EXPRESSION IN ARCHITECTURE

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ABSTRACT

The thesis develops from the understanding of architecture as a communicative art, which connotes meaning through reference. Various modes of reference are investigated in relation to architecture, and 'expression', a non-literal mode of reference, is emphasized as being fundamental to our understanding of it.

The arguments used to formulate this reasoning are followed and supplemented by analyses, whose descriptions show us that 'expression' in an architectural object is linked to its own formative aspects.

This analytical inference forms the methodology for a design approach, which is based upon the significance and necessity of 'expression' in architecture. The thesis is concluded with two hypothetical design situations in which the criteria for the methodology are elaborated and demonstrated.

EXTRAIT

L'essence de cette thèse résulte dans la perception de l'architecture comme étant un art de communication qui implique la raison d'être par les références. Divers modes de référence sont analysés en relation avec l'architecture, et l''expression'. Un mode de référence non-littéral est accentué comme étant fondamental et essential à notre compréhension de celle-ci.

Les arguments utilisés à la formulation de ce raisonnement sont suivis et supplés par des analyses dont la description démontre que l''expression'inhérente à un objet architectural est reliée à ses aspects de formation.

Cette inférence analytique constitue la méthodologie d'une approche conceptuelle, basée sur la signification et la nécessité d''expression' en architecture. La thèse se termine par l'élaboration de deux concepts hypothétiques où les critères de la méthodologie sont exprimés et démontrés.

To my wife and parents for everything.

ACKNOWLEDGEMENTS

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PREFACE

The thesis started out as a very personal need to formulate a viewpoint regarding architectural design.

Although the title of the thesis 'Expression in Architecture' may seem abstract at first glance, its subject is very definite, as will be noticed while perusing the text. And although the main concern of the thesis is architecture, its scope does not limit it to that field. It necessitates touching upon areas of interest which do not really coincide with what is normally taken to be the field of architecture. The study touches upon aesthetic philosophy and linguistic structure and ranges into matters pertaining to perception, symbol theory, music, the literary arts, painting and sculpture.

The thesis is divided into three sections, each having a different degree of involvement with the subject. The structure of the thesis on the whole is systematic and simple. The investigation progresses till the third section, where the arguments and reasoning of the first two sections are utilized to form a useful and decisive conclusion.

No originality is claimed for the main theme of the thesis. For this thesis would not have been possible without the influence of the normalist philosopher (Nelson) Goodman's book, 'Languages of Art'. The thesis is essentially based upon the symbol theory developed in that work. However, what can be claimed as being a personal contribution, is the interpretation of the theory with respect to architecture. (For Goodman does not in any real detail deal or concern himself with architecture).

This interpretation is elaborated not only within the scope of Goodman's book, but goes beyond. As will be seen, previously published analyses by other authors are, with some alterations, understood as part of the interpretation. So also does it raise the question of and forms the basis and justification for an applicable design methodology; which in a way forms an effective conclusion to the interpretation of Goodman's symbol theory as well as being in a sense, the primary inference of the thesis.

Goodman is not the only author consulted and

referred to. Thoughts, ideas and reasoning of many other authors concerned with varied fields of interest have been used to formulate the thesis. Whenever specific works by any of these authors are consulted, detailed references are given.

SECTION I

"...sculpture is the representation of an idea, while architecture is itself a real thing."[1]

John Ruskin

1.1 - INTRODUCTION

In this section we will try to understand how architecture works as a symbol; that is, how it generates meaning.

For this, we will refer to the theory of symbolization put forward by the American philosopher, (Nelson) Goodman, in his book 'Languages of Art'.[2] In this work, Goodman shows how various symbols attain meaning for us through what he terms "...'denotation', a species of reference. And by so generalizing the concept of reference as to cover the entire field of linguistic and artistic symbolism, he attempts to prove..., that there is an important sense of language in which all art is language."[3]

But before we go on in that direction let us consider "the basic ideas and suppositions which allow us to conceive of 'symbolism', [which] together with the creation and vitality of each symbol, are the following:

(a) Nothing is meaningless or neutral: everything is significant. (b) Nothing

is independent, everything is in some way related to something else. (c) The quantitative becomes the qualitative in certain essentials which, in fact, precisely constitute the meaning of the quantity. (d) Everything is serial. (e) Series are related one to another as to position, and the components of each series are related as to meaning. This serial characteristic is a basic phenomenon which is as true of the physical world (in its range of colours, of sounds,...etc.) as of the spiritual world (in its virtues, vices, humours, feelings, etc.)."[4] We can gather from this that a symbol could be practically anything that stands for or refers to something else.

"It covers letters, words, texts, pictures,... /buildings/ and more... The most literal portrait and the most prosaic passage are as much symbols, and as 'highly symbolic,' as the most fanciful and figurative."[5] But this does not mean that all symbols attain meaning or are understood by similar means, (or by similar modes of reference). Hence we return to discussing Goodman's theory of symbols and find out what these modes of references are and

how architecture as a symbol is understood by any one of them.

Goodman characterises four major types of reference modes. They are Representation, Description, Exemplification, and Expression. Of course, an element may come to serve as a symbol for another element in other ways, where the underlying relationship is not referential. For example, "...when the symbol is the cause or effect of (and so sometimes called the sign of), or is just to the left of, or is similar to, what it denotes."[6] All of these (the four types of reference modes) are commonly used terms and generally used with an accepted sense of carelessness in our daily language. For this reason, from now on in this thesis they will only be used as determined by their following explanations.

1.2 - REPRESENTATION

Our common view of representation is somewhat like this;"...'A represents B if and only if 'A appreciably resembles B'..."[7] This is highly incorrect."...Resemblance, unlike representation, is

reflexive."[8] It is like a man who is "...not normally a representation of another man, even his twin brother."[9] For something to represent an object it "...must be a symbol for it, stand for it, refer to it; and that no degree of resemblance is sufficient to establish the requisite relationship of reference."[10] Resemblance is not necessary for representation as anything may stand for anything else. The 'something' that represents an object "... refers to and, more particularly, denotes it. Denotation is the core of representation and is independent of resemblance."[11]

1 A 15th century tapestry cushion-cover. The unicorn, symbol of chastity and purity, lays its forelimbs submissively on a lady's lap.

Even intentional resemblance here is not enough. For as (Roger) Scruton shows, "...a Dutch interior may contain a fragment which intentionally resembles a tree, but which is seen, not as a tree, but as a tree in a picture. For the fragment represents, not a tree, but a picture."[12]

And what about representations with no denotation? Like the representation of a unicorn (Fig. 1).[13] What do these pictures represent? It is obvious that they do not represent anything as there is no such thing as a unicorn. It is

however plausible to say that, "...we can learn, on the basis of samples, to apply 'unicorn-picture' not only without ever having seen any unicorns but without ever having seen or heard the word 'unicorn' before."[14]

Thus although it was mentioned before that denotation is the core of representation, the 'unicorn' example seen above is one with no denotation. (Many such examples can be seen). "But the explanation is now clear. A picture must denote a man to represent him, but need not denote anything to be a man-representation /that is a picture representing a man/. Incidently, the copy theory of representation takes a further beating here; for where a representation does not represent anything there can be no question of resemblance to what it represents."[15]

Representation as we have seen requires invention. "This is not a matter of copying but of conveying. It is more a matter of 'catching a likeness' than of duplicating - in the sense that a likeness lost in a photograph may be caught

in a caricature."[16]

To clarify all this "...a representational work of art expresses thoughts about a subject. /Thought is understood as/ ...the content of a declaritive sentence, that which might be true or false."[17]

By this we also imply that representation is to a great degree involved with peoples' current values and habits. For a picture can be seen by anyone as a picture, but to see it as representing something requires prior knowledge of the subject. And as with everything else, knowledge stems from growth within a culture. It is through this influence that we discover rules of interpretation and learn to apply them with thoughtful intent. It is "...determined by the system of representation standard for a given culture or person at a given time."[18]

"The eye accustomed solely to Oriental painting does not immediately understand a picture in perspective. Yet with practice one can accommodate smoothly to distorting spectacles or to pictures

2 'The Court of Solomon'
Persian miniature.
Paris, France.

drawn in warped /Fig. 2/ or even reversed perspective."[19] And concerning this very interesting fact, about having to learn to read pictures in standard perspective, (Melville J.) Herkovits writes: "More than one ethnographer has reported the experience of showing a clear photograph of a house, a person, a familiar landscape to people living in a culture innocent of any knowledge of photography, and to have had the picture held at all possible angles, or turned over for an inspection of its blank back, as the native tried to interpret thismeaningless arrangement of varying shades of gray on a piece of paper. For even the clearest photograph is only an interpretation of what the camera sees."[20]

1.3 - DESCRIPTION

It would seem quite correct to say that representation is by pictures whereas description is by verbal passages.

But this is, as we will see, highly incorrect. "...For example,if pictures in a commandeered museum are used by a briefing officer to stand for enemy

emplacements, the pictures do not thereby represent these emplacements. To represent, a picture must function as a pictorial symbol; that is, function in a system such that what is denoted depends solely upon the pictorial properties of the symbol."[21]

Then what distinguishes Representation from Description? For this, Goodman goes into a tedious enquiry about distinguishing factors of different art forms.

In short here, he differentiates arts into two basic kinds. He calls one 'autographic' like painting and sculpture, where there is no alphabet or grammar to refer to an instance of the work. The other, 'allographic', like music and literature where the work complies with a given notation. These latter arts can be copied, for any instance of a work which is in compliance with the notation, (or alphabet and grammar), is as much the true instance of that work. Allographic arts can be fully identified without taking into consideration their history of production. For as long as there is as Goodman puts it, 'sameness of spelling' with its notation, there is the true, original work.[22]

A notation means that a system will have an articulate set of characters with relative positions for each of them. Thus the requirement of a notational system is, that it be syntactically articulate. The notational system for music, that is a score, will be syntactically and semantically articulate. Whereas a script, in verbal language, will only be syntactically articulate. This is obvious to all of us who have used discursive language, and have had problems with words that have ambiguous meaning. (For an example of a semantic description of the word 'bachelor' refer to Section II, pg. 50 .)

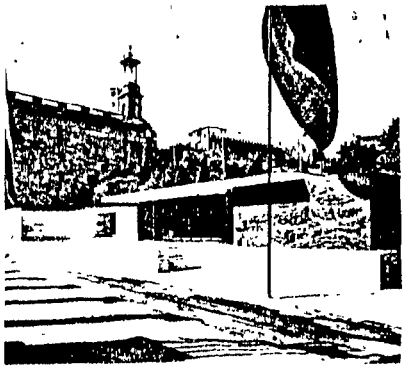
This articulateness of the symbol system is precisely what differentiates between Description and Representation. "This all adds up to open heresy. Descriptions are distinguished from depictions /representations/ not through being more arbitrary but through belonging to articulate rather than to dense schemes ... Nothing here depends upon the internal structure of a symbol; /this explains the example of pictures used to stand for enemy emplacements shown earlier/ for what

describes in some systems may depict in others."[23]

Thus anything, if defined by any sort of notation, describes rather than represents the denoted subject.

Finally, it is interesting to note here, that a notation in arts like music is necessary mainly because of the need to record the work for future performances.

And although many questions do seem to be unanswered here, the information is sufficient for us to understand and define the reference mode of description.



3 Mies van der Rohe 'German Pavilion' International Exposition, Barcelona, Spain, 1929 (demolished).

14 - ARCHITECTURE AND DENOTATION

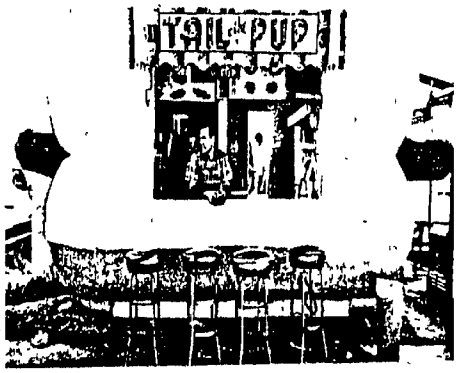
'Architecture' had purposely been left out from the previous discussions, for architecture does provide us with a problem. It is defined by a notation, which is its plans and specifications, and thus would seem to satisfy the requirements of the descriptive mode of reference. But can it be completely divorced from its production?

4 Advertisement in the Montreal Gazette, 1982.

Can the now demolished 'Barcelona Pavilion' (Fig. 3) by Mies van der Rohe, be copied and be called as much the original instance of the work? That is even if reproduced on the same site and even if it complies to the detail with all of its notational specifications? Probably not, but then a typical (North American) suburban dwelling is seen as being copied many times over. All the instances of a building in this sense, as seen in a brochure or advertisement for a suburban development (Fig. 4) are, as much, copies of each other. This contradiction will always prevail for, "we are not as comfortable about identifying an architectural work with a design rather than a building as we are about identifying a musical work with a composition rather than a performance. In that architecture has a reasonably appropriate notational system and that some of its works are unmistakably allographic, the art is allographic. But insofar as its notational language has not yet acquired full authority to divorce identity of work in all cases from particular production, architecture is a mixed and transitional case."[24]

So much for seeing whether architecture belongs

5 Leonardo Da Vinci
'Mona Lisa'
The Louvre, Paris,
France, 1503.

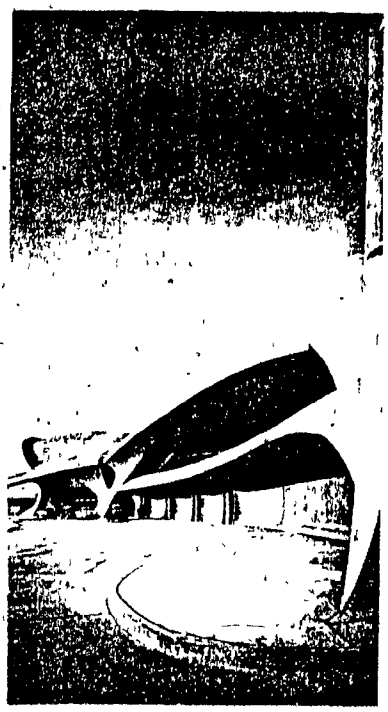


6 Hot Dog Stand
Los Angeles, Calif.,
U.S.A. 1938.

to one of the two mentioned modes of denotation. But the question of whether it denotes at all is still to be answered. That is, if it can be considered as being denotative in the same sense as arts such as painting or sculpture. (The term denotative could be used instead of either representative or descriptive).

As mentioned before, a denotative mode of art refers to a subject, or infers thoughts about a subject. It would also require knowledge of the referred subject, however incomplete it may be. Thus, for us to understand a painting, say Leonardo da Vinci's 'Mona Lisa' (Fig. 5) one would have to know that it is a painting of a woman. To see it as anything else would be to understand it improperly. We could not possibly understand it as an abstract painting, consisting only of lines and colours.[25]

But in this sense, is architecture anything like the representational art of painting? We would be better off with examples. The Hot Dog stand shown opposite (Fig.6) is surely a case of architectural denotation. As for one to understand

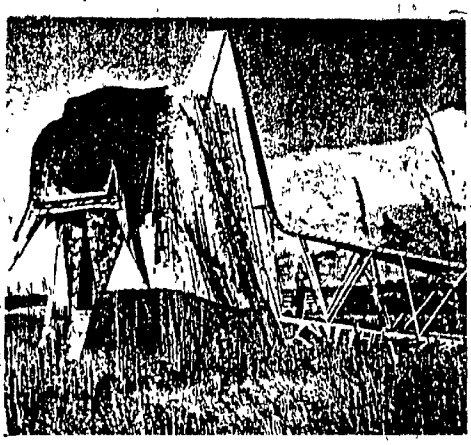


7 Eero Saarinen and Associates
'T.W.A. Terminal Building',
Kennedy International Airport
New York, U.S.A., 1961

what it is, one would have to see it as being in the shape of a 'hot dog.' To see it as anything else would be to misinterpret it. But such profane examples are rare in architecture. More common are examples like the 'TWA Terminal Building' at J.F.K. Airport by (Eero) Saarinen (Fig. 7), which to many people may denote a 'bird'. But then it may be seen without one ever noticing that a bird is being referred to. The reference here is not all conclusive like in a denotative painting. But the fact remains that it does try to suggest a 'bird'. The thought of the subject is there, is present for all who can see and notice it. And it may only be due to the nature of the art of architecture that this may not be noticed, as we are not really accustomed by habit to see an object of architecture through its reference to a subject. We do not expect a building to refer to anything. That it does so, is generally seen as being coincidental, for instance, seeing a high rise office tower like a 'match - box'.

In architecture, denotation is generally seen as being unnecessary, as it is not really essential for our understanding of it. We do not say that

8 Eero Saarinen and Associates
'Terminal Building', Dulles
International Airport
Chantilly, Virginia U.S.A., 1962.



9 Herb Greene 'Greene Residence'
(Also known as 'Prairie House')
Norman, Oklahoma, U.S.A., 1961.

we understand the 'TWA Terminal Building' because we are able to see it as a bird. For although the characteristics of a bird may imbue the building with meaning, (of movement, flight, etc...), denoting a bird remains superfluous. For these values could be introduced without the need of referring to a 'bird'. Like in the 'Dulles' Airport (Fig. 8) by the same architect, where these characteristics can be seen without any reference to a bird. It is like the '1812 Overture' by Tchaikovsky where certain sounds denote, and generally are literally, 'cannon' shots. But these occurences are never really seen as being music but as superfluous instances which would only add to the dramatics of the composition. One cannot imagine the whole 'Overture' being composed of such sounds. For music in most cases does not denote anything.

Greene's 'Prairie House' (Fig. 9) to most people may look like a large creature. A 'beetle' or a 'cockroach' perhaps, and it even comes with its own tentacles. This, like the 'hot dog stand' and the 'TWA Terminal Building', are, in an objective sense, felt as being improbable, as this

denotation in any real sense is quite impossible. That one is more literal than the other is open to question, but all to a degree do look like objects, which in any real sense they cannot be."... The building remains essentially other than the mask which it tries to wear."[26] Denotation in architecture may only be plausible in terms of ornament. Most ornament, especially figurative, is in this sense denotative.

1.5 - EXEMPLIFICATION

"An object that is literally or metaphorically denoted by a predicate, and refers to that predicate or the corresponding property, may be said to exemplify that predicate or property."[27] Objects that exemplify can be generally considered as 'labels'. Thus exemplification can be specified as "...possession plus reference".[28] This possession may not be complete for it is not necessary and in most cases impossible to achieve.

By saying that only labels may be exemplified implies a condition of 'converse denotation'. If in two objects, say 'A' and 'B'

reference runs from 'A' to 'B', then it is always denotation; but if the reference is from 'B' to 'A' then it is a case of exemplification.

Although we have understood exemplification as both literal and metaphorical converse denotation, there is need for further clarification. We will now define exemplification as a case of an object that is only literally denoted by a predicate and that which refers to that predicate or the corresponding property. The need for this differentiation will become evident when we touch upon the last mode of reference which is as mentioned before, 'expression'.

It is very hard to determine the properties that a symbol exemplifies, for it may exemplify any number of them, some more easily than others. The need for an 'expert' is most relevant here, for guessing of these properties is not expected. Properties will always be present in the object, the task would be to see and take note of them. But even then it is left open to question whether anyone can possibly determine all the properties exemplified by an object. For "however exact

any term we apply, there is always another such that we cannot determine which of the two is actually exemplified by the picture /object/ in question. Since the language is also discursive, containing terms that extensionally include others, we can decrease the risk of error by using more general terms; but safety is then gained by sacrifice of precision."[29]

"In short, we can be as specific or as general as we like about what is exemplified, but we cannot achieve maximum specificity and maximum generality at the same time."[30]

1.6 - ARCHITECTURE & EXEMPLIFICATION

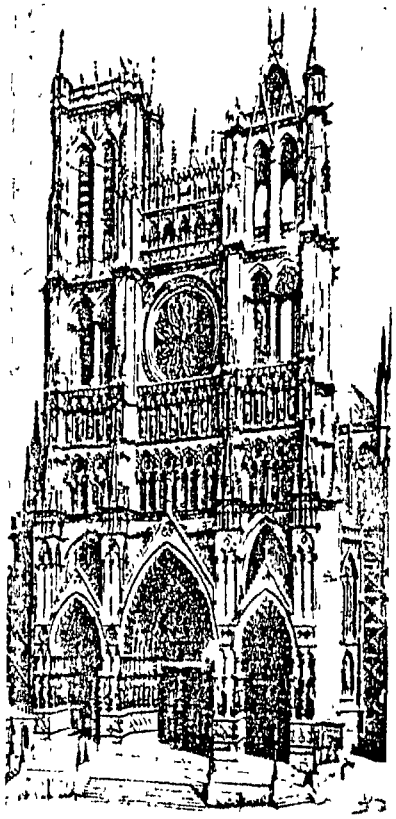
Just as, "a performance of a musical work usually not only belongs to or complies with but also exemplifies the work or score,"[31] an architectural work exemplifies its plans and specifications. That is, those plans and specifications that, so to speak, name the work. But, there is much more that a building can exemplify than just this obvious fact. Whether or not these properties are seen as being exemplified is a matter of debate and not our concern here.

A building will also exemplify its formative elements, like material, texture, colour, structure and so on.

So will a cubical building exemplify that form as will a tall building tallness. In this sense there can be any number of properties a building may become a label for, but nevertheless only of properties that a building possesses literally. (A literally 'short' structure that lookes 'tall' will in this case metaphorically exemplify 'tallness' for it would not really possess the property of being tall).

But there are also other properties that a building has and that it could exemplify, which are not actual physical possessions like those mentioned above. However, they are its possession, for they are an outcome of a particular building formation. A building can exemplify a style or period to which it belongs as also its typology and all labels co-existant with them.

An 'apartment building' can look like one due to certain of its features, for example the fact



10 'Cathedral, Amiens'
West Front.

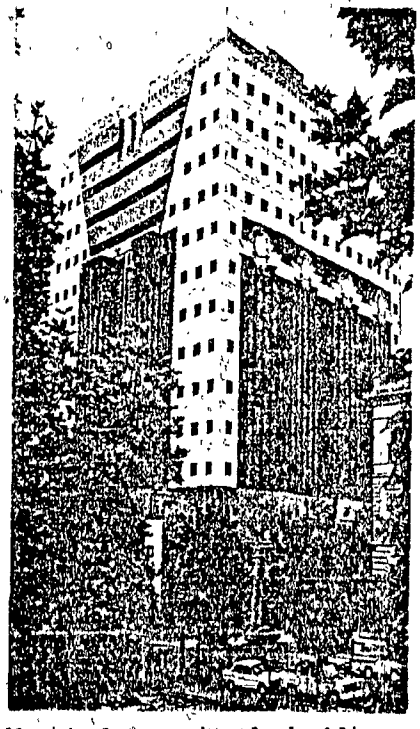
that it possesses balconies. In the same sense one can elaborate on the other type of building exemplification mentioned above. A Gothic cathedral (Fig. 10) will exemplify the Gothic style due to certain formative factors which are common to all buildings of that type. But a 'Renaissance' building may exemplify even early Greek or early Roman styles for it shares much of the formative elements with those earlier styles. Greene's 'Prairie House' (an example mentioned before (p. 15, Section 1) may only exemplify a style, (the type of 'organic' style as associated with the work of (Bruce) Geoff), but not a building type. Early treatises on architecture like that of Alberti's laid a strong stress on exemplification where both the aspects (of style and typology) were clearly defined. But due to no such strict order and new complex tasks, exemplifications of these aspects are not quite as easily determined today.

Here, as in all other reference modes, cultural context is very important, if we are to be at all specific about what an object exemplifies.

For, a man who has never seen an apartment building before, would not know what to look for in a building when confronted with one, whether it did have any properties that could label the building as such. The same would apply to other aspects that an object like a building may exemplify.

But again is it sufficient in terms of a building's understanding to see a building as exemplifying certain of its properties? Even a very poor piece of architecture may exemplify very many of its properties, maybe even intentionally, but is nevertheless a design lacking in meaning.

Clearly, exemplification is not sufficient in itself to render full meaning to a design. For although we do notice certain exemplificative values in most buildings they are not all that we judge buildings by. Also not sufficient because if we could fully understand and appreciate an architectural work by this mode of reference alone, then it is impossible to understand how very radical works, quite out of reach for any constructive labeling, can be understood and appreciated. It is obvious that we do not need to overly involve



11 Michael Graves 'Portland Public Service Building'
Portland, U.S.A., 1982.

ourselves with this mode of reference like some of the present day 'Post-Modérnists' do. (For even with all his exemplificative efforts (Michael) Graves' 'Portland Public Service building' (Fig. 11) is still in the words of Wolf Von Eckardt, "weird, heavy and polychrome..." and a building which accommodates its function as an office building with little enthusiasm.[32]) Not that this reference mode is absolutely unimportant. A building may gain much from being seen as belonging to a certain type and style, but this is not normally considered as being conclusive. As will be shown, our understanding of architecture becomes complete only through the reference mode of 'expression'.

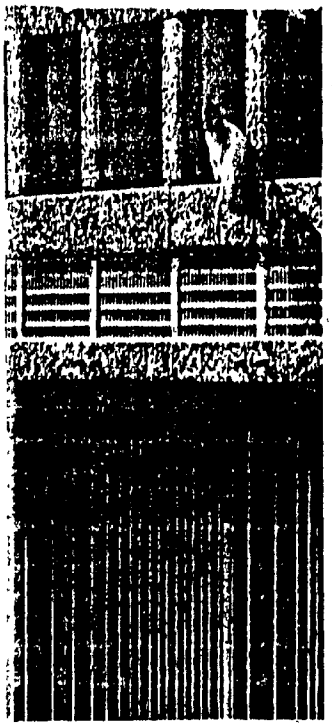
1.7 - METAPHOR

Before we commence our discussion on 'expression', a short note on 'metaphor' would be necessary, as metaphor is so intimately involved with this reference mode.

