their aesthetic appeal, but rather on the capability of evoking the norm in the spectator, and then distracting from it. These modulations can also be applied to architectural codes in order to draw attention to a particular architectural feature. According to Jencks, there are several ways of doing this, through 'fetishism and self-reflection, which foregrounds "elements (doors, windows, steps) by exploding their size, tilting them sideways, projecting them away from the normal volume of the building." An example from the analyses to illustrate this could be the precise detailing that is part of the high-tech code in the Sainsbury Centre. The precision with which the building skin has been articulated does have fetishistic symptoms.

Other codes identified by Jencks regard distortion and disruption. It is "...a favourite device of R.Venturi for calling attention to the scale of his architecture ...{through} the ornamental string course or moulding, which is often placed
where it shouldn't be...". A similar device can be seen in the example of the San Juan Capistrano Library where the exaggerated proportions draw more attention to the exotic metaphor than would have been the case with a direct transfer of forms.

Jencks also regards redundancy and miniaturization as a code. Through the ordering of this code various parts of the architecture are fused by finding some semiotic link that either hadn't existed before or was unnoticed. The link then relates part to part in such a way that their previous meaning is modified and transformed. An example can be found in the analysis of the Sainsbury Centre. The same materials are used for the roof and walls; for louvres and solid walls; inside and outside are more or less the same. The materials thus becomes the link which contributes to the high-tech imagery.

A diagram of the process employed in the formal expression of associational codes illustrates how they function.

Figure 23 - The formal articulation of associational codes
As interpreted by author (based on Brolin and Jencks)
Another way in which aesthetic codes may be structured is through a reference to known architectural articulations. By alluding to existing architectural practice, but at the same time presenting a refined version, the code draws attention to the relationship between building and architecture. The code may also represent an aesthetic experience that is the outcome of noticing an ingenious solution, or a carefully arranged and articulated architectural object. In The Kimbell Art Museum one of the codes has been labelled Careful Detailing. It refers to aesthetic connotations such as grace, pleasure, and admiration of the skill with which the parts have been assembled. The significant formal articulation relies on the joints completed in a careful and precise manner.

Architectural codes establish recognition, understanding, legibility, or recognition of pattern in the building and the environment. They refer to an architectural order that can be appreciated on several levels; from a basic understanding of where one is (recognizing elements), through recognizing similar elements to the recognition of relationships between elements.

Order has often been valued merely on the grounds that it is one of our elemental and persistent aspirations. Kuller explains its effect in terms of involving the process of categorization, and thus ordering, which he sees as a basically aesthetic procedure. Kaplan's approach is somewhat similar:
Basic processes such as recognizing and predicting are, under appropriate circumstances, highly affect laden. A failure to recognize, for example, can be confusing to the point of being painful, and highly interesting at the same time. Comparably, being able to recognize despite difficulty and uncertainty can be a source of considerable pleasure.\(^7\)

There is agreement in architectural aesthetics that a certain level of order and complexity contributes to delight. Too much complexity leads to chaos and too much order leads to monotony. Arnheim has also pointed out, that complexity is meaningless unless there already is an established order.

A building cannot afford to be disorderly. A disorderly object can act as a symptom of disorder but not as a symbol or interpretation of it. If a building is disorderly in itself, it makes no statement about the existing disorder, but merely compounds it.\(^8\)

Order is achieved through the choice of elements, how they are composed, and the extent to which the rules for their conjunction are broken.\(^9\)

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Figure 24 - Order in architectural aesthetics

As interpreted by the author
The codes concerning architectural order progress from a relatively simple idea of establishing points of reference, or orientation, through visual continuity to the idea of repetition and rhythm. Whatever level of complexity, these codes are all visual codes; i.e., they depend on one's ability to see the formed relations rather than on any cognitive process.

Orientation can be established through the use of windows or openings by which the user relates inside to outside, similarly a landmark; i.e., a building or element that is easily visible and distinct from other elements, contributes to recognition.

