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Correalism and Corollaries

Introduction

"We the inheritors of chaos, must be the architects of a new unity,"[1] said Frederick Kiesler in 1942; he has repeated it frequently since and in all probability often before that year. Kiesler saw the twentieth century as a time of change and fragmentation which had driven the Progressive thinkers, between the turn of the century and the end of the Great War, to despair. But also it was a time when civilization's childhood had ended and man needed to confront his problems.[2] Kiesler saw a culture in which the art, theatre and philosophical positions of the last century were no longer viable. And he sought to discover a new art, a new theatre and a new philosophical position which would satisfy man's very basic need for being in union with the cosmos. This unity with the whole he summarized as Correlation.[3] The understanding of the operation of Correlation would equip man for coping with the twentieth-century world. The tenets of Correlation are also the basis for an understanding of Kiesler's thought and art, and his desire to achieve "The Awareness of Time-Space Scale and its Ever-Changing Correlation to the Object as well as to the environment."[4] As concisely as possible this chapter presents Kiesler's philosophical theory of Correlation and demonstrates its application to the theatre.

Correlation

Kiesler envisions man as a nucleus of forces which act upon him. The forces are exerted by the Natural Environment, the Human or Animal Environment and the Technological Environment. These three environments form a continuity held in continuous tension by the forces linking them.[5] The relationships within and among the environments are endlessly changing and exist both in time and space. Man is an integral part of this continuity. He is unique in that he is the only known creature to exist in a technological environment of his own creation. While other animals have demonstrated the use of tools at a primitive level, no other animal has developed the use of

tools to the point where they comprise so complex and flexible a manipulation of conditions as to constitute an environment.[6]

Simply stated, the Natural Environment consists of animate (plant and animal) and inanimate structures and the forces or energies which act upon those structures. For Kiesler the unseen forces or energies are as real as the objects upon which they act. The forces or energies which produce rain are as real as the water falling from the sky and the rocks and rabbits that are bathed by it. The same kind of forces or energies, also operating according to laws, occur in the human environment and are as real there as the basic elements of that environment.

The Human or Animal environment is intrinsic to man's biological existence and consists of both his physical and psychological states as determined by heredity and environmental conditioning.[7] Kiesler defines the relationship of the parts of the human environment as a "House and contents at once in a continuous One."[8] The physiological and psychological states or aspects of human life are interrelated and interdependent for the life of the organism. When death comes, they die together.

The dream is:
Superman, Superwoman, extraterritorial.
But the fact that every one of us
must die remains a revelation, after
youth has blossomed and the leaves have started
to wilt at the rim of roses.
Immobile trees, flying animals, walking mortals
all must die,
must,
mountains, too, waters and smoke. Everything, everywhere.[9]

Death was a terminal disease for Kiesler with no afterlife to soothe its finality, no "extraterritorial" place for the spirit contained by the body to find rest. The body and what Kiesler spoke of as spirit were inseparable. Other terms have been applied to the quality Kiesler dubbed spirit, such as mind or emotion or psychological state, and all were used by Kiesler as verbal symbols.[10]

The psychological aspect of man operates in conjunction with the body according to laws or sequences which could come to be known through experimental or intuitive processes. These processes result in the creation of the Technological Environment to fulfill human needs. This Environment "is made up from a whole system of tools . . . developed for better control of nature . . . in (a) sense everything which man uses in his struggle for existence is a tool."[11] Nature, here, is used as a collective for the Natural and Human Environments, for man has to deal with both in order to survive.

As examples of tools, Kiesler lists everything "from shirts to shelters,

from cannons to poetry, from telephones to painting."[12] The tools, though they are primarily used to reconcile man's needs either physically or psychologically, have an effect on a portion of the Human Environment to which they are not usually directed. Architecture is a tool used by man to provide a shelter from the Natural Environment, in which to live, work or play. The arrangement of the space, however, also affects the psychological state of the individual or group. Poetry and painting, though not as obvious in their provision for physical well-being, are no less profound. The effect of words and images upon the psychological state is directly reflected in the physical activity of the body, the tightening or relaxing of muscles, etc. Tools such as Architecture, Poetry, and Painting are *co-real* in Kiesler's terminology. They are equally and jointly one and, therefore, equally and jointly important to man's health and well-being.[13] And man's health, both physical and psychological, is the ultimate purpose of Technology.[14]

Kiesler conceived the three environments at extreme positions, at opposite poles one from the other, much like the opposite poles of a magnet, except Kiesler's configuration had three poles instead of two.[15] Just as the opposite poles of a magnet attract, so do the three environments. The point at which these environments meet is man. Man is the center, the nucleus, of the forces of attraction between opposite or polar extremes. Man and the three environments form a continuity. The normal state of that continuity is equilibrium. However, man has created the technological environment and can manipulate it. Therefore, he can maintain or disrupt the balance of the continuity. In order to maintain the state of equilibrium and, therefore, his health and well-being, man must understand the relationships existing between the three environments which form his universe. The study of these relationships Kiesler called Correalism.

