Function, Use, Paradox

ROBERT MARINO
University of Pennsylvania

Sometimes we are lucky and we are in the presence of Architecture, and we say, "This thing, this place, has a sense about it." Certainly the thing is sensible to our senses, but that is not what we mean. We feel that the architecture is *making sense*. It does the impossible, it becomes sensible to our intellect. It strikes a mood, it elicits a feeling, it calls forth emotion, it reaffirms our values. On the one hand it is somehow what is expected, on the other it is totally unexpected. It is very familiar. It is very strange. It should not be confused with language, but like language it has the capacity to operate on a higher plane. It can transcend denotation and signification, and enter the realm of true expression.

What gives mere bricks, mortar, wood, concrete, steel, glass this ability to exceed inert mass, and to organize itself into form? What is it about how these materials are employed that makes so much difference? What is it about this employment that extends beyond a material rationalism, and allows expression? It has been postulated that at times language has the ability for this level of expression, and that this kind of *sense* has its own logic. In architecture is there also a logic of material and physical sense?[1]

We can begin with the concept of function. Necessarily, for many architects, function is the driving force in the conception of built objects. For *functionalists*, operating in the realm of *functionalism*, function engulfs all other reasons for proceeding. Function is called forth as a reason to do things. In fact, function will exist in an unmitigated state, *before there are any objects*. In this situation, function is entirely oblivious to the object of architecture that it will presumably give rise to. Function in this regard is myopic, lacking the focus necessary to see the object or the object's future use. This kind of function promotes a kind of

> "...totalitarianism, which aspires to constitute a totalization of the signifiable and the known, according to the rhythm of the social totality existing at a given moment."[2]

In the realm of architecture, the integrity of the object constitutes the most powerful mitigating force against an undifferentiated functionalism. This functionalism, without the object's modifying effect, can only be considered to be an operation of brute force.

Function, when thought of in regard to the making of an architectural object, is traditionally thought of as "the purpose for which the object is conceived". In this way function imposes itself not only on the object, but also the use of that object. In this understanding, function is nothing more than an anticipated use which predates the object. It is exactly these sorts of thoughts which begin to reduce the power of the object, in effect by ignoring it. The authority of the object is usurped by the false promise of an anticipated use, called function.

True use, instead, is the wonderful activity that is the sensible employment of an object. Intelligent employment requires that we know the object in question, that it *makes sense* to us, that it falls into categories of prior object/use pairs. In Deleuze's terms:

> "... that sense is understood, that it is always there ... that one is established from the outset within sense."[3]

One kind of sense, for architectural objects, are the a priori relationships between use and the objects themselves.

Perhaps we can consider the nature of architectural objects and architectural uses as two independent series which, in our own histories of experience have come into confluence/ or not come into confluence, with each other. *Having a sense* of refers not to either series, nor of confluence or not confluence. It refers specifically to understanding the tensions between the series, and developing strategies along the lines of these tensions. The consideration of these tensions can potentially alter the object, or more hopefully, instruct us as to the object's potential for use.

These propositions, and this line of reasoning; which is concerned with the relationship of function, use, and the object is now complicated by a further dilemma. If we accept the fact that the architect is a slave to functional demands, he or she must actively consider function in the development of the object. The user is a different entity entirely, he or she is the one who must employ the object. These two individu-

als are related through the object, one through the act of making, the other through use. The architect, therefore, is confronted with two types of function. There is the common conception of function, which is related to anticipated use, the logic of which has been advanced.

There is also the function which is particular to, and does not leave, the object itself. This function has only to do with the making of the object in question. These aspects have nothing to do with use, but instead deal with the wholeness of the object. They deal with the object's essence, its own ability to be classified as such. It is this question which suggests that architectural objects exists as a separate series, to be differentiated from the series of architectural objects in use.

