What's Hecuba to Him? On Kiesler and the Knot

William Braham, University of Pennsylvania
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William W. Braham is an assistant professor in the Department of Architecture, University of Pennsylvania.

Frederick Kiesler was a mercurial architect, who like other early émigrés — Richard Neutra, Richard Schindler, and William Lescaze — traveled to America carrying the messages of the European avant-garde. He traveled as well between groups, and especially between disciplines, shuttling from architecture to the fine arts, and working concurrently in product, furniture, display, and theatrical design. During the 1920s and 1930s, he belonged to De Stijl, the American Union of Decorative Artists and Craftsmen, Buckminster Fuller’s Structural Studies Associates, and the theater faculty at Julliard; he also formed the Laboratory of Correalism at Columbia University, and through his association with Marcel Duchamp and the exiled Parisian art community, became the “official” architect of the surrealists. By all reports, he was eloquent and loquacious, well suited to the role of herald, and his own work, though occasionally

Via Apea
The misery of man lies . . . in his inability to construct anything that has not been experienced by his imagination.
He is utterly caught in the net of his imagination.
Nature holds him as a hostage.
If he could break through this net — he would be free.
But man travels the Apean way. It is his destiny to ape.
At best, to ape himself. To realize his own visions mechanically.

Frederick Kiesler

Frederick Kiesler
clouded by hints of plagiarism, was shaped by that multiplicity of contacts and the privileged insights of the traveler. Each of these worlds, with its different concerns and histories, has a claim on Kiesler, and for each he appears in a slightly different guise. This essay examines him as an architect, specifically as he presented himself to the readers of *Architectural Record* in the 1930s when the identity of the modern, technological architect was being developed and refined. From his “Space House” of 1934 to his “Design Correlation” series of 1937 to his most difficult piece, “On Correalism and Biotechnique” of 1939, Kiesler’s appearances in the *Record* were a polemical combination of his developing theory of “correality” and his fascination with “continuous construction.” He derived the term “correality” from ecological concepts to explain the “co-real” and evolutionary interaction among human, natural, and technological environments. Identifying human health as the “fundamental denominator” of all three led to “biotechnique,” the design methodology he offered as a critical alternate to the “Hygiene and Estheticism mystique (the Bauhaus, Corbusier’s system, etc.).” Excluding the direct imitation of biological forms led to a proposal for “continuous” (shell) construction that must have puzzled the general readership. His articles certainly drew the criticism of the editors at *Pencil Points*, who remained resolutely traditionalist throughout the period: H. Van Buren Magonigle mocked the specifications for the Space House in his column “The Upper Ground” and Eugene Raskin wrote a parody of correalism titled “Cerebrationism and Vacuotechnique.”

This same period also witnessed Kiesler’s developing relationship with Duchamp and their subsequent induction into the surrealist circle. In 1949 Kiesler published a translation and expansion of his article on correalism in *L’Architecture d’aujourd’hui*, subtitled “Les États unis de l’art plastique,” it collaged fragments of the 1939 article with his sculptures and surrealist gallery designs of the intervening decade. It is tempting, therefore, to interpret correalism as a protosurrealism, attributing its difficult language to psychological fascinations and describing its concrete realizations as exercises destined only for the gallery. Yet, the importance of the surrealist connection notwithstanding, correalism began as a fundamentally architectural proposition; and though it had less coherence than Kiesler suggested, it constituted a critical exploration of Gottfried Semper’s principle of *Bekleidung*, or dressing, as it was conveyed in the Viennese architectural tradition from which Kiesler emerged.

The connections among correalism, continuous construction, and Semper’s *Bekleidung* are visible in the unexplained final image of the *Record* article on the Space House: the knot used to make the house’s fishnet curtains. It is an ancient knot, known as both the fisherman’s and the weaver’s knot; it does not easily unravel and in a network it allows for ready splicing and repair. In 1860 Semper cited exactly this knot in *Der Stil* as the “oldest technical symbol” and illustrated it (twice) in a similar fashion: a white twine diagram on a black background. Semper described the knotted network first as a principle of construction, then as a decorative tradition in fabric — “the Middle Ages loved the network” — and, most importantly, as it was translated into tectonic materials, dressing the surface of walls. The knot is part of his extended demonstration that textiles and architecture arose together from the principle of *Bekleidung*; what first appears as a textile enclosure later becomes a mask concealing and representing the structure of the wall and, finally, in the Greek temple, becomes a coat of paint that masks the materiality of the stone.