Correalism

Correalism as a study of Correlation is approached by two methods: experimentation and intuition. Kiesler advocated the use of both methods in a reciprocating fashion. The process begins with the perception of a need to be fulfilled. Basic experimentation deals with the Human Environment and consists of determining how the human body and mind function. This he termed "Life Dynamics." Kiesler's own activity in the area of basic experimentation was concerned with the efficient operation of the body based on the mechanical functions of its parts. A large portion of this work was conducted in the Design Laboratory of Columbia University which Kiesler directed between 1936 and 1942. As previously mentioned, Kiesler prepared a manuscript on perception and wrote an article on dream phenomenon for the Surrealist publication *VVV*. The manuscript will be made available by Mrs. Kiesler as the basic article in an issue of *Film Culture* devoted to

Kiesler's work with film.[16] The article on dreams is short and promises a more extensive treatment, perhaps contained in this manuscript.

A second aspect of experimentation for Kiesler was historical research and evaluation of previous methods for dealing with environmental relations. The final step he sought was the generation of ideas for systems or devices which complied with the restrictions imposed by the physical and psychological aspects of the Human Environment and which overcame the defects found in previous systems or devices.[17] The effects of these systems or devices then had to be measured with respect to the Natural Environment. Eventually, portions of the technological environment would have to be changed to accommodate the new system or device. The extent of those changes was also a subject for study.

At some point in the formal or informal process of experimentation, he thought intuition began to work. The portion of the mind that operates without generating its thinking into language constructs had mysterious affects on a problem under study. Kiesler spends many pages of his book, *Inside the Endless House*, recounting how his sculptures created themselves without his conscious thought. He simply knew when the piece wasn't finished or needed reshaping or when the correct form or material was found; he could only attest to its rightness without understanding why.[18] There is an indication, gleaned from his writing, that Kiesler conducted formal experimentation for utilitarian items such as furniture and relied increasingly, as the years proceeded, upon intuition in his artistic creations.

The application of knowledge gained in the study of Correlation, an examination of how different environments are related, he calls Biotechnique. The term has special reference to the construction of shelters and the design of practical items of daily use. Kiesler seems not to use the term to apply to the arts, sculpture, painting, theatre, etc., although his knowledge of the operation of the body and mind were certainly applied to those fields.

Change and the Technological Environment

The chief concern of Kiesler's theory is the Technological Environment. Its importance is evidenced by the function he assigns to it. While the understanding of the Natural and Human Environments is essential as a basis for man's action, he claims it is through the Technological Environment that man controls the other two environments. Through proper manipulation of Technology, man is capable of maintaining both his natural and human situations to insure his physical and psychological health. The key to control is the understanding of the qualities of technical instruments and the process of technological change. Important to this discussion is the breadth of meaning which Kiesler gives to the term technology. Not only does it refer to tools such as cups, cars, and computers, but to political and

economic systems, the arts, the theatre, and other complex systems. For Kiesler, technological change was historical change. He says:

> We must abandon the purely
> historical and archeological method of
> discovered and dug-out truth, a documentation
> of facts rather than of an evolution of
> intrinsic values. . . .our reasoning
> is based on unrelated events of a scattered past
> to explain the present.
> Events and memory of events are
> continually transformed by the present
> to procreate the future. . . .
> And it is . . . a unity
> of a constantly changing diversity.[19]

An understanding of the process of history, he says, is more important for shaping the future than the authentication of facts.

In order to comprehend the application of his theories to the world of art, it is essential to describe how he demonstrates his principles in other areas. Kiesler developed a view of change in technological or historical processes in an attempt to understand the present and plan for the future. The study of changes is based on the evolutionary development of tools. In his article "On Correalism and Biotechnique," Kiesler restricts himself to a discussion of simple examples such as cutting tools, but his theory generalizes to discussions of larger and more complex tools as well. The "Standard Type tool" he defines as one created to meet an absolute need. As his example Kiesler uses the knife, one designed for the basic purpose of cutting a variety of materials. From this Standard Knife, a second class will develop, the Variation. Simply stated, the Variation evolves for auxiliary purposes; based on a Standard cutting implement, another might be designed to meet a special purpose such as the cutting of fruit or bread. The Variation would perform the same general cutting purposes as the basic knife, but would more effectively cut bread or fruit. Whereas the Standard Knife would crush and tear a loaf of bread, the Bread Knife would saw it cleanly. The Bread Knife could be used to cut harder items, but the specialization of its cutting edge would make it less effective than the Standard Knife.

