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Design Quarterly is indexed in Art Index.
Subscription rates are 4 issues $3.50, 8 issues $6.25, 12 issues $9.00.
Single issues $1, Double issues $2.
Foreign postage $1.00 for 4 issues. Design Quarterly is published by
Walker Art Center, 807 Hennepin Avenue, Minneapolis, Minnesota 55403.

Change of address: To insure receiving all copies, give the old address as
well as the new one and allow five weeks for change to become effective.

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It's sad that an architect like Le Corbusier did not have the opportunity to realize his highrise blocks of concrete and glass — conceived in the early 20s — until a comparatively late stage in his career. What should have become as familiar as cubist painting (to which it is intimately related) is made to seem radical. No serious painter or sculptor today would dream of basing his idiom upon that of Picasso or Braque; yet Le Corbusier, Mies van der Rohe, and the Bauhaus still provide the standards by which architecture and design is judged. The rhythm of early European modernism — watered down in the interest of economy — becomes the prestige architecture with which banks and insurance companies fret America's urban skyline. The executive offices of the men who put up these buildings are apt to be furnished with Barcelona chairs and glass-topped Tugendhat tables. Architecture and design — like painting and sculpture — are concerned with the contained visual experience. In the past there has been a close lien on between the applied arts and the fine arts; to all appearances, this is no longer the case. To give an example, painters have consciously abandoned the notion of "good composition" but the parallel concept of "good design" is still very much with us.

It may be interesting to consider what implications the following statements taken from figures influential within the fine arts — might have in a broader context. When reading these it may be advisable to keep in mind some remarks of Billy Klüver, an engineer who has collaborated closely with a number of well known artists: "We have to learn to listen to the artist. If you ask what he wants he will not tell you. If you hang around long enough he will. Are you really there to listen?"


Sculptures by Robert Grovenor
Installation shot, Park Place Gallery, 1965.

Frank Stella, DIE FAHNE HOCH!, 1959. Collection, the artist; Leo Castelli New York.
"The logical or illogical relationship between one thing and another is no longer a gratifying subject to the artist as the awareness grows that even in his most devastating or heroic moment he is part of the density of an uncensored continuum that neither begins with nor ends with any decision or action of his."


"We have no further use for the functional, the beautiful, or for whether or not something is true. We have only time for conversation. The Lord help us say something in reply that doesn’t simply echo what our ears took in. Of course we can go off as we do in our corners and talk to ourselves."


"The order and disorder of the fourth dimension could be set between laughter and crystal-structure, as a device for unlimited speculation. Let us now define the different types of Generalized Laughter, according to the main crystal systems: the ordinary laugh is cubic or square (Isometric), the chuckle is a triangle or pyramid (Tetragonal), the giggle is a hexagon or rhomboid (Hexagonal), the titter is prismatic (Orthorhombic), the snicker is oblique (Monoclinic), the guffaw is assymetric (Triclinic). To be sure this definition only scratches the surface, but I think it will do for the present. If we apply this "ha-ha-crystal" concept to the monumental models being produced by some of the artists in the Park Place group, we might begin to understand the fourth-dimensional nature of their work."


"As I have said for several years, I believe that art is shedding its vaunted mystery for a common sense of keenly realized decoration. Symbolizing is dwindling — becoming slight. We are pressing downwards towards no art — a mutual sense of psychologically indifferent decoration — a neutral pleasure of seeing known to everyone."


"Things that exist, and everything is on their side. They're here, which is pretty puzzling. Nothing can be said of things that don't exist. Things exist in the same way if that is all that is considered — which may be because we feel that or because that is what the word means or both. Everything is equal, just existing, and the values and interests they have are only adventitious."


"When Mantle hits the ball out of the park, everybody is sort of stunned for a minute because it’s so simple."


The Rauschenberg quotation is a clear enough statement of belief in a kind of deterministic irony which he shares with a number of other artists. His attitude may be compared to that of the Chinese poet recording with serenity the inevitable cycle of the seasons; but, in the case of Rauschenberg and his contemporaries, this serenity is reserved for the inescapable realities of the modern world. This is very far removed from the attitudes of the heroic period of modernism. In Europe, in the first quarter of this century, the modernist breakthrough gave birth to such publications as *L'Esprit Nouveau* and the notion that the world could be modified for the better. Artists today might be tempted to counter with John Cage’s title ‘How to Improve The World (You’ll Only Make Things Worse).’