Kiesler certainly knew the treatise and the principle of *Bekleidung* from his years in Vienna, especially in its interpretations by his teachers Adolf Loos and Josef Hoffmann.
The authority of Semper's argument and the emphasis it placed on textiles is not to be underestimated. That Alois Riegl's *Problems of Style* was written while he was curator of textiles can be partly attributed to the thesis of Der Stil, even as Riegl attacked the emphasis that Semper's followers placed on the importance of technique. When Conrad Fiedler, another theorist of the generation after Semper, sought to argue for a different logic of space enclosure, based instead on the smooth walls of the Romanesque, he contended with the authority of Semper's proposition by restricting it to ancient buildings: "the tapestry-dressed stone wall of antiquity must be seen as the monumental art-form for a concept of spatial enclosure derived from the use of textile hangings for the purpose of shutting off inner space from the outside world."6

The analogy between architecture and clothing is as old as the knot. Semper traced its first literary appearance to a passage by Democritus about the Temple at Ephesus that begins with a comparison of its ornament to the bright colors of the people's clothing: "the Ionians have violet-blue, purple, and saffron-yellow patterned undergarments." The principle of *Bekleidung* derived originally from Semper's entry into the polychromy controversy of the 1830s, which was initially an archaeological dispute about the amount of paint that could be discerned on the protected portions of ancient buildings or inferred from brief literary descriptions. It quickly became an architectural argument driven by the question of whether the white marble surfaces were themselves coated and colored. Like the "continuous" or "endless" constructions to which Kiesler devoted himself, this dispute involved questions about endurance and representation. The fact of such coatings meant that the revered marble frames had been stripped naked by the weather, rather than conceived elegantly nude, and that a fully finished building had required ornamental cosmetics.

The immediate cause of the polychromy dispute had been the publication in 1815 of Quatremère de Quincy's study of the giant cult statues of Athena in the Parthenon and of Zeus in the temple at Olympia. He showed how both were assembled from multiple precious materials — wood, gold, ivory, gemstones — rather than carved from a single stone. The emphasis that eighteenth-century aesthetics placed on pure form was contradicted by the proposition that such chryselephantine statues were valued for either the splendor of their materials or the appearance of naturalism. As a student, Semper had been immediately engaged in this dispute, publishing his "Preliminary Remarks on Polychrome Architecture" in 1834. And he returned to its terms throughout his long career, addressing both the issue of polychromy and Quatremère's discussion of chryselephantine sculpture again in *Der Stil* as part of his elaboration of the principle of *Bekleidung*. Semper's reconciliation with the coloring and
materiality of ancient buildings developed from the equivalence he observed between the dressing of buildings and the masks of the theater. In a well-known footnote to the discussion of Bekleidung, he explained this equivalence as the masking of reality necessary to all the arts. This equivalency between dressing and masking could also be taken as an emblem of Kiesler’s career.

The footnote further explains the necessity of masking the material of the masks themselves. Semper’s argument refutes the simple materialism by which he was later characterized; it was a materialism everywhere in service of the mask: “only by complete technical perfection, by judicious and proper treatment of the material according to its properties, and by taking these properties into consideration while creating form can the material be forgotten, can the artistic creation be completely freed from it.” In essence, the material must recede so that its forms might prevail, and this ethic precisely repeats the ancient privileging of form over matter — hylomorphism — by which thinkers from Pythagoras onward had distinguished among the qualities of things. Giambattista Vico’s description of that long-standing opposition is characteristic: “the properties of matter are to be formless, defective, dark, sluggish, divisible, mobile. It is, as Plato calls it, ‘other’, that is, always diverse from itself. By reason of all these properties matter has the nature of being disorder, confusion, and chaos, greedy to destroy all forms.”

The tradition of hylomorphism and its distrust of material did not enter the modern period unchanged, however; the qualities of confusion and changeability were steadily displaced onto the psyche and adapted to the new terminology of subjectivity. The empirical philosophers differentiated primary, objective qualities like size, form, and motion from secondary or accidental qualities, exemplified by the subjective apprehension of taste, sound, or color. Accidental qualities do not strictly correspond to physical phenomena, nor are they merely psychological constructions; they are a practical form of thought exemplified by the utility and subjectivity of color. Although colors are used to characterize material events, they are wholly visual phenomena and suited by this distinction to the endless role of signifier. The accidental character of visual qualities — appearances are always contingent — undermines the objectivity or authenticity of any mental representation. The accidents of appearance constitute the subject of Kiesler’s despair about the constraints of an imagination trapped in its own perceptual constructions, able only to ape or imitate what it has imagined and so forced to travel what he called the “Via Apea” in the opening quotation. In the transformed tradition, the accidents of perception are equivalent to the changing states of matter, both resist the discipline of stable, higher reasonings.

Indeed, Kiesler’s architectural premise arises from the connection it establishes between the subjectivity of perception and the accidental nature of material qualities, between the terms of the modern psyche and the tradition of hylomorphism. The logic of dressing and the mask depend on the latter’s subordination of material and they lead directly to the continuous construction of Kiesler’s Space House, or rather, to the discussion of architectural style and appearance from which it emerged. The special role of the knot in this discourse was outlined in Hendrik Berlage’s own “Thoughts on Style” of 1905, a document central to the definition of Kiesler’s other architectural identity as the youngest member of the Dutch De Stijl:

Semper says something very original at the beginning of his observations on the ‘seam’ [die Naht] as a necessary element in the joining together of various parts. He asks if there is an etymological link between the word ‘necessity’ [die Not], as in the phrase “making a virtue out of necessity,” and the word ‘seam’; and whether the phrase would really mean ‘making a virtue out of the seam.’