A version of the Standard design that used a steel which would easily bend or break and would not retain its sharpness he designates as an example of a Simulated tool. It is characterized by insignificant changes in the design from the Standard or Variation from which it is derived and lacks the efficiency of its model.[20]

Kiesler's definitions can be applied to larger and more complex tools such as governance systems. When an absolute need for a political system is evident within a group, a political governing system may be established. For

example, a single individual may step forward from the chaos and declare himself the leader or the dictator, and he will hold his position by his personal power and the credibility of his actions. He will be the Standard governing system, the dictatorship. Members of another group, noting the new effectiveness of their neighbors in coping with the problems of survival, might well follow the example. Perhaps there are two or three dominant individuals in this group, and to avoid conflict, the two or three decide among themselves to rule. This Variation may provide for greater effectiveness because members of the ruling group may specialize in controlling the segment of activity at which they are most adept. The group has then established a variation on dictatorship as a political system. Subsequently, however, dictatorships may be continued on inferior premises such as heredity or seniority, and these Simulated dictatorships will become less efficient and offer fewer benefits to the members of the populace. When this condition or others of equal motivating power appear, the development of a new Standard type will be within sight.

Kiesler devised a twelve-step sequence as the anatomy of technological change. The first step is called the Present Standard which also stands for its Variations and Simulated counterparts. Once the standard is established (step 1), for instance, a bronze-cutting implement, there will follow a period of absorption into common usage (step 2). Next the deficiency of the product is evidenced (step 3); the Bronze tool breaks easily; the edge chips because of the brittle nature of the material. This period is followed by a time of observation and experimentation to overcome the defects (step 4). Then the discovery (step 5) of a new material or process is made, and an iron or steel knife is produced. After the invention (step 6), there is a period of resistance (step 7) to the new product. The populace is skeptical about an unproven tool. The inventor or his representative then tries to project the need (step 8) for the improved item to convince others of the value of the new product. Next a number of the new iron knives are produced and placed in circulation (step 9). The new knife is promoted through an advertising campaign of some sort (step 10). Given the superiority of the tool, it becomes increasingly more available through quantity production (step 11) which creates an absolute need (step 12) for the product; this need results in the adoption of a new standard (step 1); the steel knife replaces its bronze forerunner. Significant in the theory is the contention that needs are created, not inherent in nature. Again the example can be applied to more complex tools.[21] (See Plate 12).

According to Kiesler's sequence, if dictatorship became the standard system of group governance, it would be absorbed into the culture. Eventually, however, policies adopted by the dictators would reduce the effectiveness of their sustained operation. Also, the needs of the persons forming the culture might change and further expose the inefficiency of the

governing system. Members of the society, observing the decreased effectiveness of the government, might discover that if each of them could influence how the system was operated, they might live better. Some one member or group then could invent a tool, the balloting system, and advocate its use in making decisions. Of course, there would be resistance to the plan on the basis of both ethics and vested interest. The need for the change would be projected, perhaps in subversive literature and private discussions. Small-scale trials of the system might take place among members of activist groups. The balloting system might be promoted by including the general populace in the process and indicating how the new system would provide better care of their needs, whether it would or not. The need for self governance then might become an absolute need, and either peaceful or violent methods would be utilized to establish the New Standard. An influential and wise group understanding the process of change could manipulate it allowing change to occur and avoiding violence which would nullify the new standard.

> [The] progress of tools [is] relative to [the] time stratum: . . . Each stratum of the social development in man's history has produced its own tools to deal with various old and new forces. Each new environment creates new variations and standard types of tools which lose their validity if applied backward or forward in history.[22]

Standards, therefore, cannot be spoken of as higher or lower, better or worse. They are either appropriate or inappropriate for the time and space, the environment, in which they are used. The iron cutting tool is not necessarily better than the bronze knife, only different, for each met the level of need required by the environment. The same is true of governmental systems; dictatorship is not an intrinsically bad form of government, and democracy is not inherently good. Both are appropriate for different conditions created by the interaction of the Natural, Human and Technological Environments. The art and theatre of the nineteenth century or earlier is not inherently bad, only inappropriate and less meaningful in the twentieth-century environment. Historic forms of art and theatre, therefore, are to be appreciated, but not used as models for modern times.

Needs evolve and change as the three environments interact. Each new technological change interacts differently with the Human and Natural Environment than the changes before it. As technological change increases in complexity and rate, it exerts a force of its own which man may have difficulty controlling. In 1939 Kiesler observed:

> Throughout his historical development man has steadily added to his technological environment. In his primitive stages this relationship was relatively well balanced . . . but through ancient and medieval times this relationship became increasingly complex and unwieldy, until today man's health is literally threatened by the very tools he created to

protect it. Needed, therefore, is a planned re-integration of the technological environment, based on the elimination of waste (simulated) products and increased emphasis on new and higher (more appropriate) standard types.[23]

Kiesler observed that the period between the invention (step 6) of a product and its mass production (step 11) was 30 years. In modern times this period has been drastically shortened in some cases. Within less than 10 years from its invention, the electronic calculator has reached production levels which allow the existence of the device in the home of every citizen of the United States who has seven dollars to spend.

By 1965, technology gradually became threatening for Kiesler because of the spread of destructive devices for coping with the human environment and preventing or producing change. As demonstrated in the discussion of governmental systems, when a need becomes absolute, the person in need will take action to establish a new standard if necessary by violent means. Kiesler feared that society would not see the need for fundamental changes in values for dealing with technology before it became embroiled in difficulties arising from the misuse of its tools.

