

5. Introjection and Projection: Frederick Kiesler and his Dream Machine

The difficulty in reflecting on dwelling on the one hand, there is something age-old—perhaps eternal—to be investigated here, the image of the abode of the human being in the maternal womb...[O]n the other hand...we must understand dwelling in its most extreme form.... The original form of all dwelling is existence not in the house but in the shell. The shell bears the impression of its occupant. In the most extreme instance, the dwelling becomes a shell.

Walter Benjamin

The surrealists positioned themselves in opposition to modern architecture as reflected in well-known public disagreements between Breton and Le Corbusier. Surrealist members argued against the sterile over-rationalized technological realism of modern building in favor of more habitable architecture.¹ Tzara and Matta best described surrealist architecture in the eclectic journal *Minotaure* during the 1930s. In 1933, Tzara wrote against modern aesthetics that deny human dwelling in favor of architecture with intrauterine appeal.² He called for a new serenity of “prenatal comfort” ushered in by the qualities of “soft tactile depths” experienced inside “circular, spherical, and irregular houses.”³ From a “cave” or “tomb” in the “hollows of the earth,” Tzara believed “health” could be restored in the realm of “luxury, calm and voluptuousness.”⁴ Similar to Tzara, in 1938 Matta argued for a folded body wrapping architecture of “wet walls” and “appetizing” “furniture” that fit with “molded profile” our “infinite motions” according to “life intensity” as “umbilical cords” “like plastic psychoanalytic mirrors.”⁵ [Fig. 5.1] Matta envisioned architecture that could “get out of shape” to “fit our psychological fears,” and relieve “the body of

¹ See Vidler, *The Architectural Uncanny: Essays in the Modern Unhomely*, 150.

² Tristan Tzara, “On a Certain Automatism of Taste,” *Minotaure*, no. 3-4, December 1933, 84, as translated in *Autobiography of Surrealism*, ed. Marcel Jean (New York: Viking Press, 1980), 337.

³ Ibid.

⁴ Ibid.

⁵ Matta Echaurren, “Sensitive Mathematics—Architecture of Time,” *Minotaure*, no. 11, May 1938, 43, as translated in *Autobiography of Surrealism*, ed. Marcel Jean (New York: Viking Press, 1980), 339.

all the weight of...[its] right-angle past.”⁶ Matta had described a provocative surrealist project, which sought to create *alloplastic* architecture modulating to the infinite transformations of the body in motion.⁷ Unconscious sensual desires could be forever satiated with flexible architectural skins moving in response to our every need. For Tzara and Matta non-rectilinear houses embodied surrealist architecture—one which Kiesler had been well on the way to developing.⁸ Kiesler’s now well-known Endless project—since its inception, served to nurture the dweller inside an embryonic casing of eggshell construction, and eventually as the design developed inside the cave-like bodily expression of intrauterine digestion. [Fig. 5.2] As the surrealist artist Arp reportedly described, “in [Kiesler’s] egg, in these spheroid egg-shaped structures, a human being can now take shelter and live as in his mother’s womb.”⁹

The First Shelter

Kiesler began his formal study of human shelter in the 1920’s while living in Vienna and Paris. Kiesler purportedly trained under Loos in 1920 on a worker housing project constructed at Heuberg, for the City of Vienna, 1921.¹⁰ In addition to working with Loos, Kiesler made several provocative housing proposals over the following years. Besides his successful *de Stijl* City-in-Space structure, Kiesler designed a megastructure complex—“a horizontal skyscraper”—to span

⁶ Ibid.

⁷ For more on alloplasticity (to change or mold the external world to reflect the unconscious) versus autoplaticity (to change one’s body) see Otto Rank, *Trauma der Geburt*, (Leipzig: Internationaler Psychoanalytischer Verlag, 1924); English translation, *The Trauma of Birth* (New York: Dover Publications, Inc., 1993) 101 (hereafter cited in text as OR). The terms alloplastic/autoplatic originated with Sandor Ferenczi, who later collaborated with Rank.