There is a general understanding amongst artists that the world is too complex to be improved substantially by good planning on a physical level. A more radical shift is required. The situation confronting artists (or designers, or politicians) is comparable to what is called, in astronomy, the ‘n-body problem.’ This problem concerns itself with finding a complete solution of the motions of any number of bodies (n) that mutually attract one another according to Newton’s laws. In general terms the problem is insoluble. The response of artists to this situation may be summed up in the attitudes of Marcel Duchamp who once stated (employing what he called ‘the irony of affirmation’) that there are no answers because there are no problems.

"All in all, the creative act is not performed by the artist alone; the spectator brings the work in contact with the external world by deciphering and interpreting its inner qualifications and thus adds his contribution to the creative act."

Claes Oldenburg, OUTLET WITH PLUG, 1963. Collection, Mr. and Mrs. Richard H. Solomon, Boston.


Duchamp's insistence on the role of the spectator in the creative act has been understood by artists - quite explicitly by figures such as Cage and Rauschenberg, and implicitly by Judd, Flavin, Robert Morris, Jasper Johns, Claes Oldenburg and others. They do not impose a composed sequence of visual experiences on the viewer; instead they present an object, or series of objects, which requires the co-operation of the spectator before it functions in the context of "Art." The role of the spectator is, therefore, emphasized (and it should be remarked that, for an artist, the most important spectators will, in all probability, be other artists who are his immediate contemporaries). There is even the possibility that being a spectator can become the most important function within the creative act. Duchamp himself became a spectator at the point where he definitively abandoned his Large Glass. For the remainder of his life he made occasional gestures to remind the public of his position but, for the most part, he made his not inconsiderable contribution to art by remaining a spectator.

Duchamp spelled out this shift in role, from artist to spectator, in his readymades. After half a century the readymades have finally been accepted but few people have been able to admit their full implications. Duchamp spoke of "Planning for a moment to come (on such a day, such a date, such a moment) to inscribe a ReadyMade.' - The ReadyMade can later be looked for (with all kinds of delays). The important thing then is just this matter of timing, this snapshot effect, like a speech delivered on no matter what occasion but at such and such an hour. It is a kind of rendezvous." In discussing the readymades most critics have tended to lay all emphasis on the objects themselves - the fact, for instance, that a urinal should be presented for exhibition under the title Fountain. In fact the objects can be seen as mere offshoots of the activity - or, at most, as focal points for the activity. The "rendezvous" takes place between a reactive element - Duchamp - and a passive element - the object - which has been brought into existence by some anonymous process of mass-production. The assembly line (or whatever industrial process has been involved) takes on the function normally allotted to the artist. The artist himself assumes the role of spectator, bringing "the work in contact with the external world by deciphering and interpreting its inner qualifications."

Once the outcome of these rendezvous became known, the art public joined in to assist Duchamp in his role as spectator; Duchamp remained with them.

To place an emphasis on the readymades as objects is to suppose that Duchamp thought of them as artworks - and there seems to be very little evidence to support that conjecture. The fact that the urinal was titled Fountain did not cause it to cease being a urinal. The creative act was shown to be something that could take place entirely within the spectator's mind. Originally Duchamp placed a strict limitation upon the number of readymades to be produced annually; but, by becoming a spectator, he was to find himself constantly engaged in the procedures suggested by the readymade concept.