Reckless progress reveals one of the incarnations of the devil. . . . Confess, you and I, we all (are) caught in the middle . . . between the Lilliput of Science and the golems of technology.[24]

If today's society could understand the process of change and could predict the need for change by observation, then the establishment of an absolute need could be planned and accommodated without bringing about the destruction of society by the employment of technology more powerful than any known in history. But first, Kiesler said, there has to be a basic change in the ethics of industrial society. He compared his idea to that of St. Francis's ideal of poverty.

What strikes us most in these postulates is:
poverty.
Is poverty the aim of our life? Could that be what is meant?
No. Not poverty by neglect, for the whole
globe would then consist
of nothing but beggars,
hungry and pestilential.
It is poverty by choice, and means a way of living
in unison with whatever changes occur
by environmental forces
and without the intent to profiteer beyond
the balance of one's own needs.[25]

Such a change is possible in Kiesler's view of change and the interactions of man's three environments. While some technological changes may occur in

30 or even 10 years, other such as those of governing systems may take hundreds of years. A change in the human outlook from the standard of profit to the standard of poverty could take place over a period of thousands of years. Kiesler says this change may be realized because

> there is something
> in the energy structure of this world
> (composed of the three environments)
> . . . which no radar screen can detect
> and no electron microscope
> can see
> but which are the very causes
> that trigger anguish and despair
> or concordance and harmony.
> Though most of these will particles exist
> (the forces or energies between the environments)
> for no more than a fraction of a second . . .
> their force is powerful enough
> to hold us together
> and control
> the expansion or death
> of our lives.[26]

Perhaps the technological environment can even be manipulated, he says, to increase the possibility and rate of this change. The element of that environment to effect the change would be the arts and the theatre.

> The artist (says Kiesler) will not work any more for his glory in museum or galleries, but for solidifying the meaning of his creations on a large scale without falling into the pitfalls of social realism, anecdotal accounts of events or pseudo-scientific extravagances. He will and must take active part through his work in forming a new world image.[27]

Correalism and the Arts

For Kiesler, art had a single purpose: the creation of a new world image; that is, a balancing of the Technological, Natural and Human Environments which he perceived as unstable because of man's misuse of technology. This act of establishing a healthy equilibrium for man was to be achieved by two means.

The first approach was to demonstrate to man what the balanced state of the three environments was like. In a way, said Kiesler, "Art is the only constant in human society," because through art man was made aware of his unity with the cosmos.[28] This was the ritual function of art which dates from man's primitive state.[29] Through drawings or carvings or performance, man tried to achieve harmony with the universe. This, Kiesler felt, was still a basic need of man and the purpose of art. If man could feel the experience of unity with the cosmos, then he could recognize it when he discovered it and could

evaluate his progress by how close his technology made him approach that experience.

The second path of art was more didactic; in essence it was the ancient teaching function of art. Kiesler's early socialist rhetoric, vented on the press after his arrival in America (1926), and his repeated call for a theatre of the times support this contention, as does the content of his later writings and works of art. Art was to demonstrate why man was out of tune with the universe and what steps had to be taken to achieve a balanced equilibrium of the basic three environments of man.

Both of these sub-functions of art were to be achieved by the application of Kiesler's design theory, design by polarization.[30] Kiesler derives this principle directly from his concept of the relations between the Natural, Human and Technological environments. The three environments are attracted to one another by their opposite, polarized natures just as the opposite ends of a magnet attract one another. In a similar fashion, the visual elements of a design can be set in opposition one to the other with the same result; they will focus toward a central point. As the three environments focus on the nucleus of forces called man, the visual elements of the composition focus on the meaning or content of the work of art. The result of the balance of the three environments is the health of man; the result of a balance between the visual elements is an understanding of the work of art.

According to Kiesler polarization could best be accomplished if the opposing elements were contained in a single environment. The environment surrounding an object he believed contributes to the manner in which the object or its meaning is perceived. If the object or objects of art are to express the continuity of the universe or integration of the three environments, then the best communication will result when the object and the environment form a continuity.[31] Design must be environmental design. Museums, for this reason, were one of Kiesler's favorite targets for criticism. He believed that they did not create environments in which art could be experienced but rather imprisoned it, decreasing the ability of the work of art to communicate with the viewer.[32]

In creating an environment, Kiesler saw space as the link between objects which formed a continuity and was as important as the objects themselves.[33] It was the space between the independent parts that he called fields of tension that held the parts together like planets in a void.[34] The fields correspond to the forces between the environments of man. Just as the forces hold the existence of man together, the forces in the spaces hold the environment together.

Theatre provided Kiesler with an opportunity to create environments. Audience and production were brought together in the same space and were held together by the tension created by their interaction. The setting was an environment for the meaning of the play.