⁸ Tzara, “On a Certain Automatism of Taste,” 337. Tzara and Kiesler had been friends since 1924. They were in close contact between 1925 and 1931; Tzara had received several letters from Kiesler. See research conducted by Valentina Sonzogni, “Correspondence Frederick Kiesler-Tristan Tzara in the Bibliotheque Littéraire Jacques Doucet,” in the Austrian Frederick and Lillian Kiesler Private Foundation Archive, Vienna (hereafter referred to as the Kiesler Archive, Vienna). Matta and Kiesler became friends in the 1940s.

⁹ Quoted by Dalibor Veseley, in “Surrealism and Architecture,” *Architectural Design* 48, nos. 2-3, 1978, 94. See also Vidler, *The Architectural Uncanny*, 153.

¹⁰ “Curriculum Vitae, Frederick J. Kiesler Architect,” 1 (see chap. 3, n. 54). According to Levinson and Fuller, these were the first slum-clearing projects for city. See “Frederick Kiesler,” n.p., n.d., Maxwell Levinson Archive: vertical file, Frederick Kiesler Folder, the Canadian Center for Architecture Collections, Montreal. Text is likely a draft of Fuller’s introduction to Frederick Kiesler, “Festival Theater: The space Theatre for Woodstock, N.Y.,” *Shelter* (Vol. 2, No. 4: May 1932) 42.

the intersection of Place de Concorde in Paris, 1925.¹¹ [Fig. 5.3] As recalled by Richter, this project was “the breakthrough of the real Kiesler...the man with ‘total’ plans,” who “like a man possessed” transformed the “anyhow useless” square into a “skyscraper-junction from which huge highways were supposed to lead out of Paris in all 4 directions.” (R 1) Within the square, Kiesler inserted four central blocks on each corner of a highway intersection to provide parking alongside “wide-stretching wings” of housing units. (R 1) He raised living quarters off the ground above the street adjacent to open park areas. In contradistinction to Le Corbusier’s linear city concepts for Algiers and Rio de Janeiro of the 1930s, Kiesler staggered housing blocks open to above and below for air and light as opposed to piling housing on top of each other “like boxes”. (R 1) “Anybody who has ever tried to drive out of Paris or rather limp should appreciate such a plan,” Richter surmised; nevertheless, as he recalled, the Parisians had no interest in Kiesler’s plans. (R 1)

While living in Paris in 1925, Kiesler and his wife Steffi developed close relationships with the van Doesburgs, Tzara, and Jean and Soffie Arp. In addition, they met with Mies, Le Corbusier, Loos, and Richter.¹² Before leaving Paris for New York, Kiesler made site visits to Tzara’s house designed by Loos while in construction.¹³ Kiesler and Tzara shared mutual affinity for Loos’ work. Tzara met Loos in Zurich, and was instrumental in his move to Paris in 1923.¹⁴ They began working together on the design and construction of Tzara’s house in 1925.¹⁵ In March 1925, Kiesler wrote to Tzara asking “*Wie geht es Loos? Und [e]urem Haus?*”¹⁶ Kiesler was very interested in Tzara’s house, and Steffi, Friedrich, and Tzara had met with Loos at “Laviq

¹¹ Richter, “Koepfe und Hinterkoepfe,” 1 (see chap. 1, n. 13; hereafter cited in text as R).

¹² Lisa Phillips, 140.

¹³ See letter from Kiesler to Tzara, October 12, 1925, research conducted by Valentina Sonzogni, “Correspondence Frederick Kiesler-Tristan Tzara in the Bibliotheque Littéraire Jacques Doucet,” 3, Kiesler Archive, Vienna; my translation from German.

¹⁴ Kenneth Frampton, “Introduction” in the *Architecture of Adolf Loos*, ed. Y. Safran and W. Wang (London: Arts Council, 1985) 12. See also Krzysztof Fijalkowski, “Un Salon au fond d’ un lac’: The domestic spaces of surrealism,” in *Surrealism and Architecture*, ed. Thomas Mical (London: Routledge Press, 2004) 22.

¹⁵ *Ibid.*

¹⁶ See letter from Kiesler to Tzara, March 3, 1925, research conducted by Valentina Sonzogni, “Correspondence Frederick Kiesler-Tristan Tzara in the Bibliotheque Littéraire Jacques Doucet,” 3, Kiesler Archive, Vienna.