We commonly use a fair amount of metaphor in our daily language, and it would be very difficult, if not near impossible, to use a verbal language

without metaphor. Metaphors are useful as they enable us to reduce our vocabulary. We commonly understand a metaphor as a "...figure of speech in which a name, action, or term ordinarily applied to a certain object is applied to another in order to suggest a likeness between them... In 'His voice cut through the silence', 'cut' is a metaphor."[33] "Metaphor, it seems, is a matter of teaching an old word new tricks - of applying an old label in a new way".[34]

Metaphors have multiple uses. We can even term the range of colours or musical tones by metaphor, even though they are normally specified in most languages. This use of metaphor in calling, for example, a colour 'cold' or a note 'chilling', is so casual and so very common in our vocabulary that they function in many instances as a true interpretation or explanation. And also there is the use of "...applying a familiar label to new things and applying it in a novel way..."[35] This is normally seen as being quite arbitrary, and it may be obvious that this type of rhetoric can differ considerably. However one uses these labels by a sort of conviction about the object, (the one being labeled), as being co-existent with the



12 Le Corbusier,'Convent of La Tourette', Near Lyon France, 1959, detail.

metaphor's normal use, as there has to be a distinction between 'metaphorical truth' and 'simple falsehood'.[36] Le Corbusier's'Convent of la Tourette' (Fig. 12) can be said to be 'austere', 'grim' or 'harsh', all labels metaphorically true but literally false; but to say that it is 'rich' or 'delicate' is not only literally but also metaphorically false. Thus, as it is literally finished with rough materials, is of a somewhat straight line geometry etc..., so also it belongs under 'austere', 'harsh' and 'grim' instead of 'rich' and 'delicate'.

Metaphor should not be confused with simple ambiguity as there is a sharp difference between ambiguity and metaphor. The various uses of an ambiguous term are "...independent; none either springs from or is guided by another."[37] On the other hand "when one use of a term precedes and informs another, the second is the metaphorical one. As time goes on, the history may fade and the two uses tend to achieve equality and independence; the metaphor freezes, or rather evaporates, and the residue is a pair of literal uses- mere ambiguity instead of metaphor."[38]

Labels may be applied verbally or non-verbally, and this is obvious, due to the nature of metaphor.

"Metaphorical possession and exemplification are likewise parallel to their literal counterparts... A picture is metaphorically sad if some label - verbal or not - that is co-existensive with (i.e., has the same literal denotation as) 'sad' metaphorically denotes the picture. The picture metaphorically exemplifies 'sad' if 'sad' is referred to by and metaphorically denotes the picture."[39]

1.8 - EXPRESSION

"What is expressed is metaphorically exemplified."[40] The properties the symbol expresses are acquired properties through metaphor and are its own possession. "In general, a symbol of a given kind - pictorial, musical, verbal, etc. - expresses only properties that it metaphorically exemplifies as a symbol of that kind."[41] "Pictures express sounds or feelings rather than colours. And the metaphorical transfer involved in expression is usually from or via an exterior realm rather

than the interior transfer effected in hyperbole or litotes or irony. A pretentious picture does not express the modesty that may be sarcastically ascribed to it."[42] In explaining expression as metaphorical exemplification, one may argue that the expression may depend on what it is said to be, that is, it may depend on the commentator's response rather than the symbol itself. But "a symbol must have every property it expresses; what counts is not whether anyone calls the picture *sad* but whether the picture is *sad*, whether the label 'sad' does in fact apply. 'Sad' may apply to a picture even though no one ever happens to use the term in describing the picture; and calling a picture sad by no means makes it so. This is not to say that whether a picture is sad is independent of the use of 'sad' but that given, by practice or percept, the use of 'sad,' applicability to the picture is not arbitrary."[43]

Further, naming a property and expressing it are two different things and a piece of literature need not say what it expresses.[44] An object may even express without describing or representing

13 Vasilii Kandinsky, 'White Background'
Russian Museum, Leningrad, U.S.S.R., 1920.

anything else, like a (Vasilii) Kandinsky painting (Fig. 13).[45]

Thus to sum up, the characteristic of 'expression', is the presence of reference without predication. Doric columns express a feeling of 'masculine power' but they do not in any way really describe a masculine man. It is only due to metaphorical exemplification, that a metaphorical label may be applied to things co-extensive with it. This property furthermore is the property of the symbol itself, of its own structure, not in any way dictated by other influences. This possession, the ability to express, is thus an acquired one.

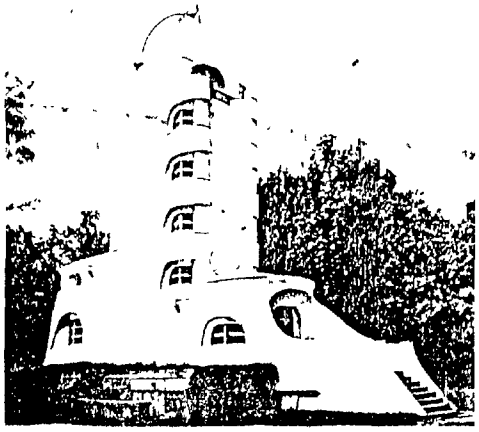
It is necessary to note here, as it was noted with the other reference modes, that the influence of culture tends to vary peoples' responses. (Culture here is understood in a very broad sense, to cover all aspects of life, including the beliefs of different people in different societies.) As indicated before, one is brought up or 'moulded'

in a certain environment which through time one learns to understand and grasp in all its complexities. We learn what conventions are current in our society, accepting them and using them to construct the world around us.[46]

As (Aldous) Huxley commented, "emotions are everywhere the same; but the artistic expression of them varies from age to age and from one country to another."[47]

1.9 - ARCHITECTURE AND EXPRESSION

Before we go on, a brief summary of what we had previously discussed. We saw that architecture does not lend itself to modes of denotation, for denotation in the representative or descriptive sense cannot be in any case complete, as architecture cannot change to 'suit a mask'. That only in regards to architectural ornament, can denotation be plausible. And then, we noted that exemplification of architecture does not make its understanding complete, that there generally is something more a building will offer in terms of reference.



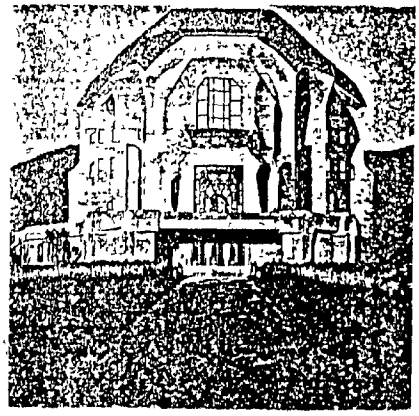
14 Eric Mendelsohn'Einstein Tower' Germany, 1921.

As mentioned before 'expression' is the presence of reference without predication. To express is to display a feeling rather than to describe it and architecture, in this sense, can be differentiated from other denotative arts such as painting and sculpture.

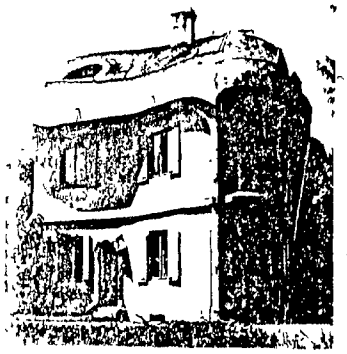
That architecture expresses is plain enough. Like the Einstien Tower by (Eric) Mendelsohn, (Fig. 14), which may express "...ideas about astronomy and relativity..."[48] but does not in anyway describe them.

Expression here has nothing to do, for instance, with the expression on a face, as we see it in immediate reaction, to say, a feeling. Expression in art objects is, as we have seen, something more and independent from a feeling a face tries to convey. Expression in architecture is in most cases impersonal and objective. "Expression is more like a display of atmosphere, an abstract presentation of character."[49]

Moreover architecture is public property to be shared by people and thus strives at an



15 Rudolf Steiner & Others
'Goetheanum II', Dornach
near Basel, Switzerland, 1928.

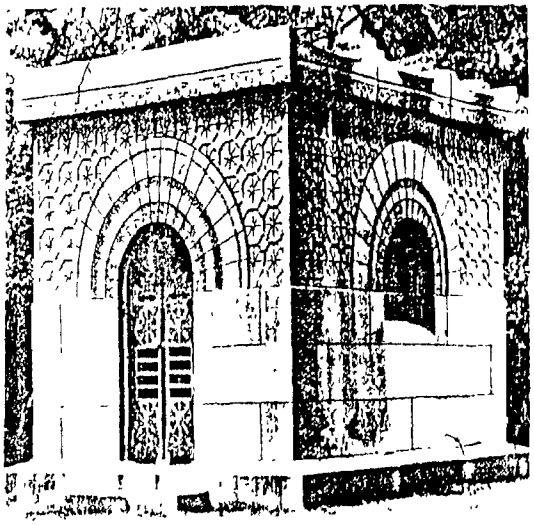


16 Rudolf Steiner
'Haus Duldeck' Dornach,
near Basel, Switzerland, 1914.

objectivity which might be absent from other works of art like music or painting. (For a building has to express irrespective of the emotion of the viewer.) Thus a constant giving of any strong expression by a building that cannot be easily identified with by the public, can in most cases be quite disturbing.

It is in this context that 'expressionism' in architecture, (the movement or style as practiced by architects like (Rudolf) Steiner (Figs. 15 & 16)), evoked perplexity of emotion and depravity of appropriate personal response. Architectural expressionism becomes plausible as mentioned above, only when it approximates the art of sculpture as in the architecture of monuments.

But then, we should not conclude that architecture as we understand it should not possess any expressive character. We do see buildings as being possessed with 'character' which they express as part of our conceiving and perceiving them. This 'character' (or possession) is readable by their physical outlines and is



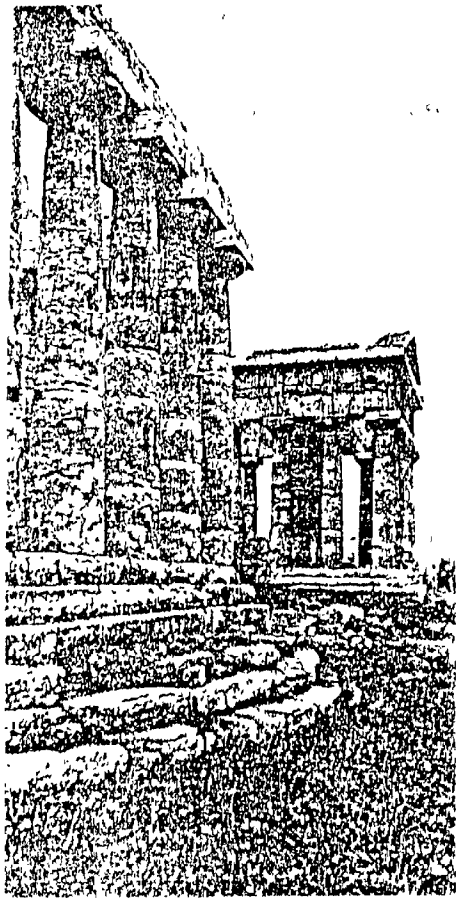
17 Louis Sullivan 'Getty Tomb'
Chicago, 1890.

immediate, quite like an expression on a face. But unlike a face,"...their individuality is not that of a particular feeling which they express, but of their public aspect."[50]

Thus a building may express a mood, may express femininity[51] (like the 'Getty Tomb' by (Louis)Sullivan shown opposite (Fig. 17)), but these perceptions are not literal in any sense. (Unlike exemplification where labeling is, so to speak, literal in every respect). It is like 'sad' music being sad even though music can never literally be 'sad'. These properties belong to the object and are exemplified through it. Furthermore, these possessions may not be intended by a building's designer, further detaching and objectifying the expression.

Thus the expressive reference of symbols can, by their inherent qualities, be able to metaphorically attach themselves to suggestions unimagined, involving us in what may be called constructive world making which is crucial to our existence.

Here it is necessary to mention again that



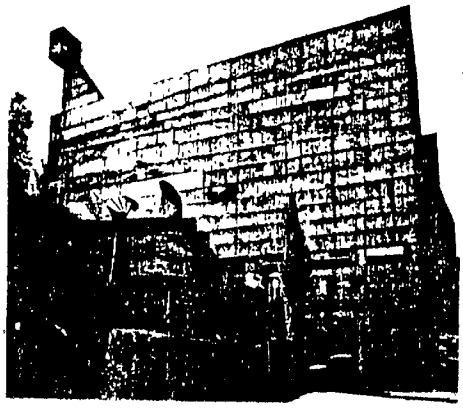
18 The 'Temple of Poseidon' at Poseidonia. A View of a Corner of the 'Basilica' and the 'Temple'.

'expression' in most cases may not evoke similar emotions in all people, as education, cultural backgrounds, and other personality and social traits radically influence us with our cognition of the world.

Thus to sum up, character (a term which now could be used instead of expression), is inherent in all buildings. That one building may possess more of a particular character than another or that an architecture has an appropriate character or not, or that it has no character, is more a matter of judgement. What is important here is that this mode answers much of our problem concerning reference in architecture. In that it shows how architecture as a symbol generally works and is likely to be understood and experienced by most people.

For it is through recognition of their character that most buildings have meaning for us. To recognise in 'Doric' architecture (Fig. 18), 'strength', 'power' and 'sublimity' is decisive enough to comprehend and appreciate it.

19 Lower Church.



19-20 Le Corbusier 'Convent of La Tourette', near Lyon France, 1959. North façade.

Le Corbusier's 'Convent of La Tourette' (Figs.19,20, 12,76,74 & 93) is generally appreciated because of its overwhelming austerity and spiritual calmness, expressions seen as being considerably appropriate and sensitive to the function it was designed for. Exemplicative values are transcended for all that seems to matter here is the building's 'character'. We do not require 'expert' knowledge to recognise a character in a building. It is immediate to most people sharing a similar cultural code. The building need not describe or exemplify anything. But that most buildings do exemplify and that most generally will (to different and varied degrees), is not of any real consequence, for they need not.

This section has formed the necessary base upon which the thesis will progress. With this understanding of how architecture attains meaning for us, we move on to a more 'practical' part of the thesis and Section II.

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SECTION I

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[2] Nelson Goodman, Languages of Art (Indianapolis, 1976.

[3] Roger Scruton, The Aesthetics of Architecture (Princeton, 1979); p. 179-180

[4] J.E. Cirlot, A Dictionary of Symbols (New York, 1962), p.xxxvi.

[5] Goodman, op.cit., p.xi.

[6] Ibid., p. 65.

[7] Ibid., p. 3.

[8] Ibid., p. 4.

[9] Loc.cit.

[10] Ibid., p. 5.

[11] Loc.cit.

[12] Scruton, op.cit., p. 285.

[13] Goodman, op.cit., p. 21.

[14] Ibid., pp.24-25.

[15] Ibid., p. 25.

[16] Ibid., p. 14.

[17] Scruton, op.cit., p. 180.

[18] Goodman, op.cit., p. 37.

[19] Ibid., pp.14-15.

[20] Melville J. Herskovits, Man and His Works (New York, 1949), p.381.

[21] Goodman, op.cit., pp.41-42.

[22] Ibid., pp.115-122.

[23] Ibid.,pp.230-231.

[24] Ibid., p.221.

[25]Scruton, op.cit., p. 180.

[26]Ibid., p. 183.

[27]Goodman, op.cit., p. 52.

[28]Ibid., p. 53.

[29]Ibid., p. 235.

[30]Ibid.,p. 56.

[31]Ibid., p. 236.

[32]Wolf Von Eckardt, "A Pied Piper of Hobbit Land", Time, Vol. 120, No.8, August 23, 1982.p.46

[33]The Winston Canadian Dictionary, (Toronto, 1963), p. 388.

[34]Goodman, op.cit., p. 69.

[35]Loc.cit.

[36]Loc.cit.

[37]Ibid., p. 71.

[38]Loc.cit.

[39] Ibid., p. 84-85.

[40] Ibid., p. 85.

[41] Ibid., p. 87.

[42] Ibid., p. 86.

[43] Ibid., p. 88.

[44] Ibid., p. 91.

[45] Goodman also cites the writings of James Joyce, as his writings in many instances do not describe anything. Ibid., p. 92. Joyce's last work, 'Finnegans Wake', can be especially seen as being very true in this respect.

[46] Aldous Huxley, "Music in India and Japan" (1926), reprinted in On Art and Artists (New York, 1969), p. 305.

[47] Loc.cit.

[48] Richard Sheppard, "Monument to the Architect?", The Listener, June 8, 1967 p. 746, cited by Nelson Goodman, Languages of Art (Indianapolis, 1976), p. 91.

[49] Scruton, op.cit., p. 189.

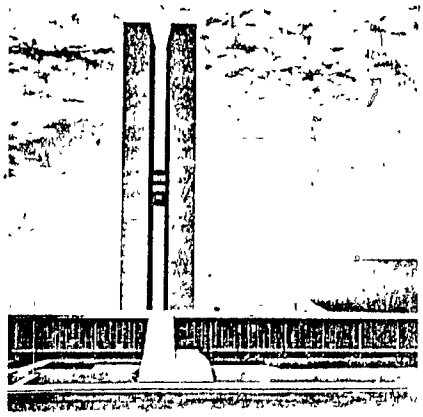
[50] Ibid., p. 196.

[51] Herb Greene, Mind and Image (Lexington, Kentucky 1976), p. 71.

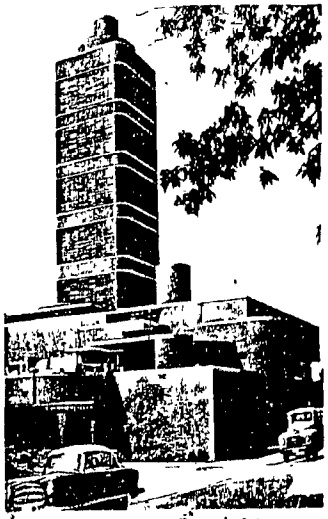
SECTION II

"There is something about architecture which is independent of and perhaps superior to functional utility. A medieval castle remains architecture long after gunpowder has destroyed its utility and the Parthenon is architecture even after it has been converted to an arsenal and had its heart blown out."[1]

Bruce Allsopp



21 Lucio Costa (Planner) and Oscar Niemeyer (Architect)
'Plaza of the Three Powers'
Brasilia, Brazil, 1960.

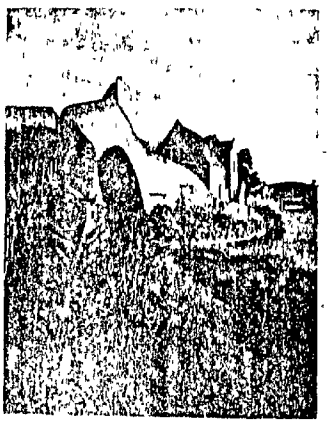


22 Frank Lloyd Wright
'Helio-Laboratory and Research Tower
S.C.Johnson and Son Inc.'
Racine, U.S.A., 1950.

2.1 - ANALYTICAL THOUGHT

In this section we will examine certain surveys and analyses done previously by other authors in reference to architectural 'meaning'.

We have learnt that architecture can be perceived as being 'expressive' due to certain of its characteristics, i.e. it possesses character and that character, in buildings, can be recognized and experienced by all of us, and that it is generally exemplified by metaphor. Although metaphors may seem to us as vague, arbitrary, and even naive, we cannot get away from the fact that they are the ways in which people generally classify most architecture. It is through these terms that architecture attains meaning for most of us. Moreover, as mentioned before in our discussion on the concept and mode of metaphor, these metaphors "...are socially shared subcodes which have a fair amount of stability in any one time or place."[2] That the 'Plaza of the Three Powers' in Brasilia looks 'monumental' or that the 'Johnson Wax Building' looks 'sensual', (Figs. 21 & 22), are not arbitrary statements and should not be seen as such. 'Monumental' and 'sensual'



23 An English Bridge
19th Century.

are to be seen as much a part of the buildings' qualities as their very physical structure. This type of characterization is instantaneous and allows for us, a sort of instant reviewing of our worlds, by permitting us to arrange an object in an overall serial pattern. (The concept of 'series' was discussed in the beginning of the first section. Refer Pg. 3, section I).

For as (Steen Eiler) Rasmussen points out in his much quoted book, 'Experiencing Architecture', a shape read as being 'soft' (Fig. 23) or 'hard' or any other such term, is always in relation to our previous experiences.[3] Thus say a 'soft' object, even though not literally soft, is 'soft' to us because it is so in contrast to our perception of other objects which may fall into an overall system of a symbol.

We will now go on to discuss two quite different (not so much in methodology as in scope) analyses carried out by (Charles) Jencks and (Umberto) Eco. We all must be aware of their work and so an introduction of these authors will not be attempted here, nor

is it necessary to explain in detail how their works came about. We will however, try to understand how their work has relevance to this thesis.

What we would like any analysis to do here would be to elaborate and demonstrate what we outlined in the first section. That architecture is primarily involved with the reference mode of 'expression' and that these references tend to possess a fair amount of stability at a particular time and place, thus offering a limited and distinguishable set of values to be expressed by any object of architecture.

Although the two analyses to be used are not formulated particularly for the purposes mentioned, they nevertheless offer us, if seen with our context in mind, a fair amount of information needed to resolve the mentioned points.

These analyses are concerned with what Eco and Jencks term as 'semiotics' in architecture, that is the 'theory of signs'. A 'sign' here

could be seen as being quite comparable to our 'symbol' as both are used within a similar context. Just as a symbol, a sign here is seen as anything capable of taking on meaning. And as mentioned earlier on in the thesis (Refer to Pg. 2 Section I) that could just about include everything.

One important aspect which is most useful for this thesis is the semiotic perspective (Umberto) Eco prefers, "...with its distinction between sign vehicles /the object/ and meanings, the former observable and describable apart from the meanings we attribute to them..."[4] And although, as we had seen before, the object and its meaning cannot be differentiated, as each is as much a part of the other, this concept of 'distinction' is of fundamental necessity in order to do any useful analysis. For this helps us to recognize in architecture, "...sign-vehicles capable of being described and catalogued..."[5]

It will be worthwhile to note here that the

analyses are carried out in 'common language' terms, that is, by use of a 'verbal language'. This is for the sake of convenience both for the reader and the authors, as verbal language constitutes our most common form of communication. As we have seen, language forms an important part in our experience of architecture as with it we learn to respond correctly to our feelings, giving way to a more co-existensive approach to the varied experiences in our daily life. With it we organize our world, and see reality.[6]

2.2 - SEMANTIC DESCRIPTION

Before we proceed to the specific analyses it is necessary to see in some limited detail their models of diagramatic analyses, which were adopted from the Katz-Fodor-Postal hypotheses of linguistic description.

This hypothesis is elaborated in Katz and Postal's work on 'Linguistic Description'[7]. This specifies "...all the knowledge of linguistic structure that enables a speaker to produce and

understand any sentence. But it would not describe how the speaker actually uses this knowledge in producing and understanding sentences."[8]

However we will not be discussing this in detail as so much of the essay is not really relevant to us.

We will mainly elaborate on what they (Katz and Postal) term as the 'Semantic Component', as that is the aspect most useful to us for following and understanding similar modes of analyses as adopted by Eco and Jencks. However, due to the inseparable link between the 'semantic' and 'syntactic' components, a short note on the 'syntactic' component will be required here. "The syntactic component of a linguistic description of a natural language must be a system of rules which enumerates the infinite set of abstract formal structures which underlie the sentences of the language."[9]

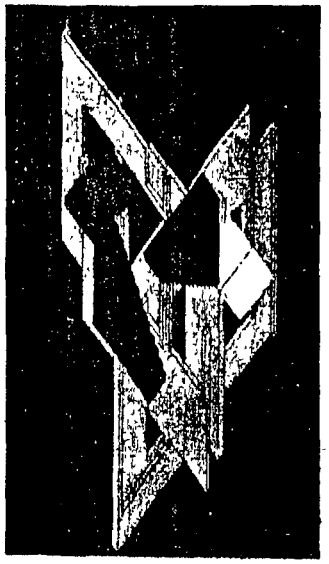
We will now proceed with the 'Semantic Component'. In the words of Katz & Postal "...the semantic component of a linguistic description will be taken to be a

projective device...Such a projective device consists of two parts: first, a dictionary that provides a meaning for each of the lexical items of the language, and second, a finite set of projection rules. The projection rules of the semantic component assign a semantic interpretation to each string of formatives generated by the syntactic component. The semantic interpretation that a string of formatives has assigned to it provides a full analysis of its cognitive meaning."[10]

This projective device is really quite simple and very schematic in concept. "This process reconstructs the way in which a speaker is able to obtain a meaning for a sentence from the meanings of its lexical items and its syntactic structure. Thus, the semantic component, if formulated correctly, provides an explanation of the speaker's ability to determine the meaning of any sentence, including ones wholly novel to him, as a compositional function of the antecedently known meanings of the lexical items in it."[11]

24 Peter Eiserman 'House VI'
Cornwall, Conn., U.S.A., 1977.

It is interesting to note here the possible implication of this concept in relation to architecture. It is very hard to imagine architecture in the same sense as a 'verbal language',due to its accommodating grammar. But a type of a syntactic structure does exist in architecture in the sense, that its various compositional aspects have their allocated relationships with each other. This would mean to say, that a component 'column', for example, is an established norm for a support, as a staircase is for changing levels. The (Peter) Eisenman staircase shown opposite (Figs. 24 & 25) is not noted as such even if it does invertly resemble one as we know that it leads nowhere. For most people it would be a type of an ornamental sculpture and not seen, except in such a sense, in relation to the building as a whole. It does not matter whether it is meant to be seen as a staircase, intellectually brought about by a complex geometric exercise. It would be very difficult in this respect to recognize the semantic component of an architecture made of such unlikely and unfamiliar syntactic character-



25 Peter Eisenman 'House VI'- Cornwall, Conn., U.S.A.,1977. 'Reciprocal Stair Transformation'.

izations.

We now turn back to the Katz-Fodor-Postal analysis at the point where we left off.

As they state, each lexical item in a sentence must be introduced by a normal dictionary reference. "This normal form must enable the dictionary to represent formally all the semantic information involved in the meaning of any lexical item... It must decompose the meaning of the lexical item into its most elementary components and state the semantic relations between them."[12] This is to be done with each of the different lexical items of a sentence.