Visual continuity may be established by forms that are related to each other, including minor elements such as cornices and railings. Materials that are combined in an ordered manner or light that is varied in an ordered manner can also encourage forming visually perceivable relationships between elements.

Rhythm can be created through the repetition of elements such as columns, windows, turrets, or vaults.

3.

Spatial codes

The third type of code evident in the textual analysis was spatial. The code may be related to a space-time continuum; i.e., where the architecture is expressed in such a way that the present experience refers to both past and future experiences in the building. The relationship of an
architectural element to previous elements is evident at the same time as its reference to expectations for future experiences. This aesthetic code represents a spatial continuum that communicates with the imagination by creating expectations which are either fulfilled or contradicted. An example of a spatial code from the Atheneum, is the Ramped Circulation Spine, which alludes to aesthetic connotations such as continuous experience, anticipation and comprehension. This particular code is formed through a centrally located circulation ramp that widens and narrows.

The value of manipulating space is twofold, drawing the spectators interest or creating an atmosphere. The nature of these aesthetic codes is not purely visual or purely associational. Norberg-Schulz' idea of regarding space in existential terms is closest to the notions found in the texts.¹⁰

There are several ideas evident in the texts as regards the formal expression concerned with either the circulation and procession through space, or the scale of the space.

One way of attracting the spectator to and through the building is by providing points of interest en route. These may be figures placed in the space such as a fountain or a splash of colour, or they could be columns placed along the circulation to put more emphasis on ones movement through space.

The space could be given a changing quality, so that one is always approaching a different space. This is easily achieved through widening and narrowing the circulation route or path, or simply by a change in light quality.
A space that is gradually unfolding also seems to attract the spectator's interest, and can be articulated through winding circulation, complex spaces or spaces where one is allowed only a glimpse here and there to what is ahead.

If the aim is to impress the spectator, or setting some kind of mood, one important factor seems to be the scale of the space; a small scale space tends to give a feeling of intimacy, a vast space can be seen as awe-inspiring. Lang points out the lack of research done in this area; he only draws a general conclusion:

The volume, degree of enclosure, and proportions of enclosed space also carry meaning. The consumption of space, per se, is an important symbol. Higher status people in most organizations, formal or communal, inhabit physical settings which are larger in size than those inhabited by those of lower rank."

However, space is not merely manipulated through the placement of surrounding or adjoining forms, but as can be seen in the examples, light, colours and materials play an important role in creating the ambience in a place as well as in providing direction and interest.
C. CONCLUSION

It is suggested that aesthetic codes, their types and articulations as described above are used in contemporary architectural criticism. Through an understanding of effects as well as possible articulations of the various types of aesthetic codes, it is assumed that their existence in other periods also can be determined. The types of aesthetic codes are of a nature such that they point to the issues of importance in architectural aesthetics rather than promoting a particular doctrine. Thus it is suggested that the same types of aesthetic codes may be found in all architectural aesthetic criticism of this century, even though the labelling of each individual code may differ. In order to illustrate this, the following chapter attempts an application of aesthetic codes to the criticism of The Glasgow School of Art by Charles Rennie Mackintosh, 1899-1909. The application is presented as a discussion to demonstrate some of the advantages and disadvantages of using aesthetic codes in architectural criticism.
D. NOTES


C. Jencks lists 5 different 'aesthetic codes'; "fetishism and the self-reflection", "distortion and disruption", "redundancy and miniaturization" (all of which are included in the main text as modulations of form to achieve certain meanings and associations), "the aesthetic text" as "hermenuetic, esoteric and...completely private" (which is concerned with the creation of new meanings and the decoding of these; a subject which is seen as irrelevant to the content of this thesis) and "the aesthetic text" as "continually open to new interpretation" (which is concerned with the change in aesthetic meaning and thus is outside the scope of this thesis). C. Jencks, "The Architectural Sign", in Signs, Symbols, and Architecture, p.95.


6 Steven Kaplan, "Where Cognition and Affect Meet: A Theoretical Analysis of Preference", in Polly Bart; Alexander Chen; and Guido Frasescato; (eds.); EDRA 13, EDRA Inc., 1982, p. 185.