Correalism in the Theatre

The theatre was a technological tool for Kiesler like any other art form. And while it might have been true to the purpose of demonstrating the unity of man within the cosmos or illustrating how through his actions man placed himself in opposition to that continuity, the theatre of Kiesler's Europe had to change in order to be relevant in the twentieth century. A new Standard of the tool had to be established. This did not pertain to subject matter alone as might be expected. Kiesler was well aware of the universal qualities found in art works, plays and music from earlier times. During the 1926 Exposition in New York, he had remarked that the theatre was waiting for a poet like Shakespeare or Molière. However, Kiesler favored the use of problems and fears unique to the twentieth century. He directed his attention to changing the configuration of the theatre and the design of its settings rather than its literature.

In 1926 when Kiesler first wrote his article "Debacle of the Modern Theatre," he placed the New Standard of the Theatre in the midst of his evolutionary chart depicting change. The kind of theatre appropriate for the twentieth century had just been invented and was meeting resistance. The invention had not yet been perfected. "The elements of the new dramatic style are still being worked out," he wrote.[35] Kiesler projected the need for a theatre of the present day and said small scale production was beginning. Kiesler pleaded, "We have no contemporary theatre. No agitators' theatre, no tribunal, no force which does not merely comment on life, but shapes it. . . ."[36] The theatre and its buildings are "Copies of copies,"[37] what Kiesler would call Simulated tools—materially less effective tools for dealing with the revelation of man's relation to the cosmos and not a force for moving him into continuity with the universe when he is out of step.

Part of the problem, as Kiesler saw it, was the architectural arrangement of the performance space which isolated the audience from the actors and the setting and, therefore, destroyed the meaning of the production. The "peep-show" stage placed the production in one box and the audience in another with the proscenium wall and the curtain between them. The structure of the plays compounded the problem by being divided in such a manner that the audience and the production were constantly being separated by the curtain and had to reestablish contact. Moreover, the design of the auditorium did not provide for all of the patrons to see the stage clearly, let alone the relationship of the actor to the space around him. The "peep-show" stage and the desire of the actor to be downstage caused an unnatural separation of the actor from the environment created by the setting and forced the scene into a picture-like relief rather than into the space of sculpture. The scenery became "book-illustrations."[38]

Kiesler suggested that the theatre-in-the-round, or the Space Stage he

had constructed in Vienna, was one solution to the problem. Another configuration he advocated was the gradual sloping of the stage floor upward from the audience to the rear of the stage house. The ground plan of the setting would then be more evident to the spectator and enhance the feeling of the spatial relations within the setting. All motion inside the space would then be translated into spatial rather than pictorial distancing. The side wall of the stage walls were to be closer together in the upstage area than they were downstage and the ceiling of the stage was to incline gently and flow into the auditorium until it reached the highest balcony.[40]

The stage was to be shaped like a funnel which was to open toward the audience. The shape of the stage would focus the attention of the audience continually into the stage space and spill the production toward the audience. The production and the audience would be united in a single space yet remain at opposite ends of that space. This polarized condition, according to Kiesler's theory, would increase the understanding of the text; it would not be aesthetically hampered or stopped by the stage curtain or the architectural configuration that kept the stage in one space and the audience in another. A continuity would be established between the audience and the production in which communication of the feeling that man is unified with the cosmos, or the feeling of why he is not and how he can be, could be transmitted from the stage to the viewer.

Kiesler's theory of design was applied to his scenic endeavors as well. The script was to be viewed as a continuity. Within that continuity there could be found opposing polarized elements, ideas, symbols, images, themes, etc.; these would interact to direct the play toward the central issue under consideration. The polarities could be given a visual presentation in the scenic design which would make the elements and their relationship clearly felt by the audience. If so, then an investigation of Kiesler's scenic art should indicate that his designs were planned either rationally or intuitively in accord with his theory. The consideration of this question is included in the next chapter.

Corollaries

Over the period of 40 years following 1924, Kiesler generated a number of practices and principles from his general theory of Correlation and its operation. Five of these are significant in understanding Kiesler's approach to architecture, art, theatre, and life.

Continuous Tension Construction

The proposition of continuous tension construction states that a building will be stronger if constructed in such a way that it has no or at least a

minimal number of structural joints.[40] The junction points of different construction materials or even units composed of the same material are likely to fail under stress or cause damage to the structure due to natural settling.

If the building has no joints but is formed, preferably from a single type of material, the molecules of the building material will continuously push against each other and be held together by the forces generated by their natural structure. The stress placed on the structural surface will then be dissipated evenly over the whole building rather than being intensified at the joints. For this kind of construction Kiesler preferred concrete although he specified glass walls for the construction of the Endless Theatre of 1923-24.[41] The concrete was not to be reinforced with steel because the expansion and contraction coefficient of the materials differed greatly. During environmental extremes of temperature, the two materials would expand or contract at different rates causing the materials to exert force against each other and reduce the strength of the construction.[42] Kiesler employed the principle of continuous tension in designing the dome of the Shrine of the Book which was formed from an asbestos mold that was removed after the concrete had solidified.[43] Continuous tension in construction derives from his theory on the continuous tension of forces between the three environments of Correalism. Just as the interaction of the environments is held in balance by the interaction of the forces each plays against the other, so the surface of the building is held together by the forces the particles of its structure exert against one another.