Marcel Duchamp, TRAVELER'S FOLDING ITEM, 1917 - 64.
COMB, 1916 - 64.
FOUNTAIN, 1917 - 64.
Galleria Schwarz, Milan.
Architecture and design differ, it goes without saying, from art in that they are apt to be tied to a definite utilitarian purpose. Where this is completely true — as in the case of microcircuity and some parking ramps — then there is seldom any cause for complaint. In the early part of the century the notion of functional design was made an ideal and it remains one today; but often what is taken for clearly stated functional structure in post-Bauhaus architecture turns out, upon closer study, to be in fact an expressive and imposed metaphor for function. For the most part functional design receives only lip-service and the insipid structures that are raised in its name have little more intrinsic merit than the open vulgarities of the gas stations and supermarkets from which they pretend to stand aloof. Moreover the gas station does at least have a definite function in the mental landscape — it is something that man in a motorized society expects and needs. The apparent absurdities of its design are cultural signals which the driver has learned to respond to. It becomes an essential object in a complex behavioural situation. The response of the motorists to the architecture of the gas station and the other cultural signals that he encounters along the highway is a very natural one — does not rely upon carefully considered decisions. The motorist is a spectator who deciphers and interprets the inner qualifications of the highway landscape at his leisure. The architect or billboard artist who attempts to modify this landscape, in the interests of good design, risks (assuming that he is not hopelessly outnumbered) upsetting a delicate natural balance. The furnishings alongside the highways and the architecture of the suburbs are lacking in the formal values that are recommended in visual hygiene classes; yet they do not lack a sense of place — we are always certain when we are passing through a suburb, as certain as we are that Chartres Cathedral is a masterpiece of Gothic Architecture. Unlike Chartres Cathedral the suburbs are enormously vulnerable and this is perhaps what is most attractive about them. In a period of rapid transition it would be disturbing to find ourselves with too many well designed and permanent monuments on our hands. The architectural landmarks of Chicago stand out like markers of time, recording the city's accelerating drift into the past.
I would suggest that, in our present situation, the way we look is more important than what we look at. We should be concerned with quality of seeing rather than with the supposed quality of what is seen. Marcel Duchamp drew our attention to this possibility half a century ago.* Claes Oldenburg has made a contribution to thinking about the urban landscape by designing colossal and ironic monuments for prominent public places.

He remarks, “The first suggestion of a monument came some years ago as I was riding in from the airport. I thought: how nice it would be to have a large rabbit about the size of a skyscraper in midtown. It would cheer people up seeing its ears from the suburbs. The spot I had in mind was the space in front of the Plaza Hotel (where there is already a fountain). However, the Playboy Club later made its headquarters nearby which made construction of the giant rabbit at that particular spot impossible. I substituted the baked potato, in either of two versions: upright or thrown against the wall of the hotel.” Oldenburg has created many other monuments—for example a peeled banana for Times Square and gigantic cigarette ends for various sites.

“The monuments,” he explains, “are placed according to fitness of site and association. For example the giant Frankfurter on Ellis Island has a shape in common with the ships that pass down the Hudson into the bay. The ironing board over the lower East Side echoes the shape of the Island at this point and also shields this sacred place—the memory of a million miles of ironing. The teddy bear in Central Park stares down from black New York at white New York somewhat accusingly but glassy-eyed too from helplessness (handless).”

Oldenburg has indicated that it is not absolutely necessary for his monuments to be built. It is sufficient that they can be imagined. These imaginary monuments are perhaps just what we require since, again, they help us to look at the urban landscape in a new way.

Design in the 20th Century, to date, has tended to carry with it an implication of progress: accept the rule of the Golden Mean and you’ll be a better person for it. The notion of functional architecture carries with it a distinct overtone of Victorian morals (the 19th century is always scoring moral victories). Progress has not, historically been an essential function of design. There has been a progression of styles, each reflecting a particular cultural situation, but seldom has it been suggested that one is intrinsically better than another. When architects and designers did feel that they had made an advance it was often because they considered that they were now able to more accurately copy some model borrowed from classical antiquity. The notion of progress is a product of the scientific age and would probably be impossible, at least in the form we know it, without the theory of evolution. Physical amenities and our knowledge of the structure of the Universe may be said to progress—but the human condition? Art—and this is true of the applied arts within their own limitations—is not subject to the logic of progress. The visual arts are concerned with our perception of the physical world. To attempt to modify the objects that constitute this physical world according to laws of some crypto-scientific discipline begins to seem unnecessary. Some things must be designed or else they will not function (the interior of a television set, the fuselage of an airplane) but to impose a convention of taste upon the cabinet of the television, or upon the cabin of the airplane does not signify any important human advance. It may happen—and I believe we should encourage it—that the disciplines of tastemaking are replaced by a new discipline of seeing.”

*In the January, 1969 edition of Artforum, Barbara Rose makes a number of observations which seem to agree with some of my own remarks in this essay. For example: “The intention of withdrawing esthetic content from art and making it a function not of what is seen but how a thing is seen is obviously yet another Duchampsque legacy. The artist’s intention is not necessarily to destroy art—although one ought not to write off that possibility—but to make art the property of everyman. The gift of the artist to his audience in this case is no longer a unique object that can only be owned by the rich and powerful or buried in the museums, but a way of seeing.”