8 A structure has been developed in literary aesthetics which closely corresponds to architectural ideas, and that illustrates the types of order that will influence the final form. This was demonstrated in a lecture presented at Univ. of British Columbia, spring 1981, by Lubomir Dolezel, Dept. of Slavic Languages and Literature, Univ. of Toronto.

9 Norberg-Schulz refers to architectural space as the concretization of existential space. He claims that existential space "...is a psychological concept denoting the schemata man develops interacting with the environment in order to get along satisfactorily." Christian Norberg-Schulz, Existence, Space, and Architecture, New York: Praeger, 1974, p. 17.

VI. PROBLEMS WITH THE USAGE OF CODES

A. APPLICATION

1. Introduction

It has been proposed that because a building can be seen in terms of aesthetic codes, it is possible to make certain aesthetic associations. Through identifying the codes in a building, it should be possible to describe the particular formal aspects that influence one's aesthetic judgement, as well as the specific associations made, and the aesthetic values that form the basis for these associations, and thereby also the judgement.

The application attempted below is based on the results from the analysis presented in chapters III and IV. It should be noted that the application has been tried only on one building. As such, it shows that the notion is valid for the criticism of The Glasgow School of Art, but it does not illustrate to which extent it may be used in the criticism of buildings of other periods or functions. It is assumed that there may be additional types of codes to those identified, or these types may only be applicable to contemporary designs. However, it is suggested that the above mentioned types of codes are representative of most aspects of concern in architectural aesthetics in this century. They were the only ones found in the five projects analysed which were chosen on the basis of their diversity of style. Further textual analysis of critiques for selected
buildings as well as the identification of codes without consulting texts may reveal additional types of codes directing aesthetic judgement.

The first question that arises is how to identify aesthetic codes. This can be done, as in the analysis, through a thorough examination of suggested connotations and formal articulation. By following the method described in Chapter III, it should be possible to arrive at the same, or similar codes as those in the criticisms of the project. This method is assumed applicable to any architectural design. This however, requires a lengthy study of all aspects of the design in order to denote the exact reference which establishes the aesthetic code. The three types of codes already identified, were used as a basis for the test. The aim initially was to identify the approximate terms of reference, or types of codes which could then be refined. It was also suggested to attempt identifying the codes without consulting existing criticisms. Such an approach should illustrate the validity of using aesthetic codes in architectural criticism as well as some possible problems.

By examining the crucial factors contributing to each type of aesthetic code, it should be possible to develop a check-list. On the basis of this, the presence of any code, its formal articulation and its effectiveness can possibly be suggested. These contributing factors have been extracted from the results of the analysis.
Example

The Glasgow School of Art was chosen for the test because it is different in both style and geographic location from Kresge College. Also, the building has been the subject of considerable criticism, much of which is positive. Availability of graphic and critical material, as well as personal knowledge of the building also influenced the choice. It is suggested that in order to conduct a valid criticism of any building it is necessary to have a thorough knowledge of both formal and spatial modulations, as well as the context of the project.

Charles Rennie Mackintosh was born in Glasgow in 1868. His architectural career began in 1884, when, at the age of 16, he started as an apprentice in an architectural firm. At the same age he also enrolled in evening classes at the Glasgow School of Art. At the time the School was the centre of artistic advance with an emphasis on the use of natural forms as artistic sources, a sensitive use of materials and techniques; as well as an interest in bringing together disparate artistic sources and references. This seemed to suit Mackintosh well. His architecture shows a strange and intriguing mixture of Pugin's functionalism, a concern for craftsmanship and detail (with most of his ornament based on natural forms) a sensitivity towards the use of materials, as well as the language of the Scottish Baronial style. He was highly successful in his early career and won the competition he had entered in 1895 for the design of the new Glasgow School of Art. The design was at the time generally condemned for being Art Nouveau, but the relatively plain,
asymmetrical building appealed to the head of the school, Francis Newbery. The east wing of the building was completed in 1899, while the west wing, which was completely redesigned by Mackintosh in 1906-07 was not completed until 1909. Mackintosh was meanwhile growing more confident with his new vocabulary and style, resulting in a much more daring as well as austere west wing. The school is built on a narrow, sloping site with masonry and brick walls and structural decorative features of wrought iron. It has four distinctive elevations, enclosing spaces that were designed to fit their function.