The normal form of a dictionary entry that we talked about earlier is like this:"... an entry consists of a finite set of sequences of symbols, each sequence consisting of an initial subsequence of syntactic markers, followed by a subsequence of semantic markers, then, optionally, a distinguisher, and finally a

selection restriction. Dictionary entries may be represented in the form of tree diagrams... where each sequence in the entry for the lexical item appears as a distinct path rooted at that lexical item."[13]

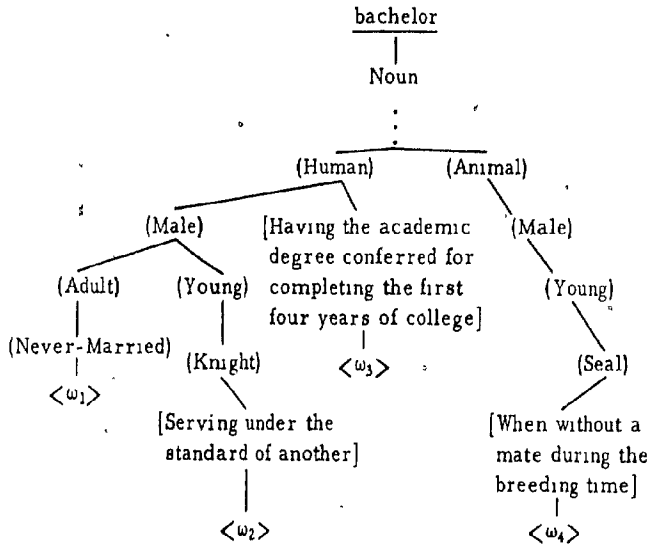
"Semantic markers are enclosed within parentheses /( )/, distinguishers within brackets /[ ]/, and selection restrictions within angles /< >/.. Syntactic markers are unenclosed...."[14] Thus we see in the diagram, (Table 1),[15] that the lexical item 'Bachelor' is described as being "...four-ways semantically ambiguous, i.e., as having four distinct senses."[16]

And it is basically this type of a tree diagram that Eco and Jencks use to structure their analyses.

Some final comments on the terminology used to construct the diagram. "Semantic markers are the formal elements that a semantic component uses to express general semantic properties. In contrast, distinguishers are the

TABLE I

SEMANTIC DESCRIPTION



formal elements employed to represent what is idiosyncratic about the meaning of a lexical item. Thus, while a distinguisher differentiates a lexical item from those closest to it in meaning so that each distinguisher will be found only once in the dictionary, a semantic marker found in a reading of a certain lexical item will also be found in the readings of many other lexical items throughout the dictionary."[17]

It has not been explained, (for reasons mentioned at the start of this discussion), how this semantic component fits in and acts with other components of a language, namely the syntactic and the phonological, to characterize a complete linguistic description, of a language. We have however seen 'the semantic component' as being represented by a tree diagram whose reference we will have cause to return to later.

2.3 - ANALYSIS 1

'A COMPONENTIAL ANALYSIS OF THE ARCHITECTURAL SIGN/COLUMN'.[18] (UMBERTO) ECO.

The purpose of Eco's essay was to find out whether there are significative units in architecture and how these components can be described by using an interpretation of the Katz-Fodor-Postal model.

"If it were valid (which it is not) to transpose linguistic concepts into the terminology of architectural semiotics, one would have to ask: 'What is an architectural 'word" ? But

one can ask: 'What is an architectural SEMENE', and thus 'what sign-vehicles in architecture communicate a specifically architectural meaning?'"[19]

Here 'semene' is specifically a "...cultural unit, and ...the object of a structural semantics of architecture".[20] And for this analysis, the architectural sign vehicle will be termed as a 'morpheme'. "The analogy with linguistic terminology is etymologically justified this time, since an architectural morpheme is a complex of formal qualities."[21] "...Treatises on architecture that identified the architectural orders, for example, were morphological treatises that identified morphemes or complex syntagmatic chains composed of morphemes."[22]

Thus say for the semene 'Doric order' a morpheme possessing various morphological features, like being non-ornamental, of certain dimensions etc..., would be required. These are normally quite extensive and complex exercises as seen in the treatise by Alberti.

It will be in this manner, that a componential analysis, of an architectural object, in this case a 'column', will be carried out. And moreover it will be described using the model put forward by Katz-Fodor-Postal.

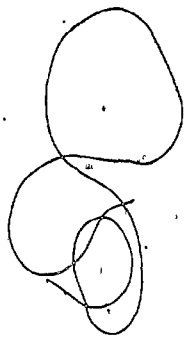
Before we go on, Eco cites some needed modifications to the linguistic model, as he thinks it to be, excessively schematic.[23] "However, in the absence of more elaborate systems of notation and representation it may, I /Eco/ think, prove didactically effective as a first approach to the problems of componential analysis."[24]

As noted by Katz and Postal in the concluding chapter of their book, (Katz and Postal, 1964), "the rules of a linguistic description no more describe how the speaker produces or understands sentences than the rules of a mathematical system describe the way in which proofs are written out or checked."[25] In this sense we can, as Eco also does, criticize it for not elaborating on a 'theory of settings'.

This implies "...that it is not possible to include among the semantic components of an item the possible contextual events that will assign to the semene one path (reading) rather than another. The argument asserts that a theory of settings would imply the consideration of all possible contexts and therefore of every event in the universe. I /Eco/, on the other hand, would maintain that in the semantic representation of an element, priviledged events, which is to say the contextual connections among which it habitually recurs, may be taken into consideration. In this sense it is valid to consider that these contextual connections are codified and recognized as 'canonical' /an established standard/, and that they may therefore find a place in a componential analysis."[26]

Neither does the Katz-Fodor-Postal model take into consideration the aspect of connotations that a lexical item could have (and that most do is obvious); for the same reason it refuses to consider a settings theory.[27] These connotations

could include an infinite set of possibilities in theory, but here again, if one considers the aspect of contextual events or circumstances, the realm of possible connotations could be radically reduced and made finite in scope. Thus if one takes the likely connotations into account "...it will then also be possible to include in the componential description of a unit the connotations it is most likely to generate - and which therefore appear to be already codified."[28]



And it will be for these particular reasons "...a) why a system of componential description that resembles Katz-Fodor-Postal's in several respects is adopted, b) why the present /used/ system diverges from it, and c) why, all things considered, I /Eco/ would regard this system of description as entirely provisory and simplistic."[29]

This componential analysis of an architectural sign, as mentioned before involves the 'column' as its item. A column is for many of

us a rather unclear element in that it does not allow clear communication. Why then a 'column'. As Eco puts it, during a seminar on the semiotic approach to architecture,[30] the most frequent objection towards a componential analysis was the question of the column; "...one thing that is not clear is the meaning of a column; in itself a column doesn't mean anything; it is the complex of columns called the Parthenon that acquires architectural meaning; a column does not communicate possible functions, it is a neutral element that combines to form more complex morphological chains which do have an architectural meaning."[31]

He goes on to say that during the seminar he came across an article called 'Eternidad de La Columna'[32], (The Eternal Column) by(Dora Isella) Russell. He translates it in full"...emphasizing the phrases whose semantic units are then to be subjected to analysis."[33] With this analysis he attempts to disprove the notion that a singular column does not present any meaning.

For a better understanding of the phrases

used in the forthcoming analysis the article, 'The Eternal Column', is presented in full.

"The Eternal Column

Around it blow the winds of time. The winds embrace the uplifted time-defying shaft. Centuries have passed without touching its slim body, and towering among the ruins, the column affirms its timeless destiny.

A glance back through the ages reveals to us the vast panorama, studded with venerable ruins, from which emerge solitary columns, the last remaining witnesses of vanished greatness. Amongst them wanders the shadow of melancholy. The mighty civilisations that lighted the awakening of human consciousness were ground into the dust, and other men and other ways of life raised above their exhausted cultures the hope of resurrection. Phantoms of India, shadows of Babylon, Chaldean shepherds consulting the stars, priests of Heliopolis filing invisibly past, wandering Phoenicians hoisting the first sails in our seas, grave pharaohs submerged in death, luminous memories of Hellas as the sun of the Peloponnese sinks, soldiers of Gaul extending the frontiers, all were consigned to oblivion before the uncontainable onrush of new ages. And the flood swept down upon men as upon things, blotting out peoples, burying buildings, shattering temples, destroying statues, wiping out all trace of the work of individual men. And yet here and there in remote corners of the Orient, and along the roads of Europe, menhirs and dolmens

remained standing, hinting at reconstruction, and in Egypt as in Greece, at Rome as at Palmyra or among the remotest oceanic islands, something was able to escape from the inexorable massacre - the aristocratic upthrust of the column, an object of wonder, a sacred relic, an unscathed document.

The first tree-trunk, the first lopped branch that some distant inhabitant of this planet hammered into the ground in front of his cave, were its most distant forerunners. From the tree was born the column. The imagination arrives at such an idea without effort, and so simply, so logically that there is no race that has not concerned itself with the column, as support and as ornament. It sustains, yet nothing sustains it, and it may possess the patina of millennia. It allegorizes the miracle of survival, belying the apparent fragility of a single point of contact with the earth.

Rare were the Egyptian monuments that lacked imposing internal colonnades. Generally, a stiff plume of palm, lotus, or papyrus fronds twined around the capital, taking over its place, which in itself constituted no mean imaginative audacity for a people of such grave and hieratic formulae. India, on the other hand, was to allow leaves, flowers, allegories, and legendary figures to climb around her columns; the imaginative exuberance of her mythology found intricate expression in decorations that reached to the roofs of her colossal sanctuaries.

But at the height of Greece's glory the artists

of Hellas trimmed away all foliage, leaving naked the smooth, scarcely tapered body of the Doric column, or else, later, adding the nimble volutes that embellish the Ionic order. The column became channelled with grooves, with flutings that enhanced its weightlessness in a crystalline, open-air exaltation that lent harmony to their constructions. When the Corinthian column became burdened with acanthus and olive leaves; when griffons, pegasi and sphinxes were added; when the capital blossomed into a profusion of interwoven forms, the end was near. These baroque mannerisms, for all their beauty heralded the sunset - a glorious but finally inescapable twilight that brought to an end the 'Grecian miracle'.

In Asia Minor the bodies of fantastic animals replaced the traditional column on many occasions. In Persia there were kneeling camels; in India the pachyderms of Ellora, carved in the stone of the mountain, served as the base for prodigious temples, while at the palace of Susa bull-heads crowned the columns. The Egyptians, even earlier than the Greeks, had revealed the sumptuous majesty of hypostyles such as those at the temple of Karnak, and had arrived at the stage of sculpting human forms on the capitals of Denderah that reproduced the masks of Isis. Yet it was the Greeks of Pericles' time that dared to entirely replace the column by making the human body assume its functions, supporting the architecture of their temples now upon the male statues (talamoni), now upon female bodies that graciously and effortlessly carry the building's weight without losing their graceful forms and fluttering robes, and

have for centuries borne their heavy task with that diaphanous limpidity with which the Grecian sky lends nobility to the sacred relics of its history.

In every latitude and in every age the column has enriched monuments, giving to façades solidity and sumptuousness, to interiors grandeur, and above it have risen towers and cupolas that re-echo its upward-aspiring intentions with that vertically so characteristic of Gothic art. The Gothic column has no modulus, is not independent of the building - it inter-reacts with other columns to form groups which mount vertiginously upwards, pointing towards heaven, as if by their means the faith of men rose towards mystic regions inhabited by saints and angels, that have been metamorphosed into finely-wrought stained-glass. The mediaeval cathedral absorbs the column in its obsession with upward-climbing masonry that sprouts architraves, branching forms, spears of stone, dominated by the impulse to rise. Ogives, arches and columns do not belong to Gothic art alone - while mediaeval Europe was constructing her cities, with their prodigious, steepled bell-towers, Muslim art gave birth to the Mosque of Omar at Jerusalem, the Mosques of Amru and of Touloun at Cairo, and in Spain the famous Mosque of Cordova and the Palace of Zara, built upon four thousand, three hundred columns.

A lyrical raptus renders it poetical. Its suggestive power renders it subtle. The anonymous Arab poets celebrate it, identifying it with the

palm-tree, 'the column of the desert'. 'Slender as a column and with eyes like stars' they say of their beloved. Her neck is an 'alabaster column'; the litany of beauty employs it as a likeness for the delicate throat, the smoothly shaped arm, the perfectly formed leg. 'Her legs are columns of marble upon bases of fine gold', one reads in the Song of Songs. Nations raise columns in commemoration of their great feasts, events, and heroes - the Trajan column, the column of Place Vendôme, the column of Trafalgar Square, recalling Nelson...

Since they are not easily thrown down, men erect them as memorials. An aesthetic mission, a historical mission, both devolve upon these obstinate, airy, arrogant columns raised above the passing hours.

For time is a sharp-keeled ship that leaves in its wake all that is transient. And the column that spans the centuries appears as the mast of this mighty vessel."[34]

The article seems at first glance to be a rather poetic account of obvious reflections upon the theme of a column. The sort of intellectual 'kitsch' that one would take very lightly.

But as Eco points out, and which some of us with patience also would, that upon re-reading the article "...one realizes that these 'obvious reflections' correspond precisely to an inventory of the current tradition of thought about the column. It represents the astonishing record of an imaginary survey that collects from a sample of everyday users of architecture all the meanings that they associate with the unit 'column'".[35]

In Table II[36] (see following page) we see possible connotations (differentiated for a clearer reading into 3 columns), taken from the article referring to certain morphological features of a column.

TABLE II

LIST OF CONNOTATIONS
(edited)

architectural connotations	*historical connotations*	*aesthetic connotations*
A tree-trunk	1 the winds of time blow around it	I affirms its timeless destiny
B apparent fragility	2 venerable	II amongst them wanders the shadow of melancholy
C supports without being supported	3 last relic left standing of vanished grandeur	III it rises aristocratically
D effortless	4 unscathed document	IV universal
E enriches monuments	5 commemoration of events, great deeds, heroes	V pure
F gives solidity to façade	6 mast of ship of time	VI legendary
G gives sumptuousness to façade	7 has the patina of millennia	VII audacity of imagination
H gives grandeur to interior	8 allegory of the miracle of survival	VIII mounts vertiginously upwards, pointing towards heaven
I unity in repetitive variety	9 time-defying	IX poeticized by lyrical raptus
J unity in modulating variety		X neck of beloved
K irremovable		XI slender body
L mast of ship		XII shapely arm
M airy		XIII perfectly formed leg
N gives harmony to building		XIV obstinate
		XV arrogant
		XVI solitary
		XVII sacred remains
		XVIII Greek miracle
		XIX prodigious

(Point (I) refers to colonnades in which similar columns are placed at similar distances and (J)"... in which rhythms such as AB-AB or ABC-ABC may be established."[37] This elaboration is necessary to clear up the meaning of the words 'repetitive' and 'modulating' (in Table II) for they are not described as such in the table.)

We will now, for a better reference to our context, set this chart (Table II) according to the various modes of references involved.

It is interesting to note here the vast amount of 'expressions' seen in contrast to the other reference modes. The table (II-B) shows what was already noted, that the most common mode of reference in architecture is 'expression'.

Also interesting is the second column (historical connotations), where 'exemplicative' references are seen as being as common as the 'expressive' ones. This is no mere coincidence because as mentioned earlier, (in SectionI), exemplification in architecture is to a great

TABLE II-B

LIST OF CONNOTATIONS (altered)

	ARCHITECTURAL CONNOTATIONS	HISTORICAL CONNOTATIONS	AESTHETIC CONNOTATIONS
DESCRIPTIVE	A tree-trunk L mast of ship	6 mast of ship of time	X neck of beloved XI slender body XII shapely arm XIII perfectly formed leg
EXEMPLICATIVE	C supports without being supported	1 the winds of time blow around it. 3 last relic left standing of vanished grandeur 5 commemorative of events, great deeds, heroes 8 allegory of the miracle of survival	IV universal XVII sacred remains XVIII Greek miracle
EXPRESSIVE	B apparent fragility D effortless E enriches monuments F gives solidity to façade G gives sumptuousness to façade H gives grandeur to interior I unity in repetitive variety J unity in modulating variety K irremovable M airy N gives harmony to building	2 renewable 4 unscathed document 7 has the patina of millennia 9 time-defying	I affirms its timeless destiny II amongst them wanders the shadow of melancholy III it rises aristocratically V pure VI legendary VII audacity of imagination VIII mounts vertiginously upwards pointing towards heaven IX poeticized by lyrical raptus XIV obstinate XV arrogant XVI solitary XIX prodigious

extent concerned with its historical background.

We will now proceed with a 'componential analysis model' of the 'column' out of context, (Table III),[38] and subsequently of the 'column' in context, (Table IV).[39]

A short note on the terminology used in the analyses. "The sign in isolation is represented by a horizontal stem, the sign in context by vertical stems...The terms in brackets /( )/ represent morphological markers; those in inverted commas /' '/ represent semantic markers; Arabic numerals, Roman numerals and letters of the alphabet refer to the inventory of connotations listed in... /Table II/."[40] Morphological features in Table IV have been put in square brackets /[ ]/.

"The symbol ⊢—⊣ and the symbol •⊣ are used when a given node generates a series ⌊ of possibilities that are not mutually exclusive but can co-exist... The symbol ⟨ or the symbol ⟨• is only used when the markers are exclusive

TABLE III

A COMPONENTIAL ANALYSIS OF THE SIGN/ COLUMN OUT OF CONTEXT

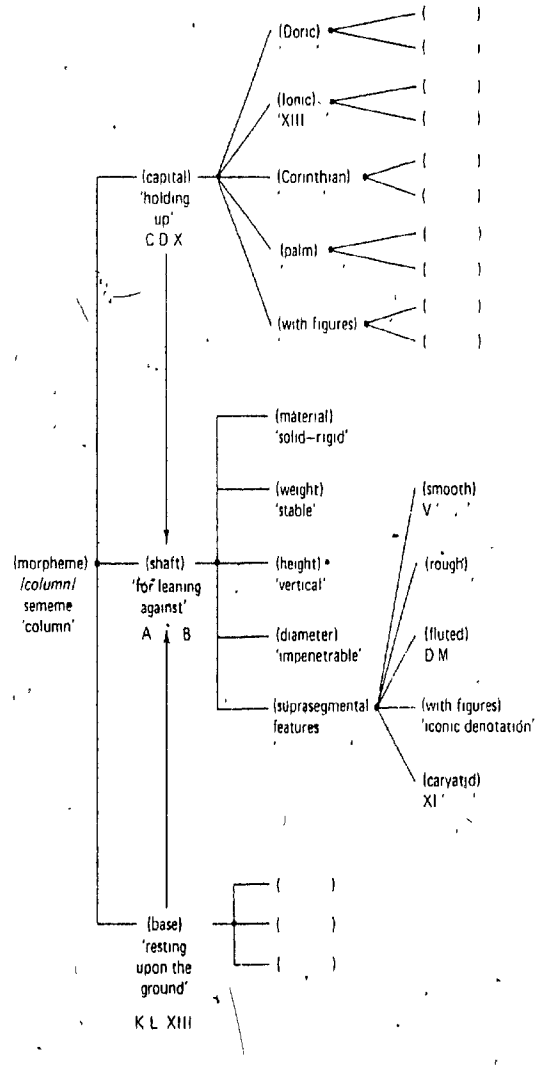
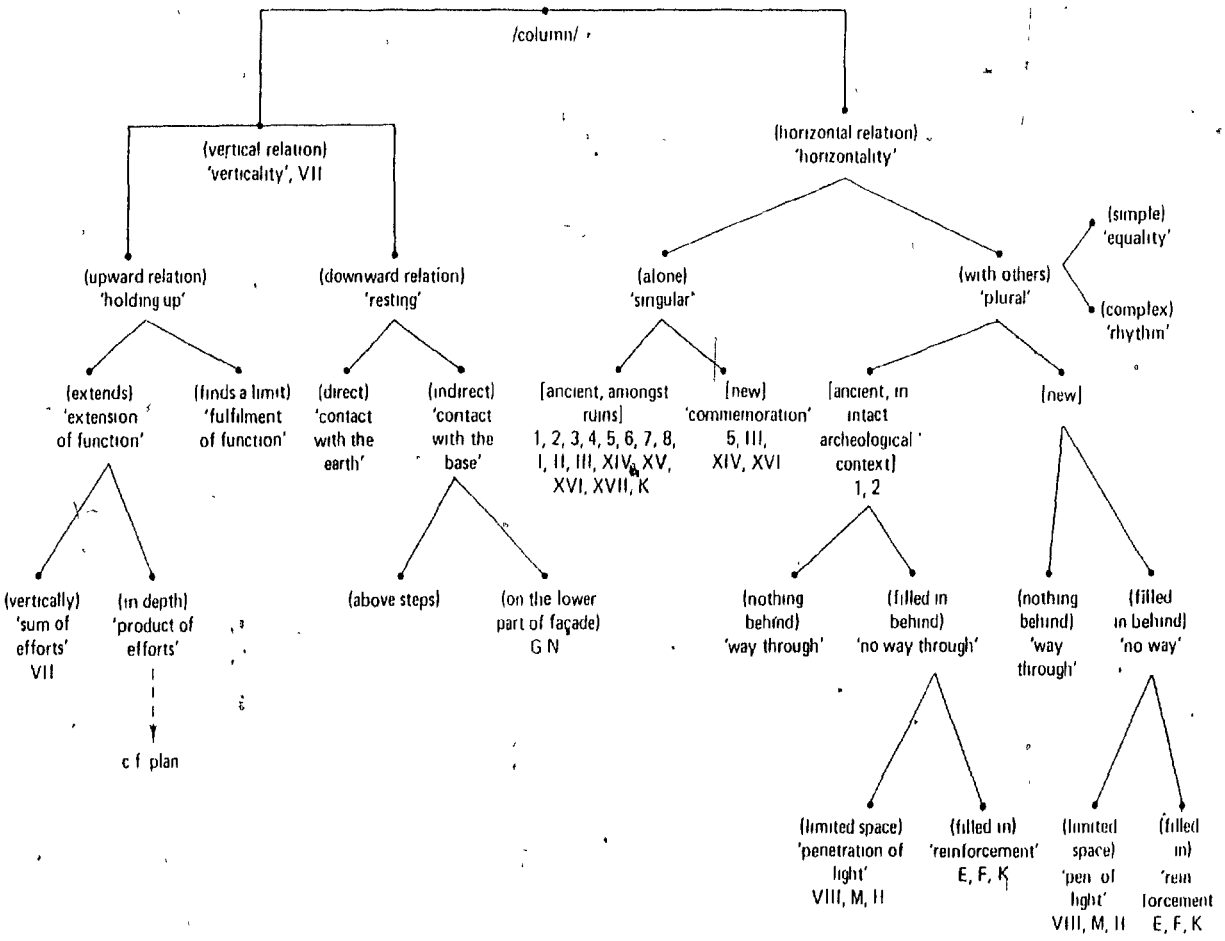


TABLE IV

A COMPONENTIAL ANALYSIS OF THE SIGN/COLUMN/IN A VERTICAL AND HORIZONTAL CONTEXT



and in mutual opposition, implying a binary selection between different paths or readings. These binary exclusions could be similar to those that in Katz-Fodor-Postal's lexical models are defined as 'distinguishers.'"[41]

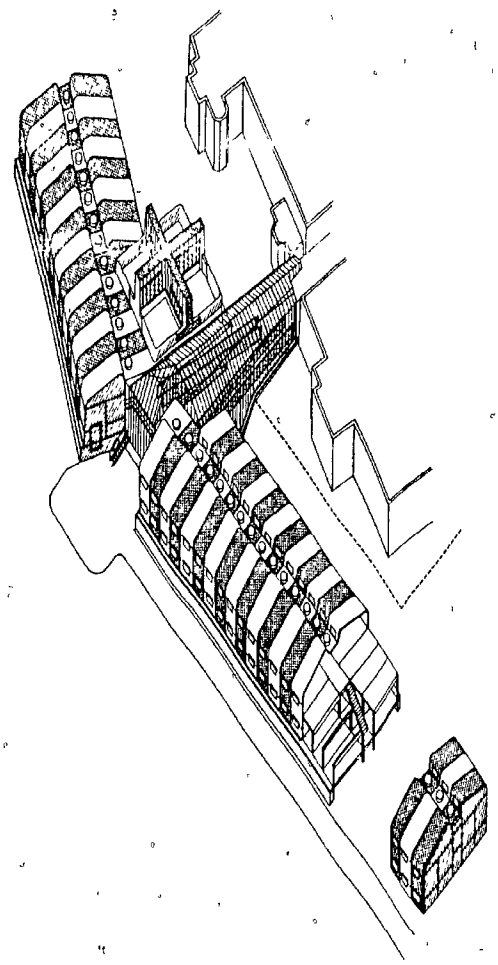
For more information regarding these analytical models, refer the Appendix (pp.154-164).

2.4 - ANALYSIS 2

'A SEMANTIC ANALYSIS OF STIRLING'S OLIVETTI CENTER WING'[42] (CHARLES) JENCKS.

Although Eco's and this analysis can be viewed as being of the same realm, they are considerably different in their range of involvement. Eco's as we have seen deals with an architectural component, (a column), whereas Jenck's here involves a whole architectural object, a building.

But his methodology for analytic description is also adopted, as was Eco's, from the Katz-



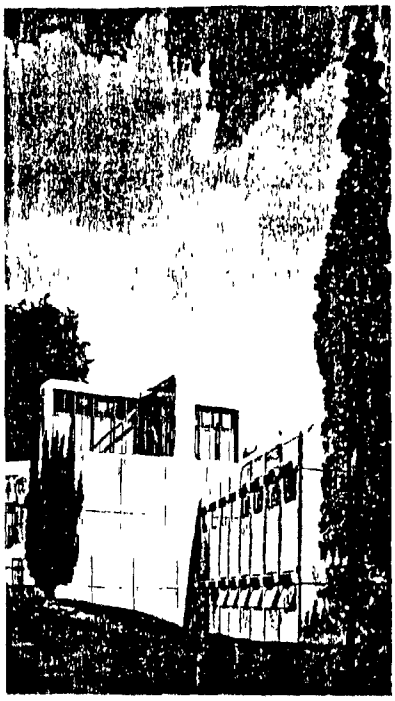
26 James Stirling, 'Olivetti Center' Haslemere, England, 1970. 'Axonometric Drawing'.

Fodor-Postal model.

Even though Jenck's analysis is what can be called as being, (and as you will see), related to the descriptive mode of reference, it nevertheless, if seen differently, and if formulated differently, could present us with the appropriate information we need to have (in order to confirm our findings of the first Section and those stated on Pg.[42] of this Section).

We will, however, first try to understand the analysis as formulated by (Charles) Jencks and then go on to an appraisal of it within our context.

While Eco's was a hypothetical analysis, this one involves data actually gathered by a limited public survey. As it is apparent from the title, the subject of the analysis is the 'Olivetti Training Center' (Figs. 26, 27 & 28) designed by the British architect (James) Stirling. (The building is located in the "... stockbroker belt of England's rolling southland").[43]



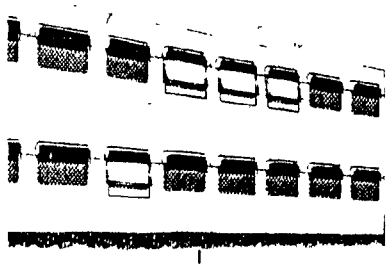
27 James Stirling, 'Olivetti Center' Haslemere, England, 1970.