Kiesler’s knot provides an emblem of the fundamental unit of architecture, the inevitable seam or joint, but contrary to its
virtuous celebration, continuous construction proposes to eliminate joints altogether. Continuity marks a paradoxical conclusion to the century-long dispute about polychromy and the ornamental surface. It attempts a return to some means of construction prior to the joining together of the first enclosure, to discover a surface untouched by human hands or human imagination. The rule of the Apean Way declares the impossibility of this return: how can an architect imagine something he has not seen and could not make? It is a dilemma described as well by Berlage and for which he cited both Semper and Hegel as sources, though he reached a different conclusion, arguing that authenticity occurs within the constraints of imitation: “you can only recast the original forms of art in the same way, you cannot create new ones, and if you try to do this, you will become unnatural, which is to say, untrue.” The horrible consequence of dressing, at least to Kiesler, was the necessity of imitation and the elusiveness of authenticity in even the smoothest wall.

Continuous construction was a strategy to ensure the permanence and endurance of technological artifacts, qualities that in nineteenth- and twentieth-century architectural practice are opposed to the changeable, ornamental, and accidental qualities of materials. Continuous construction apparently inverted Semper’s privileging of the ornamental surface, producing surfaces devoid of qualities. But as Mark Wigley has shown, these smooth, white walls were wholly defined by their awareness of ornament and this awareness highlights the contradictions of the tradition for which continuous construction is a moment of crisis. Underlying this inversion is the polarity to which Robert Musil arrived in the last section he wrote for Man without Qualities, his massive work about the Vienna of Kiesler’s youth:

Of course it was clear to him that both sorts of people under discussion could signify nothing other than a man “without qualities” in contrast to one who has every quality a man can show. The one sort could be called a nihilist, who dreams of God’s dreams, in opposition to the activist, who in his impatient mode of conduct is, however, also a kind of God-dreamer and nothing less than a realist, who bestirs himself, clear about the world and active in it. ‘Why, then, aren’t we realists?’ Ulrich asked himself. Neither of them was, neither he nor she: their ideas and conduct had for long left no doubt of that; but they were nihilists and activists, sometimes one and sometimes the other, whichever happened to come up.

Nihilism or activism? Qualities or no-qualities? This family of polarities can be discerned as well in Loos’s famous essay in which he assigned the delight with ornament to primitive man and children, who cannot control their desires, reserving the appreciation of no-ornament for the civilized man. This polarity — primitive and civilized — is itself characterized with an example of perceptual relativity. Describing the variations in “cultural evolution,” Loos observed that “among ourselves there are unmodern people even in the cities, stragglers from the eighteenth century, who are horrified by a picture with purple shadows, because they cannot yet see purple.” The purpleness of shadows results from the simultaneous contrast of their darkness with the golden color of sunlight. The effect was first named by Michel-Eugène Chevreul, then explored by painters from Eugène Delacroix to the Impressionists, and it offers another sign of Kiesler’s Via Apea, of the constructed and relative nature of human perception and imagination. Moreover, as Hal Foster has recently noted, it is the other terms of these polarities — primitive man, children, ornament, material qualities, the unconscious, perceptual colors, and so on — that subsequently become the site of the search for the authentic or the real. “Why then aren’t we realists?” Architecture continues to oscillate within these polarities, between minimalist buildings that exhibit as few qualities as possible and decorative ones that exhibit every conceivable quality.

For Kiesler, mediation of this oscillation initially lay in the “space” of the eponymous Space House, a concept that, like the knot, derived from the tradition of German aesthetics. August Schmarsow, who first argued that space (Raum) was
the “essence of architectural creation” in 1893, had hoped that, with an understanding of the “sense of space” (Raumgefühl) would diminish the attention to ornamented surfaces. Like Riegl and Fiedler, his search for architectural essence was argued against Semper and his successors: “we are no better when we ask thoughtful architects; they call architecture an ‘art of dressing’ [Bekleidungskunst] and view their activity as little more than superficial composition of a purely technical and decorative kind.” He sought, instead, an appreciation of architecture deriving from the “intuited form” of space and developing from bodily orientation — “above and below, front and back, left and right” — and from its physical and visual motion. Kiesler extended these concepts to explain the “flattened sphere” of the Space House, relating it to the “dynamic equilibrium of body-motion within encompassed space,” which he called a “proprio-spatial dynamic.” From the decorated and quality-laden surface to the intuition of space to the proprio-spatial dynamic, the search for authenticity was displaced from one feature to other, more abstract qualities, but the fixation remained the same. Schmarsow understood that his proposition succeeded precisely by “disregarding… its entire execution in durable material.” The concept of space offered a presentation of form without material, or at least with a materiality deemed inconsequential.

Semper had characterized the problem of material in the footnote on masking by repeatedly quoting Hamlet’s famous question about the artifice of acting: “What’s Hecuba to him?” How could an actor display such convincing passions about Hecuba (the wife of Priam in the Iliad), who was long dead and never known to the actor in the first place? How, indeed, does a building evoke the interest and passions of its audience? The quotation occurs in the scene where Hamlet conceives his plan to use the traveling players to reveal his uncle’s crime — the murder of Hamlet’s father — by inserting a scene in their play for the court that will evoke a sympathetic remorse in the uncle. The quotation might also announce the clever architect setting out to captivate his audience with the story of a modern architecture. Kiesler, who was always, and maybe more completely, a man of the theater, certainly grasped the sympathetic power of drama, and equally the problem that masking presented to an architecture in search of authenticity and universality. Semper’s principle of the mask can be read as a final explanation for the painting of Greek temples and statuary, but the insistent quotation also suggests the dynamic force that emerges from the irreconcilable opposition of form and material.