The test is based on graphic material only. No critical literature was initially consulted. The test was carried out by identifying the possible types of aesthetic codes and describing the codes as they could be seen today.

Searching the scheme for possible associations, one of the first things that comes to mind is the range and diversity of possible associations that can be seen. As such, the associational code seems to be the critics most powerful tool. It influences the readers perception and experience of the atmosphere of the place, and can easily be turned from positive to negative, or vice versa, through the choice of code. It is evident that through labelling a code, certain connotations arise, while others might by the same process be excluded. The labelling of an aesthetic associational code may even make the reader see the building in a totally different light. Another point to keep in mind is that through the choice of label for such a code, a critic may express his personal likes and dislikes. However, with a body of critics suggesting the same
aesthetic code, it is seen as a reflection of that particular socio-cultural climate rather than a purely individual choice.

In The Glasgow School of Art there are a number of associations that may be emphasized. The large glazed areas, particularly on the north facade, made up of square windows set in a large scale and heavy building mass, as well as the choice of materials, masonry and brickwork, may convey an industrial association. Such connotations can be seen as appropriate to the ideology of an art school in the early part of the century. An interest in new technology and the close link between the arts and crafts, including industrial design characterized the school. At the time, compared with traditional buildings and their emphasis on classical details, this approach was thought novel.

Figure 25 - Glasgow School of Art-north facade

However, by suggesting the code Industrial Design the emphasis is concentrated around the north facade, and in particular on the proportions of the glazed areas. Such a code does not take into account for example the entrance which has a
totally different character. Another problem that arises is how to determine the aesthetic connotations and values. One may suggest values such as appreciation of technology as a craft or of innovative solutions, but these are merely tentative suggestions without the support of a thorough study regarding people's response to Industrial Design. The connotations may offer an indication of the kind of values associated with such a code, but should by no means be understood as the definite value.

As mentioned above, there are several associations that can be made. If, rather than stressing the industrial aspects and thereby the novelty of the design, the critic would like to emphasise the historical continuity of the building, he could refer the reader to the south facade and suggest an analogy with Scottish castles. With its small windows and tower-like projections, it can be seen to have an austerity reminiscent of Scottish castles. But again, this takes account of only certain aspects of the south facade, and is more appropriate to the east wing than to the western end of the building.

Figure 26 - Glasgow School of Art - south facade
Turning to the architectural elements and their composition, it seems easier to suggest codes that do not necessarily distort the overall picture. But even so, the critic still has the power, either by emphasizing or by overlooking certain elements, to lead the reader's attention in certain directions. It may be suggested that the beautiful ornament, the slight curves, and the relatively small elements in the large building mass soften the design. It creates a layer of frivolity that adds interest and makes one constantly turn back for a closer look. Also, that the care taken to design all elements in harmony with each other, including the furniture that has been designed to fit the building, add to the impression of a complete and carefully thought out design. It seems that in order to present an account of the aesthetic aspects in a building it is necessary to use connotative words such as 'beautiful', 'soften' or 'frivolity'. Such words offer certain concepts: the reader experiences the building rather than passively watching it. But at the same time, the critic directs the reader to certain connotations which will influence the aesthetic judgement.

Figure 27 - Glasgow School of Art-west wing entrance
Another significant feature of the building is the remarkable balance evident in the design. There are established symmetries which are thrown off by varying rhythms and exaggerating proportions. However, the design can be seen as unified with considerable visual interest to which attention is drawn. In addition to this, the tall, exaggerated proportions have become something of a hallmark. They signify a design by Mackintosh, and can provide the satisfaction of recognition.