The fact that these differing series can exist in one and the same object, is the sole reason we can term an object an architectural object. It is this very tension between internal function, (the nature of the object), and external use which gives us a *sense*. (An example which comes immediately to mind is the Mies high rise building with the missing column in the entry area. In this instance the series that constitutes the nature of the object, the series of internal function, is in direct conflict with the series having to do with normal lobby use.) In Mies' work the consistency of the internal logic is so strong that, that a unique exception such as this is a source of great tension, and endless speculation. It is obvious that in this case necessity for the object's use is quite different from necessity for the object itself.

Another complicating factor in the consideration of these related concepts is the chronological one mentioned in Deleuze's "Robinson Paradox". We can state our own architectural dilemma in the following sequence in time:

function > object > use
or
anticipated use > architectural object > real use

In this chronology, only the object has the ability to link function and use, or anticipated and real use. The independence of function, the object, and use must be broken down in the work of architecture. The three relatively independent series must meld in a way that promotes *sense*. For Deleuze, Paradox, with its inherent connections to poetry, and truth offers great hope.[4] It is in this spirit that the following paradoxes found in architectural objects can be proposed:

The paradox of infinite specifity

We visit architecture and we say , "I am impressed it is so, because it must be so, and no other way." Yet we know , by the very example under our scrutiny, that there are an infinite number of ways for it to be. This is readily apparent in the work of architect/engineers such as Prouve or Nervi. Their work is not made manifest through an overpowering force of will, instead it is proven through the potential for this kind of "infinitely specific" kind of paradox. Prouve, for example, uses the *concept* of the moment frame in endless variation, (even in furniture projects such as the compass desk). In Deleuze's terms, he escapes *denotation, signification,* and *manifestation*..[5] Nervi's work with reinforced concrete columns achieves a similar clarity.

Consider the case of the folded column, (see fig. 1). Its very nature suggests immediately that while this particular example might be pleasing and self consistent, there are an infinite number of folded column types which might be successful in a similar manner. While the body of the object is singular, it has the capacity, through its own mode of construction, to suggest an *infinity through specifity*. In Kant's terms, the object has attained a *form of generality*, it contains a concept.[6]

The paradox of circular necessity.

We visit architecture and we note that material A is employed in such a way due to its relationship to material B, which in turn is as it is due to its connection to material C, etc.

A
D B
C

In D'Arcy Thompson's and Henri Bergson's words, there is no readily apparent *final cause* in the assemblage. Small scale relationships are easily discerned, large scale relationships are only noted in the object understood as a whole. We acknowledge the unmistakable supremacy of the whole as compared to any of the parts, yet we are only able to discern relationships between the smallest scale parts to each other. This is particularly striking in Kahn's work. We can consider, for example his use of the brick arch in conjunction with a reinforced concrete tie. The tie provides the lateral component of force necessary to keep the arch in equilibrium, and conversely, the arch gives the tie a reason for its existence. Each part is mutually dependent on the other, and unable to be justified singly.

The paradox of incongruence.

Consider the torsion column, (see fig.2). In this hybrid, the quality of the typical column to sustain compression is combined with the quality of the torsion member to sustain the stress of axial rotation, or torsion. Each of these qualities alone might be demonstrated in individual members. Combined in the torsion column they demand other aspects, such as symmetry. The sum total of the two concepts also has the ability to enhance at least one: The column, weakened by a pre-loaded internal torsion, is reinforced against buckling. It has undergone a kind of stabilization by encouraging elastic deformation in a preferred, controlled direction. Consider the tension arch, (see fig.3). The arch, based on a structural concept based on materials in compression, is made with internal tension members. The resulting tension/ compression array suggests an extension towards pure tension/compression member structures, (like pinned trusses), with the arch's natural capacity to reach points of fixity in the earth.