Tahleb - love from London - 68
Tony Shapisi
The title of this article is a proposition about the state of design as an activity. We mean design and planning of all kinds, but the particular reference, as the pun implies, is to objects. The hypothesis which prompts such a proposition is the following: ‘The activity of design is becoming redundant in our culture.’ Obviously, we shall have to define design in order to propose some alternative to it: ‘Design is an activity, aiming at the production of a plan, which if executed is expected to produce or lead to a situation with certain desired characteristics (and without undesired effects).’

An implication of this definition is that man is fundamentally teleological. He seeks goals or desires characteristics when given the opportunity. This is the current morality of human choice. Perhaps we should not look to refute moral law; but we should not have to look very far. In his ‘Critique of Practical Reason’ Kant mentions that “To act solely in the moral law is selfish.” This opens up huge vistas of speculation, and where better to start than to suggest that man is ateleological. He is not essentially goal-seeking in nature.

With what argument would one substantiate such a heresy? And could one ever claim to prove it? The first question could be approached in three ways. The most obvious is that such a concept could become meaningful to us if we felt it to be true (in Jung’s sense of ‘feeling’). But this seems too easy, and is hardly likely to impress many scientists. We could make a deterministic argument, suggesting that man is a machine and he operates as such — as soon as we understand the machine there will be no further goal. We recognize this as slightly evasive, and besides we know we are some way yet from understanding the machine, and so we would have to defer our refutation of planning and design for at least several years. The most fruitful argument (for the writer) is that of the sceptic who would suggest that planning is in fact a game whose outcome is unknown, and further that it would be risible to suggest that planning knows the outcome. In this argument we would suggest that design as we have defined it is not in reality a goal-seeking activity but just a game. If we can suitably refute the nullhypothesis that design is of value to our culture, then we might substantiate this argument and thereby lend support to our heresy that man is ateleological. The concepts would appear to be related. We should not suggest, however, that we could use the refutation to prove that man is ateleological.
"Conjecturism, as its name implies, is a view which supports the prediction of hitherto unknown things, such as new chemical elements. The conjectural approach consists of making a shrewd guess about the real world, the more daring the better, and then presenting it to the scientific community for criticism. This situation creates the vigorous climate of inquiry representing the best of scientific thought. See Conjectures and Refutations by Karl R. Popper, Basic Books NY&London, 1962

**By ‘real’ Popper means that we should call a state of affairs ‘real’ if and only if the statement describing it is true.

In order to believe that a theory can be refuted, and let us support that there exists such a thing as a theory of design, we need to adopt a certain view of human knowledge.

One such view which forms the base for much innovation is conjecturism.* This view holds that a theory makes a positive assertion about the real world, and that a theory can never be verified, but it can sometimes be refuted. It accepts the existence of unperceived objects as long as there is a possibility of their verification.

How then can we support the sceptical view that planning is just a game? If we present enough evidence to show that it does not deal with reality in Popper’s terms, then surely it cannot be described in any way but as a game. At the beginning of this article we defined what design is understood to be. To get at the essence of design we need to know when it is practiced. It is generally agreed that design is an attempt at solving a certain class of problems. So we could say that design occurs when these problems have been identified and a decision has been made to do something about them. The conditions for the existence of such a problem are (1) a discrepancy between an actual state and a deontic state, between ‘is’ and ‘ought-to-be’, and (2) an explanation of the discrepancy. For example, that ‘man is mortal’ could be defined as a problem, but we don’t attempt to solve it. Coronary thrombosis, however, is a problem we do try to solve.

We design, then, when a problem exists which we cannot solve instantly without planning. Design is ostensibly the work of experts — and experts are used by their cultures for their knowledge. Designers dispose of three kinds of knowledge which together make up their representation of the factual world. This is not Popper’s ‘real’ world, but rather a Weltanschauung*. The three kinds of knowledge are instrumental, factual and deontic. Since they form the basis of the designer’s expertise it is worth pausing to define their nature.

Instrumental knowledge tells us about functions. An example would be ‘the hammer serves to modify the nails’ position.’ It takes the form of rules of action which are often applied without knowledge of supporting theory. Architects use structural formulae in this way.