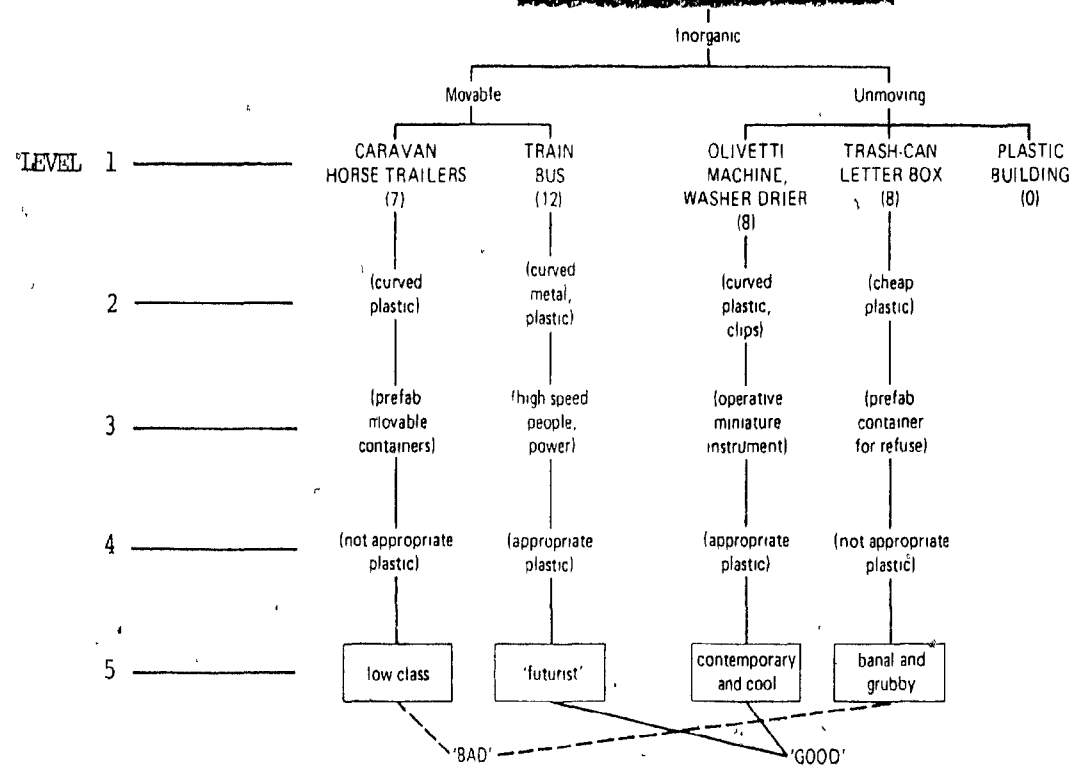
The purpose of the exercise was to determine whether the building form is seen as being appropriate to its purpose. Although he does not give us a detailed account of the survey (in regard to the number of people surveyed etc...), it is sufficient enough for our purpose, for the 'metaphorical analysis' is self-explanatory to a great extent. The data presented was the result of a survey done among his (Jencks') students at the Architectural Association in London. "The audience was asked 'what does the building wing look like?' They were shown slides of a wing out of context and 95% didn't know the building. After no more metaphors were seen /to refer the building/, the audience was asked to vote on which two metaphors they found most plausible among their list. If debate is allowed and if the context is shown a much greater consensus is obtained."[44]

Four major metaphorical types were seen by the students and these four were subjected to analysis by constructing semantic chains as seen in the diagram (refer to Table V).[45]

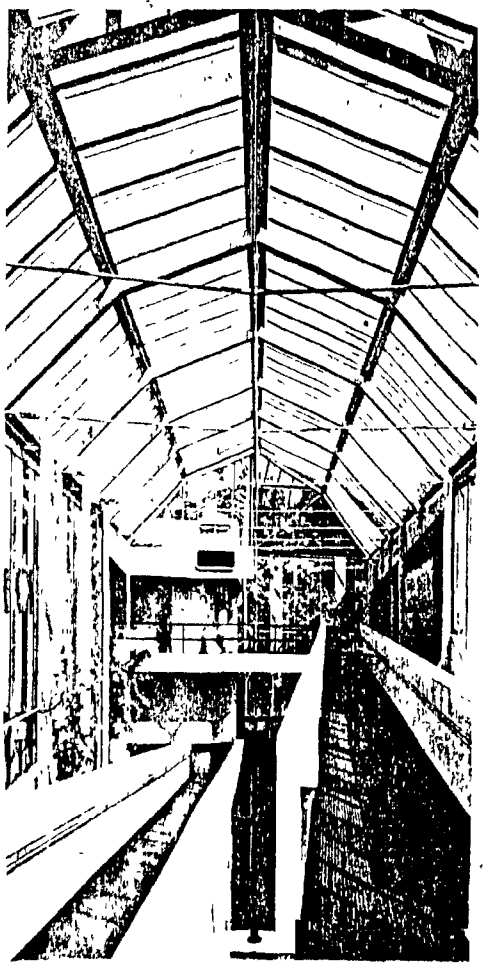
TABLE V

SEMANTIC ANALYSIS OF STIRLING'S OLIVETTI CENTER WING





Semantic chain of Olivetti's Training Centre, Haslemere
(Other metaphors seen Architectural Association. ice-cream, blancmange–7, electric plug–3, skin, snake–1, aquarium–1, automat–1 Thames Polytechnic train/bus–27, caravan–25, broiler house–13, plastic breadbasket–13, Christmas presents–6, aeroplane–4.)



28 James Stirling, 'Olivetti Center' Haslemere, England, 1970. 'Connecting Wing'.

As mentioned earlier the analytical model is that of Katz-Fodor-Postal, but is used here with certain modifications in regard to categorization, which were found necessary by the author. "For their 'semantic markers', I /Jencks/ have substituted aesthetic-material categories as these, I /Jencks/ believe, are primary classifiers leading to functional categories (or their 'distinguishers' or 'definitional meanings'). For their 'selection restrictions', I have used context and code restrictions, because, I believe, architectural reading is highly determined by the code of the viewer."[46] (We who are now familiar with these terms of semantic description should have no difficulty in substituting Jenck's categories for them.) It is also interesting to note the simplicity of the analysis, which really is quite refreshing, as it facilitates easy comprehension and understanding.

Similar responses were noted by students in other parts of the world, (Norway and California), "...demonstrating the predominance of these 'codes'

TABLE VI

BLUE-JEAN TRANSFORMATIONS

(edited)

Object	Meaning
1 Real B-J $8	Strong cover for work transient
2 Real B-J worn by cowboy at home	I am a cow boy transient
3 Real B-J worn by women and children	The Wild West transient
4 Real B-J worn by James Dean	Casual and young transient/durable
5 Faded B-J embroidered and worn by youth $26	Casual aesthetic I have had these for ages transient/durable
6 False B-J tie-dyed $12	I am a member of an exclusive group etc transient/durable
7 Pre-faded cotton B-J St Tropez 1970	What a joke to think I'm a cowboy summer set transient
8 Scraps of B-J as coats $185 or bikinis $20	Blue-jean aesthetic transient/durable
9 Suede copy of 7 at $60	You recognize this expensive joke? durable
10 B-J in a museum	Folk art of urban man durable

in different cultures today."[47] Not all metaphorical implications are noted in the analysis as, in fact, most people found the worked upon metaphors to be most plausible. As with other symbols, an architectural object only allows a limited range of meanings in a society, those that are acceptable and which are common to all of us. These 'codes' however may change through time, some may be discarded, new ones introduced. (Examples of this are seen by us all the time in our daily lives. An interesting analysis, also by Jencks , regarding transformation of meaning is shown opposite, (Table VI)).[48]

But, "despite semantic change, this analysis shows that architectural metaphors work in coherent ways, which suggests in turn that architects could take responsibility for how people will see them; a fact of considerable importance if modern architecture is grasped first, by the public, through metaphor."[49]

It is evident that what we are dealing with here is description, as 'metaphor', for Jencks, is

different from how we had understood it. For him it is similar to what we normally understand as 'analogy'.

The problem now is, how this analysis can have meaning for us if it really disagrees on such a fundamental point. For this, we have to go back to the start of his analysis and to the primary question used to formulate it.

For this is where the problem lies, and if not for it, or if corrected, the analysis would fit right within the context of this thesis.

Would the conclusions be different if he had asked a differently worded question? It is certainly probable. For his question 'What does the building look like?' very strongly implies an inherent descriptive reference; or even to an extent an exemplicative mode. That no one used this reference mode (exemplicative) to understand the building is only because the building is so unlike any other. Jencks also

notes this aspect of the building.

The question 'What are the characteristics of the building' may have been more appropriate, for 'characteristics' is a term which in normal discursive language (here reference is to the language of 'English') is very wide ranging and could accommodate all the different reference modes. It could imply, for example, in reference to the 'T.W.A. Terminal building' (Fig. 8), the characteristics of a 'bird', of 'Late 20th Century architecture' or in the expressive sense, of 'movement' or 'flight'.

But do we really need to ask this type of a question here and thus, re-formulate the entire analysis? This is not thought necessary as Jencks in a way accommodates these types of references in his analysis itself. That is, his final comments on the various 'metaphors' (Level 5 in Table V, p. 72) are basically expressive references (terms that could define a building character) and which are seen as being implied by and which could really be the

basis of the analogies seen.

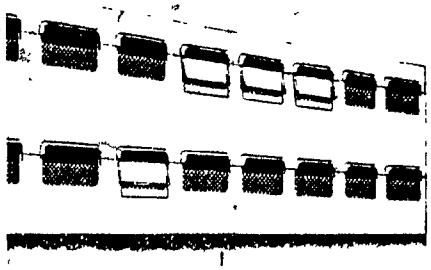
These could well have been the initial responses if the analysis were done differently. We could, in effect, substitute these instead of the anological primary classifiers that are in the analysis, (refer to Table V-B). Semantic chains could as well be drawn up for these in a similar pattern, and with no effective change in any constituent matter at any level. Maybe the distinguishers, (functional categories Level 3), may not be as evident or as easily formulated, but then those that are already mentioned in the analysis would definitely fall into the compliance class of the various expressions.

However, this does not imply that the building, ('Olivetti Training Center' by (James) Stirling), has no denotative value. It could well have for many people even if questioned in the manner suggested. We could have ended up with similar responses as Jencks, had a survey in the suggested manner been carried out. But

TABLE V-B

SEMANTIC ANALYSIS OF STIRLING'S OLIVETTI

CENTER WING (altered)



Inorganic

	Low Class	Futurist	Contemporary & Cool	Banal & Grubby
LEVEL 1 (5)				
2	(Curved Plastic)	(Curved Metal Plastic)	(Curved Plastic Clips)	(Cheap Plastic)
3	(Prefab Movable Containers)	(High Speed People Power)	(Operative Miniature Instrument)	(Prefab Container for Refuse)
4	(Not appropriate Plastic)	(Appropriate Plastic)	(Appropriate Plastic)	(Not Appropriate Plastic)

Bad — Good

then maybe not. No such survey was carried out and so this question remains unanswered. For although a fresh analysis would definitely have made things more certain, this analysis with the specified alterations serves the purpose for which it was included in the thesis.

REFERENCES

SECTION II

[1] Bruce Allsopp, A Modern Theory of Architecture (London, 1977), p. 47.

[2] Charles Jencks, "A Semantic Analysis of Stirling's Olivetti Centre Wing", Architectural Association Quarterly, September, 1970, reprinted in Signs, Symbols, and Architecture, eds. Geoffrey Broadbent, Richard Bunt and Charles Jencks (Chichester, 1980), p. 233.

[3] Steen Eiler Rasmussen, Experiencing Architecture (London, 1964), p.23.

[4] Umberto Eco, "Function and Sign: The Semiotics of Architecture", revision of six chapters of La struttura assente: Introduzione alla ricevca semidogica (Milan, 1968), VIA Magazine of Graduate School of Fine Arts, University of Pennsylvania, Vol. 1, 1973, reprinted in Signs, Symbols, and Architecture, eds. Geoffrey Broadbent, Richard Bunt and Charles Jencks (Chichester, 1980), p.20.

[5] Loc.cit.

[6]Benjamin Lee Whorf, Language, Thought and Reality, Ed. B. Carroll (Cambridge, Mass., 1956). This inference, on how language determines the way in which one sees reality, forms the basis of this work.

[7]J.J. Katz and P.M. Postal, An Integrated Theory of Linguistic Descriptions (Cambridge, Mass., 1964).

[8]Ibid., p. 166.

[9]Ibid., p. 6.

[10]Ibid., p. 12.

[11]Ibid., pp.12-13.

[12]Ibid., p.13.

[13]Loc.cit.

[14]Loc.cit.

[15]Ibid., p. 14.

[16]Ibid., p. 13.

[17]Ibid., p. 14.

[18]Umberto Eco, "A Componential Analysis of the Architectural Sign/Column/", Semiotica, Vol. 3:2, 1972. trans. David Osmond-Smith, reprinted in Signs, Symbols, and Architecture, eds. Geoffrey Broadbent, Richard Bunt and Charles Jencks (Chichester, 1980).

[19]Ibid., p. 215.

[20]Loc.cit.

[21]Loc.cit.

[22]Loc.cit.

[23]Ibid., p. 220.

[24]Loc.cit.

[25]Katz and Postal, op.cit., p. 166.

[26]Eco, "A Componential Analysis of the Architectural Sign/Column/", p. 220.

[27]Loc.cit.

[28]Loc.cit.

[29]Loc.cit.

[30]Seminar held in La Plata, Argentina, directed by Umberto Eco for the Instituto Inter-universitario de Especialisacion en Historia de la Arquitectura, July-August, 1970.

[31]Eco, "A Componential Analysis of the Architectural Sign/Column/," p. 221.

[32]Dora Isella Russell, "Eternidad de la columna", La Prensa (Argentina), July 26 1970, trans. U. Eco, reprinted in U. Eco, "A Componential Analysis of the Architectural Sign/Column/," Semiotica, Vol. 5:2, 1972, trans. David Osmond-Smith, reprinted in Signs, Symbols and Architecture, eds. Geoffrey Broadbent, Richard Bunt and Charles Jencks (Chichester, 1980).

[33]Eco, "A Componential Analysis of the Architectural Sign/Column/", p.221.

[34]Russell, op.cit., pp. 221-224.

[35]Eco, "A Componential Analysis of the Architectural Sign/Column/", p.224.

[36]Ibid., p. 225.

[37]Loc.cit.

[38]Ibid., p. 227.

[39] Ibid., p. 229.

[40] Ibid., p. 226.

[41] Loc.cit.

[42] Jencks, op.cit.

[43] Ibid., p. 234.

[44] Ibid., p. 238.

[45] Ibid., p. 239.

[46] Ibid., p. 238.

[47] Loc.cit.

[48] Charles Jencks, "The Architectural Sign", Signs, Symbols, and Architecture, eds. Geoffrey Broadbent, Richard Bunt and Charles Jencks (Chichester, 1980), p.78 .

[49] Jencks, "A Semantic Analysis of Stirling's Ollivetti Centre Wing", p. 240.

SECTION III

"Form may then be defined as the operation of forces that carry the experience of an event, object, scene, and situation to its own integral fulfillment."[1]

John Dewey

3.1 - REVIEW

First a short review of the first two sections. We primarily saw, in the first section, that architecture is in most cases classified by metaphorical exemplification; that it is 'expressive'. We also gathered that these metaphorical labels are generally in reference to an architectural 'character'. That is, we recognise a 'character' in architectural objects which is labeled by metaphor. We also noted that the 'character' with which the object is endowed is not a given one, it is one that is inherent in the object and as much a part of it as the very material with which it is structured. And although the character of an object remains the same always, it may be interpreted differently by people not sharing the same cultural or social subcodes. Furthermore, a character of an object may not be intentional, that is, it may not be interpreted as its 'maker' wanted it. It may be referred to anything, as 'character' is the property of the object itself.

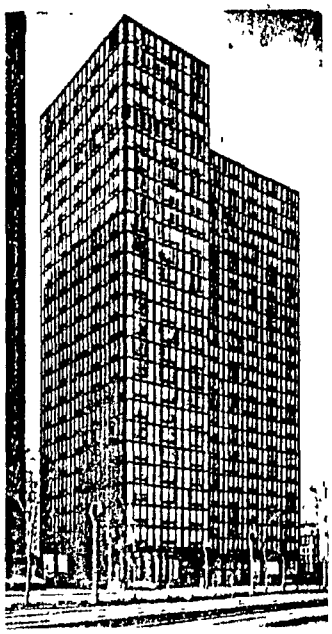
In the second section we noted by analysis what

we had already determined in the first section, namely that an architectural component or an architectural whole is primarily classified and understood by metaphor.

3.2 - THE TASK

We must all have realised by now how useful a design approach would be, that took into account or rather formulated itself upon the need to determine the appropriate character in architecture.

For 'character' is in most cases, as we have seen, the first and maybe the only aspect of a building that is experienced and responded to by most people. Even with only a glance, (and that is probably the only chance people get to experience most architecture around them), one can sense and maybe decide upon a character in an architectural object. No deeper reading is required of the object and it is highly unlikely that any later perceptions would alter ones' first determinations.



29 Mies van der Rohe 'Apartments, 860 and 880 Lake Shore Drive,' Chicago, Illinois, U.S.A., 1951.

The glass and steel towers of Mies van der Rohe (Fig. 29) will always be 'cold' and 'sinister'

to us, (among other values), even though we may generally acknowledge their virtues of good planning and detailing, proper proportioning etc.... Nothing will change however, from them being 'cold' and 'sinister', as these expressions are as much part of the architecture as say 'steel' is as a material. Can then the character be intentionally achieved in a building design? Can a building be insured against inappropriate labelling? It should be obvious that it could, or better still, that it should be. After all as (Avery) Johnson has said, "the architect's role - the role that he is being paid for - is to pre-experience the building...that he is working on."[2] And to experience is to note character.

And thus we come down to the purpose of this section (and in a sense, of the thesis), that is, to propose a way of introducing this often neglected and ignored aspect of 'character' in the design process. The word 'introducing' is used instead of 'basing' which would be more emphatic, as we assume that this inclusion would understandably be only part of a complete design process. For it would not be right to think that an appropriate

'character' would satisfy all the requirements (and these can be numerous), that would be necessary for a well developed architectural design.

3.3 - REASONING

This type of a design approach is bound to stir up accusations that it is 'irrational'. Or even 'emotional' as opposed to 'functional'. Is it really so? It should be obvious by now that it is the function of a building to have an appropriate character just as it is the function of a building to properly accommodate and shelter human activities. This should be basic, for after all we should take the responsibility for how people in general are going to experience architecture, for it is they who will be the ultimate users of it, and they, (of course with us architects), who will have to live with it, presumably for the rest of their lives. For unlike other objects of art, like a painting, a sculpture or even a musical composition, an object of architecture cannot be 'stashed' away in a closet or not performed as in the case of music. We are so to speak 'stuck'

with it, it will always be there, and to quote a favourite author(John) Ruskin, "'the eye it cannot choose but see.'"[3]

This however does not mean that we as architectural designers need to take public opinion polls to help decide on a design character.

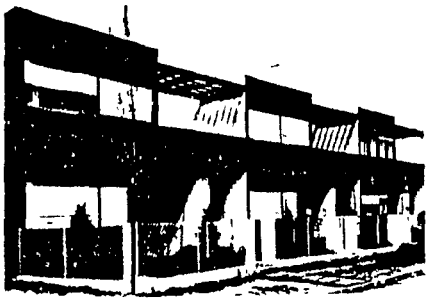
We all know of architecture whose 'character' we all appreciate and recognise. It is however hard to believe that their designers followed this type of methodology, (one basing itself upon results of opinion polls), to decide upon what character their buildings should be endowed with. It is plausible to say that these types of 'opinion polls' are not necessary for us, as we are all (as architects) as much a part of a society as other people and thus should know what our cultural and social codes tend to be. For as Scruton says,"... if I produce reasons for my way of seeing, I think of these reasons as reasons for others as well as for myself..y reasons will seem apt to me only if they seem to put me in the right."[4]

This knowledge, however, may not be necessarily

automatic and so we as architects are obliged to study society's attributes, its aspirations, in short know and recognize all of its values in order to be able to make the right design decisions. As (Benedetto) Croce wrote, "...those artists who embrace the creed of pure art or art for art's sake, and close their hearts to the troubles of life and the cares of thought, are found to be wholly unproductive, or at most rise to the imitation of others or to an impressionism devoid of concentration... Of course this does not mean that the artist must be a profound thinker or an acute critic; nor that he must be a pattern of virtue or a hero; but he must have a share in the world of thought and action which will enable him, either in his own person or by sympathy with others, to live the whole drama of human life."[5]

Yet the refusal of many architects to accept this could explain why so much of our architecture is unpopular. Some architects consider themselves as being the'avant-garde' of a society and generally even pride themselves on this distinction. This fault may lie as Jencks puts it in different

values the architect's education generally places "... on such things as technology, order, pure form, construction and invention. Not just different, but opposite values are often at work. Where he, /the architect/ as a son of the Enlightment and Romantic Age wants to 'make it new and strange' in order to make it aesthetic, the inhabitant wants to 'have it old and familiar.' Where he /the architect/ wants to keep pace with new materials and methods, always progressing in the permanent revolution going on down at the patent office, the inhabitant wants to live more and more like his ancestors (the more ancient, the more venerable)."[6]



30.a,b Le Corbusier 'Pessac Housing' France. 1969 & 1925.

It is interesting to take note of Le Corbusier's 'Pessac Housing' project (Fig. 30) which was as Jencks has written "...transformed, ruined, aged and articulated by a traditional language. The signs of personalisation and security have effectively distorted the purist language so that it sends out welcoming messages of domesticity and 'home' instead of 'factory, sugar cube and hospital!'"[7] (Jencks here seems to be mixing up the various modes of reference, for 'Personalisation', 'Security' and 'Domesticity' are expressions,

31 Frank Lloyd Wright
'Falling Water', Bear Run
Penn., U.S.A., 1937.

'House' an exemplification, and 'Factory', 'Sugar cube' and 'Hospital' descriptions.)

This however does not imply that we should exclude invention or any progressive approach from our designs. It is, as mentioned before, a matter of being conscious of retaining appropriate character in our architecture, meanings which may not be common, but those that allow for a public comprehension. What is implied here would be better explained by the following example.

Even a very inventive piece of architecture, such as(Frank Lloyd)Wright's 'Falling Water' (Fig. 31) is understood and appreciated in this sense. Its harmonious interaction with its environment, its human scale, its warm materials and colour, and other such aspects help in developing a character which we have always associated with a domestic house, and more so with a country lodge. And it is precisely this building's ability to indicate such familiar and appropriate values, above all its other technical virtues, that helps to make this one of our most popular objects of architecture.

It is also plausible to say that such design consciousness could help in making distinctions between various buildings types. For this is one of the problems of our times, where we can, as (Christian) Norberg-Schulz points out, "...hardly distinguish between a church and a garage."[8] As many other authors have noted, "much of the confusion in modern architectural thinking has arisen from failure to recognise that there are different **kinds** of architecture;"[9] that there are different emotional values assigned to and associated with different types of architecture. "Obviously we do not chop wood with a hammer, but it should be just as evident that we do not eat pastries in a Gothic Cathedral."[10]

It may not be entirely possible that we could in our current complex world have architectural typologies like in the days past. Much of today's architecture is integrated and multi-functional. A 'building type' differentiation may thus be quite inappropriate in some instances as confusion would obviously arise when different types are integrated or altered. However we could instead of saying that something (i.e. a building) should

look like something due to its function, say that a building should have an appropriate character in relation to its function.

This would also mean for us a less monotonous environment than our present one or one where buildings were structured differently according to certain of their exemplificationary values. For, instead of total segregation of form between different building types and much similarity of form among similar building types that would invariably arise out of this type of formation, (that is if this were possible), this system would allow for a more varied, more inventive and less rigid approach to design. It would certainly help in creating a meaningful environment where we could acknowledge buildings, appreciate and understand them by recognising in them a 'character' which would have a meaning for all of us.

It may have ambiguous character, or little character, or maybe a character which is very difficult to translate into common verbal language. The purpose of the exercise would only be in insuring that somehow a building is not said to look

inappropriate. We could cite numerous examples of architecture which are unpopular as they offer contradictory types of 'character' in relation to their place in a society.

3.4 - METHODOLOGY

Here we have cause to return to the second section of the thesis and recollect the semantic description analysis of Katz-Fodor-Postal and its interpretation by Eco and Jencks. For their analyses offer us quite a plausible method for a design process.

If a building and its character can be broken down into certain formative aspects, (as Eco and Jencks show us) then it also follows, that these formative aspects, if formulated correctly, in accordance with their description would bring about the desirable character in a building.

But this does not imply that the analyses that Eco and Jencks give us are adequate enough to be used as design processes. For Eco deals only with an architectural component whereas Jenck's

analysis is definitely not articulated to any extent in order to offer us much in terms of a design methodology. But then we cannot really criticize their analyses as such because they were not formulated for our type of purpose. Thus a further elaboration on their shortcomings would not only be unnecessary but also unfair.

We shall start with an elaboration of architectural aspects that are involved in building design and our perception of it. That is, aspects we see in a building and which determine a building's character. (This notion can be clearly seen in the analyses of the second section). As psychologist Arnheim has said, "...particular arrangements of lines and shapes correspond to particular emotional states".[11]

And implying the same (Howard) Robertson writes that "these effects of expression are due not only to a choice and handling of materials, the presence or otherwise of ornament, but in the main to the general proportioning and shaping of the elements in the composition. It is in the treatment of these elements that the designer has

exteriorized his personal conception of what the building should be, and he has thus endowed it with character, the expression of which it remains for the critic to comprehend and to classify."[12]

The eighteenth century French architect (Etienne-Louis) Boullée also sensed this and noted in his 'Essai sur l'Art' "...that forms and shapes served to conjure up thoughts and ideas";[13] that there was a "...direct relationship between forms and the sensations they aroused."[14]

We can categorise these aspects into four main groups. They would be (a) Volume and Space (b) Geometry (c) Enclosure (d) Materials.