[possibly the Grand Hotel Leveque] Montparnasse” that same year for a meal.¹⁷ Kiesler visited the construction site in October and proposed to send Tzara construction pictures of Loos, the supervisor, and his workers on site upon Kiesler’s next visit to the house.¹⁸ The Tzara House proved a significant building project for Loos, and perhaps an important impetus for Tzara’s surrealist housing ideas in addition to Kiesler’s formative dwelling designs.

It is possible that living in a modern house by Loos prompted Tzara’s reaction against modern architecture in favor of warm palpable spherical constructions. While living in Paris between 1925 and 1926 however, while Kiesler designed his spheroid-matrix shape Endless Theater, neither Kiesler nor Tzara indicated anything but admiration for Loos in their letters to each other. Although in the 1940s Kiesler would attack Loos for his sterile housing concepts, Loos’ house designs resist Kiesler’s later criticism.

Although strongly opposed to ornament in favor of plain quality production, Loos similar to Semper also believed in the “Principles of Cladding”.¹⁹ For Loos the architect’s first task was “to provide a warm livable space,” and the “second task” he explained was to build structure that supported similar to Semper varied surface materials that both veiled and revealed meaning.²⁰ Loos designed interior spaces with overt *character* using different cladding materials that expressed sensual qualities.²¹ On the exterior however, Loos believed the design had to respond to the needs of a wider audience. On the outside—ornament is a crime—and he stripped the

¹⁷ See Letter from Steffi Kiesler to Tzara, November 29, 1925, research conducted by Valentina Sonzogni, “Correspondence Frederick Kiesler-Tristan Tzara in the Bibliotheque Littéraire Jacques Doucet,” 3, Kiesler Archive, Vienna; my translation from German.

¹⁸ See Letter from Kiesler to Tzara, October 12, 1925.

¹⁹ See Semper, “Style in the Technical and Tectonic Arts or Practical Aesthetics: A Handbook for Technicians, Artists, and Patrons of Art (1860),” 190; see also Semper, “The Four Elements of Architecture: A Contribution to the Comparative Study of Architecture (1851)” 102-104 (see chap.4, n. 34). See also Adolf Loos, “The Principle of Cladding (1898),” in *Spoken into the Void: Collected Essays 1897-1900*, tr. Jane O. Newman and John H. Smith (Cambridge: MIT Press, 1982) 66-69. For more on Loos and Semper, see Beatriz Colomina, *Privacy and Publicity: Modern Architecture as Mass Media*, (Cambridge: MIT Press, 1994) 265.

²⁰ Loos, “The Principle of Cladding (1898),” 66.

²¹ See Colomina, *Privacy and Publicity*, 32-33. See also Adolf Loos, “Architectur” (1910); English translation “Architecture,” in *The Architecture of Adolf Loos: An Arts Council Exhibition* (London: Arts Council of Great Britain, 1985) 104-109.

walls to bare expression.²² Loos believed society should suppress individual artistic tastes behind a mask.²³ Art instead served a cathartic role for the aristocrat on the interior. “We have art, which has taken the place of ornament,” Loos said for “after the toils and troubles of the day we go to Beethoven or to Tristan.”²⁴ Relegated to the interior for curative effect, art for Loos sustained public life in the face of Modern *Kultur*.²⁵ In 1930, Tzara admired Loos’ fortitude to attain “a human possibility of clarity, within the hub of social activity.”²⁶ Tzara more likely realized his surrealist vision in light of Loos’ concept of dwelling rather than in spite of it. Loos created houses as masks or protective shells that comforted the human psyche in palpable warmth to support the psychological needs of modern dwelling.