Factual knowledge tells us truths about the real world, dependent upon the current opinion of science as to what is true.

Deontic Knowledge is the repository of human morality represented in part by supposedly eternal deontics such as ‘people should not be annihilated’.

For any one designer deontic knowledge can vary, depending on his education, feeling, belief. In the process of design a natural deontic to introduce would be ‘only the best plan should be used’. Deontic and instrumental knowledge are connected because much of instrumental knowledge defines constraints which condition the ‘ought-to-be’ state.

For the present the designer is educated in these three types of knowledge, and presented to the world as an expert. He pursues his education until he is ‘qualified’, that is, until he is considered skilled enough in terms of the status quo of his professional body to exercise this knowledge for the benefit of the public.

If we consider a designer’s ‘qualification’ in these terms we are tempted to inquire about the criteria by which his qualification is measured. Does this qualification really serve the interests of the public or does it, as we suspect, merely reinforce the designer’s own idea about his uniqueness? Service institutions, possibly of little true value must take refuge in their specialties. They have to seize any opportunity to express it, and what better way than to orient the novices towards the secrets which lead to initiation. Once the novice is bound up in the learning (moulding of his Weltanschauung) which will lead to expertise he is trapped. He knows he must.

Isaac Asimov has produced some deontics for the design of robots. These are:
1. A robot must obey the orders given it by human beings, except where such orders would conflict with the first law.
2. A robot may not injure a human being or, through inaction, allow a human being to come to harm. A robot must protect its own existence except where such protection would conflict with the first or second law.
3. A robot must protect its own existence except where such protection would conflict with the first or second law.


These laws are interesting in that they represent a particular Weltanschauung which is in sharp contrast to that speculated by Thring in his frightening article ‘Robots on the March’. We are reminded of robots in early science fiction which ultimately destroy not only enemies but often their creators as well.

continue this learning at least until his initiation in order to be accepted by the society which supports the service institution to which he aspires. This is a familiar pattern for any professional.

Where does this leave the freshly initiated expert? Probably as a hero trying to bear the enormous risk and vagueness of his Weltanschauung. He must act but he can never know that his actions are good.* This is the tragedy of his heroism, but not all of it. We might ordinarily say that a designer who continued his learning process beyond his ‘qualification’ could develop a Weltanschauung which would release him from the constraints of the institution of which he was part. So he could, and some have, although this is an activity which carries no rewards in our society. Besides most designers of necessity work for their professional lives equipped essentially with the knowledge with which they finished college.

So far we have defined the activity of design and we have a fair idea about the nature of a designer’s knowledge or expertise. We now need to say something about the environment within which the designer operates. ‘It has been calculated that although a very high percentage of the perceived environment urban or suburban is man-made, only about 6 per cent is planned in terms of its juxtapositions and sequences. The rest is a confusion of object-disorder, conforming to either random or subjective patterns.” Designers are often curious about the effect of built environment on people. Many studies are done, both to predict how people will react to some to-be-built environment and to evaluate how they do react to an already built environment. Often from the designer’s point of view such studies are disappointing. Naturally he would like to hear that people react to environment as he does. But of course they don’t. The reason is simple. These people lack two things: a value system identical to the designer and an image bank in the mind identical to that of the designer. We know, or at least we suspect, that in order to be totally coincident in these things they would have to be the same person. This defines a gulf fixed between the designer and the designed-for. Designers cannot let this gulf exist, because it would lead eventually to their being acceptable only for work where the party designed-for seeks out or agrees to accept their value-system.

*Challenge to Reason


The exception is found of course, when a person approaches a designer desiring to submit to his value-system. This is the basis of patronage, whereby the client can bask in his identification with the designer.
One way of adapting the environment to subjective value systems is suggested by what C. Ray Smith, an associate editor of Progressive Architecture, has called 'instant interiors.' In this example an image of the dome of the Guggenheim Museum is projected onto a ceiling in Mr. Smith's own apartment. By simply changing slides the entire ambiance of the room can be completely altered. Photo: Louis Reens for Progressive Architecture.

*See The Politics of Experience by R. D. Laing, Ballantine Books 1968. The explanation is given thus:

"My experience of you" is just another form of words for "you-as-I-experience-you," and "your experience of me" equals "me-as-you-experience-me." Your experience of me is not inside me, but your experience of me is invisible to me and my experience of you is invisible to you.