The primary examples of continuous tension applied to the theatre are the shell structures Kiesler designed for the Endless Theatres of the 1920s and the 1960s.

Multiple Purpose

At their best the tools of the technological environment should serve more than one purpose. Kiesler derived this idea from his theory of Correlation also, although it must be noted that the idea was common to many of the designers of Europe, especially German, and has persisted. When observing a continuity, Kiesler found that it consisted of several polarized or opposing elements which pulled together to form a nucleus of actions. He defined a function as "a specific nucleus of actions."[44] He also considered that no function of the body was directed at a single purpose. Uniting these ideas, he designed tools that could perform several related functions as a nucleus. For the Art of This Century Exhibition of 1942, the designer built a special basic resting device. The item was a chair built from plywood and linoleum of various colors. It fulfilled seven functions: as a rocking chair, or connected another unit with boards, it served as a resting place for people; turned over

in various positions, it provided a pedestal for sculpture, an easel-like shape for presenting pictures, or simply a table surface for placing personal belongings.[45]

The main application of multipurpose for the theatre was in Kiesler's architecture. The designs for theatre centers contain various theatres for various kinds of performances. The main stage areas are flexible and can be arranged to form several different audience/actor configurations. His adaptation of the principle for scenic design is indicated in the designs of a unit setting for Juilliard in 1948. The parts of the setting could be painted and arranged differently for each production. The main feature of the unit was the large assortment of vertical structures available.[46] The ability of a single scenic unit to be changed to provide for a different function or scene within the play is a typical application of the multipurpose principle.

The Artist and His Education

> A new Era has begun. . . .
> The poet, the artist, the architect
> and the scientist are the four cornerstones
> of this new-rising edifice of our existence.[47]

The future and the present should be changed by the technology generated from these four sources, all of whom share the same need to create: (1) the poet who creates with language or sound, (2) the artist who creates with visual materials, (3) the architect who creates environments, and (4) the basic scientist who searches for knowledge. Their goal is the revelation of the unity of the cosmos and how man can retain his appropriate part in that cosmos. The theatre artist-scholar, with the growth of empirical research, now begins to encompass the scientist's role as well as the traditional roles of poet, artist and architect.

The artist is basically the highly creative man. "Creativity," says Kiesler, "seems to be an instinctive search for truth . . . a relentless probing into the world beyond, inhaling the unknown and forming it concretely, a pursuit of purpose until the standard status is changed."[48]

All men are not creative, Kiesler thought. They are born unequal and, therefore, the degree of creativity even within the group of artists varies. Regardless of this natural state, creativeness can be taught—not directly but indirectly. All men, therefore, can increase the effectiveness of the creativity they possess regardless of how large or small the quantity. Likewise, creativity atrophies when not developed. The indirect teaching method involves sinking "back into our origins as humans, (and) adding our growing experiences to the fertile mud at the bottom of the lifewell."[49] Less poetically, Kiesler refers philosophically to experiencing the unity of the universe and bringing the present human experiences into continuity with it.

As men are unequal, the methods of indirect teaching should be adjusted to their capabilities. The individual who is less creative must be taught to appreciate the art produced by the more creative. Exactly how this was to be achieved Kiesler did not specify. That it was not to be accomplished by art history sessions and reproductions was clear. Photographs of art works, he said, function only to reawaken a past experience.[50] The creation of environments in which real works of art could be perceived with the non-verbalizing aspects of the human mind seems a more likely advocacy for the architect.

The creative individual was to be trained more rigorously. First, he was to experience art just as the less creative person. He was then to become a master of the techniques of art. This required the study of and practice in traditional art subjects and a familiarization with various materials and methods. Most importantly though, the artist had to be taught resistance.

> Not to resist himself, but to resist, without exception every human, technical, social, economical factor that prevents him from being himself . . . he is given the inherent right of resistance of falsehood, presumptuousness, to mediocrity, to fashions, in short to conformity.[51]

This was the kind of resistance Kiesler had understood from his childhood along with a second capacity he felt to be part of the artist's make-up. The artist, he thought, had developed a way to stay under the waters of life longer than his fellow man.

> Life seems to me like a diving operation. You swim fairly well lying naturally on your back. . . . You swim, but you want to dive. Staying on the surface is not enough; you aim for the depths . . . but you have to come back to the surface for air. . . . The artist, however, has invented a tricky way to stay underwater longer than his fellow man. . . . He winds his way among the multitude of undersea life, pulling his art over him like a diver's suit with a lifeline rising through the waters up to a harbored ship from which he is fed and kept alive (foundation grants, university jobs, [a] casual Maecenas).[52]

For Kiesler, the artist experiences life more deeply in both its pain and joy, and his art is both his protection from that depth of experience and his method of communicating it to those without divers' suits.