Similarly interested in Loos’ work as Tzara, Kiesler translated “Ornament and Crime” into English, and later lectured on the subject in 1932.²⁷ Kiesler studied the text and proved in his writing “On Correalism and Biotechnique” to reproach ornamental crafts similar to Loos, in favor of streamlining laboring processes, reducing costs to consumers, and avoiding wasted materials. Similar to the *plain shoe modernism* that Loos had prescribed to form a “completely smooth” modern aesthetic—Kiesler anticipated the coming of a new form of architecture that maintained the fewest joints, connections, and parts as possible.²⁸ However, different from Loos, Kiesler did not intend to cover the structure. Kiesler hoped to merge art into the walls of construction to create a unified design—a total work of art. Kiesler’s egg-shaped shell superimposed with projection images was his initial proposal to fuse art with walls that both veiled and revealed the art of structure. Although Kiesler did not intend his Endless Theater to be a house, as he wrote in

²² Adolf Loos, *Ornament und Verbrechen*, trans. “Ornament and Crime” (1908), *Programs and Manifestoes on 20th-century architecture*, ed. Ulrich Conrads (Cambridge: MIT Press, 1975) 19-24.

²³ *Ibid.* 24.

²⁴ *Ibid.*

²⁵ For more on the public and private spaces of Loos’ architecture see Colomina, *Privacy and Publicity*, 233-281.

²⁶ Tristan Tzara cited in Safran and Wang, *Architecture of Adolf Loos*, 78. As found in Fijalkowski, “Un Salon au fond d’ un lac,” 23.

²⁷ Valentina Sonzogni, “Biography,” in *Friedrich Kiesler Designer: Seating furniture of the 30s and 40s*, ed. Austrian Frederick and Lillian Kiesler Private Foundation (Ostfildern-Ruit: Hatje Cantz Verlag, 2005) 122. See also Adolf Loos, “Ornament and Crime”, tr. Frederick Kiesler, n.p., n.d., Kiesler Archive, Vienna.

²⁸ Loos, “Ornament and Crime” (1908), 24.

On Correalism and Biotechnique, it was his “first directed effort at a method of Continuous Construction” for building design.²⁹

As early as 1925, Kiesler advanced a new structural principle in contradistinction to traditional frame building techniques. Conflating his *de Stijl* practice with constructivist and futurist stage techniques, Kiesler composed his tension shell structure to reduce joints by unifying walls, ceilings, and floors into one expansive environment. Kiesler however did not have the engineering skill or technical wherewithal to develop his interest in tension shell construction. In his 1930s show window design publication, Kiesler acknowledged advances made in the history of steel and concrete design were leading towards this new method of construction—similar to what Viollet-le-Duc had realized in the historic shift from stone to iron.³⁰ From the heavy and static construction of steel posts and beams, to advances in steel trusses by several bridge designers, to the sprayed concrete encased steel skeletal dome at the Zeiss Planetarium, 1926—Kiesler foretold of “The Coming Tensionism” in building practice.³¹ [Fig. 5.4, Fig. 5.5] Sigfried Giedion would later in 1941 explain a similar historical progression, identifying Swiss bridge builder Robert Maillart and Parisian architect Freyssinet with the first eggshell concrete constructions beginning around this same time.³² For Gideon the “lithe, elastic resilience with

²⁹ Kiesler, *On Correalism and Biotechnique*, most complete version, 68 (see chap. 3, n. 135).

³⁰For example, in the use of stone and ironwork by Viollet-le-Duc thinness of stone developed in the construction of flying buttresses to represent developing knowledge regarding the laws of statics. This effort to express thinness in stone seeded and inspired the necessity and evolution for the appropriate use of iron. Iron was developed and used to advance an already existing interest in thinner structural elements advanced through statistical knowledge. In which case, materials and their rhetorically correct and true use were generated by and subordinate to developing construction techniques. They were used in accord with previous and expected static properties in relation to newly developing technologies, and not material expression unrelated to construction. See Martin Bressani, “The Life of Stone: Viollet-le-duc’s Physiology of Architecture,” *Architecture New York: Tectonics Unbound, No. 14*, Ed. Cynthia C. Davidson (New York: Anyone Association, 1996).