While the relationship between experience and behaviour cannot be logically proved we do assume it exists otherwise we could not account for such fundamentals as 'theory and practice'.

Designers are generally most interested in the study of behaviour as a manifestation of experience, rather than 'thoughts', 'attitudes' or 'intentions', presumably because it is the most readily relatable to form — the outcome of the designer's plan.

Approaches to bridging the gulf vary considerably. Basically, they are all aimed at understanding human experience, on the assumption that such an understanding will provide the best possible basis for design activity, i.e. the solution of problems arising from a conflict between 'is' and 'ought-to-be' states. The basic problem with understanding other people's experience is that experience is intransitive — 'I cannot experience your experience'.

There are 2 basic views held in the study of behaviour. The behaviourist view holds that an action is an examinable entity — pure behaviour — 'what I do' in isolation from 'what I think' or 'what I intend'. For the purposes of scientific analysis this approach may be useful, but it is a case of tailoring the phenomenon to suit the means of examination. Designers who have sought to follow this route to an understanding of behaviour tend to amass meaningless categories of pure behaviour through the distorting glass of statistics. An attempt is made to generalize the human condition as it relates to environment in terms of tendency so one can say that given a certain state of several variables which seem (in that part of the researcher's Weltanschauung reserved for preconceptions about behaviour) to be relevant, people will tend to behave in a certain way.
The questionable value of tendency statements for designers is well illustrated in R.B. Braithwaite’s excellent *Scientific Explanations*, Harper Torchbooks 1960.

'This is the type of general proposition found in sciences which have not yet reached the present development of the physical sciences and in which the conditions under which a universal law holds are not known. Here all that it is possible to state is that so-and-so has a general tendency to act in such-and-such a way. . . . It is the fact that a tendency statement is a conditional statement with an unspecified antecedent condition which creates the difficulty.'

'To consider every human being as a point of view, a centre of experience, a perceiver and a self-defining will is the classic existential position, which I suggest is a practically and morally superior alternative to the crudities of behaviourism.' Janet Daley in ‘The Myth of Quantifiability’, *Architect’s Journal*, 21 August 1968.

The other view of human behaviour contends that an action is not an examinable entity. This view may be categorized as ‘phenomenological’ in that it is held that ‘what I do’ involves integrally ‘what I intend’ and ‘what I think’. A person is therefore a subject of experience, as implied in our quotation from Laing, rather than an object of experience. By this token of behaviour, therefore, there seems little hope of bridging the gulf between designer and designed-for. No matter how well designers could eventually predict behaviour, they could never do more than use that knowledge to create form, never knowing whether it was good. Content would always be the contribution of the designed-for and totally unpredictable, barring total symbiosis between designer and designed-for. This would, however, simulate a schizophrenic condition, and would therefore be of little or no value. The problem seems insurmountable. The designer can never become the designed-for in order to solve his problems.

If this is true, what then is the relationship between people and their object environment? This seems to be the aspect of perception important to designers because it deals with the components of a physical environment. Perhaps, empirically, the designer could build an instrument upon which to read the values of people’s relationship with the environment. Anthropologists attempt this and the nature of the problem is highlighted by their work. Gathering data for a dictionary of dialect the anthropologist can point to an object and get any number of answers. For example, pointing to what he recognizes as a table, he could be told ‘altar’, ‘bed’, ‘bench’, ‘weapon’, ‘finger’ or anything else. Similarly he finds that objectification varies in cultures according to the importance of what is being described. Central Africans have about 20 words for ‘brown’, while Eskimos have about the same number for ‘snow’. Similarly we have a measure of objectification for most objects in our own culture — both iconic and functional. We know that a TV set is a mixture of these two. However any object will also have a subjective value, and except in extremely conventional situations we find it impossible to guess at it. A house for example, is a repository for objects, each of which has a subjective value, and it is fairly certain that in no two houses will these values be identical. Further the subjective value is affected by the value attributed to the other objects, so they are integrated as part of the Gestalt of the house.

Where does this leave the designer as he sets out to make his predictions on behalf of the designed-for. One thing is certain. He would be unwise to say to the individual ‘This is what your home should be like’ or to the community ‘This is the best solution for your city’. It’s risky to prescribe a ‘state of perfection’ when one’s predictive ability is as weak as we have indicated it might be.
See Siegfried Gideon, Mechanization Takes Command, OUP NY 1955.