A further elaboration of these aspects will be done by following approximately Prof. (Radoslav) Zuk's explanations given in his Design‡Construction course, (No. VI 301.411A, McGill University, 1980).

(a) The development of the overall building shape and internal spaces.

(b) The development of a distinct geometric

pattern employing the combinations of several geometries or modular divisions within the same geometry.

(c) The development of typical exterior and interior enclosure appearance based on the consideration of opening types and ornament.

(d) The development of enclosure based on the consideration of material, texture, finish and colour.[15]

A specific arrangement of these aspects would produce a specific character of a building. The designer primarily has only these as tools to generate the building's expression. And all architecture has to consist of these aspects (among others), in order to be an explicit object that we can term architecture.

With this understanding of the design aspects and their ability to generate a character we proceed to the next stage of our proposal and see how these aspects are included in a 'design process' model.

We shall consider the following step by step approach:

1. Identification of character.
2. Appropriateness of 'character' to the function of the building.(Function is seen here in a broad sense which would include socio-cultural pertinence).
3. Reference to previous experiences of similar architecture or other related objects.

To 'identify character' would be to consider what type of 'character' a proposed building should have. This does not imply that a word or metaphor has to be identified exactly, but that a range of similar types of 'character' may be thought of. (This could also be termed as a 'compliance class' of a metaphor).

The second point could be seen as a sort of moral judgement. It would definitely require much deliberation and consciousness on the part of the architect to ensure that his building shall not possess a 'character' totally alien to or

inappropriate to its function.

The third point would depend on the architect's ability in referring to examples which according to him possess a similar 'character', (in whole or in any of the previously mentioned design aspects). All this of course does not come down to the fact that he, (the architect), will imitate elements of the referred architecture. This sort of exercise is purely for the purpose of linking specific types of architecture to certain characteristics (listed under their aspect headings) so that he would have a clear idea of how 'character' translates itself into built form. It would be like looking up in a dictionary of discursive language to find the meaning of a lexical item. How he then uses it, is up to personal deliberation. Moreover, the word itself in this case need not be used as such, other similies instead, may be used to convey a similar meaning. In the architectural context it may come down to the use of, say in the aspect of materials and in reference to Wright's 'Falling Water', other rough finished materials

instead of rough cut stone or those that would have a similar semantic description.

In short we would learn by detailing the references, (by seeing them in context of the different aspects), exactly what makes them that which they are, of what contributes and what does not, towards the overall 'character'.

This process could be illustrated with a tree diagram. (Table V).

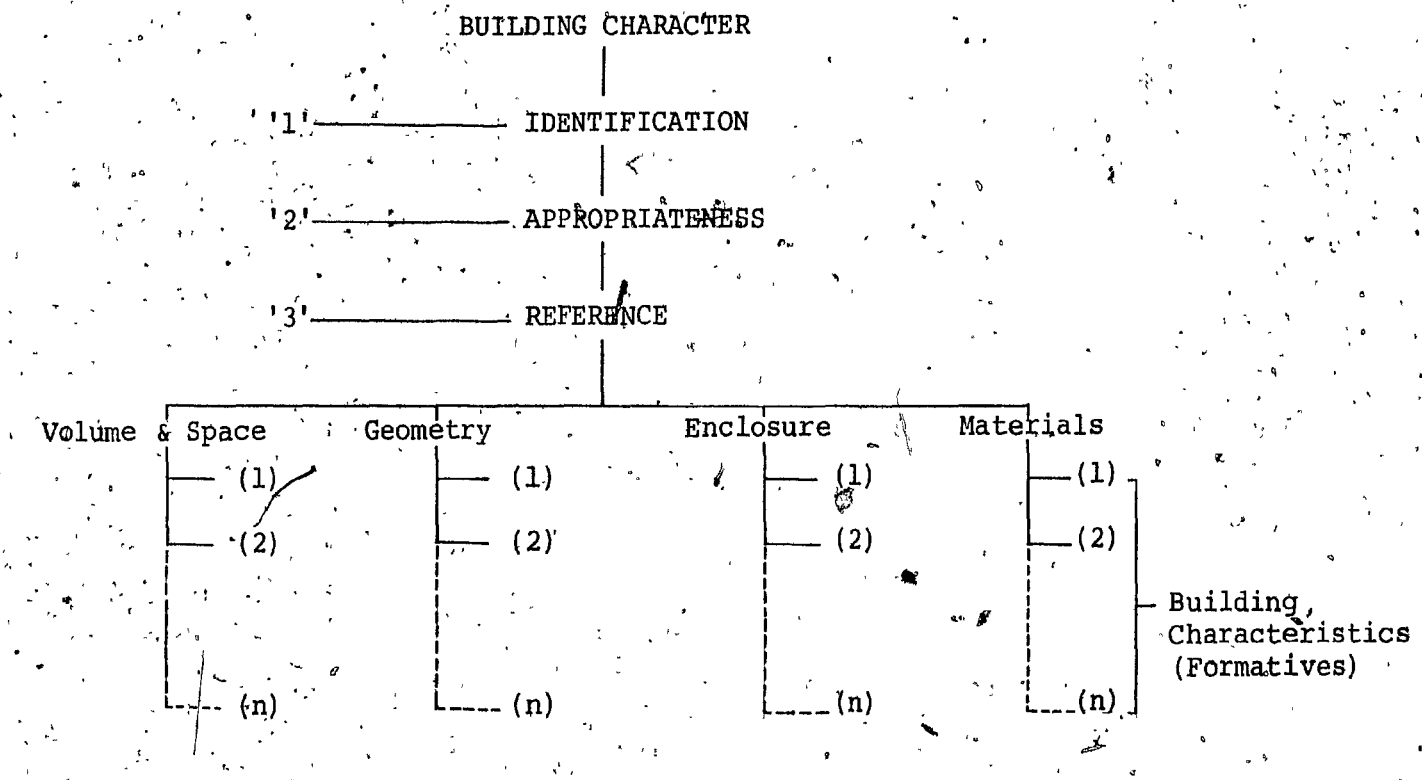
We will now proceed on to two analyses where this process is elaborated and followed. The first will be on the expression 'Organic' and the second on the expression 'Austere'. In both the analyses important points or phrases that will make up the design characteristics (formatives) of that particular expression will be underlined and eventually listed to conclude each analysis.

3.5 - 'ORGANIC'

We will start with certain program conditions. Supposing the design is for a rural domestic

TABLE VII

DESIGN PROCESS MODEL



house. The site on which it is to be constructed is large in area, still 'natural', in the sense that it has not yet been worked upon or altered by anyone except nature. The client wishes to have a building that would not seem out of place in its natural surroundings.

Identification:- The building is perceived as having a very 'organic' character, 'natural', in other words, which seems to make the building look well fitted in with the natural site.

Appropriateness:- In accordance with the client's wishes, a building that has an 'organic character' has been conceived. Not only in this sense does the character seem appropriate (for it cannot be appropriate just because it is in accordance with the client's wishes for he may be wrong in his perceptions and it is an architect's job to set these right), but also because of its environmental context. A country house can gain much by being in harmony with its environment, for probably it was the environment itself that prompted the construction of the house on that particular site. By making it fit in well with its surroundings is in a sense to appreciate and consider the

environment and produce in the house a sense of belonging. In this sense, there is not much of a problem in seeing 'organic' as an appropriate character for the country dwelling.

Before we go on to the third stage of the analysis a short note on the selection of examples used as reference.

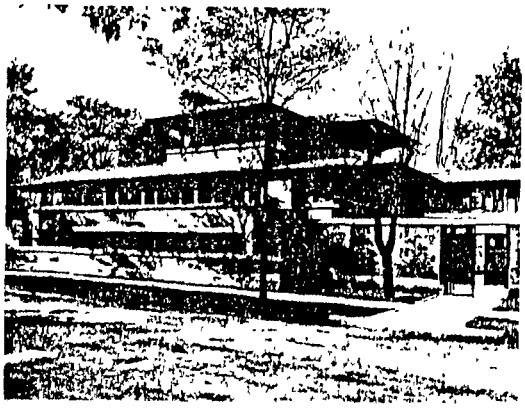
There are two distinct trends noticed in architecture that we generally can refer to the character'organic'. Their differences could be better explained by giving examples: that of (Herb) Greene's 'Prairie House' and(Frank Lloyd) Wright's 'Falling Water'. (Examples as shown in Fig. 9 & Fig. 31). In referring to the first example, (Herb) Greene notes what should be obvious to all of us, that, "the creature-like metaphors in the image cannot be easily verbalised, but they include impressions of a large object, thing or creature...."[16] The reservations about this type of descriptive architecture have been stated earlier and need not be elaborated upon here. And it is for these reasons that the character 'organic' is not identified with this example or others like it.

But this does not mean that such examples not be considered in any sense as reference for the analysis. For although these buildings could be termed as descriptive objects as a whole, there may be aspects of theirs that do not directly contribute to such an overall character. These aspects may be considered in the analysis if they are seen as possessing the appropriate character.

The other example('Falling Water') in comparison to the first is quite unlike it, in terms of being non-descriptive, but does nevertheless give a feeling of being 'organic'. The character is more identifiable with this type of architecture, where the label 'organic' is only metaphorically exemplified.

Reference has been made in the following text, to the writings on the theory of the 'organic style'. (The 20th century style as in reference to say,(Frank Lloyd)Wright's work). It is appropriate to use these references because as a trend or a style in architecture it did help produce structures, more so than any other (trend), which tended to express an 'organic' or 'natural'

32 Herb Greene ' DeLuca Residence Project', Kentucky, U.S.A., 1973. Elevation.



33 Frank Lloyd Wright 'Robie House', Chicago, Ill., U.S.A., 1909.

character.

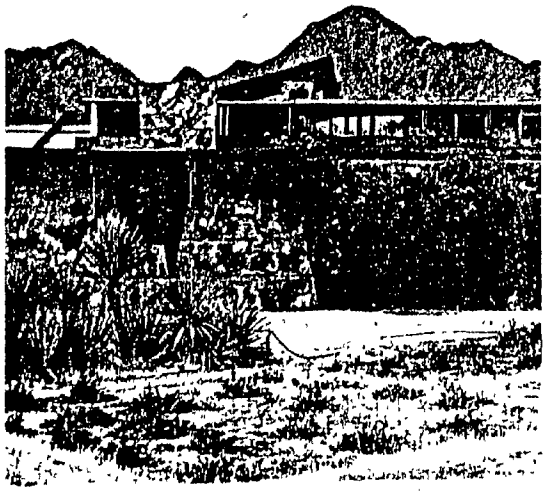
References

Massing

Volume:- (Figures 32-41) The first point to elaborate on here is the perception of growth as seen in most examples, considered to possess the character 'organic'. The volumes of 'organic' architecture seem to imply growth. That is, there is a sense of a point or area from which growth has occured and from where the building has developed.

This growth is moreover sensed to be much like the growth of a tree; for example it is not exactly the same in all directions. There is a certain amount of irregularity there which helps in conceiving the structure as a form of natural growth. This irregularity, although seen, is somehow not sensed as there is this feeling that it is so because of its natural growth. We can sense, in these irregular volumes certain functions which necessitate these irregularities.

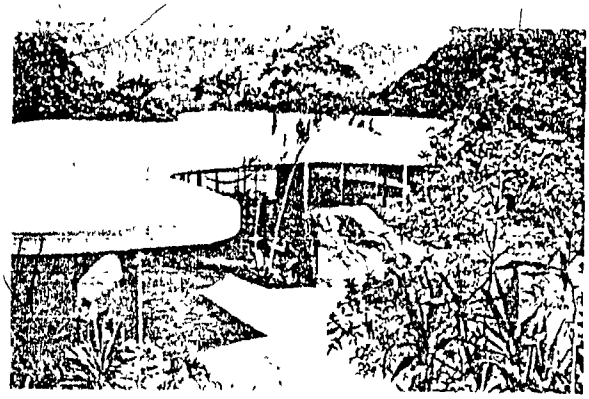
Very important here with the sense of growth



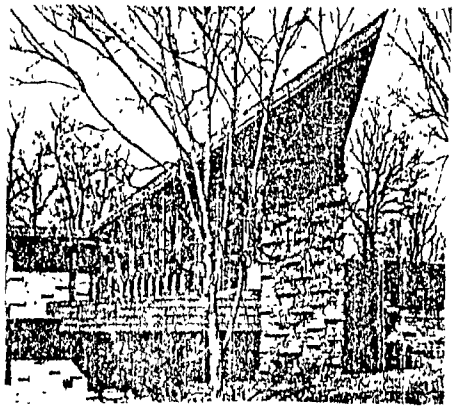
34 Frank Lloyd Wright
'Taliesin West', near Phoenix
Arizona, U.S.A., 1938.

of volume is scale. Like a bird's nest which is so well constructed with a total control of purpose, need and material availability, which tends to develop a right scale for its volume, so also the human scale "...can reflect our individual existential being."[17] A human scaled structure in our environment makes us feel "...'at home' and can encourage us to interact with the environment."[18] "One message of that revelation was that no matter how large, small, or complex works of architecture are, no matter what the source of ideas for the form, every visible part should reflect human dimensions. The consciousness of this idea above all others is manifest in Wright's work."[19] Thus, whereas the environmental scale is hard to relate to any one object or being, the scale of an 'organic' building is generally always in dimension with the human being.

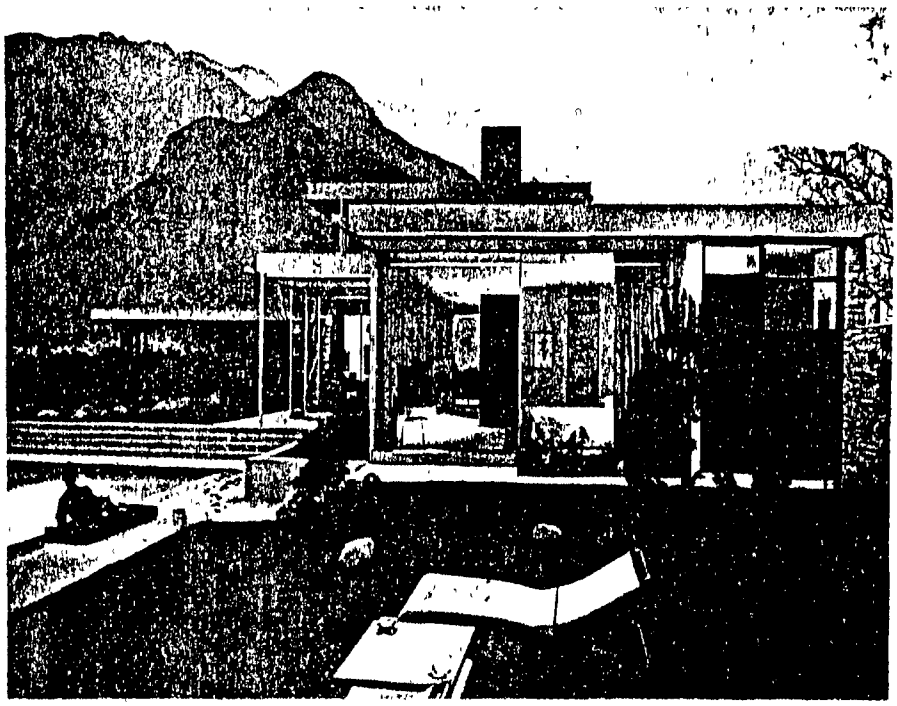
Here, we also find the use of irregular volumes (non-cubical). As with others and "moreover, with Wright, the sheer statement of what things are, as in the revelation of the qualities of materials and the expression of architectural building



35 Oscar Niemeyer
'Oscar Niemeyer House',
Rio de Janeiro, Brazil, 1954.

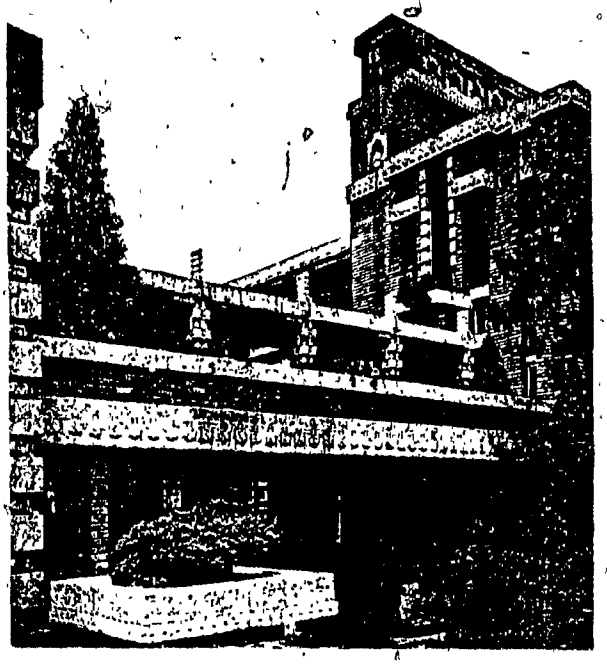


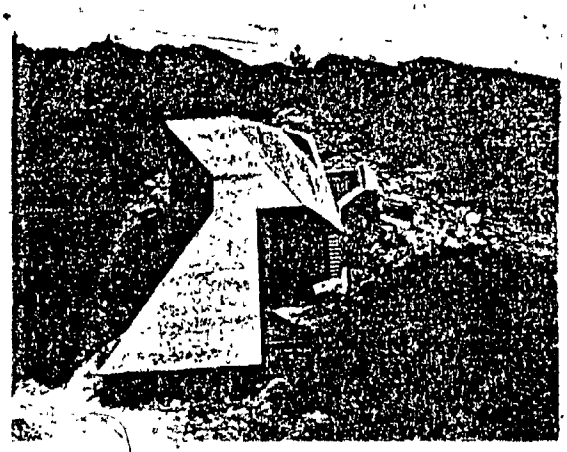
36 Frank Lloyd Wright
'S.P. Elam Residence'
Austin, Minn., U.S.A., 1950.



37 Richard Neutra
'Kaufmann Desert
House', Calif.,
U.S.A., 1947.

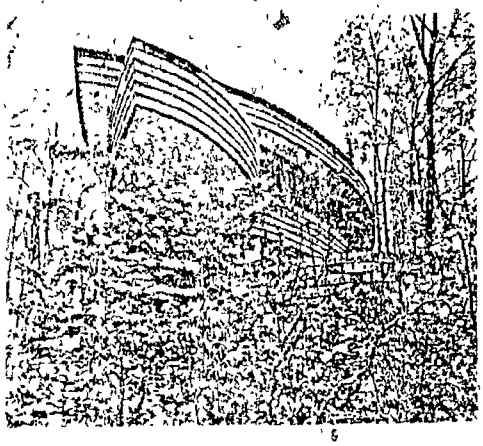
38 Richard Neutra
'Tremaine House',
Calif., U.S.A., 1948.





39 Norman Jaffe
'Private Residence', Long Island
U.S.A., 1977.

40 Frank Lloyd Wright
'Imperial Hotel'
Tokyo, Japan, 1922.



41 Frank Lloyd Wright
'Robert Llewellyn Wright House'
Bethesda , Maryland, U.S.A., 1953.

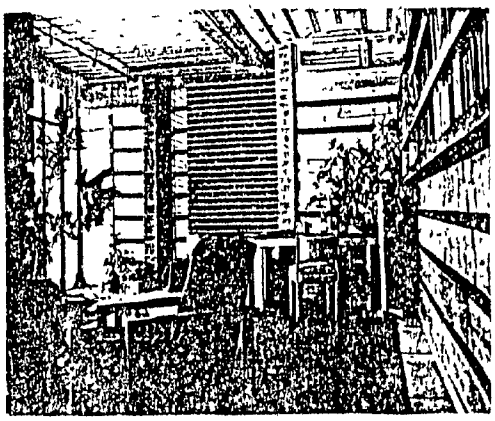
42 Frank Lloyd Wright
'Sturges House', Calif., U.S.A.,
1939. Interior.

types for particular situations, becomes an endeavour that places man in a dialogue with an evolutionary nature. Variety and organic fit are demanded in such an approach. The repetition of forms based on deterministic, mechanistic, and stylistic interpretations of man's architectural needs is ruled out by organic theory...." [20]

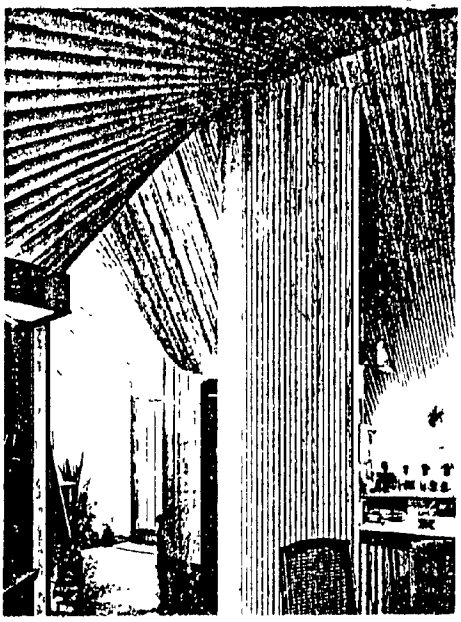
Space:- (Figures 42-48). Here as in the aspect of volume, the concept of growth is generally always seen. And as in many natural growths, a node or point is seen to grow "...outward in harmony with the conditions of its being." [21] Wright, in many of his designs used a fire place as his primary unit, and extended the rest of the space around it.

A start or beginning but not necessarily an end, (for it could be perceived as in a state of growth), is always sensed in an 'organic' space. In this respect most other additive architecture like 'system buildings' differ, for their volumes and of course their internal spaces as a result of being repetitive in most respects are monotonous, where there is no beginning and no end.

This growth of spaces, their diversity,



43 Frank Lloyd Wright 'Jacobs House', Wis., U.S.A. 1936. Interior.

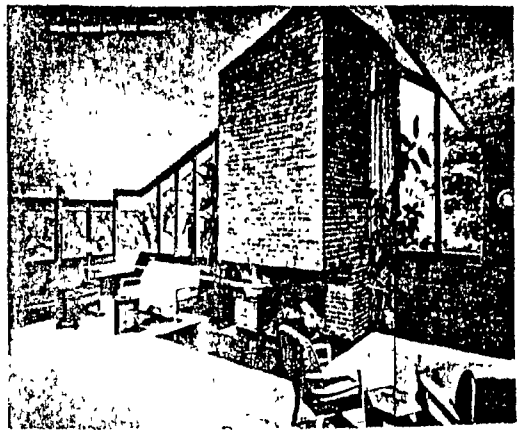


44 George Muennig 'Residence at Joplin', Missouri, U.S.A., 1965. Interior.

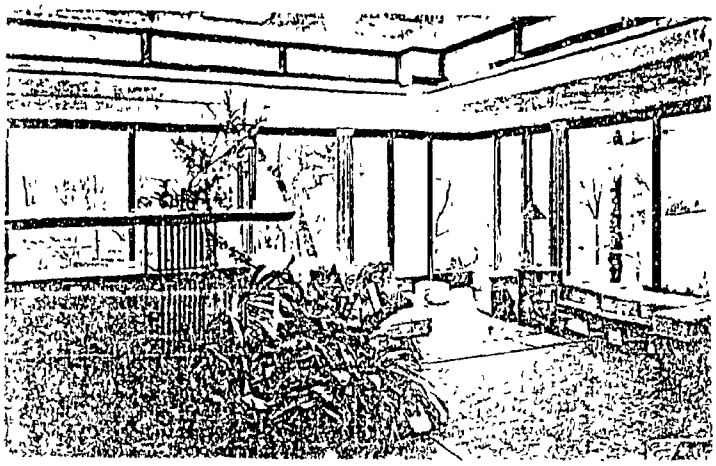
variations and other aspects, are generally the result of following the natural process of "... the system of interdependent organisms. Every organism is influenced by the earlier stages from which it has developed. Every organism is influenced also by the present situation of which it is a part."[22]

The scale of the spaces is maintained here and is also seen as being related to man. The growth of spaces is always with the human dimension in mind, to create a better understanding of the buildings and spaces. "The elements of human scale tell us on proverbal levels that the buildings are like us."[23] Free shaped spaces also seem to produce a natural character like in the aspect of volumes.

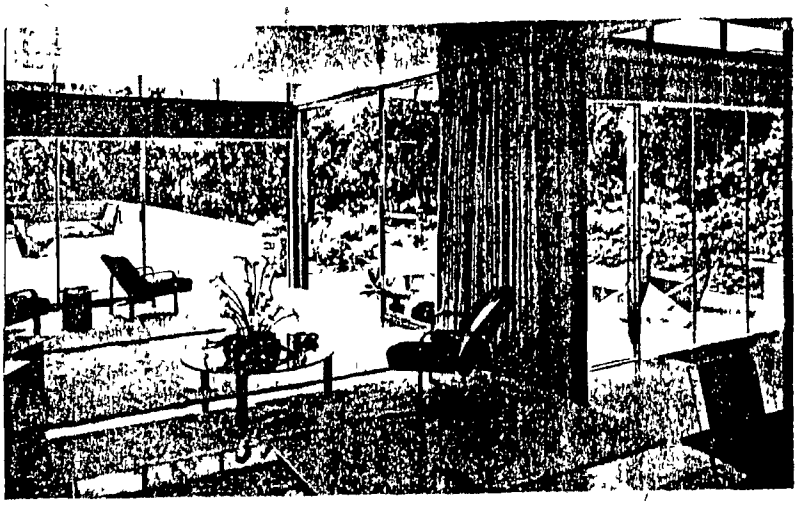
Another aspect of 'organic' spaces is that of their 'simplicity' which can explain the purposes of their creation. "But simplificity is not in itself an end nor is it a matter of the side of a barn but rather an entity with a graceful beauty in its integrity from which discord, and all that is meaningless, has been eliminated. A



45 Frank Lloyd Wright
'House in Oskaloosa', Iowa
U.S.A. Interior.



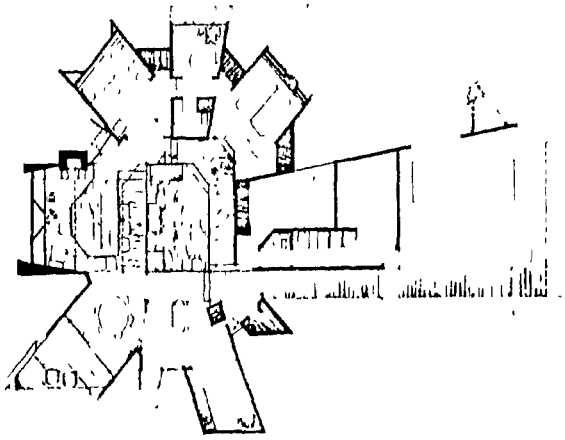
46 Frank Lloyd Wright
'Walter House', Iowa, U.S.A.
Interior, Living-Room.