The Machine

The machine, Kiesler claimed, is the basic tool of the practical side of the twentieth-century technological environment. Early art movements of the period expressed both man's fears and deification of the machine. Eventually, the machine was seen as a tool to be manipulated by its creators like any other tool. Nonetheless, the existence of the machine had a profound effect, for its adoption caused the acceptance of its greatest limitation: the machine

had to produce on a large scale if it was to be utilized with economic efficiency. The applied art of commercial artist had to be designed with mass production in mind.[53] Kiesler was aware of this effect on the world or commercal art and, in fact, the furniture designs he created during the 1930s lent themselves to volume production. The most profound influence of the machine on Kiesler's art, however, appeared in a different context.

Harriet Janis, in categorizing the effect of the machine on art, proposed four classifications. The first was the use of machine-made objects or parts for the forming of an art work; second were designs derived from machine motifs or using the machine as subject matter; third were the pieces of art which were a non-utile machine. The fourth category was the work of art as a utile machine.[54]

The fine art form in which Kiesler created utile machine art was scenic design, although in the applied craft of art display, he devised machines which mechanically moved the art work before the viewer. The primary example of the machine as an art object was in the 1923 Berlin setting for *The Emperor Jones.* The setting was a moving three-dimensional abstraction of the jungle surrounding the Emperor. The propensity for this utilization of the machine as art was also demonstrated in the early setting for *R.U.R.*

The machine concept used in these designs, however, seems not to be motivated by a desire to produce machine art but to utilize the equipment to realize a theoretical idea on the stage. Kiesler wanted the setting to be in continuous motion to reflect the changing environment of the play. This idea is consistent with his theoretical concept of continuous change and movement of forces between the Natural, Human and Technological Environments.

Endlessness

The continuous tension of a building surface was endless. The shape of the structure had no begining or end. But most important was the continuous tension created by the polarization of artistic units and the Natural, Human and Technological Environments. Through that tension man became the center of the universe for his own purposes, and through that tension his ability to remain in unity with the operations of the universe was endless.

Kiesler's ideas on endlessness have been fragmentarily perceived by critics as concerned with immortality, rebirth,[55] or infinity.[56] All three interpretations occur and are encompassed by his basic theory of Correlation.

In the article "On Correalism and Biotechnique," Kiesler footnotes two biologists, Jickeli and Garrel, who offered experimental proof that death by aging occurred because of imperfect metabolism within the cell structure which clogged the cytoplasm with waste materials. These two demonstrated

to Kiesler's satisfaction that the immortality of the cell was a possibility.[57] Although he realized death was inescapable at present, in 1965 he said: "Scientists do not need to assure us of immortality, sooner or later it will be a fact."[58] Immortality was given a very casual treatment, and Kiesler seemed willing to accept it as part of the future without allowing it to be evidenced in his work. The topic was more valuable to him in illustrating the possibility of endlessness, simply another supportive timber for his umbrella concept.

Rebirth did appear as a theme in Kiesler's art. The Shrine of the Book and the Grotto for Meditation were both symbols of rebirth for historical and theological concepts. The spiral form was for Kiesler a rebirth image which he wrote about during the 1940s and was evidenced in his designs for the Endless Theatre and Place de la Concorde of the 1920s. The most important aspect of rebirth, however, was the renewal of a unity with the cosmos which an individual could experience. Kiesler makes this clear in his discussions of both the Shrine of the Book and the Grotto for Meditation.[59] Therefore, the idea is more central to his world view than is immortality.

Infinity is also a prime consideration. Kiesler placed no limits on the time-space continuity in which his three environments operated. His theory of technological or historical change likewise suggests no end to the sequence of evolving standards. Infinity is not a term used a great deal by this theoretician; it seems freely accepted as a given of the universe.

Summary

Kiesler's world view he called Correlation, and the study of the relationships of its parts he called Correalism. As he perceived the universe, man exists in three separately definable environments which interact in such a way as to make man the creature he is. The Natural Environment consists of all forces and organic and inorganic life other than man. The Human Environment is composed of both the physical operation which man is capable of and his psychological state or mind. Man created the Technological Environment in order to cope with both of the other environments. The Technological Environment is of great importance to Kiesler, and its control by ethical standards is imperative for the continued health of man. Kiesler believed that the proper operation of technology could occur only when profiteering is abandoned and when each man claims his needs without taking excess. Kiesler generated a sequence of events for understanding the endless process of technological and historical change. Technology, in his view, is simply the invention of tools to maintain man's health. Man's psychological or spiritual health must be maintained by the arts and theatre; both can make man feel his integration with the cosmos and give him direction when his actions cause him to lose this closeness to the universal. Design in the arts is the act of polarizing images, themes, objects, etc. so that they form a continuity

which shows their interrelationship and their import for man's well-being. The application of this principle of design is evident in Kiesler's theatre architecture and will be discussed in the following chapter with regards to his scenic design.