'We are little concerned with the question whether man will ever attain a state of infinite perfection. We are closer to the ancient wisdom that saw in a possible moral evolution the course the world would take.'

Ed Ruscha, in a book of photographs of small fires, makes this point. 'Seeing things in the flames' is one of our most familiar conscious instances of applying subjective value.

We have now shown how the designer operates with at least one major unreality — his Weltanschauung and another within it; namely that the means at his disposal to build up his deontic knowledge are inadequate. Design becomes, therefore, a game in which form follows fiction. It is unrealistic in the terms we have defined. It is irrelevant that some people want to play that game. Martin Pawley points out that the consequences of such play account for about 5 per cent of our urban or suburban environment. What of the other 95 per cent? For urban and suburban dwellers it is the form to which they lend content through their experience of it. It is a major component of their Weltanschauung. The meaning for any one person of large areas of the urban environment is made up of his ideas and images; the subjective values he ascribes to objects, regardless of their origin. In other words, no matter what external conditions have lent form to an object, its content will be particular to the person who experiences it. We can do no more than guess at this content.

We have not refuted the hypothesis that design is of value, but we have made an argument that in its own terms design is not of value, simply because it can produce a plan with characteristics which are known to be desirable only to the designer. We can never know whether they are desirable to the designed-for. If this argument were further substantiated we would ultimately lend support to heresy that man is ateleological. Our present morality endorses the activity of planning and design because they seek goals. Designers cannot believe that they are wrong to plan, even though they are increasingly presented with evidence of their inability to make accurate predictions. 'Increasingly' because social and technical change are accelerating faster than they are able to improve their means of prediction.

Perhaps the efforts of designers can be turned away from patterns of behaviour and goals and towards actions definable as 'right'. Present design systems demand expertise about other people's value systems because (as Braithwaite pointed out) no universal laws hold. It may be possible to avoid this by setting up a designing system in which the designer is not an expert, but he uses the outputs of an information system which disposes of all relevant knowledge. Its operation, instead of being a sequence of judgements, takes the form of an argument in which the designer, the proponent, supports 'right' actions against counterproposals on the part of an opponent, perhaps represented in the information system itself. Such a system is known as dialogical.
Perhaps the most significant examples for designers of the dialectic process at work have taken place in the visual arts. Not only are the objects produced by this process in the artist's mind (we guess) but it is continued into the experience of them.

Lucas Samaras has created a ‘mirror room’, large enough to enter and in which the viewer is forced to argue with himself to ascribe it a subjective value. His normal objectification of ‘room’ and ‘table’ will be forced into bed with an abnormal subjective value.

Robert Graham’s environments make us argue in a similar way about plastic domes — wax girls — balsawood beds — kleenex sheets, but his particular taste for irony makes him miniaturize the objects, thereby confusing us. The wax girls are so realistic that our fantasy prompts us to miniaturize ourselves and get under the plastic dome with them. This is because one side of our argument tells us it is ‘right’ to make advances to girls. Once miniaturized we are confounded by the unreality of the unreal balsawood and kleenex bed. So we are forced to make our argument over again re-objectifying the girls as ‘wax model’ rather than ‘living doll’.

Walter de Maria challenges the viewer in his argument. His ‘High Energy Bar’ literally tells (the title is stamped onto it) the viewer to objectify the bar in a way that is not obvious, but also not disprovable — ‘it might just be a high energy bar, whatever that is.’ This very effectively confuses our subjective classification.

Eduardo Paolozzi brings together the imagery of a diverse object-environment, ranging from Mickey Mouse to transistor circuitry. He re-energizes this material in new contexts. Not only are new associations formed between objects, but they are presented through a medium not associated with the objects themselves (not associated with Art, either). In Samaras’ room the ‘table’ is physically similar to a normal table. In Paolozzi’s work a picture of a car, say, will be photolithographed, perhaps through a screen, and maybe in improbable colours. He is engaged in a serious dialogical process with a selected reference-group of objects. As viewers we continue the dialogue. We must objectify both the print itself and the objects in their new context. Our previous standpoint is argued against by the new context.
Ed Ruscha relates to Paolozzi in so far as he makes us indulge in the same dialogue. He is of particular interest to designers, especially architects, because his object-environment is populated with apartment houses, gas stations and car parks. Without exception, they are ‘bad design’ by conventional architect’s standards. Again it is their re-presentation, this time in books of deadpan photographs which forces us to continue the dialogue.