47 Richard Neutra, 'Tremaine House', Calif., U.S.A.,
1948. Interior,Living-Room.

48 Herb Greene
'Prairie House',
Norman, Oklahoma, U.S.A., 1961.
Interior.

wild flower is truly simple. Therefore: A building should contain as few rooms as will meet the conditions which give it rise and under which we live, and which the architect should strive continually to simplify..."[24] This is clearly manifest in most of the organic architecture, so much so that "in general, the hall, the vertical office building and the house, as conceived by Frank Lloyd Wright, represent contributions to a functional, formal and technical concretisation of the basic image of open space."[25]

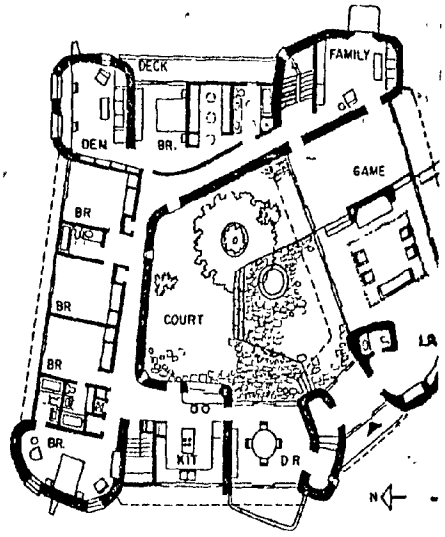


49 Herb Greene ' DeLuca Residence Project', Kentucky, U.S.A., 1973. Plan.

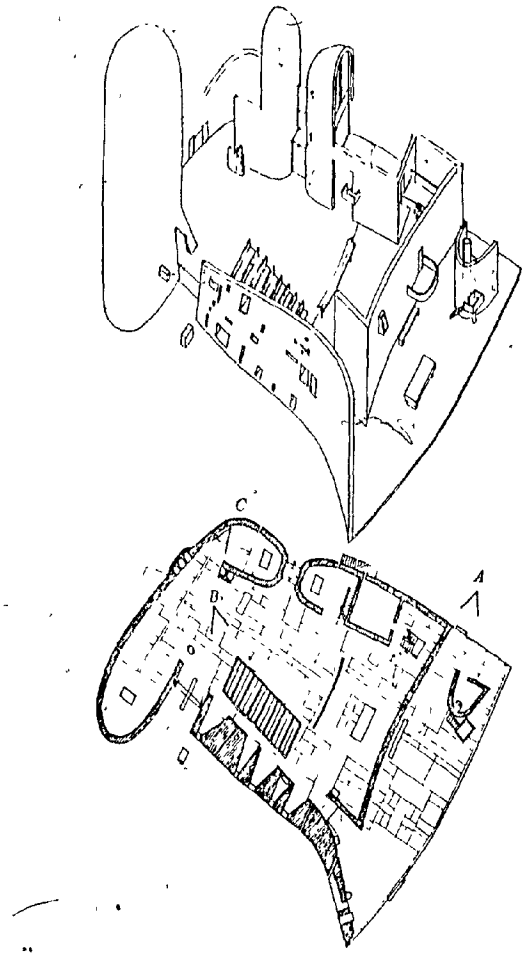
Geometry:- (Figures 49-57). "A good plan is the beginning and the end, because every good plan is organic. That means that its development in all directions is inherent - inevitable."[26]

Generally the growth perceived in 'organic' architecture is achieved by treating a geometric 'module' or 'model'. "These models would provide forms able to change without loss of identity; they would display human scale; and they would afford contrast in varying degree... Louis Sullivan's drawing suggests such a model."[27]

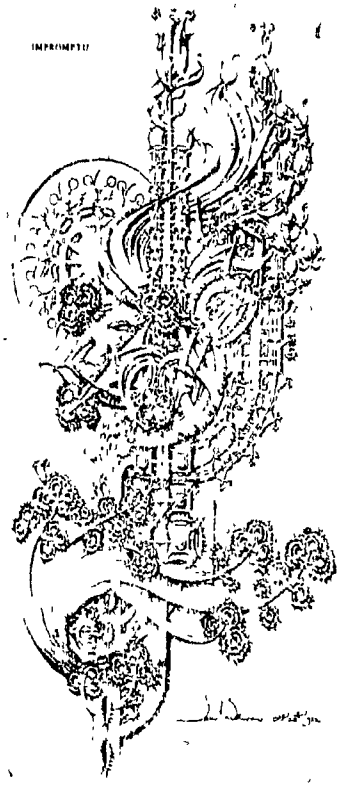
50 Frank Lloyd Wright
'Ullman House', Illinois, U.S.A. Plan.



52 Eliot Noyes & Associates
'Horton Residence', Conn.,
U.S.A., 1974. Plan.



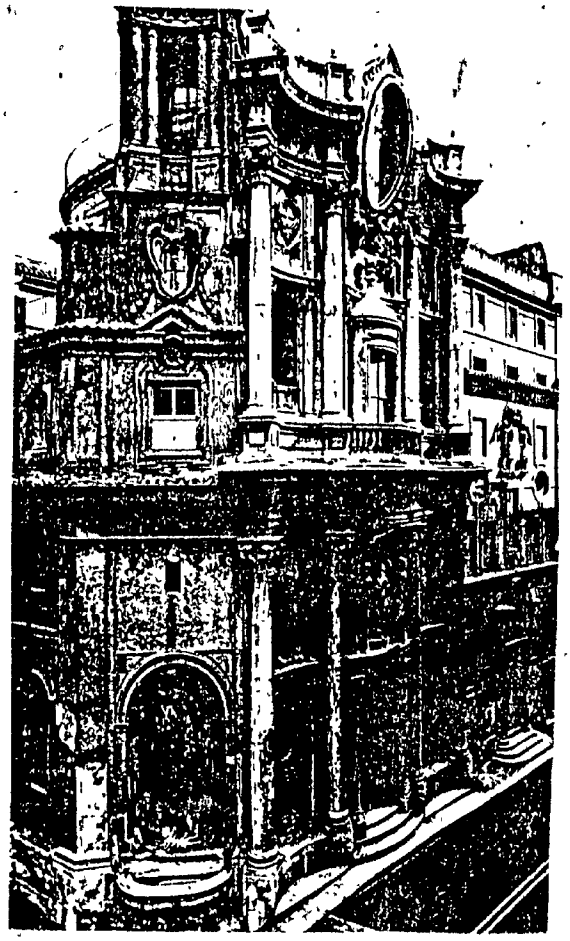
51 Le Corbusier
'Chapel at Ronchamp' 1955.
Spatial Drawing. Plan.



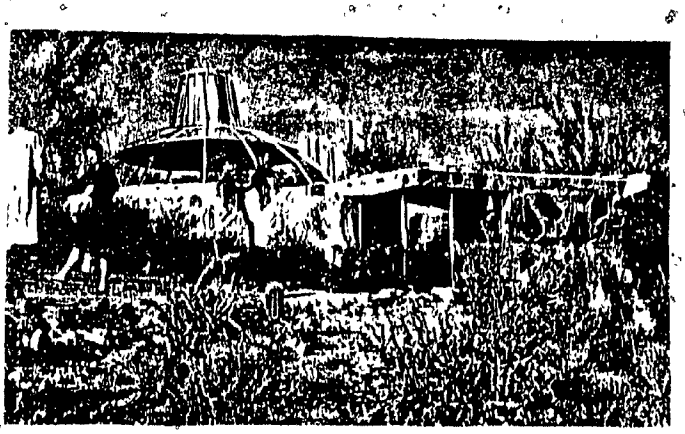
53 Louis Sullivan. Original Drawing for 'A System of Architectural Ornament', 1924.

"While the design is free and suggests possibilities for growth and change, each part has the suggestion of individuality produced with some purpose. Yet each part also seems to reflect the other parts, and this gives the design unity. One can find one's way around in the design by perceptual landmarks of axes, spaces, clusters, and geometric contrasts. One landmark recalls features of another to build an orchestral resonance and a continuity in the mind."[28] This is no mere design as one could easily view it as a complex building seen from afar, as from an aircraft high in the sky.

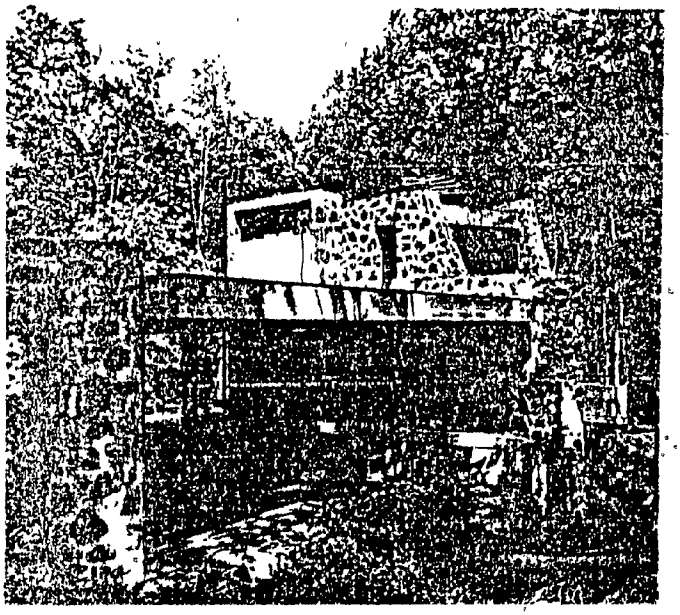
Architects like Borromini have used curves in walls to create a more varied, natural and rhythmic space enclosure. Some have designed whole structures with free or curved geometries. In this they appear to follow Ruskin who said, "it will evidently follow, upon our application of this test of natural resemblance, that we shall at once conclude that all beautiful forms must be composed of curves; since there is hardly any common natural form in which it is possible to discover a straight line."[29]



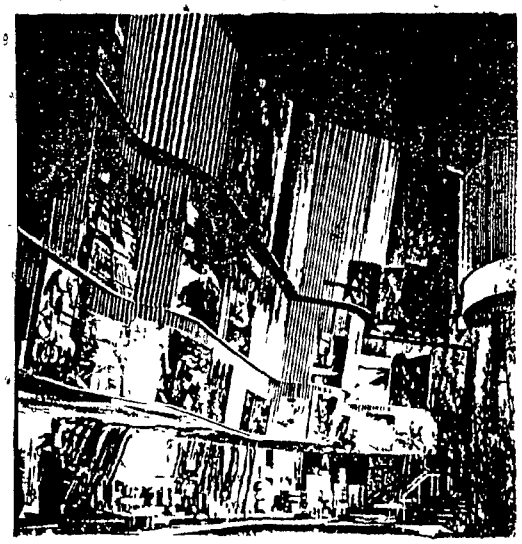
54 Francesco Borromini
'San Carlo Alle Quattro Fontane'
Rome, Italy, 1633-67.



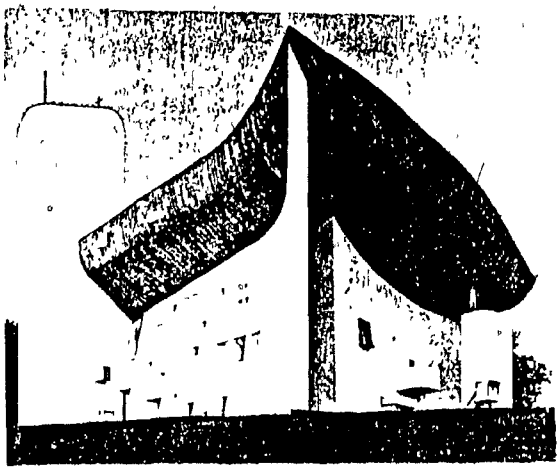
55 Paolo Soleri & Mark Mills
'Desert House', Arizona, U.S.A., 1952.



56 Eliot Noyes & Associates
'Horton Residence', Conn., U.S.A., 1974.



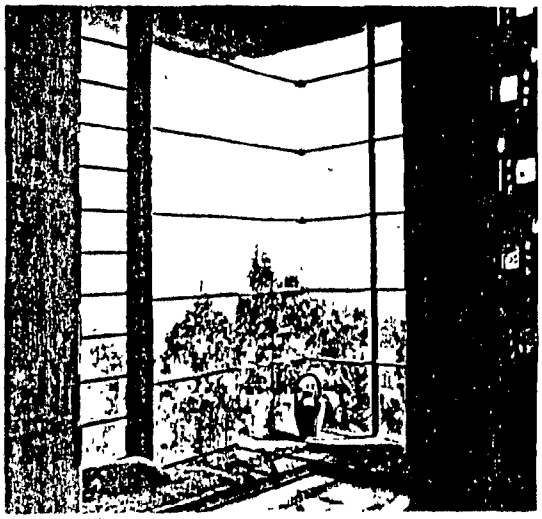
57 Alvar and Aino Aalto
'Finnish Pavilion ',
New York, U.S.A., 1939.



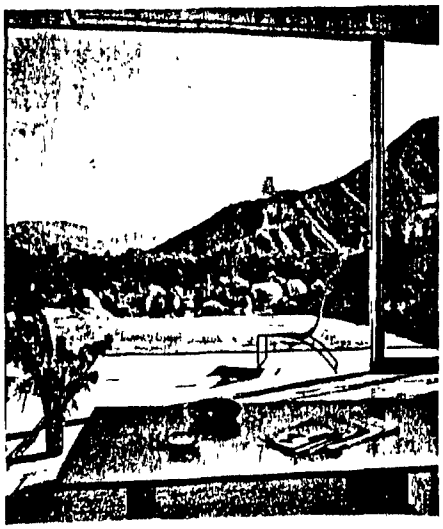
58 Le Corbusier 'Chapel at Ronchamp ,
France, 1955.

The curved wall of the Finish Pavillion by (Alvar) Aalto clearly lends an organic air to its internal space, as does (Paolo) Soleris 'Desert House' where, "...the living space is carved into the hillside and enclosed by masonry walls."[30]

Enclosure :- (Figures 58-64). Openings in enclosures of 'organic' architecture "...should occur as integral features of the structure and form, if possible, its natural ornamentation."[31] The 'Great Wall' of Ronchamp is very true in this respect. (Here the reference is not to the real structure, but the structure one imagines in seeing the wall.) Numerous openings of various sizes are well integrated into the mass of the concrete wall so that they do not in any way lessen its character of being a solid mass, of being a natural outcrop of the ground it stands on. The openings' irrational placement and size have much to do with this effect. This also gives the wall a very natural ornamentation. The wall somehow seems well developed, fully formed, the openings in complete harmony with the accent of the wall.



59 Frank Lloyd Wright
Window of a Residence in Hollywood
Calif., U.S.A.



61 Richard Neutra
'Kaufmann Desert House',
Calif., U.S.A., 1947.

60 Richard Neutra
'Tremaine House',
Calif., U.S.A., 1948.

62 Frank Lloyd Wright
'Millard House',
Calif., U.S.A., 1920.

63 Frank Lloyd Wright
'Imperial Hotel',
Tokyo, Japan, 1922.
Interior.

Large openings extending from the ground upwards, as seen in many of Wright's works also seem to develop a natural character by helping to blend the inside with the outside. Through them we are made more aware of the environment around us. Non-repetitive irregularly sized and placed openings of this type do seem to heighten much of this effect from the exterior as much as from the interior.

More on openings will be discussed under the aspect of materials as openings are dependent on both aspects. For although materials provide the opportunity, the nature of the opening is the result of the entire building concept, which is better seen under the aspect of enclosure. The 'question' whether the opening is shaped first and then materials found to produce it, or whether it is the other way around, is an indeterminate one. For each case will depend on specific circumstances of material use.

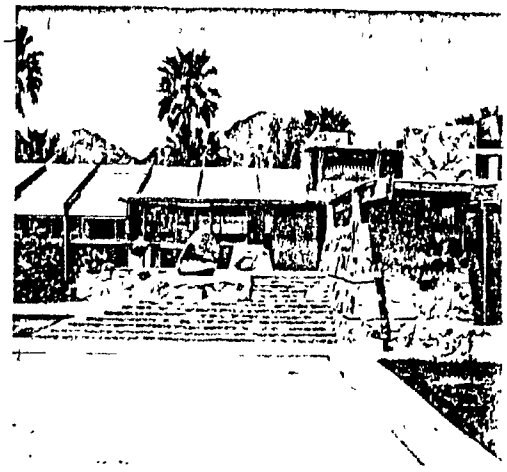
Ornament is always seen here as an integral feature of the enclosure. "An excessive love of detail has ruined more fine things from the

64 Frank Lloyd Wright
'Imperial Hotel',
Tokyo, Japan, 1922.
Exterior Detail.

standpoint of fine art or fine living than any one human shortcoming - it is hopelessly vulgar. Too many houses, when they are not little stage settings or scene paintings, are mere notion stores, bazaars or junk-shops. Decoration is dangerous unless you understand it thoroughly and are satisfied that it means something good in the scheme as a whole, for the present you are usually better off without it. Merely that it 'looks rich' is no justification for the use of ornament."[32]

Internal decoration should also justify itself as being a part of the whole concept. Ornamental objects like "pictures deface walls oftener than they decorate them. Pictures should be decorative and incorporated in the general scheme as decoration."[33]

The ornamentation of Wright's 'Imperial Hotel,' (now demolished), like in so many of his buildings', clearly exemplify these values, where it is seen not as mere decoration but as an integral part of the building's formation.



65 Frank Lloyd Wright
'Taliesin West', Ariz.,
U.S.A., 1938.

66 Frank Lloyd Wright
'Falling Water',
Penn., U.S.A., 1937.
Detail.

Materials:- (Figures 65-69). "Each material has its own message and, to the creative artist, its own song."[34]

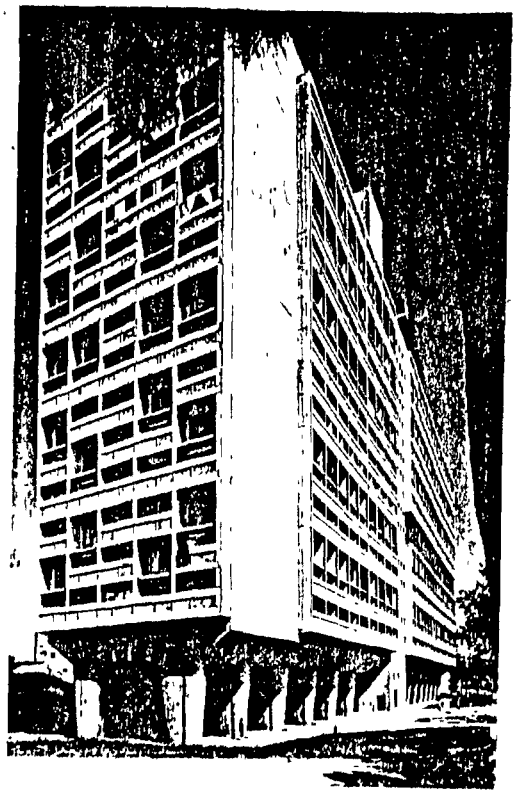
"Bring out the nature of the materials, let their nature intimately into your schemes. Strip the wood of varnish and let it alone - stain it. Develop the natural texture of the plastering and stain it. Reveal the nature of the wood, plaster, brick or stone in your designs; they are all by nature friendly and beautiful. No treatment can be really a matter of fine art when these natural characteristics are, or their nature is, outraged or neglected."[35]

Much of this material aesthetic, is taken from the 'Shinto architectural tradition of old Japan'. "In the Shinto tradition trees, stones, and other natural objects are revered for their... structure, and strength. Trees and stones, and their properties, are manifestations of a deified nature. They are to be cooperated with rather than conquered. It follows that the shape of trees produced by natural forces, the textures and grain patterns of wood, and the changes in

67 Frank Lloyd Wright
'Helio-Laboratory and Research Tower
S.C. Johnson and Son Inc.,'
Racine, U.S.A., 1950. Interior.

wood due to weathering are recognized and become part of the symbolic content of architecture."[36] There was no use of materials like steel and concrete in the Shinto era, but it follows, that the use of newly developed 'artificial' materials, when used with reason and integrity, could be acknowledged. Steel, as a material would be perfectly suited for a skyscraper, if it is the only logical material for its design. Its use would be with a proper understanding of its nature, its virtues, and faults recognised, and "... cooperated with rather than conquered."[37]

In the same way, "in some of Frank Lloyd Wright's buildings, materials come to life in the spirit of the ancient Japanese, and at the same time express the possibilities of modern technology. The Johnson Wax Building, faulty in technique (it leaked) but magnificent in its image value, provides an illustration. Wright revealed the structural essences of materials which inform us vividly of the forces and qualities found in nature."[38]



68 Le Corbusier, 'Unité d'Habitation' Marseilles, France, 1946-52.

The contrasts in the use of materials in so many organic looking buildings, in most cases exemplify the understanding of different requirements for different purposes. "The materials and textures of a building for chemical research would be different from those of a bank, because human activities in these buildings are different and the building functions are different."[39]

"We instinctively respond to the colour, degree of transparency, mass, and tactile characteristics of materials. Through this response we judge the tectonic or structural character of a building. Our stored experiences of stresses and strengths, along with our experiences of scale, provide criteria by which we unconsciously measure physical phenomena... For instance, the great mass and weight of the Marseilles Block /by Le Corbusier/, in an effect amplified by the texture and designed formework patterns of the reinforced concrete, thrust down on the stout, tapering concrete piers in a dramatic statement of force acting through material , and one feels this through his /ones/ own bodily experience. In many buildings executed in the manner of the Marseilles

Block, such as the U N E S C O Building in Paris, the concrete piers seem no more substantial than cardboard."[40]

69 Frank Lloyd Wright
'Hillside Home School'.

As mentioned before materials also influence the type of openings. Different materials allow for different and varied openings as a part of the material's own structure. The stone will have its arch and lintel, so also the brick. Not much more would be needed to spoil the organic nature of a brick wall or even a brick faced wall than not having an arch or a lintel to support it. This is a particular shortcoming of many current buildings using brick as an external facing material.

Materials also influence the geometry of buildings, with their different characteristics. For a "wood plan is slender: light in texture, narrower spacing. A stone or brick plan is heavy: black in masses, wider in spacing. Combination of materials: lightness combined with massiveness."[41] Most vernacular architecture (which generally looks so organic to us) exhibits

this aspect in its geometries, as do most other buildings which look 'natural'.

"Colo rs require the same conventionalizing process to make them fit to live with that natural forms do; so go to the woods and fields for colo r schemes. Use the soft, warm, optimistic tones of earths and autumn leaves in preference to the pessimistic blues, purples or cold greens and greys of the ribbon counter; they are more wholesome and better adapted in most cases to good decoration."[42] The use of warm natural colours is evident in all buildings seen to be possessing the character 'organic'.

The table which follows gives us the listed design formatives which would help in the development of an 'organic' character. It would be with the use of these points or notions, (some or all, for that would depend on circumstances and the specific requirements of a particular design), that we would be able to develop a design in which an 'organic' character would invariably be sensed.

For the sake of clarity the list of underlined phrases has been made under the four aspect headings. (In some cases they are not quoted in their entirety as they are negatively implied whereas some are too extensive and could be abbreviated for easier reading. But in all these cases the essence of the phrase will be kept the same and the notion behind the phrase listed.)

TABLE VII:

REFERENCE LIST

(1) MASSING

VOLUME

a Perception of growth

b Growth in relation to the building's functional requirements

c In dimension to the human being

d Irregular volumes

e Variety of volumes

f Non-repetition

SPACE

g To imply growth

h To be able to perceive a start or beginning of the interior space

i Non-repetitive and not monotonous

j Diversity and variety of space

k Human dimensioned

l Free in shape

m Simplicity of space: or all that is meaningless has been eliminated

n To give an image of open space

(2) GEOMETRY

a Development in all directions
b Growth to be implied
c Change and variety of geometry: but without loss of identity as a whole
d To display human scale
e Offer contrast in varying degree
f Use of curveliner geometry
g Varied, rhythmic geometry

(3) ENCLOSURE

Openings

a As integral features of the structure and form
b As a form's natural ornamentation
c Irrational placement and sizes of openings
d Openings in harmony with the wall
e Use of large openings extending from the ground upwards help blend the inside to the outside

Ornamentation

f As integral features of the enclosure

g Decoration included with the understanding that it is necessary and means something good to the design as a whole

h Decoration as being part of the whole building concept

(4) MATERIALS

a Reveal the nature of the materials

b Natural objects to be revered for their structure and strength

c Materials to be co-operated with rather than conquered

d Materials used with reason and integrity

e Materials to come to life

f Materials to inform us vividly of the forces and qualities found in nature

g Contrast in the use of materials

h Used with the understanding of different requirements for different purposes

i They influence the type of opening:different materials allow for different and varied openings

j They influence the geometry of buildings with their different characteristics

k Use of soft, warm, natural colours

We will now proceed with the second analysis. The expression to be analysed here will be 'austere'. A distinct difference between this and the preceeding one is that this expression unlike 'organic' cannot be associated with any style in architecture. For it is rarely that a label for a style in architecture has been so designated because of the 'expression' or 'character' that a particular type of architecture possessed. Another exception that comes to mind is the 'Brutalist' style, obviously so-called because of the 'brutal', 'hulking', 'massive' and 'heavy-set' characters the architecture it exemplified possessed. But since these cases of what can be called duality in meaning are quite unique, the following analysis on the expression 'austere' would seem more likely to become a model for other such analyses.

3.6 - AUSTERE

As in the previous analysis we will start with a hypothetical design problem. The type of building to be designed here is a 'court house'.

Other design criteria are not stated here,

like site conditions, etc..., as they are not seen as being overly influential on deciding upon the 'character' (this becomes evident in the aspect of "appropriateness", and is very unlike the first analysis where the environment of the site had much to do in influencing the 'character' decision).

Identification:- The building is conceived as having an 'austere' character. 'Austere' is understood "...as a metaphor used to express the moods created by feelings of harshness, severity, rigour, simpleness, and unadornment."[43] Le Corbusier speaking of 'austerity', likened the expression to the "...puritan fascination for self-denial,"[44] which brings about the expressions' closest architectural implication.