The denial of reality, of the material, is necessary if form is to emerge as a meaningful symbol, as an autonomous creation of man. Let us make forgotten the means that need to be used for the desired artistic effect and not proclaim them loudly, thus missing our part miserably. The untamed feeling led primitive man to the denial of reality in all early artistic endeavors; the great, true masters of art in every field returned to it — only these men in times of high artistic development also marked the material of the mask. This led Phidias to his conception of the two tympana of the Parthenon. Evidently he considered his task, the representation of the double myth and its actors, the deities, as the subject matter to be treated, as was the stone in which he formed them, which he veiled as much as possible — thus freeing them of any material and outwardly demonstrative expression of the non-figurative and religious-symbolic nature. Therefore, his gods confront us, inspire us, individually and collectively, first and above all as expressions of true human beauty and grandeur. What’s Hecuba to Him?”

“Or he to Hecuba?” How can mere matter — “defective, dark, sluggish, divisible, mobile” — participate in the presentation of true beauty? Semper’s question about the mask concerns not only the nature of representation but its stability. What Schmarsow sought in the psychological intuition of space or Riegl in the Kunstwollen or Wolfflin in his earlier Prolegomena to a Psychology of Architecture were explanations for architectural effect that were free of materiality or technique, and these explanations lodge inevitably in some corner of the psyche, the new residence of form. Kiesler coined the phrase “Apean Way” to pose a related question about the imitative and constructed nature of the modern
imagination. Throughout the series of critical works in the Record, he struggled to discover some true correspondence between architectural propositions and their appearance, to reconcile the search for authenticity with its masked expression in architecture. With each article, he took another approach, donning different masks in the pursuit — space, correlation, surrealism, and biotechnique — but the question remained the same: “What’s Hecuba to Him?”

Periodicals

While the terms of the Apean Way constrain this search to an exploration of the psyche, its products were offered up for consumption in forums interested only in the appeal of its masks, in the increasingly popular architectural periodicals. After Beatriz Colomina has even argued that the identity of modern architecture was most sharply posed in the mass media. 

Kiesler took this challenge of the media seriously, particularly in the extreme control he exercised over his publications in the Record. The lessons of the theater, his early exploitation of photography and cinema, and his attention to staging all came to bear on these articles, and their achievements must be understood within the context of modern magazine publication. During the vigorous transformations of the period after the First World War, architectural periodicals began to assume the status previously reserved for treatises; they became the site in which the discipline defined its identity and policed its boundaries. Movements such as De Stijl are nearly identical with their magazines. Unlike in Europe, however, the American discussions of modernity and architectural modernism were conducted within the pages of mainstream, commercial journals rather than in specialized publications such as Architecture vivante or L’Esprit Nouveau. Beginning in the early 1920s with articles in the AIA Journal, the debate about the modern moved quickly into Architectural Record, Architectural Forum, Pencil Points (eventually renamed Progressive Architecture), and, dramatically, into the T-Square Club Journal (briefly transformed into Shelter before it expired).

Architectural Record presents the most interesting case, not only because it explicitly adopted a modernist look earlier (in 1929) and more decisively than magazines like Pencil Points, but also because of its connections to the newly commercial and technological conditions of practice through Sweet’s Indexed Catalog, Time Saver Standards, and the entire apparatus of the F. W. Dodge Company (Dodge Construction Reports). While MoMA’s International Style Exhibition of 1932 was organizing and disseminating the stylistic features of the historical avant-garde, the profession itself was making rapid and pragmatic compromises with the new conditions of practice and promotion. The Record quickly adapted, developing the editorial mix that eventually came to characterize all professional magazines: design reviews, photographic surveys, technical information, and advertisements of advanced construction products. Although the magazines struggled to retain some semblance of their literary or artistic origins, the profession incorporated technical changes and new products within their style of choice and the Dodge Company evolved to serve them. The rapidity with which each formal attribute of the avant-garde was adopted as a stylistic feature and then transformed into a line of products indicates the instability of the situation and the complexity of any critical position. It was this forum into which Kiesler advanced himself and to which he offered the austere idea of continuous construction.

Within the revised Record, editorial content appeared in three quite different forms — in design articles, in technical reports, and implicitly in the product advertisements newly incorporated within the body of the magazine — each of which attempted to make sense of the changing conditions of architectural practice. These loosely corresponded to the different constituencies of the magazine, yet Kiesler’s articles aggressively blurred the categories. The Space House article,
in particular, exploited all three modes, with its carefully composed photographs, captioned in pseudo-technical language and often including product specifications. They read like propaganda: concealing an ideology (continuity) within an objective report. Again, it was Magonigle at Pencil Points who voiced the traditionalist’s hostility to the changes in the profession and particularly to those in the Record. He bemoaned the excess of technical detail and singled out one of Kiesler’s captions from the Space House as an example: “The prize must go to a ‘sponge rubber curtain approximately 3/16” thick’ (I am so glad to know, approximately, just what to ask for).”26 The need to control the media of publication seems to parallel the need to control the media of construction, and both imply the new architect who always knows “just what to ask for.”