Incongruence is a subtle aspect of architectural material use. The incongruence inherent in using a beam as a column was a method for the ancient Chinese builders. The built up

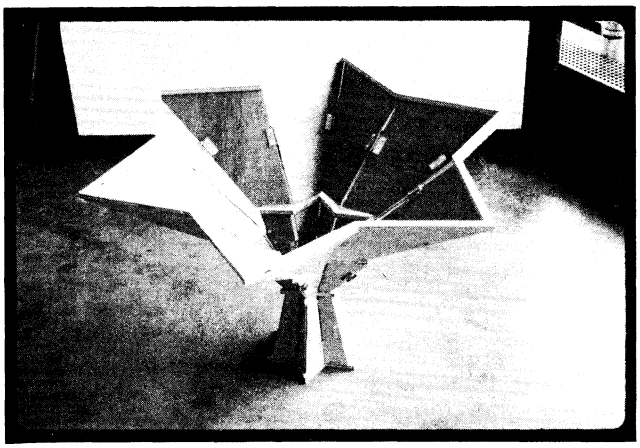

Fig. 1

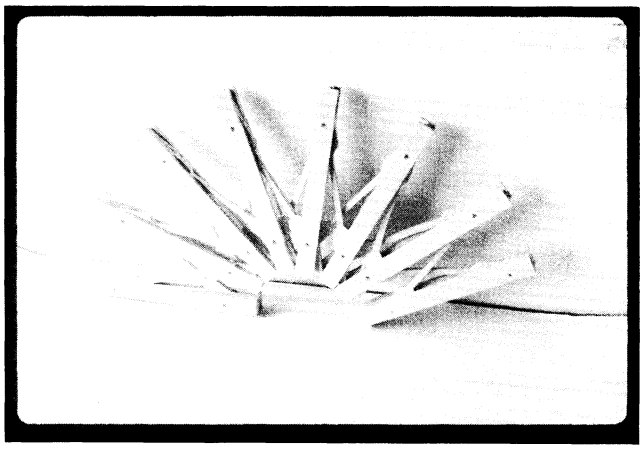

Fig. 3

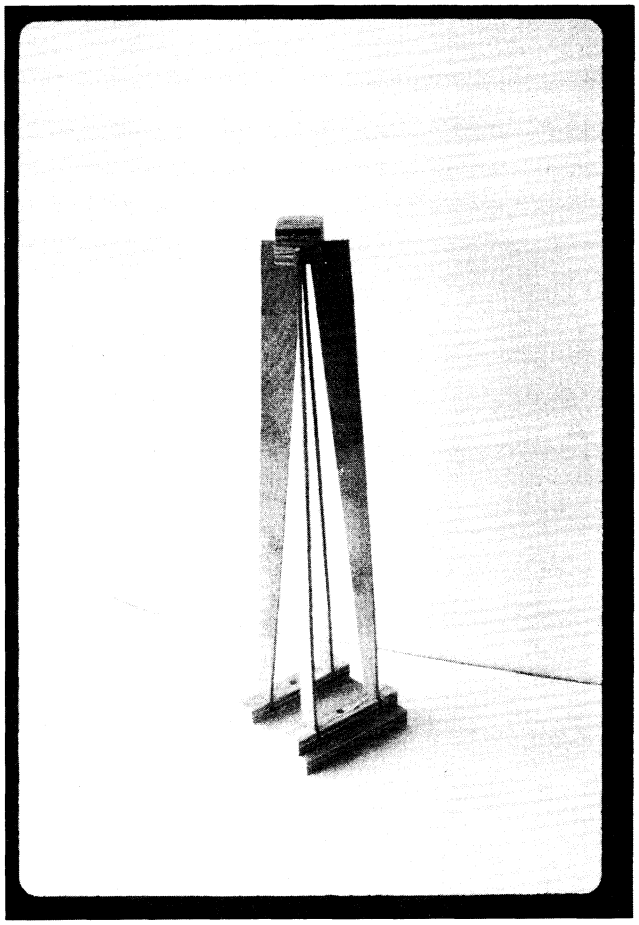

Fig. 2

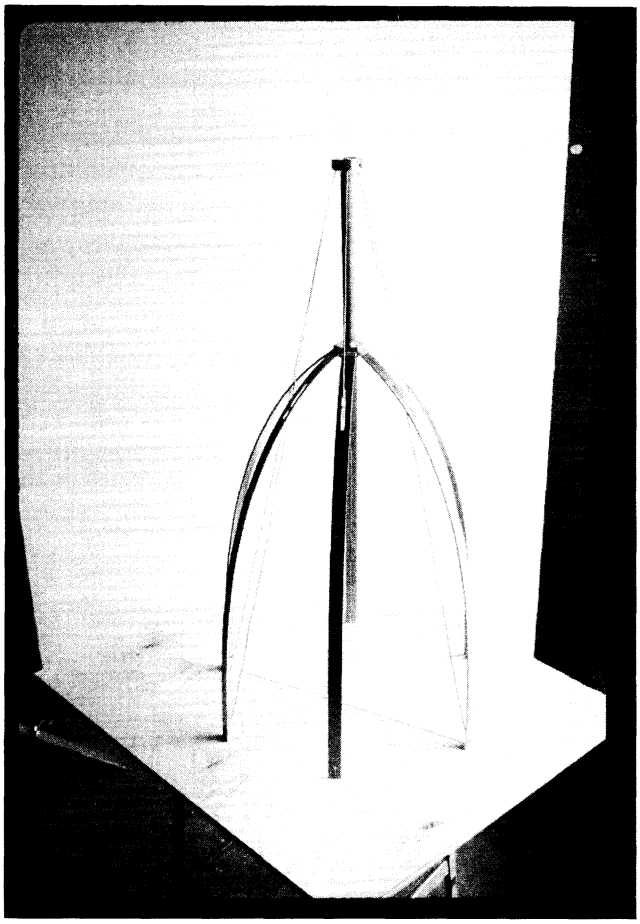

Fig. 4

corners of their temples achieved a new kind of turned up form as a result of this usage. Maybeck also employed this kind of technique in his wood construction to denote special points of articulation.

The paradox of self contradiction.

Consider the "free standing column", (see fig. 4). This is a structural element incorrectly named. Columns in use never stand free, they are always encumbered by their respective loads. In this case, the paradoxical nature of the element is determined by trying to make the object live up to its name. Allowing the column to stand free, in this case puts it into a kind of reverse king-pin condition within the three dimensional truss shown. This is a strange case that shows what the limits of written language means to the philosopher *or* the architect. Because we must give names

to the objects we employ, we begin to limit their potential uses.

By definition, paradoxes propose seeming contradictions, which upon reflection yield a higher truth. It is possible that the use of paradox, this poetic activity, has the capacity to meld distant series. In architecture, we might find it useful in the quest for linkage between program, the object, and use. The above physical examples are offered with the knowledge that they operate in very limited spheres, (in this case in the spheres of pure structure and material). They are also offered in the hope that they may lead to *sense* in architectural objects.