From the basic theory of Correlation, Kiesler developed a number of corollaries. These were continuous tension building techniques; multipurpose design; a theory of the artist and the needs of his education; a place for the machine in twentieth-century art; and the binding condition of Endlessness which he applied to concepts of immortality, rebirth, infinity and, most importantly, to the continuous tension between polarized elements which holds his concept of Correlation intact and makes possible man's unity with the universe through art.

Chapter 5

1. "Inheritors of Chaos," *Time* (November 2, 1942), p. 47.

2. *Frederick Kiesler* (New York: Howard Wise Gallery, 1969), p. 6.

3. "Is Today's Artist For or Against the Past?" *Art News*, LVII (September, 1958), p. 39.

4. Frederick Kiesler, "Kiesler by Kiesler," *Architectural Forum*, CXXXIII (September, 1965), p. 64.

5. "Kiesler by Kiesler," p. 64. "Forces are energies." Energy, Kiesler assumed to be basically electro-magnetic. Energies are constantly in flux, integrating into matter or perhaps thought constructs which disintegrate into energy. The rate of mutation from one form to another is infinitely varied, from instantaneous to thousands of years. The tendency of the three environments to form a unity can be seen as energy mutating into matter through a natural process or sequence.

6. "On Correalism and Biotechnique," p. 60.

7. Ibid.

8. *Inside the Endless House*, p. 146.

9. Ibid., p. 137.

10. Ibid.

11. "On Correalism and Biotechnique," p. 63.

12. Ibid.

13. Ibid.

14. Ibid., p. 64.

15. Ibid., p. 67.

16. Interview with Lillian Kiesler, January, 1977.

17. "On Correalism and Biotechnique," pp. 70-71.

18. *Inside the Endless House*, pp. 18-30.

19. Ibid., pp. 144-45.

20. "On Correalism and Biotechnique," p. 63.

21. Ibid., p. 64.

22. Ibid.

23. Ibid., p. 65.

24. *Inside the Endless House*, p. 142.

25. Ibid., p. 138.

26. Ibid., p. 139.

27. Ibid., p. 150.

28. Ibid., p. 149.

29. WUHY, "Music for the New Age," May 13, 1976.

30. "On Correalism and Biotechnique," p. 67.

31. *Inside the Endless House*, pp. 151-52.

32. Frederick Kiesler, "Art in Orbit," *Nation*, CLXLVIII (May 11, 1964), p. 486.

33. Kenneth Baker, "Kiesler: Space as a Link Not a Void," *Christian Science Monitor* (New York), May 14, 1969.

34. *Fifteen Americans*, p. 98. There is speculation by astronomers that not only was it originally possible for the basic amino acids, from which life theoretically developed, to be formed in space between stars as they are today, but that the universe is somehow held together by magnetic energy tensions or links between stars. Frederic Golden, *Quasars, Pulsars and Black Holes* (New York: Scribners, 1976).

35. Frederick Kiesler, "Debacle of the Modern Theatre," *International Theatre Exposition* (New York: Little Review, 1926), p. 14.

36. Ibid.

37. Ibid.

38. Ibid., p. 17.

39. Ibid., p. 18.

40. "On Correalism and Biotechnique," p. 67.

41. *Frederick Kiesler; Architekt: 1890-1965*, p. 23.

42. CBS, "Camera Three," 1960, "The Endless House and Why," Frederick Kiesler. Script of program, in Kiesler scrapbook 128/170-182.

43. "Shrine of the Book," *Progressive Architecture*. XLVI (September, 1965), p. 130.

44. "On Correalism and Biotechnique," p. 67.

45. *Confessions of an Art Addict*, p. 100.

46. "Kiesler's Pursuit of an Idea," p. 122.

47. *Inside the Endless House*, p. 150.

48. Frederick Kiesler, "Art Is the Teaching of Resistance," *College Art Journal*, XVIII (Spring, 1959), p. 236.

49. Ibid.

50. Ibid., p. 237.

51. Ibid.

52. *Inside the Endless House*, p. 34. Maecenas is the tasteless art collector in the Richard Strauss opera *Ariadne auf Naxos*.

53. *Contemporary Art Applied to the Store and Its Display*, p. 67.

54. Harriet Janis and Rudi Blesh, *Collage: Personalities-Concepts-Techniques* (Philadelphia: Chilton, 1962), pp. 133-36.

55. Charlotte Willard, "In the Galleries," *New York Post*, June 21, 1964, Magazine, p. 14.

56. *Phaidon Dictionary of Twentieth Century Art*, 1973 edition, s.v. "Frederick Kiesler," p. 191.

57. "On Correalism and Biotechnique," p. 66.

58. *Inside the Endless House*, p. 134.

59. Frederick Kiesler, "The Grotto for Meditation," *Craft Horizons*, XXVI (July, 1966), p. 27; "The Shrine of the Book," *Progressive Architecture*, XLVI (September, 1965), p. 131.