³¹ Kiesler, *Contemporary Art Applied to the Store and its Display*, 48,50, 53, 55 60,61 (see chap. 2, n. 5) In 1952 Victor Harasty, a former faculty member of the Design-Laboratory of the W.P.A. Project would later write on Kiesler’s behalf to the Editor of Art and Architecture section of the *New York Times* to remind him that the detail of the dome of Fuller they published August 31, 1952 was not new. Neither the idea of the dome, the building, method, nor the photograph was originally Fuller’s as they bore striking similarity to the Zeiss Planetarium in Jena. See Letter Victor Harasty to the Editor Art and Architecture, September 9, 1952, Frederick Kiesler Papers, Box 4 of 7, Correspondence 1951-1952 Folder, Smithsonian American Archives of Art, Washington D.C.

³² Sigfried Giedion, *Space Time and Architecture* (Cambridge: Harvard University Press, 1941; 5th edition, reprinted 1997) 450-476.

which” Maillart’s bridges leap their chasms approached pure plastic expression through structure like none other.³³ Maillart had the technical skill and capacity to form the first continuous tension shell structures in steel reinforced concrete, which gave Kiesler’s structural interests real possibility.

Modern Housing

Kiesler did not employ his new structural scheme for his first single-family housing design in 1931. Similar to Le Corbusier’s Citrohan House (1922), Kiesler designed his speculative “Nucleus House” in cellular fashion to fit the scale and approach of modern cars alongside an expandable roof terrace supported on *pilotis*. [Fig. 5.6] Despite his later oppositional attack on Le Corbusier and Loos, Kiesler derived his understanding of modern housing from learned study of their work. Kiesler used frame construction common to Le Corbusier (and Mies) for his Nucleus House. He provided a drive-through entryway adjacent to a curved stair tower that led to a rooftop or second floor living space reminiscent of Le Corbusier’s Villa Savoye. Like the Citrohan House, floor area could be added on the ground floor or on the roof plan to increase the size and shape of Kiesler’s two-story scheme. Kiesler proposed four versions of a standard type unit reminiscent of Le Corbusier’s Quartier Fruges housing project in Pessac. Kiesler intended to mass-produce the Nucleus House in linear fashion to create one housing block similar to his 1925 “Horizontal Skyscraper”. [Fig. 5.7]

In 1933, Kiesler traveled to Chicago and presented his Nucleus House scheme to Sears & Roebuck.³⁴ Although Sears and Roebuck did not pursue Kiesler’s prototype, the strong modern elements of his design informed his innovative “Space House” project that same year. While in Chicago, Kiesler visited the World’s Fair with gallery owner and friend Sidney Janis (Janowitz).³⁵ His Space House proved to excel beyond anything seen at the fair. “The world is moving at a fast

³³ Gideon, *Space Time and Architecture*, 461. Concrete has a long history since antiquity, but it was not used in thin tension shells until Robert Maillart in 1926 and Freyssinet in 1929. See also David P. Billington, *Robert Maillart and the Art of Reinforced Concrete* (Cambridge: MIT Press, 1991).

³⁴ Letter from Frederick Kiesler to Steffi Kiesler, January 15, 1933, Kiesler Archive, Vienna; translated from German in Krejci, “Seat Furniture as Architecture,” 33 (see chap. 3, n. 55).

³⁵ Letter from Frederick Kiesler to Steffi Kiesler, January 10, 1933, Kiesler Archive, Vienna; translated from German in Krejci, “Seat Furniture as Architecture,” 33.

pace these days,” wrote one critic from the *New York Sun*, “Chicago’s Century of Progress Exposition has still two weeks to run, but the modernistic model houses that were knocking ‘em cold there all summer have already been outmoded. The ‘Space House’ is the latest thing,” this newspaper critic decried.³⁶

The Space House

Kiesler exhibited his full-scale prototype of the Space House for the Modernage Furniture Company in New York City, 1933. [Fig. 5.8] The Space House was a decisive building project for Kiesler as it would prove a rare opportunity for him to construct his housing ideas. Kiesler “was never eager to build”—“no building at the moment can satisfy,” he admittedly stated because “no organic result in Buildings can [yet] be achieved.”³⁷ For Kiesler, the technology to construct continuity did not exist. The Space House proved only “a proportionate substitute with actual possibilities to the original plan”.³⁸ The Space House presented Kiesler’s innovative structural principle—continuous tension shell construction—without having to answer to the demands of durability; it was a temporary structure built to challenge contemporary ideas.