The differences among editorial, technical, and advertising tactics suggest an additional question about the audience or subject of these magazines. All of the editorial debates, articles, advertisements, and technical advice are addressed to an elusive “modern architect.” This is not a historical figure, but a “model reader” that each magazine tries to identify and serve, and that each architect imagines him or herself to be, if only fleetingly or in disagreement. There may have been one, statistically perfect architect who embodied these elusive characteristics, but the “model” architect was continually manifested as a shifting cultural entity assembled in the negotiation between the magazines’ intextio operis and the intextio lectoris of their readers.27 It is a paradoxical figure that emerges from this reading of modern architectural journals. Like Kiesler himself, the model modern architect was at once attracted to the new materials and techniques and overwhelmed by the effort to discipline their qualities. This tension and its power were made starkly visible in his presentation of the Space House.

The Space House

The Space House was the centerpiece of a furniture exhibition assembled in the Modernage showroom on East Thirty-third Street in October of 1933; it was described by Kiesler as a “proportional substitute” for a single-family house on four connected levels with movable and flexible partitions. He was subsequently to cite it as the first demonstration of continuous construction, although it was certainly not his first exhibition. He had received major recognition with an exhibit of new theater techniques, the Space Stage, for the Aurstellung neuer Theatertechnik, in Vienna in 1924; and the following year at the Exposition Internationale des Arts Décoratifs in Paris, he galvanized the other members of De Stijl with his suspended “City in Space.” After an invitation by Jane Heap and the Little Review to direct an International Theatre Exposition in 1926, he took up residence in New York, subsequently producing display windows for Saks Fifth Avenue in 1928–29 and then designing the annual exhibition of the American Union of Decorative Artists and Craftsmen in 1930.28 Closely related to his theatrical design work, these exhibitions provided a forum to explore architectural ideas in the absence of building commissions.

Architectural Record published the Space House in a continuous eighteen-page photographic spread of which only the first three or four images actually disclose any spatial features. There are no plans, diagrams, or contextual images;
the project was presented almost exclusively with close images of curtains, drapes, matting, and light fixtures, each explained by a dry caption in the article-free language used by Fuller and the Structural Studies Associates: "net fabric used for ceiling" or "sponge rubber used as floor covering." While the first few pages include a frontal shot, a view within the stair of the showroom building, and an image of a level change; the composition of the last twelve pages follows a precise format that pairs portrait and detail photographs of the "materials of Space House": jute matting is paired with straw floor matting, a curtain with its drapery material, coarse brown drapery with a net fabric, and so on. Each of the detail shots is also subtly altered by the eccentric insertion of a hand, the toe of a shoe, a product label, or a silhouette. The anomalous elements explain the scale and purpose of the material with which they are presented, yet they simultaneously disrupt the matter-of-fact presentation, suggesting other readings by their pictorial or narrative incompleteness—the rest of the shoe? the continuation of a cut? The pairings recall the hylomorphic opposition: each portrait presents a "formal" view of the material, while the closely cropped and disrupted details exude material qualities.

Kiesler further developed these graphic tactics in his "Design Correlation" series, there introducing the readership of the Record to the work of the artistic avant-garde and to recent technical and material innovations. In the opening essay on "exhibits, the theater, and the cinema," he criticized a show of WPA-sponsored work at MoMA, taking particular exception with the archaic use of fresco in mural painting (he excused the Mexicans because they came from a "land of small industries"). He argued for the use of progressive techniques by which murals might outlast their buildings: "murals without walls," hardened porcelain on steel frames. In answer to his own question of whether one can "detach the quality of a work from its technique," the answer was a Semperian "no." The subsequent article presenting Duchamp's Large Glass also contrasted portrait photographs with highly magnified detailed images of the glass, emphasizing its joints, cracks, and surfaces. His explanations, which Duchamp greatly appreciated, suggest the in-
fluence of the refugee surrealists and his aspirations for materials: "to create such an X-ray painting of space, materiaic and psychic, one needs as a lens a) oneself, well focused and dusted off, b) the subconscious as camera obscura, c) a super-consciousness as sensitizer and d) the clash of this trinity to illuminate the scene." His approach apparently alarmed the editors of the magazine, who terminated his contract within the year, demonstrating that the boundaries of the profession could not yet extend to include such a discussion of architectural material.29

The images of the Space House largely conformed to the photographic strategies employed in the Record after their decisive shift to modernism; by careful cropping and composition, they made traditionally ornamented or symmetrical buildings appear clean, dynamic, and modern.30 Kiesler's images are nevertheless distinct from the rest of the magazine, appearing both surreal and clinical, as if the materials themselves could explain the project. The final detail image of the article, which includes the knot discussed initially, is the most insistent. It shows a feminine hand presenting a twine curtain with the knot held between the thumb and forefinger. It is a compelling photograph, often reproduced in discussions of Kiesler's work, and it has served emblematically as the cover of the catalogue for a show of his work.31 Even with the connection to the knots of Semper's Bekleidung, one must wonder what is being explained by this hand and the knot that it offers for inspection? The knots rival the "space" of the house and its smooth, white shell. Are surrealism and continuous construction sufficient explanation?