ACKNOWLEDGEMENTS

The author wishes to acknowledge that the sub-topic, *paradox,* was brought to his attention by Professor Peter McCleary, of the University of Pennsylvania, who noted the attention paid to the topic by Robert LeRicolet.
The *paradoxical constructions* shown in figures 1-4 are the work of Adam Henry, Matthew Macgillivray, George Cooper, Mona Thaler, Christopher Daly, and Jill Orlov, graduate students at the University of Pennsylvania.

NOTES

[1] This question is posed in light of Gilles Deleuze's postulates in *The Logic of Sense,* translated by Mark Lester, Ed. Constantin V. Boundas, Columbia University Press, New York, N.Y.,1990. I am using Deleuze's arguments about language, and the ability of language to exceed denotation and signification, as a general guide towards understanding the logic of *material* sense.

[2] Ibid. Here Deleuze is referring to his fictitious "Robinson", a man who found himself on a desert island, and who gave himself all the rules of society, *before there were any objects.*

[3] Ibid., p. 28.

[4] Deleuze cites Lewis Carroll,s *Alice in Wonderland,* and its use of paradox to accommodate the simultaneous existence of incongruent series.

[5] Deleuze states that denotation has to do with one to one correspondence, signification can only be established under a "condition of truth", and manifestation involves an act of individual will. He states that *sense* escapes all of these.

[6] Kant, in his *Logic,* states that a concept has the *form* of generality.