Figure 28 - Glasgow School of Art-north facade

As regards any spatial codes, they do not seem as obvious as in any of the contemporary designs analysed. A point which makes sense, bearing in mind that the Glasgow School of Art was designed at the very beginning of the Modern era; a period preoccupied with space. However, there are distinct and clever scale differentiations and spatial intricacies, especially in the library. The posts holding up the balcony are separated from it which creates a busy space with interesting viewing angles that constantly change as one moves around. There is a mixture
of low ceiling spaces and tall, lofty ones, exaggerated by Mackintosh's use of dark materials and dim lighting in the smaller spaces, leaving the large spaces bright and often top lit. This provides an alternation of intimate atmosphere in some places and a sudden grandness when it opens up in others which is closely related to the function of these spaces.

Figure 29 - Glasgow School of Art—library

The codes in operation in the Glasgow School of Art can thus be illustrated as in Figures 25-29 above. Even though the building is full of interesting features, the above mentioned points seem to describe those aspects which are most important aesthetically. However, it became evident that the choice of words and labelling of codes strongly affect the reader and the way in which he sees the building. Once identified, the codes crystallize the individual aesthetic connotations as well as relate the various formal aspects that combine to give rise to such connotations.
3.

Discussion

Realizing the problems with, and influences of the wording of codes, some existing criticisms of The Glasgow School of Art was consulted.²

It was evident that the consulted critical literature was using the notion of aesthetic codes. It also showed criticisms similar to the referents and codes suggested above. However, the aesthetic codes, connotations, and formal articulations were not stated explicitly in any one of the criticisms. Only two or three aesthetic codes were used by any one critic. The criticisms gave detailed and appraisive descriptions of the compositional balance;³ the exceptional detailing and ornament;⁴ and the exciting spatial modulation of the library.⁵ The likeness to an industrial building was briefly mentioned, as well as the resemblance between the south facade and a Scottish castle. An example illustrating connotations and articulations related to the code concerned with the detailing and ornamentation can be found in the criticism by Howarth. This is also a good illustration of how adjectives such as gay or austere can be used to engage the readers experience and thus set up the 'appropriate' connotations.

Instead of a genteel facade befitting a school of Art it had great windows 18 ft. across with unmoulded mullions stiffened by curious metalbrackets, these in characteristic fashion serving a practical purpose as well as by their gaiety relieving an otherwise austere facade.⁶
It was suggested earlier that the aesthetic codes may change over time. Even though no unexpected comments were found in the criticisms which dated from circa 1935 - 1980, there was a stronger emphasis upon the spatial manipulation of the library, than upon the importance of possible associations. This could be due to a change in emphasis over time. Contemporary architects are more concerned with and have more facility and practice with space and movement through space than architects were at the beginning of the century. This might have led critics (including myself) to expect bolder and more daring spatial arrangements. Similarly, the importance attributed to associational aspects seems much stronger in contemporary architecture and thus also in the above application than in the existing criticisms of the Glasgow School of Art. This may be due to the present interest in meaning attribution and a richer environment. The conclusion can be made that the types of aesthetic codes are relatively stable. Changes over time, however, may occur because of a difference in emphasis and formal articulation rather than through completely different codes. It is also suggested that changes over time may be expressed in the labelling of a code, that the notion may reflect our change in attitude.
4. Conclusion

The attempt has been made to illustrate the validity of a method of criticism based on the identification of aesthetic codes and through their application to a building. As the comparison with existing criticisms shows the notion of the aesthetic codes led to raising issues of critical aesthetic importance. This seems to point to the most significant aspect of this type of criticism: i.e., that the issues of concern can be identified. Because the codes represent the relationship between form and aesthetic association, they do not necessarily present any dogmas. They are also apparently useful in several stylistic contexts. This, however, would need further tests in order to be verified.

On the other hand, it became evident that the label given to a code takes on critical importance. The critics' choice of words may be appropriate to only a small part of the building, but by being mentioned, this may take on precedence. Another problem becomes one of determining the possible connotations associated with the code. By collecting and comparing connotations by several critics as was done in the analysis it is possible to get an overall view of aesthetic connotations. The code may suggest the type of connotations associated with it, but it is not possible to derive a complete range of connotations and values from it.