Correalism and Continuous Construction

In "The Space House: Annotations at Random," published in 1934 in the Hound and Horn, Kiesler outlined the theory of the Space House using the stilted, hyphenated language of...
the Structural Studies Associates: "The Space-House at Modernage represents two modern architectural principles, besides its solution as a One-Family-Shelter: (a) the Time-Space-Concept of architecture; (b) the Shell-Construction in continuous tension."² The complex arrangement of rooms, levels, and spaces certainly had a filial relation to the Raumplan of Loos and to the discourse about space initiated by Schumacher; it also established the need for the moveable fabric curtains and partitions. He further opposed his time-space-concept to the "esthetic or techno-functional" approach of "Le Corbusier, Mies, Oud, and others," referring to the MoMA show then on tour, and claimed for his work a "unified architectural dogma." General opposition to this show had been declared by the SSA in Shelter no. 3 of 1932, for which Kiesler wrote a memorial to Theo van Doesburg, suggesting that "like Wright, like Loos," and presumably like Kiesler himself, van Doesburg was "a theorist by compulsion, not by choice."³³

The theory to which Kiesler was compelled was evidently in transition from time-space to correalism, a term related to the SSA's interest in correlation. Shelter no. 4 and no. 5 of 1932 were subtitled "A Correlating Medium for the Forces of Architecture," and Fuller's introductory essay was titled "Correlation." The term was wholly adopted by Kiesler, whose "Design Correlation" series explained the connections that existed among architecture, the fine arts, and industry. The altered spelling of his subsequent neologism, "correalism," signals another of his mercenial transformations. From co-relation to co-reality, the new term did not exclude its previous meanings; like Kiesler's own identity, it expanded to contain as many interpretations as possible. On the cover of the manuscript of the "Correalism" article is the declaration, "wherever you encounter 'CORREALISM' connect it with the writing of Frederick J. Kiesler."³⁴ It was both a theory and an emblem of identity. A decade later, the term was further transformed into a concept that looked sur-

realist when examined from the correct point of view.

Within these mutations, however, Kiesler continued to adapt the concept of correlation/correalism to the enduring architectural concern with surface by marrying it to the principle of continuous construction.

Since at least the continuous Space Stage of 1924, Kiesler had been developing the principle of continuity that led more or less directly to the shell construction of the Space House. He continued to elaborate the principle throughout his life, exploring it in the many versions of the Endless House, and it quite properly stands as a fixation, even a fetish in his work.³⁵ In 1934, for the Space House, he explained continuity as a structural principle, arguing that while traditional composite construction eventually comes apart at its joints, "the Space-House tries to build in one rather than two or more materials. It aims to replace conglomeration with uniformity. A roof consisting of only one material is the ultimate goal."³⁶ In other words, the attention to continuity well preceded the theorizing of correalism, which, despite claims that he originated the concept in 1930, was only fully articulated after 1936.³⁷

The Architectural Record article of 1939, "On Correalism and Biotechnique," was the first widely distributed publication of correalism and it reflects the steady maturation of the concept and its exploration with Kiesler's students at Columbia. His definition of the term is succinct: "the term 'Correalism' expresses the dynamics of continual interaction between man and his natural and technological environments."³⁸ This definition drew on the evolutionary view of tools and society developed by the sociologist/planner Patrick Geddes and applied by Lewis Mumford in his Technics and Civilization of 1934. Aspects of Kiesler's previous work, particularly the "Morphology-Chart of Architecture" presented in the Hound and Horn article, show a kinship with the nine- and thirty-six-square "thinking machines"
prepared by Geddes. With his talent for graphic means, the charts and diagrams in "On Correalism" achieve a particular elegance. Kiesler summarized the three relationships of reality in a tripartite diagram illustrating the interdependence of nature, the technological world, and the world of human habits and customs. He subsumed all manner of tools and machines under the concept of technological environment, from "shirts to shelter," and traced their mutual transformations and effects. Dismissing the idea that technology is simply produced by scientific advance, he observed, instead, that "the technological environment is produced by human needs." This led him to a critical set of questions:

What is a need? How do needs arise? Are they natural or artificial? Are they static or in evolution? A definition of needs has today become of prime importance to the designer of technological environment. Investigations on this crucial point cannot be based upon the study of architecture but must be based on upon the study of man.  

Shifting the focus onto man and his needs led to the key insight of correalism: "Needs are not static: they evolve." Only a few of these needs are "natural," — hunger, thirst, etc. — and even these are largely culturally conditioned. The needs by which most technologies are shaped have progressed step-by-step with the devices meant to accommodate their demands. In other words, the aspirations or even luxuries of one generation become the needs of the next and so drive the progressive advance of innovation and of fashion. This well exceeds the structural argument of continuity, pointing to the "endless" construction of human identity and its mirroring in architectural constructions.