Appropriateness:- 'Austerity' as a building character is usually attached by us to building types like monasteries, certain devotional buildings, jails etc...; functions which convey a feeling of restraint upon us. And in this sense austerity can be seen as being an appropriate character for a 'court house'. Court houses can gain much by being severe as they are after all places

where people do not go to have a good time.

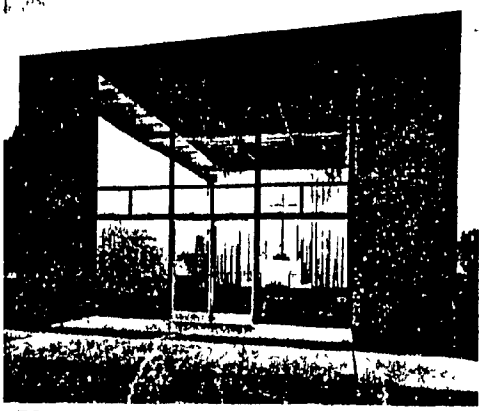
'Court Houses' are generally places where one goes if one has to, (except of course for judges, lawyers and other people permanently working there), places one would rather not frequent. They are places where restraint in behaviour is expected, and formality required.

'Austerity' as a character seems to be compatible with these characteristics of 'court houses' and thus seems as being appropriate to the function. Undoubtedly many existing court houses are seen to display this character and rightly so.

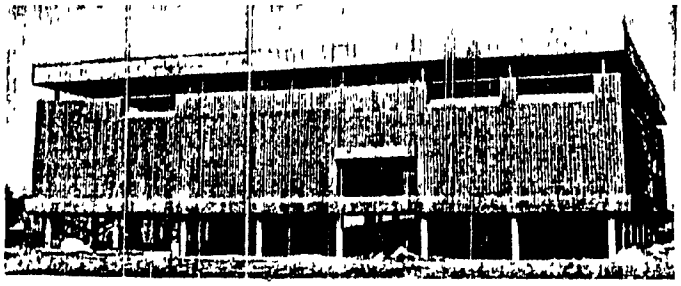
References

MASSING

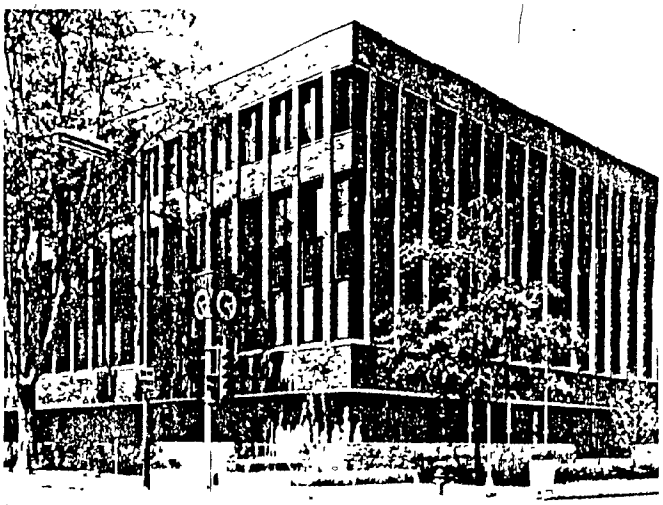
Volume:- (Figures 70-74). Primary volumes are always called basic by us and this to imply their simpleness and severity, both qualities that relate to the 'austere'. In all examples the use of simple volumes is evident. These volumes are hardly seen to be broken up into



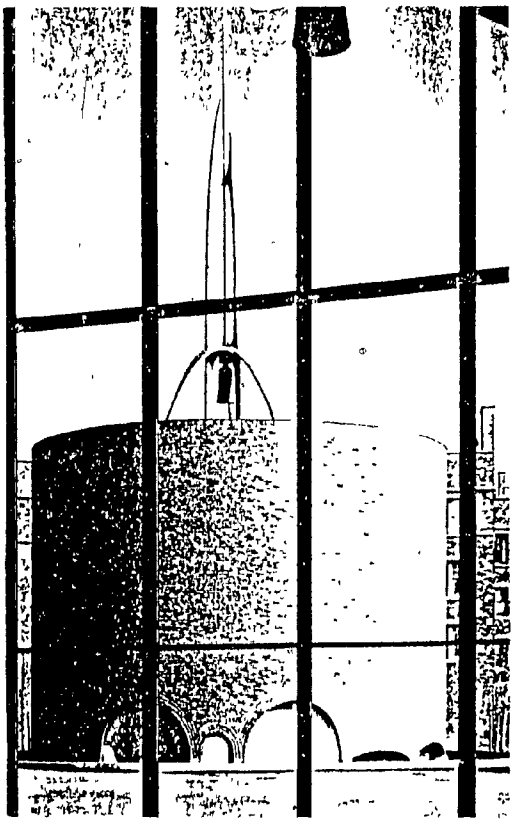
70 Mies van der Rohe
'Chapel at I.I.T.',
Chicago, Ill., U.S.A., 1952.



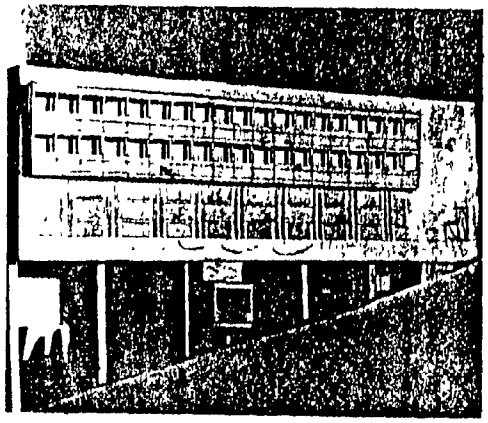
71 Le Corbusier
'Museum at Ahmedabad', India, 1952.



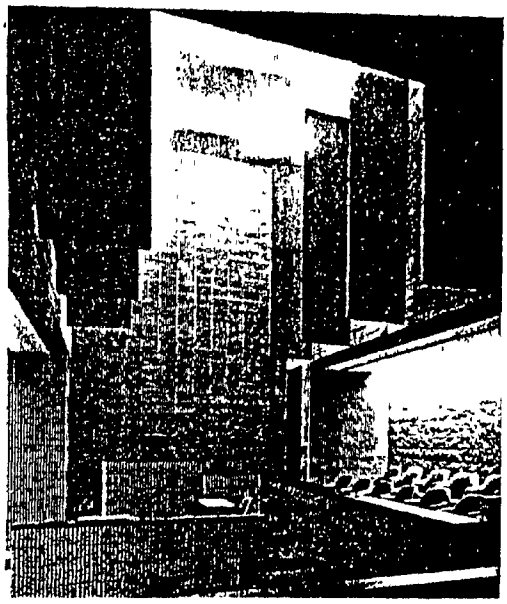
72 Wagner, Hartman Associates
'Lycoming County Court House',
Williamsport, Penn., U.S.A., 1971.



73 Eero Saarinien
'Chapel at M.I.T.',
Cambridge, Mass., U.S.A., 1955.



74 Le Corbusier
'Convent of La Tourette'
Near Lyon, France, 1959.
South Facade. Model.



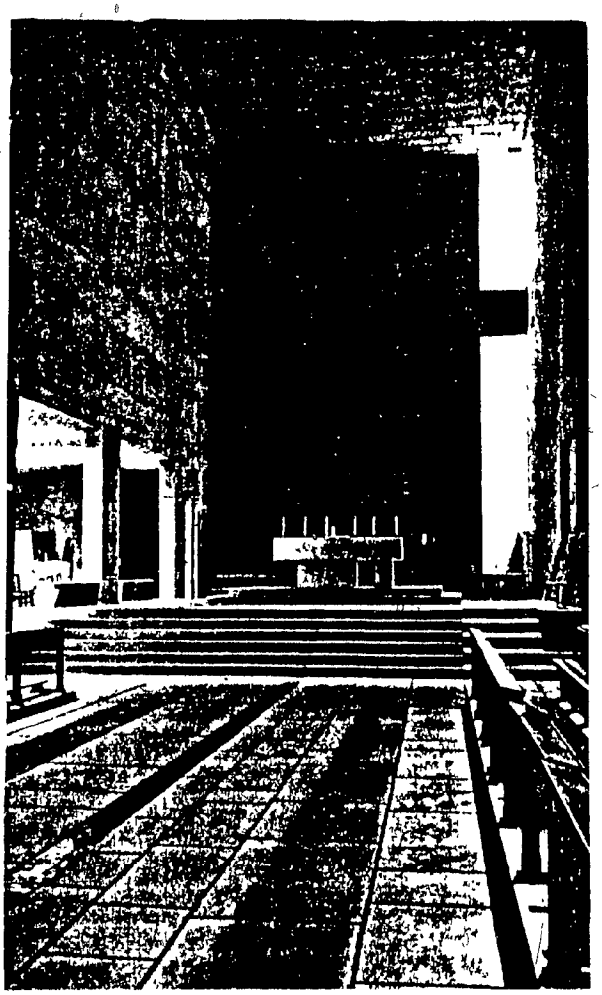
75 Paul Rudolf 'Orange
County Government Center',
New York, U.S.A., 1969.

component parts, or in anyway seen to be disorganised. They are always kept unified and can be seen as being in total opposition to the volumes seen in the previous chapter, ('Organic'). A most interesting example is Le Corbusier's 'Convent of La Tourette' which although on a very contoured site, nevertheless quite rigidly maintains its basic geometric volume by being bodily lifted in most parts by pylons or 'pilotis', thus severing the mass from the natural slope of the landscape.

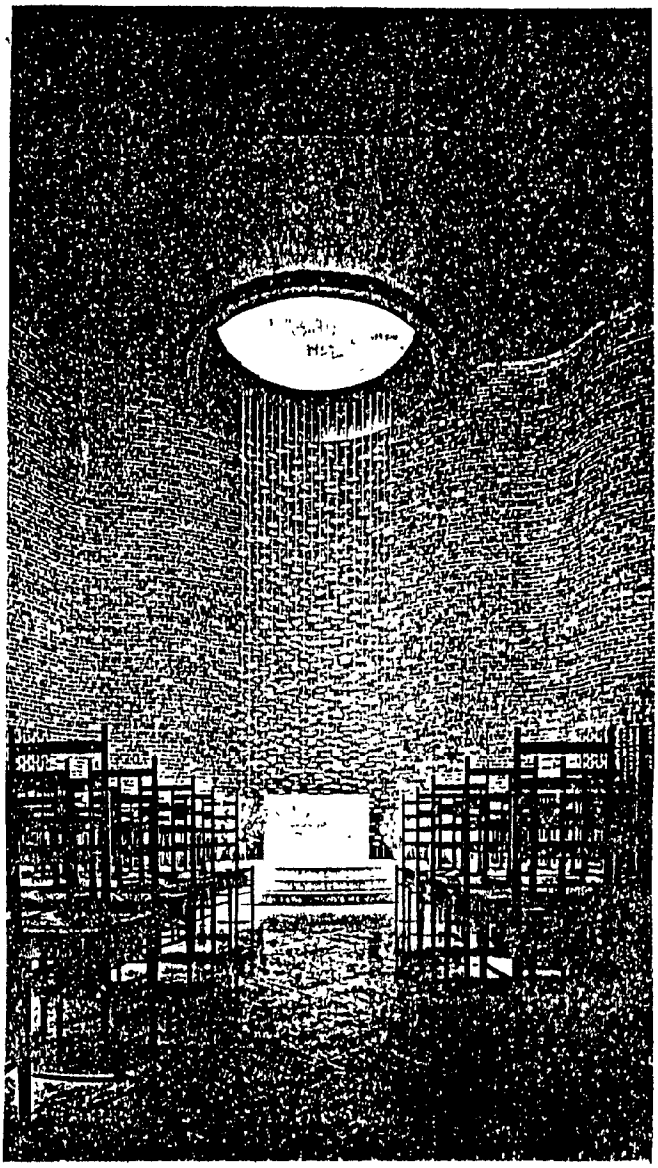
Also in contrast to the previous analysis these buildings do not seem to proportionately relate to the human scale.

Space:- (Figures 75-78). The internal spaces are seen to be simple without much irregularity or distortion. For much irregularity tends to be seen as an indulgence, a feeling not to be associated with this character.

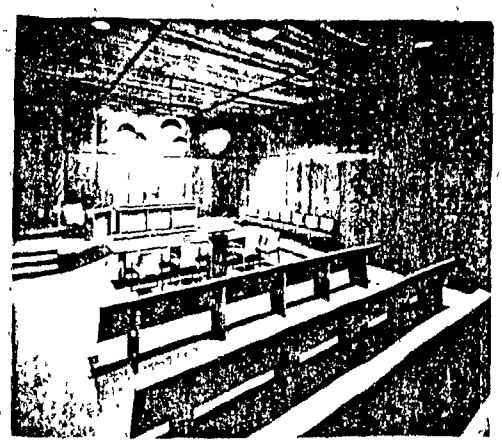
Here again as in the aspect of volumes, the spaces are generally not seen as being proportionate to the human scale. These internal spaces have a



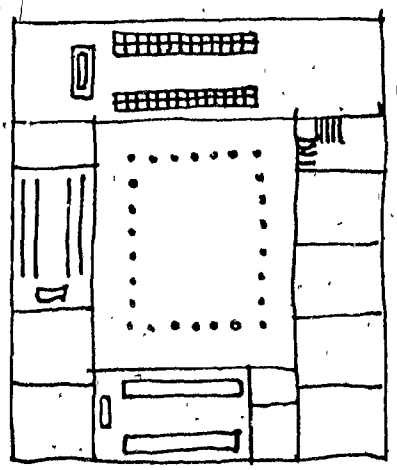
76 Le Corbusier
'Convent of La Tourette', near Lyon, France, 1959. Interior of Chapel.



77 Eero Saarinen & Associates
'Chapel at M.I.T.', Cambridge, Mass., U.S.A., 1955. Interior.



78 Desmond-Miremont-Burks
'Tangipahoa Parish Courthouse',
Amite, Louisiana, U.S.A.,1969.
Interior of 'Small Courtroom'.



79 Le Corbusier
'Convent of La Tourette'
Near Lyon, France, 1959.
Sketch of Plan.

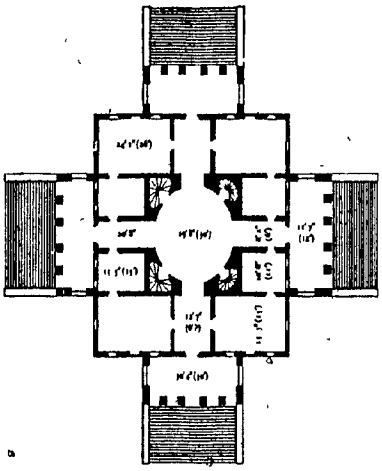
minimum of human scale elements, (like furniture etc...), for these could bring about an empathy with the viewer and his surroundings, which would tend to lessen the severity of the spaces.

Also light in these austere spaces is generally seen to be controlled. The word 'austerity' in a sense always conjures up dark and even gloomy places, places without much light. This concept of controlled light further extends the notion of self-denial.

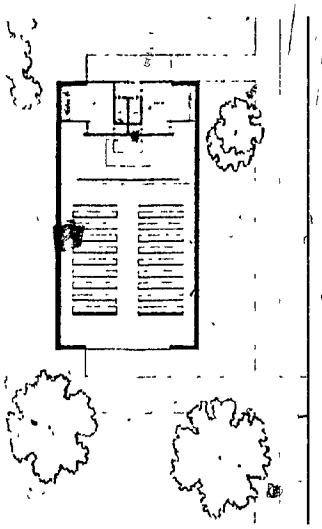
Geometry:- (Figures 79-82). The geometries of all our examples are seen as being simple, with very little irregularity of line. Le Corbusier denied 'austerity' as an expression to most buildings except those that embodied what he called the 'divine axis'[45] brought about by moral and geometric rectitude.

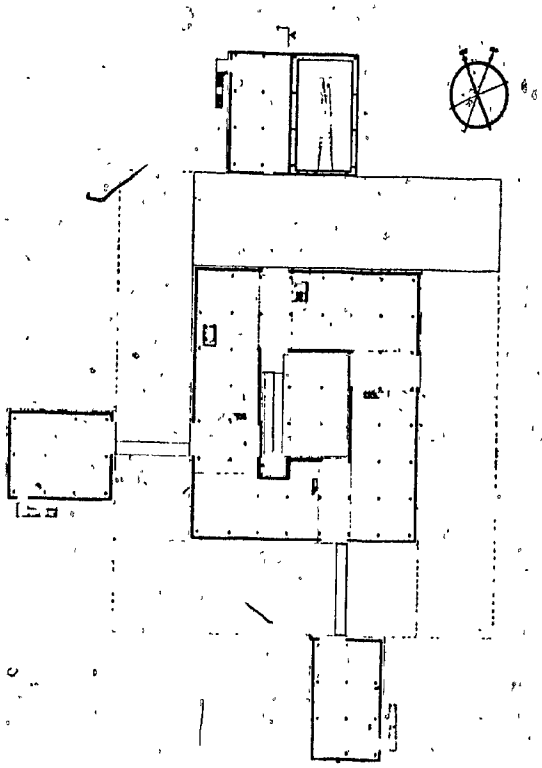
Most of these buildings are seen as having a single and constant geometric proportioning system throughout the building.

Also in our examples there is seen a strong



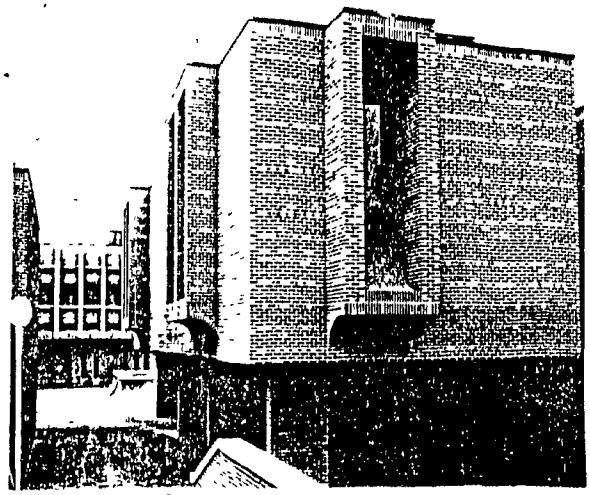
80 Andrea Palladio
'Villa Rotonda',
Vicenza, Italy.
Begun 1550. Plan.



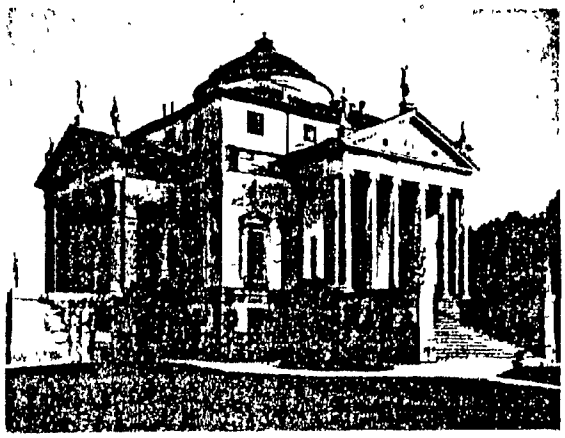


81 Le Corbusier
'Museum at Ahmedabad', India, 1952.
Plan.

82 Mies van der Rohe
'Chapel at I.I.T.', Chicago,
Ill., U.S.A. Plan.



83 Cadman & Droste,
'Saratoga County Courthouse
Complex', New York Sta.,
U.S.A., 1966.



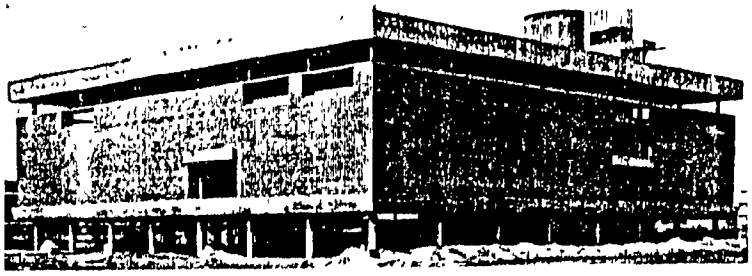
84 Andrea Palladio
'Villa Rotonda', Vicenza,
Italy. Begun 1550.

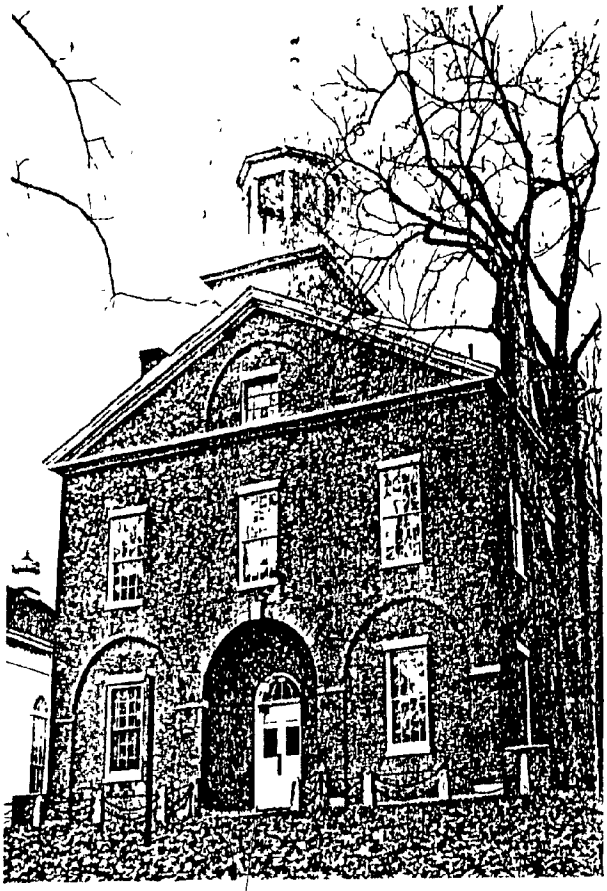
trend towards point geometry or in other words centralised geometry. For most of them have square, or near square, geometric plans.

Enclosure:- (Figures 83-88). Openings in enclosures, especially those for the purpose of lighting the interior are generally kept to a minimum and are seen as being small in size when compared to the overall enclosure. Many 'austere' buildings very strongly possess this lone aspect. This works in terms of a severe unadorned exterior as well as controlling light for the interior. This aspect is more effective in 20th century architecture, where self restraint in most cases is the only possible explanation for few and slight openings. Visions of harshness, solitude and rectitude are always experienced with this seemingly purposeful restraint.

These designs which should be thought of with an overall spirit of self restraint should be perceived by us in their essence, free from erroneous and unneeded overdetailing. Ornament as a decorative element is generally seen as being practically non-existent as it tends to

85 Le Corbusier
'Chapel at Ronchamp'
Vosges, France, 1955.

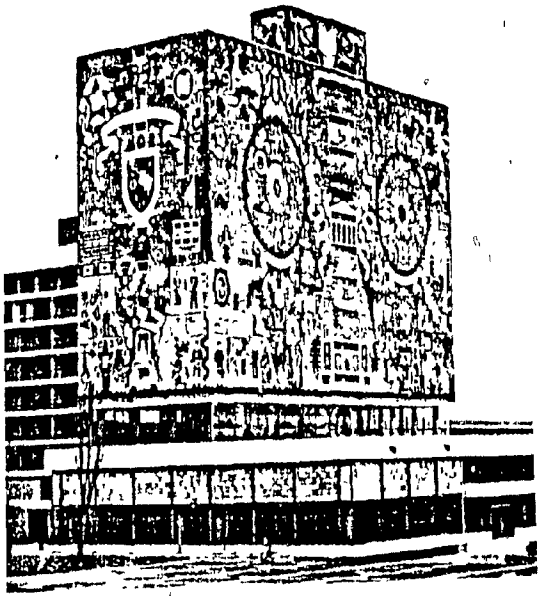




86 Lincoln County Court House'
Maine, U.S.A., 1824.
With Additions 1850 & 1950.

87 Le Corbusier
'Museum at Ahmedabad', India, 1952.

lend an air of association which does not in anyway relate to the intented purpose of severity, rigour or harshness. For ornament can be considered in its very manifestation an additive attribute. A conspicuous omission of this aspect is always noted in 'austere' enclosures, even in the mannerist architecture of Palladio as is evident from the example presented previously. (Although ornament is present here it is far from the level where it becomes of dominant interest, that is, the building does not seem to loose its character of 'austerity' by the influence of ornamentation.) "...The villa /Rotonda/ is austerely simple in its flat walls, severe Ionic columns and undecorated frieze...."[46]

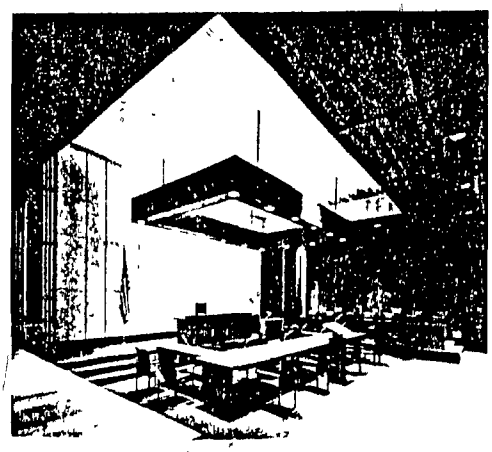


88 Juan O'Gorman
'Library, University of Mexico'
1952.

An interesting example here is the 'Library of the University of Mexico.' All aspects of the building design fit into the determined characteristics of the character 'austere', except, of course, for its multicoloured mural with which most of its external enclosure is finished and which so drastically alters the

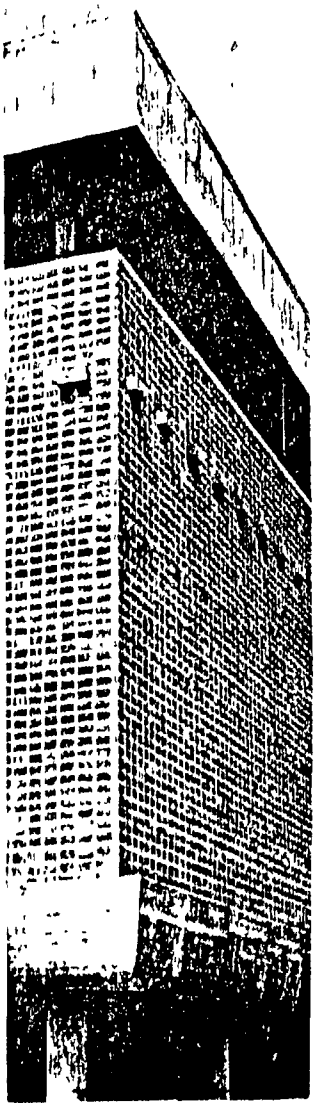
89 Le Corbusier
'Chapel at Ronchamp,
Vosges, France, 1955.
Interior.