This evidence of a discourse or dialogical ‘designing’ system at work seems encouraging. Perhaps if we can generate enough information to start one for designing products or buildings, it could become a reality outside the visual arts. In fact some steps have been made in this direction. Gaming simulations have been used in several experiments as a vehicle for dialogue between designers and designed-for.*

The stumbling block of such an approach is language. Art is irrefutable. It does not worry that the meaning of an object or a word is unlikely to be identical for two or more people. Therefore scientific art is inconceivable, because science does worry about meaning. In fact one of the main endeavours of science is to make general statements in the least ambiguous terms possible. The sign √ is a typical term used in such statements. Designers are unable to make such statements. If the ‘medium’ of economists is ‘money’, then the ‘medium’ of designers must be ‘other people’s value systems’. As we have seen these cannot be defined in terms beyond the tendency statement. Therefore scientific design is as improbable as scientific art. Our dialogical designing system would be meaningless unless all information were presented in unambiguous terms, and we are not capable of this, so we would continue to generate form through fiction.

What alternatives remain? Perhaps none, immediately. But if we could expand the dialogical system to the point where the ‘opponent’ is more convincing than the ‘proponent’ we might even yet come up with a useful alternative to planning.

C. West Churchman, talking about the design of corporate bodies with respect to operations research has made some interesting counter arguments to planning, mainly as a means of illuminating some of the problems of planning. He defines our existing system, seen through the eyes of a manager, as ‘the 1969 model’ — the thesis of the proponent.

1. Everybody has or should have some contribution.

2. These contributions can be classified into responsibilities and each planning segment is separable (linear).

3. In the system there is one group (the public) which doesn’t contribute directly, it elects or delegates an expert on the service to be rendered them.

4. The contributions of the experts can be ranked in order of their importance in the management hierarchy.

5. Experts determine the public interest, hence the correct goals and means. This holds for all corporations.

Churchman next projected us to the ‘1999 model’; by this time the opponent’s antithesis of the ‘1969 model’ has become the social ethic. In the ‘1999 model’ we speculate on a management which supports proposition 1, but none of the others.

2. Contributions are now not separable. Professions no longer see themselves in particular roles. Architects may see themselves as psychologists and lawyers see themselves as economists.

3. There is no representation of public interests. The ‘Global Village’ has become a reality. Automation makes possible instantaneous direct participation at will, through in-the-home terminals to on-line, real-time computers, only a few computer generations away from our IBM/360. People have access to information about any aspect of the world, upon which to base their suggestions. Such an anarchic view of ‘management’ activity is in contradistinction to the 1969 view of a ‘good manager’ as someone who can get what he wants regardless of whether that is morally good.

4. In the ‘1969 model’ corporate bodies seek to optimize their activities through operations research. In the ‘1999 model’ the true goal is the maximization of everyone’s contribution, through ongoing reflective learning processes, or as Churchman likes to call them, ‘Inquiring Systems’. How would the concept of a contribution operate? It is hard to envisage exactly, but we can say that it would broaden the set of axioms defining problems. For example, in the ‘1969’ model management defines underdeveloped country through a set of axioms about economic growth and capital investment. If we expand the axiomatic set to include institutional stability and cultural development perhaps the U.S. would be seen as an underdeveloped country.

5. The present system implies relative values for various activities, and therefore measurement as a basis for ‘rational’ judgement. The ‘1999 model’, of course, will not tolerate this, because all contributions are valued equally.

This is one proposal which denies our existing system. In it are found solutions to many of the problems of design we have discussed. It is an existential system based in the individuality of man. Its cornerstones are freedom of choice and equality for all. It is a system which allows things to happen rather than making them happen. What then is its drawback? A simple logical paradox. In order not to plan we should have to plan. The ‘1999 model’ is itself a plan, and therefore, following our earlier arguments we should be forced to conclude that it is simply another fiction from which we might one day develop a form. Becoming ateleological is a teleological activity. Perhaps this is surmountable; I certainly hope so.
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