Thus it is concluded that aesthetic codes have been used
in architectural criticism, not only in contemporary writings, and not only for contemporary styles. It is also suggested that the notion is suitable in the criticism of architecture, as it provides the reader with a certain visual and experiential insight to the building. The aesthetic code is also capable of grouping certain formal aspects into one idea, and thereby avoiding problems such as the significance of a horizontal rather than a vertical line. Nevertheless, it should be noted that the critic still has within his power to emphasize or to overlook certain aspects through the way in which they are described, if at all mentioned.
Architectural aesthetics is here denoting merely the principal aspect of this thesis, i.e., it is mainly concerned with formal aspects, and in particular the connection between formal aspects and aesthetic connotations. Looking primarily at the philosophical basis of architectural aesthetics, there would be other, more appropriate ways of approaching the subject.


"The front would be a functional grid, if it were not for the entrance bay or frontispiece which is placed out of the centre and is a free, assymetrical composition of elements of the Baroque, of the Scottish baronial past and of the Shaw - Voysey tradition."


"Moreover, the functional grid and the sturdiness of the centre are relieved by delightful, very thin metalwork, the area railings, the handrail of the balcony and especially the odd hooks carrying transparent, flower-like balls in front of the upper windows. Their practical purpose is to hold boards for window-cleaning, but their aesthetic purpose, like that of all the other metalwork is to provide a delicate screen of light and playful forms through which the stronger and sounder rest will be seen."

ibid, p. 132.

"...{the library} is a room which, like the interiors of the great Gothic churches, never presents a static impression. It is not designed to be experienced from one point only, but depends for its total effect on the varying perspectives obtained as one moves through a volume contained by the complicated enclosure of
the walls: an experience in time."

6 T.Howarth, op.cit., p. 17.
The aim of this thesis was to identify the various factors influencing architectural aesthetics and to explore and determine their relationship. By clearly establishing a definition of the aesthetic in architecture, it was possible to develop a method of critical analysis by which to identify the various issues of aesthetic importance in a building. It was anticipated that a dogmatic approach to architectural criticism could be avoided. The underlying theme was formed through an exploration of the trends in contemporary architectural aesthetic theories. The direction taken was also influenced by recent studies in architectural semiotics.

Two major issues were the starting point for the thesis. First of all, an exploration of recent theoretical writings on architectural aesthetics showed a wide variety of disparate viewpoints. Another point of concern was their lack of relevance to aesthetic criticism of architecture. The intention became to develop a theory of architectural aesthetics that would explain specific formal articulations as well as aesthetic values in architecture. If such a theory could be formulated, the relevance of aesthetic theory to architectural criticism could be explored.

The literature survey led to the conclusion that there are certain formal aspects of a building which influence our perception of the aesthetic; such as rhythm; visual continuity; or the right proportions. There were also some indication in the literature that emotions such as familiarity, excitement, or a
feeling of the appropriate form the basis for a sense of architectural aesthetics. However, apart from studies by Arnheim in psychology, there have been little or no attempts made to discover the correspondence between architectural form and aesthetic connotations. How are aesthetic values represented by architectural form, and under what circumstances does one particular form change its signification?

It was the search for this connection which led to a consideration of architectural semiotics and codification. Architectural codes are understood to "generate architectural form and to connect a whole range of intended meaning to three-dimensional form." The notion of codes was seen as appropriate in architectural aesthetics as well as in semiotics and design methodology. If it is possible to discover the meanings conveyed by a code, it was also thought possible to establish the aesthetic implications of these meanings. Furthermore, the notion of codes indicates a rule-governed system of connections which would reveal critical issues and thereby enable one to establish criteria according to which an objective criticism could be carried out.