Originally intended as a display for advertisement, Kiesler’s Space House attracted visitors to the 33 furnished showrooms at the Modernage Furniture Company headquarters on East 33rd Street.³⁹ Although Kiesler had little practical experience in housing design, his knowledge of show window, exhibition, theater, and furniture design well suited the commission. As a member of the AUDAC, Kiesler had recently garnered a reputation for several creative furniture pieces for private clients and showroom displays that included a *Flying Desk* inspired by the City-in-Space project. [Fig. 5.9] In the 1930s, Kiesler held exhibits with modern furniture

³⁶ “And Now It’s the Space House: Latest Thing in Dwelling Likely to Leave You Gasping With Surprise,” *New York Sun*, 14, Clippings, Space House Folder, Kiesler Archive, Vienna.

³⁷ Kiesler, “Notes on Architecture: The Space House—Draft,” 1933, 2, Unpublished miscellaneous sketches, notes, and drafts, Space House Folder, Kiesler Archive, Vienna; emphasis in original.

³⁸ Ibid. 1. See also Frederick J. Kiesler, “Notes on Architecture: The Space-House,” *Hound & Horn*, January: March 1934.

³⁹ For the Space House as modern advertisement See Beatriz Colomina, “La *Space House* et la psyche de la construction,” in *Frederick Kiesler: Artiste-architecte, Colletion Mongraphie* (Paris: Centre Georges Pompidou, 1996) 67-77; English translation, “De psyche van het bouwen: Frederick Kiesler’s Space House,” *Archis*, November 1996, 71.

designers Donald Deske, Wolfgang and Pola Hoffman, Willis Harrison and Alexander Kachinsky.⁴⁰ The Modernage Furniture Company hired Kiesler for his potential to rejuvenate their style and image, and lure customers into showrooms that had most recently displayed outmoded French-style Art Déco motifs.⁴¹

In support of his own design, Kiesler published an extensive description of the Space House in *Hounds & Horn* magazine in March 1934. Kiesler divided his article into three parts: the social requirements of the house, the tectonic solutions to achieve those requirements, and the structural technology used for building the exterior shell. In the social realm Kiesler insisted housing should support relationships between family and groups, but must also provide for “complete seclusion,” “physical separation,” “privacy,” and even “semi-seclusion.”⁴² The Space House ideally provided introverted living for every member of the household, and as Kiesler remarked,

[the house] must act as a generator for the individual. His generated forces are to be discharged to the outer world. The outer world: his own family or any outer group. The house is built on this two-way principle: charging and discharging through a flexibility that is contracting and expanding.⁴³

For Kiesler the house served to charge the individuals energy forces for discharge back into the external world. As Kiesler represented in a series of unpublished notes and sketches on the Space House, his concept of contraction converted the house over time to provide a sense of security through individual space enclosures that could then expand to provide for group interactions and ultimately outer world experiences. [Fig. 5.10] Kiesler anticipated time could be a factor in the use of the house, where the building could transform in accord to the needs of varied events.⁴⁴

Kiesler argued the house functioned through an organic machination of metabolic processes where the “individual passing through time” was “subjected to two forces; Anabolism:

⁴⁰ Krejci, “Seat Furniture as Architecture,” 21.

⁴¹ Krejci, “Seat Furniture as Architecture,” 27.

⁴² Kiesler, “Notes on Architecture: The Space-House,” 294.

⁴³ Ibid.

⁴⁴ Ibid. See also Colomina, “De psyche van het bouwen: Frederick Kieslers Space House,” 74.

building up; Catabolism: breaking down.”⁴⁵ [Fig. 5.11] Kiesler believed that within all objects, whether animate or inanimate, there was a constant exchange of these two categories of mutating forces.⁴⁶ As the individual, he suggested, passes horizontally to the world outside, vertically into the inner-world, parabolically to work, and spherically for play—the house interacted and exchanged forces with the dweller. This was achieved, he said, through the “*the mobile space enclosure, and the individual as qualified by it.*”⁴⁷ [Fig. 5.12] “This expansion and contraction is a propensity of the house,” he argued, and it was achieved tectonically through a series of push button roll down doorways, flexible sponge-rubber carpets, rollaway curtains and sliding partitions.⁴⁸ Despite its delimited form the Space House created a variety of mobile-flexible environments suited to varied temporal needs.⁴⁹ [Fig. 5.13] Kiesler intended the “whole house to be one living room” of “static-flexibility” that could adjust as needed.⁵⁰ The house was not to be fixed in time but was intended to transform to the needs of human dwelling keyed to the changing and evolving necessities of the inhabitant.