This insight combined two important tendencies of the moment: the rationalization of human fears and desires into "needs" and the application of a new scientific paradigm to the "human sciences." Both continued the emulation of the sciences common to the German tradition: Semper admired the categories of the naturalist Georges Cuvier, Wolfflin studied psychology, and the entire logic of functionalism rests on the identification of stable and rational needs that can be satisfied by design. The emerging paradigm in the 1930s, which still has a hold on the collective imagination, derived from the formulations of ecology in the mid-nineteenth century and developed in the full flowering of systems-theory in the twentieth. The tendency, which underlay much of Fuller's and the SSA's thought, was recognized and lauded by Mumford:

The humane arts of the physician and the psychologist and the architect, the hygienist and the community planner, have begun during the last few decades to displace the mechanical arts from their hitherto central position in our economy and our life. Form, pattern, configuration, organism, historical filiation, ecological relationship are concepts that work up and down the ladder of the sciences; the esthetic structure and the social relations are as real as the primary physical qualities and the sciences were once content to isolate. This conceptual change, then, is a widespread movement that is going on in every part of society: in part it arises out of the general resurgence of life — the care of children, the culture of sex, the return to wild nature and the renewed worship of the sun — and in turn it gives intellectual re-enforcement to these spontaneous movements and activities.

Correalism sought to explain this complex web of scientific advance, popular enthusiasm, and symbolic representation. In architectural terms, it reduced to the interaction between human desire and the material constraints of construction. For Kiesler, this demanded nothing less than a "bridge be-

tween man and [the] man-built, technological environment," a method that he called Vitalbau in 1925 and later biotechnique, capturing exactly the sense of the new episteme. Like the spelling of surrealism, his coinage of "biotechnique" represents another mercureal transformation, derived from "biotechnics," the term with which Geddes described the building methods of nature. Kiesler argued that "nature and man build on two different principles"; while nature is inherently continuous, reproducing by division, human constructions are necessarily jointed and come apart at these joints. The elimination of joints through biotechnique constituted his principle explanation for continuous construction, and it established the surface as the first point of resistance to material change.

The problem of the mask reappears in the quixotic example Kiesler used in the Record article on surrealism to illustrate the difference between biotechnics and biotechnique. He cited the destruction by fire of the Crystal Palace in 1851 as a caution against the imitation of nature or her methods. The warning was based on the contention that Joseph Paxton had been inspired by the structure of the African water lily's foliage, "its longitudinal and transverse girders," and so imitated them in his modular iron construction. Not only did the fire destroy a successor structure on a different site, but the structure collapsed because of iron's weakness in fire not its specific configuration. The example offered a compounded moral tale: Continuous construction not only resists the physical decay that attacks joints, but further, seeks to prevent the necessity of imitation that plagues any act of the designing imagination. Kiesler's "endless" constructions exceed the analytic explanation of the fetish as a futile attempt to fill a childhood absence, operating instead as a mask that assumes the characteristics and explanations of its ideological context. The mask operates collectively even as it conceals the new needs and desires that, according to surrealism, must follow each act of invention and construction.

Only masking can explain the fact that the majority of the photographs in the Record publication of the Space House depict its interior materials with all their joints and variety. Are they merely supplementary to the continuous shell? Certainly, they provide the flexibility of division that makes possible "time-space" adaptations. More importantly, they offer a visual and tactile counterpoint to the smooth, white shell. Like the potted plants situated throughout the photographs of the Space House, they declare this to be a space of domesticity. It is a formula familiar to theatrical productions, interior design, and the furniture installations in department stores and museums: in a "home" the warm must be balanced with the cool, the smooth with the rough, the permanent with the temporary, and even perhaps form with material. The method of biotechnique explains the (simulated) continuity of the shell, whereas the building is dressed and prepared for (simulated) inhabitation with its mats, curtains, and drapes.

In many ways, these fabrics are the most architectural realization of the surrealist project into which Kiesler, the traveler, was about to be initiated. Shorn of instrumental symbolism, the woven and knotted materials elaborate the
psychological topics always already present in architectural discourse and construction. Kiesler’s formal explanations exclude them and their presence contradicts the ecological arguments of correalism or the structural ones of continuous construction; they belong to the architectural dream world where the myths of origin are told, where the woven and knotted fabric is the first architectural act. Though he never renounced the scientific claims of correalism, they are barely legible in the L’Architecture d’aujourd’hui article of 1949.

With the design of the exhibition at the Gallery Maeght he had offered another term and another goal for continuous construction that recalled nothing so much as Semper’s question about Hecuba.

Modern ‘functionalism’ in architecture is dead. Inasmuch as ‘function’ was vestigial, with not even an examination of the Body Kingdom on which it rested, it failed and was exhausted in the Hygiene and Esthetics mystique (the Bauhaus, Corbusier’s system, etc.). . . . I oppose the mysticism of Hygiene, which is the superstition of Functional Architecture,’ [with] the realities of a Magic Architecture that takes root in the totality of the human being, and not in the blessed or cursed parts of that creature.45

What’s Hecuba to Him?