In order to examine the validity of such a concept, it was decided to identify and study the aesthetic codes functioning in a building. The attempt was made to base the study on an analysis of all major available critical texts for a selection of buildings. The data selected could perhaps avoid an a priori approach to aesthetic values. Such an approach has been recognized by Tafuri in his discussion of the significance and integrity of the criteria used by critics.
What, then, is the difference between Venturi's proposal and the poetics of many historical avant-gardes—most of all Paul Klee's—that recognised the introduction of the unconscious, of the irrational, of ambiguity and of the unsolved tension between opposite polarities, into the structures of artistic activity? Klee does not start from a priori categories (not even from historically defined categories) in order to identify the dimensions of his poetic. The high didactic content in Theory of Form and Figuration is in Klee's continuous comparison between subjective choices and formal processes in the reality of perception. For Klee, irony, complexity, and soundings on the verge of the rational are end results and not starting points.

The attempt was made to address the existence and nature of aesthetic codes. The object of such an approach was two-fold; to establish how form and aesthetic value can be related through the codes, and to determine the use of aesthetic codes in criticism.

From the analysis, it was concluded that architectural articulation can not be related directly to aesthetic value, but that articulation and value can be correlated through the notion of a common reference or an aesthetic code. The forms, in terms of the aesthetic code, can be related to certain aesthetic connotations and thereby aesthetic values. The aesthetic code provides the terms of reference by which to relate certain formal aspects and the aesthetic connotations associated with these aspects. The aesthetic architectural codes are more specific than architectural codes, in that they relate architectonic formations to aesthetic associations and vice versa.

In order to explore the validity of the aesthetic code in architectural criticism, an application to a particular building
was undertaken. The criteria employed were based on an examination of the codes and types of codes observed in the textual analysis of some criticisms for five buildings. Due to its nature, the aesthetic code provides a way of pointing to specific issues of aesthetic relevance. A tentative criticism based on criteria developed from the aesthetic code showed that the issues raised and the criticisms employed, were compatible with existing criticisms conducted over the past 50 years. However, it became evident that there is a range of codes that can be suggested, some of which may be contradictory. Moreover, even though it may be possible to suggest certain connotations, a thorough study of people's associations with each code would be necessary in order to get a complete view.

The textual analysis and application to one building relied on associations and aesthetic connotations presented by architects and architectural critics. The aesthetic values referred to in this thesis are representative of those held by only a small group of professionals rather than the population at large. Accordingly, there is no allowance made for taste differences that may occur between groups. Further research on a sociological level would be required to determine any deviations as a result of different taste preferences.

Furthermore, in keeping with the intent of this thesis, an inquiry was made into how architecture is perceived rather than how it is conceived. It has been suggested that the aesthetic codes can be understood and put into operation by the designer along the same lines that they are read and understood by the critic. The knowledge and acceptance of such a structure
may be helpful on a design level in that it can encourage a conscious development of what architecture should be. This, however, has not been explored, but would form a topic for further research.

Aesthetic codes are thus accepted as a useful notion in the understanding of architectural aesthetics. Their specific nature as the connection between formal articulation and aesthetic value provides a direction to discover the crucial issues in architectural aesthetics. A view of architectural aesthetics based on such a relationship provides a theory that also takes into account architectural criticism, and that may form a theoretical basis for the understanding of such criticism. As Tafuri has noted; "by making rational, what, normally, in aesthetic activity happens outside a strict logical check, and by discovering the ideological values of formal choices often made out of habit, criticism can face the architect with the responsibility of a continuous and pitiless check on the sources and symbolic systems to which he, consciously or unconsciously, trusts himself."
A. NOTES

1 See for example Arnheim's *The Dynamics of Architectural Form*, Berkeley: Univ. of Cal. Press, 1977, which relates solids and hollows, verticals and horizontals, etc., to perception and emotion. This, however, seems difficult to apply when dealing with the complexity of a complete design. One may possibly perceive the building in fractures, but there are often both verticals and horizontals, etc., combined in one image. Thus applying Arnheim's principles in criticism would often lead to contradictory statements.


4 ibid, p. 201.
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