Kiesler’s design for the Space House project elaborated the former design strategies of his show window, film, and theater projects to create a contracting and expanding interior space.⁵¹ Additionally, the Space House introduced ideas on construction technology that he later advanced in his Design-Correlation laboratories. Kiesler’s design for his Space House project sought to envelop dwelling within a mobile-flexible architecture that served to cultivate the body in coordination to daily habits. It could charge and discharge one’s energy forces geared to interactions of everyday life. [Fig. 5.14] The house engaged the body physically—tactilely, and its

⁴⁵ Frederick Kiesler, “Metabolism Chart of the House,” 1933, Unpublished miscellaneous sketches, notes, and drafts, Space House Folder, Kiesler Archive, Vienna.

⁴⁶ See Kiesler, “On Correalism and Biotechnique: a definition and the new approach to building design,” 61 (see chap. 3, n. 92)

⁴⁷ Kiesler, “Metabolism Chart of the House”; italics added.

⁴⁸ Frederick Kiesler, “Architectural Solution,” 1933, 1, Unpublished miscellaneous sketches, notes, and drafts, Space House Folder, Kiesler Archive, Vienna. Revised when published to “This expansion and contraction possibility is the fundamental concept of the house.” See Kiesler, “Notes on Architecture: The Space-House,” 294.

⁴⁹ Ibid.

⁵⁰ Kiesler, “Notes on Architecture: The Space House—Draft,” 1933, 1.

⁵¹ Kiesler developed ideas already articulated in his Endless and Film Guild Theaters for his Space House. He elaborated his concept of “a house of silence” to create an environment that provided seclusion while at the same time destroyed the sensation of confinement. Families and groups coexisted with individuals seeking an introverted lifestyle.

form took shape in correlation to varied use. The house was intended to move in response to the body with seamless organic expression. "Stream-lining becomes here an organic force," Kiesler described, "as it relates the dynamic equilibrium of body-motion within encompassed space."⁵² The "proprio-spatial dynamic" function of the house, he argued, was its ability to seam together complex components into one physically and visually elastic space.⁵³

Touch and vision were essential to the dynamic function of the house. Published in a series of images in *Architectural Record*, Kiesler presented a shoe subtly applying pressure to an elastic sponge rubber carpet or a scissor tearing through the veil of a net fabric ceiling.⁵⁴ [Fig. 5.15, Fig. 5.16, Fig. 5.17] In the article, he presented cropped images of materials in provocative juxtaposition to each other and objects of everyday use that elicited feelings of something beyond, something else, something imagined, something endless. In the Space House Kiesler used materials to envelop the habitant in tactile protective layers, which provided varied function to facilitate "sound proofing," "isolation," and "vision."⁵⁵ Achieving both flexibility and security, Kiesler provided comfort through tactile pleasures—temporal and sensual. [Fig. 5.18] Kiesler's materials served as screens that could be drawn to veil or be pulled back to reveal the outside world.

Kiesler recognized materials have "psycho-functions" that can be utilized to stimulate the psyche.⁵⁶ As Colomina argues in her recent analysis of Kiesler, the erotic "sensuality of Kiesler's house extends from touch into the visual freedom the design affords and beyond into the psyche."⁵⁷ [Fig. 5.19] As Kiesler expressed in his sketch of this concept, the sensing terrestrial body is surrounded in a world of objects with arrows and lines that all interrelate and establish a

⁵² Kiesler, "Notes on Architecture: The Space-House," 296.

⁵³ Ibid.

⁵⁴ Frederick Kiesler, "Space House." *Architectural Record*, v. 75 (January, 1934): 44-61.

⁵⁵ Kiesler, "Notes on Architecture: The Space-House," 295.