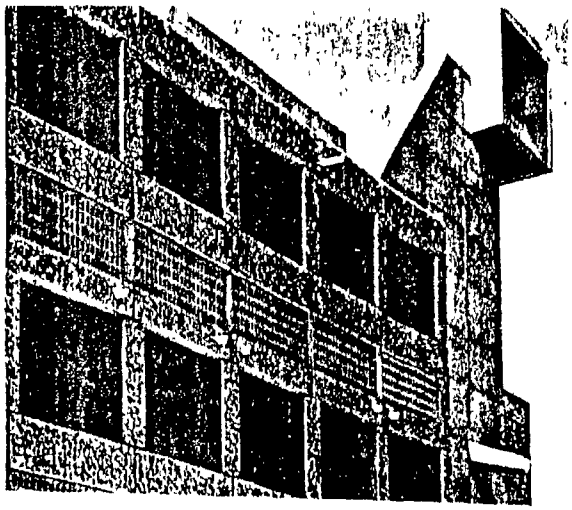
90 Joseph Bonomi
'Church in the Park at
Packington', Warwickshire, U.K.
1789. Interior.



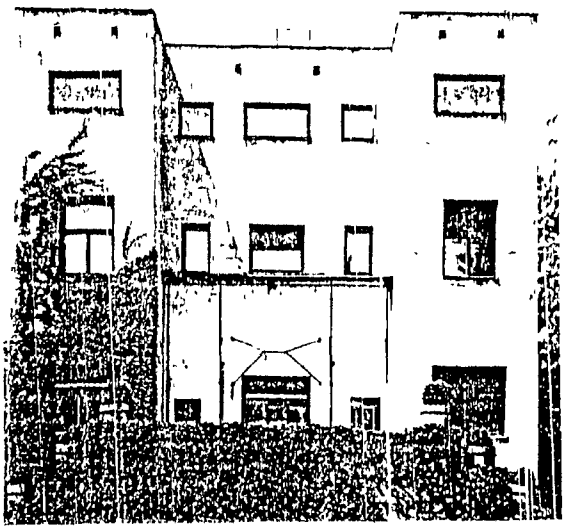
91 Desmond-Miremont-Burks
'Tangipahoa Parish Courthouse'
Amite, Louisiana, U.S.A., 1969.
Part Interior of 'Large Courtroom'.

92 Le Corbusier
'Museum at Ahmedabad',
India, 1952. Façade Detail.





93 Le Corbusier
'Convent of La Tourette',
Near Lyon, France, 1959.
Detail.



94 Adolf Loos
'Steiner House' Vienna,
Austria, 1911 (Altered)
Garden Elevation.

character of the building.

Materials:- (Figures 89-94). Restraint in the use of materials is one of the most evident aspects of 'austere' architecture. That is, they utilise a limited range of materials and type of finish.

The rough, hard types of materials are seen to be preferred to the warm, polished ones. Even then, joinery is kept harsh, always restricting the use of any but the most simple and unadorned types.

And that ascetic colours can be used to bring about the effect is clearly seen in many of the 'functionalist buildings'[47] where stark white with black is always predominant, colours which are always linked with the feelings of rigour and rectitude.

It follows within the concept of unadornment, harshness and severity that colours, if used, would not have a glossy finish or any other type of finish that does not fit into the overall notion of restraint.

TABLE VIII:

REFERENCE LIST

(1) MASSING

VOLUME

a Use of primary volumes

b Volumes not to be broken up into component parts

c Not to be disorganized

d To be kept unified

e Need not proportionately relate to the human scale

SPACE

f Simple, without much irregularity or distortion

g Need not proportionately relate to the human scale

h Should include minimum of human scaled elements (like furniture etc...).

i Internal spaces should have controlled lighting (natural or artificial).

(2) GEOMETRY

a Simple, basic

b Without irregularity of line

c To have a single and constant geometric proportioning system throughout the building

d Point or centralised geometry

(3) ENCLOSURE

Openings

a Minimum openings

b Openings to be small in size in comparison with the overall enclosure

Ornamentation

c Building to be free from unneeded over-detailing

d A conspicuous omission of this aspect

(4) MATERIALS

a To utilise a limited range of materials and their finish

b Rough, hard types preferred to the warm, polished ones

c Joinery to be kept harsh, simple and unadorned

d Use of ascetic colours

e Should not have a glossy or other such type of finish

3.7 - CONCLUSION

The design methodology elaborated in this section satisfies the purpose for which it was developed. That is, it gives us a viable design process through which the arguments of the ealier sections could be practically applied.

The methodology could be termed as being wide-ranging in the development of architectural meaning, since it would be able to accommodate a comprehensive range of expressions, suitable for various building types.

It should also be obvious by now that we should not view the methodology as being 'expressionist' in nature. That it should not be regarded as being a process which would lead to architecture like that of the early twentieth century 'expressionists', who were criticized earlier on in the thesis . Their basic fault, as stated before, was that their buildings' 'expressions' were not objective enough, in terms of being able to be identified with by the general public, and also in the sense of them being the

appropriate 'expressions' for the buildings' general purpose. Contrary to that, the proposed methodology considers that a building should possess an appropriate 'expression' which is objective enough to be understood as such.

The methodology could also be called 'anti-stylistic', as exemplificative values are not intentionally involved and moreover and more importantly are transcended. (Style here in short, is seen as being the use of a particular exemplicative syntactic structure for buildings).

It is important to note again that the use of the methodology by itself should not be considered as being the answer to the issue of architectural design. For it is not in any respect intended that 'expression' is the only aspect necessary to be considered while designing a building. Rather, the contention is that the concept of pre-conceiving 'expression' be part of an overall design process.

The proposed methodology could also be expanded to include other related design areas,

like landscape. Its analytical model could surely be adjusted to fit in 'landscape' as the source of an analytical description.

Before we conclude the thesis it would be worth recollecting some points regarding the overall approach of the thesis, for which the methodology formed, as mentioned before, a process suitable for its practical realization.

The approach bases itself upon the argument that the reference mode of 'expression' is decisive in regard to our appreciation and understanding of architecture. That it is through this level of communication that most buildings have meaning for us. The reasoning also extends to interpret the idea of architectural design as a conscious process - this in regard to the architect being aware of the implications of his designs,by being knowledgeable of the world around him, of which he is essentially, but a part.

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SECTION III

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[2] Avery Johnson, in Computer Graphics in Architecture and Design, ed. Murray Milne, New Haven, Yale School of Architecture, 1969, p. 57.

[3] John Ruskin, The Seven Lamps of Architecture (London, 1907), p. 119.

[4] Roger Scruton, The Aesthetics of Architecture (Princeton, 1979), p. 199.

[5] Benedetto Croce, "Aesthetics", Encyclopaedia Britannica, 14th ed., reprinted in, Philosophies of Art and Beauty, (Chicago, 1964), eds. Albert Hofstadter and Richard Kuhn, pp. 561-562.

[6] Charles Jencks, "The Architectural Sign", Signs, Symbols and Architecture, eds. Geoffrey Broadbent, Richard Bunt and Charles Jencks (Chichester, 1980), p. 112.

[7] Loc.cit.

[8] Christian Norberg-Schulz, Intentions in Architecture (Oslo, 1963), p. 207.

[9]Bruce Allsopp, A Modern Theory of Architecture (London, 1977), p. 8.

[10]Schulz, op.cit., p. 168.

[11]R. Arnheim, "The Gestalt Theory of Perception", Psychological Review, Vol. 56/3 May 1949, cited by, Norberg-Shulz, Intentions in Architecture (Oslo, 1963), p. 71.

[12]Howard Robertson, The Principles of Architectural Composition (London, 1924), p. 65.

[13]J.M. Pérouse de Montdos, ed., E. L. Boullée: Architecture, Essai sur l'Art, (1968), p. 73, quoted and trans., Robin Middleton and David Watkin, Neoclassical and 19th Century Architecture (New York, 1980), p. 181.

[14]Ibid., p. 182.

[15]These make up part of the overall course guideline. The referred aspects are in some minor respects altered, although their concept has been kept the same.

[16]Herb Greene, (unable to locate the source), quoted by Dennis Sharp, A Visual History of Twentieth Century Architecture (New York, 1972), p. 248.

[17]Herb Greene, Mind and Image (Lexington, Kentucky, 1976), p. 117.

[18]Ibid., p. 117.

[19]Ibid., p. 118.

[20]Ibid., p. 198.

[21]Frank Lloyd Wright, "In the Cause of Architecture", Architectural Record, May 1914, reprinted in Frank Lloyd Wright, In the Cause of Architecture, ed. Frederick Gutheim (New York, 1975), p. 122.

[22]Greene, Mind and Image, p. 193.

[23]Ibid., p. 118.

[24]Frank Lloyd Wright, "In the Cause of Architecture", Architectural Record, March 1908, reprinted in Frank Lloyd Wright, In the Cause of Architecture, ed. Frederick Gutheim (New York, 1975), p. 54.

[25]Christian Norberg-Schulz, Meaning in Western Architecture (New York, 1975), p. 330.

[26]Frank Lloyd Wright, "In the Cause of Architecture: 1. The Logic of the Plan", Architectural Record, January 1928, reprinted in, Frank Lloyd Wright, In The Cause of Architecture, ed. Frederick Gutheim (New York, 1975), p. 153.

[27]Greene, Mind and Image, p. 145.

[28] Ibid., pp. 145-146.

[29] Ruskin, op.cit., p. 108.

[30] Dennis Sharp, A Visual History of Twentieth Century Architecture (New York, 1972), p. 188.

[31] Wright, "In the Cause of Architecture", March 1908, p. 54.

[32] Ibid., pp. 54-55.

[33] Ibid., p.55.

[34] Frank Lloyd Wright, "In the Cause of Architecture: III. The Meaning of Materials-Stone", Architectural Record, April 1928, reprinted in, Frank Lloyd Wright, In the Cause of Architecture, ed. Frederick Gutheim (New York, 1975), p. 171.

[35] Wright, In the Cause of Architecture, March 1908, p. 55.

[36] Greene, Mind and Image, p. 69.

[37] Loc.cit.

[38] Ibid., pp. 69-70.

[39] Ibid., p. 70.

[40] Ibid., p. 68.

[41] Wright, "In the Cause of Architecture: 1. The Logic of the Plan," January 1928, p. 154.

[42] Wright, "In the Cause of Architecture", March 1908, p. 55.

[43] Cassell's New English Dictionary (London, 1959), p. 88.

[44] Paul V. Turner, The Education of Le Corbusier (New York, 1977), p. 101.

[45] Ibid., p. 99.

[46] Frederick Hartt, Italian Renaissance Art (New Jersey, 1979), p. 639.

[47] Norberg-Schulz, Meaning in Western Architecture, p. 358. The author also notes other characteristic properties of the 'functionalist style'."... They are usually derived from simple sterometnic shapes, they appear as unitary volumes... and they show a puritan lack of material texture and articulating detail." Loc.cit.

APPENDIX

The following material is directly quoted from (Umberto) Eco's essay, referred to earlier (Section II, p. 51). In Eco's essay this material is presented following the Table listing the connotations from (Isella) Russells article. (i.e., Table II in this thesis, p. 63, Section II). Minor alterations regarding paragraph and table numbering have been made so as to coincide with the format of this thesis.

"At this point 3 problems arise:

(a) the provision of a morphological description of the column; this must be composed of morphological markers and constructive operations similar to those that one would supply a Martian (or a robot) with if one had to make him construct a column; the possibility of such an operation will demonstrate the possibility of construction of (and therefore of defining) an isolated architectural object furnished with autonomous meaning.

(b) the provision of a semantic description of this isolated column; seeing whether the various semantic markers are based upon precise morphological markers, and thus which morphological markers are necessary in order to single out a semantic marker.

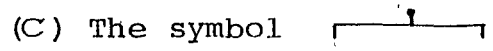
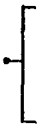
(c) the insertion of the isolated column within a context, so as to see whether this insertion will charge the object with new meanings. This operation poses a series of problems of description, granted that the contexts in which the architectural object may be included are various. The context may be seen (i) in ELEVATION, as the façade (or one side) of the building in both vertical and horizontal relation; (ii) in a VERTICAL SECTION of the building; (iii) in OTHER SECTIONS, which give account of the depth of the building; (iv) in GROUND-PLAN. For analytical convenience, and for reasons of didactic clarity,

I have decided to limit myself to a laboratory situation, and to examine possibility (i) alone.

In the diagrams that follow, the following graphic rules must be kept in mind:

(A) The sign in isolation is reprented by a horizontal stem, the sign in context by vertical stems.

(B) The terms in brackets represent morphological markers; those in inverted commas represent semantic markers; Arabic numerals, Roman numerals and letters of the alphabet refer to the inventory of connotations listed in Table II. It seems to me, that is, that the primary function denotated in a particular morphological node becomes the sign-vehicle of a connotated secondary function only in that particular node.

(C) The symbol  and the symbol  are used when a given node generates a series of possibilities that are not mutually exclusive but can co-exist (the shaft can possess height, diameter, and weight just as a lexical item can simultaneously possess morphological and semantic markers such as masculine, singular, animate, etc.). The symbol  or the symbol  is only used when the markers are exclusive and in mutual opposition, implying a binary selection between different paths or readings. These binary exclusions could be similar to those that in Katz-Fodor-Postal's lexical models are defined as 'distinguishers".

(D) The representation by means of stems possesses an analogical aspect in that the vertical and horizontal succession of elements also suggests the order of their succession. In other words, the fact that in the first scheme the shaft is BELOW the capital and ABOVE the base, furnishes the robot with instructions as to how to combine the pieces. It is obvious that with a robot that functions digitally, such instructions could be given in another way, and for this reason, once again, the scheme has been simplified for didactic purposes.

1 For the componential analysis model of the sign /column/ out of context see Table III.

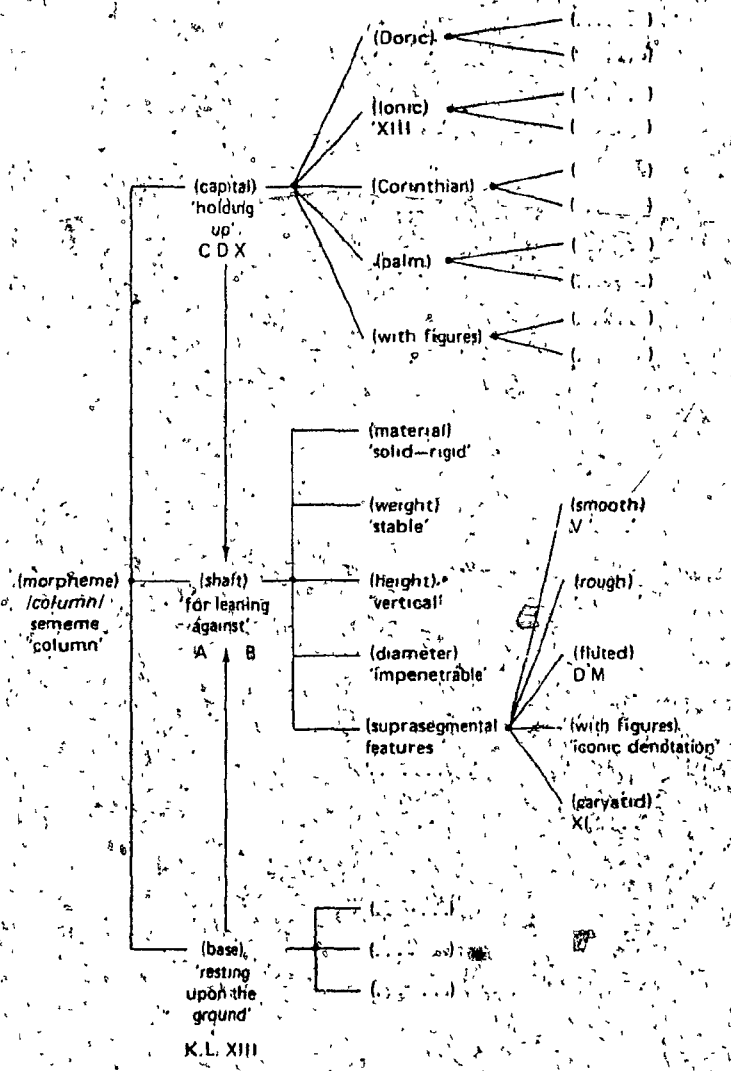
2 The semantic marker is placed in a particular node if and when the connected meaning is only recognized in the presence of the corresponding morphological marker. Thus the semantic marker 'holding up' is only assigned to a column when the shaft supports a capital. A column without a capital does not give the impression of holding up anything. The same may be said of the shaft - base relationship with regard to the marker 'resting upon'.

This scheme is full of analogical elements that have been used for the sake of speed. In fact, distinguishing (Doric) between the morphological features of the capital simply means that in place of this verbal category there ought to be other instructions. Probably these instructions would also be of the analogical type (an iconic representation to be reproduced on the pantograph), but there is nothing to prevent one from arriving at a system of digital notation capable of making

the robot construct a standard Doric capital. The same is true of morphological instructions such as (smooth) or (rough) or (with figures) or (caryatid). The last two are indeed cases of an iconic code superposing upon the architectural one. Naturally the componential spectrum could be more complex here as well.

3 It may be objected that many of the semantic markers denotated by the morphological markers are not amongst those that would be called 'functions' in architecture. 'Resting upon' and 'holding up' are certainly functions, but are 'vertical' or 'impenetrable' functions in the same sense? Here one has to establish whether the functions communicated by architecture are only bio-physiological (leaning against, going out) or also constructive (holding up, rising vertically, etc.). One would be tempted to call the second ones syntactic functions and the first, roughly, semantic functions. But, apart from the fact that the so-called semantic functions are instead bio-physical functions, the so-called syntactic functions, while undoubtedly playing a part in the way the building, or single object (cf. column) supports itself, are also perceived by the observer as semantic communication of cultural units. The column communicates (as Miss Russell's article demonstrates) semantic markers such as 'verticality' and 'impenetrability'. One therefore has to consider as irrelevant the distinction between bio-physiological and constructive functions at the present, preliminary stage of analysis. But a more accurate description ought to be able to distinguish between these two aspects.

TABLE III



4 One also notices that, of the connotations or secondary functions singledout in Miss Russell's article, very few would appear to associate

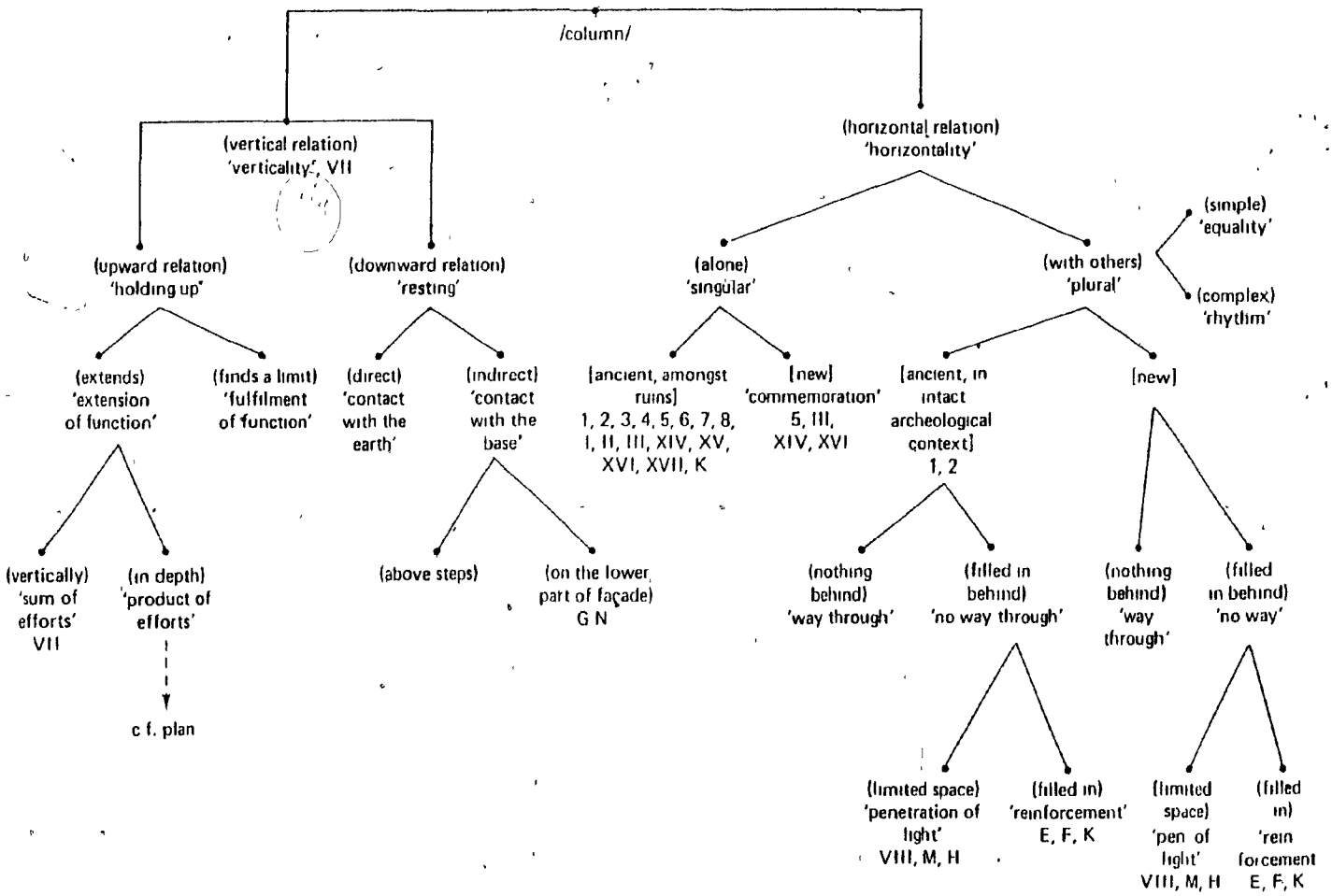
themselves with the morphemes and sememes of this scheme. As will be seen, the greater part of these connotations are instead associated with the column placed in its spatial and temporal context. Associated with the single column are the connotations C ('supports without being supported': a typical poetico-kitsch connotation, which is applied to the shaft - capital relationship without taking into account the shaft - base relationship). D ('effortless'), and consequently X ('neck of beloved', for clear analogical reasons). The shaft - base relationship generates the analogical connotation XIII ('leg'). D and M ('effortless' and 'airy) seem to me to apply to the morphological feature (fluting), as indeed the context of Miss Russell's article would give one to understand. And it is obvious that the presence of a caryatid will arouse associations of XI ('slender body'), which may however be associated with the whole column. In any case, the association of connotations has been undertaken on the basis of common sense. One would have to carry out an examination of this field by means of interviews to be able to establish with precision the average psycho-semantic response.

1 For the componential analysis model of the sign/column/ in context see Table IV.

2 In this second scheme, which is undoubtedly more complex than the first, certain details require further definition, which will be given by reference to individual morphological relations:

TABLE IV

A COMPONENTIAL ANALYSIS OF THE SIGN/COLUMN IN A VERTICAL AND HORIZONTAL CONTEXT



- (Vertical relation): the column considered in connection with what is above and what is below.

- (Horizontal relation): the column considered in connection with lateral architectural signs.

- (Upward relation): the column may support a tympanum or other columns; in such cases the function (extends), that is, the 'holding up' is transmitted to other columns placed above which in turn hold up something else, or else the function (finds a limit) in the tympanum or in some other architectural element which, as it were, finishes the process off. The function may be extended (vertically) when the column is supporting other columns, as in a façade with colonnades at several levels, or else (in depth) - this latter expression has been used to indicate the typical extension of function that one finds in the Gothic column of an ogival vault, which curves back to join with other columns in the clef-de-voûte, adding its own sustaining power to that of others. It is for this reason that one is referred to the plan, since a representation in elevation cannot give an account of this morphological feature.

- (Downward relation) places the column in direct contact either with the earth, or with other elements of the base (steps) or else with other columns standing beneath it on the façade.

- (Horizontal relation): the column may be at a horizontal relation of zero, and therefore (alone), or else (with others). In the first case this

single column may be an ancient one, standing alone /amongst ruins/, or a /new/ one erected for commemorative ends. It should be noted that in this group of nodes the morphological features have been put in square brackets. These are in fact morpho-HISTORICAL features, and are thus SYNCHRO-DIACHRONIC at one and the same time. That a column seems ancient and appears amongst ruins is undoubtedly one of its morphological characteristics; but to define this one has to make reference to time. These morpho-historical features are typical of architecture, and probably also of other forms of visual communication in which the sign-vehicles are not consumed in the moment of emission, as with the flatus vocis of verbal language, but persist in time. These observations are equally valid for markers such as /ancient, in intact archaeological context/.

- (Nothing behind) means that a column, associated with at least one other column, circumscribes an empty space, thus permitting and communicating the function 'way through'. (Filled in behind) means that the column functions as a reinforcement to the wall. In such a case it communicates 'no way through', but it can accompany a (limited space), and thus frame a window, communicating a possible or actual 'penetration of light', or else circumscribe a filled-in space, in which case it will communicate the function of 'reinforcing' the wall itself, even if structurally this is not the case.

The two markers (simple) and (complex) which

laterally distinguish two possible ways of linking (with others) several columns, refer to the fact, already mentioned in 5.6., that the columns may succeed one another identically, or according to a rhythmic modulus of alternation, of the type AB - AB or ABC - ABC, etc.

This stem summarizes practically all possible uses of a column in context, or at least those that have been codified by tradition. Every use of the column not mentioned above must be considered as deviating from the norm and therefore as giving out an ambiguous message with the aim of using architecture poetically."[1]

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[1]Umberto Eco, "A Componential Analysis of the Architectural Sign/Column/, "Semiotica, Vol. S:2, 1972, trans. David Osmond-Smith, reprinted in Signs, Symbols, and Architecture, eds. Geoffrey Broadbent, Richard Bunt and Charles Jencks (Chichester, 1980), pp. 225-231.

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