Continuous construction was Kiesler’s repeated answer to the architectural crisis of authenticity, and it drove him from the claims of the Correalist Laboratory, and its science of origins, into the surrealist search for a “magic architecture.” This search, too, is prefigured in Semper’s footnote on masking, when he argues that “the haze of carnival candles is the true atmosphere of art,” and it is captured in his insistent question about drama, “What’s Hecuba to him?” The inevitable failure of the search for authentic origins, seeking to fill the absences in modern architecture, results from the incomplete secularization of that carnival atmosphere. The transcendental references have been displaced onto the fragmentary human psyche and the constraining “net” of imagination. On the one hand, Semper’s question indicates the long tradition of psychological interpretations exemplified by Wölfflin, Schmarsow, and Riegl. On the other hand, this question announces the continued suppression of modernism’s subterranean dream world, pursued as vigorously in the early nineteenth-century romanticism from which the polychromy dispute and Bekleidung emerged as by the surrealists or Walter Benjamin.46

A compelling image of this architectural dream world is Kiesler’s twine network of knots, which is the quality-laden surface that hovers near or behind the “wall without qualities,” the wall of continuous construction. They travel together, “sometimes one and sometimes the other, whichever happens to come up.” Semper had asked, “What’s Hecuba to him?” and Kiesler answered again and again and again.
Notes
This article would not have been possible without the thoughtful criticism of Jennifer Bloomer. Various versions were reviewed by Joseph Rykwert, Marco Frosani, David Leatherbarrow, and Ivan Illich.


5. "However, one must distinguish just as much and just as sharply between Semper and his followers as between Darwin and his adherents. Whereas Semper did suggest that material and technique play a role within the genesis of art forms, the Semperians jumped to the conclusion that all art forms were always the direct product of materials and techniques" (Alois Riegel, Problems of Style: Foundations for a History of Ornament, trans. Evelyn Kain [1983; Princeton: Princeton University Press, 1992], 4).


7. See Antoine Chrysostome Quatremère de Quincy, Le Joli chef-d'oeuvre: L'Art de la sculpture ancienne considéré sous un nouveau point de vue (Paris: Chez De Buréfreres, 1815).


11. Hendrik Petrus Berlage, Thoughts on Style, 1886-1909, trans. Ian Boyd White and Wim de Wit (Santa Monica: Getty Center for the History of Art and the Humanities, 1996), 139.

12. Ibid., 236.


21. This is the rest of the Harriet quotation, which in the analogy with architecture and material suggests the return gaze discussed by Jacques Lacan, in his image of the canyon, or by Jean Starobinski: "We may then be rewarded by the feeling that the work is developing a gaze of its own, directed toward us, a gaze that is not only a reflection of our interrogation. An alien consciousness, radically other, seeks us out, fixes us, summons us to respond." (The Living Eye, trans. Arthur Goldhammer [Cambridge, Mass.: Harvard University Press, 1989], 13).


27. The closest image to this "model" modern architect could be the one Frank Lloyd Wright had of himself after he read Ann Rand's Fountainhead of 1932. On the relationship between works and readers, see Umberto Eco, Interpretation and Overinterpretation (Cambridge: Cambridge University Press, 1992).


30. The many techniques by which that change was marked in the Record — typographic, editorial, photographic — are examined at length by Susanne Lichtenstein in Editing Architecture: Architectural Record and the Growth of Modern Architecture, 1928-1938 (Ithaca: Cornell University Press, 1990).


34. Archives of American Art, Washington, Smithsonian Institution, D.C.


37. A typescript draft of the piece titled “Correalism,” available on microfilm from the Smithsonian, is hand dated 1930. The text itself refers to the destruction by fire of the Crystal Palace in 1936, so it was clearly edited, if not written, subsequently. The original in the vertical file of the museum is undated. The editors of Architectural Record noted its history in a footnote to the September 1939 article: “In an earlier manuscript of Mr. Kiesler’s (‘From Architecture to Life,’ for Brewer, Warren and Putnam, 1940), the groundwork of this paper was first laid; it was first read in approximately its present form at a Symposium on Science and Design held by the Alumnae Association of the Massachusetts Institute of Technology, June 6, 1938, this is its first appearance in print.”


43. The water lily is called American in the undated manuscript on correalism in the Smithsonian archives. Kiesler’s interest in Paston’s analogy also probably arose from an essay by Karel Hromik, the Czechoslovakian architect, that cited the same analogy in support of his own “theory of biotechnics, which was a more orthodox, but quite thoughtful, consideration of the relation between form and function. It is not clear whether the term biotechnics came from Hromik himself or from his English translator, P. Morton Shand. See Karel Hromik, “Biotechnics: Functional Design in the Vegetable World,” Architectural Review 81 (January 1937): 21-22. A slightly modified version appeared as “A Note on Biotechnics,” in the very widely circulated publication by J. L. Martin, Ben Nicholson, and Naum Gabo, Circle: International Survey of Constructive Art (London: Faber & Faber, 1937), 256-62.


Figure Credits
1, 3-9. Architectural Record (January 1934).
2. Gottfried Semper, Der Stil in den technischen und tektonischen Künsten (Frankfurt am Main: Verlag für Kunst und Wissenschaft, 1860).
10-12. Architectural Record (September 1939).