⁵⁶ See Kiesler, *Contemporary Art Applied to the Store and its Display*, 87.

⁵⁷ As Kiesler wrote on his notes on the Space House, "our senses are not given us to enlarge our knowledge of the universe but to limit our capacity of understanding. In that respect we could clarify the degree of limitation of our senses, like: 1) touch – shortest; 2) taste-next; 3) smell – next; 4) ear-next; 5) eye-next; 6) conscience-(?) longest." See Colomina, "De psyche van het bouwen: Frederick Kiesler's Space House," 76. Touch, considered closest to our body, senses what is close at hand and has its limits to understanding. Kiesler's architecture attempted to pass through the tactile senses in a state of "complete seclusion" or "semi-seclusion" to expand our conscience perception of the universe.

perceptual boundary of the “stellar spectra.” Kiesler’s architecture attempted to entice perception to pass through the tactile senses through the *psyche* and then beyond to outer space.

The Space House curiously functioned quite similarly to Freud’s 1923 idealization of the bodily ego.⁵⁸ In mapping a diagram of *The Ego and the Id*, Freud constructed the ego as a spatial body generated from the nucleus of conscious perception.⁵⁹ The ego, Freud mapped as a surface that separated interior and exterior relationships. [Fig. 5.20] It housed unconscious psychical systems within a hard semi-permeable membrane that formed in response to external and internal stimulation. As Freud described in *Beyond the Pleasure Principle*, the ego formed a shell—an inorganic shield—that protected unconscious energies by becoming resistant to external stimuli, while in turn controlling the relative discharge of mobile cathectic excitations of the internal drives—the instincts—back into the external world.

These instincts influencing the Id, and in turn the Ego, Freud articulated as the drives of sex, Eros—and of death—Thanatos. They underlie all basic life functions and commingle in Freud’s theory on a molecular level, where both kinds of instincts were active and fused in every living particle to varying degrees in time.⁶⁰ Freud described their interaction as an “organic elasticity” of special physiological “catabolic” and “anabolic” processes that fused, blended, and alloyed themselves together in *tension*.⁶¹ Under stress from too much tension, the shell of the ego became susceptible to fracture. Either the ego then discharged protective cathexes to strengthen its shell, discharged energy to relieve pressure, or when faced with excessive real danger relied on the flight-reflex to seek alternative protection—a wish fantasy Freud allied with the desire to return to the womb.⁶² As a response to the trauma of the First World War, in his

⁵⁸ Elaborating on his theories generated in response to the trauma of the First World War in *Beyond the Pleasure Principle* (1920), Freud proposed a “structural theory” of the mind in the *Ego and the Id*. He identified three distinct yet dynamic interacting agencies: the entirely unconscious Id that holds repressed perceptions and the drives; the partially conscious super ego—or ego Ideal that harbors the conscience and feelings of guilt; and the more conscious ego that derives from bodily perception and formulates a mental projection of the surface of the body—our bodily ego. See Gay, “Freud: a Brief Life,” in Sigmund Freud, *Beyond the Pleasure Principle*, xx. See also Freud, *The Ego and the Id*, 20, 36 (see chap. 4, n. 81).

⁵⁹ See Freud, *The Ego and the Id*, 18.

⁶⁰ *Ibid.* 38.

⁶¹ Sigmund Freud, *Beyond the Pleasure Principle*, tr. Joan Riviere and James Strachey (New York: W.W. Norton & Company, 1989), 43. See also Freud, *Ego and the Id*, 38.

⁶² Freud, *Ego and the Id*, 61.

study of shock, Freud deduced his structural theory of the mind with an analogy to the therapeutic effects of housing and protecting the sensorial and motor functions of the bodily ego within the shell of the cerebral anatomy.⁶³

Kiesler's architecture by 1933, whether intended or not—prior to entrenching himself into ideas of the surrealist group—aimed towards similar therapeutic interests to protect the psyche through shelter design.⁶⁴ “Houses are defense mechanisms,” Kiesler later explained in *Magic Architecture* that “give physical expression to the sheltering of [the human]...psyche.”⁶⁵ For Kiesler the house served psychoanalytic purpose, to heal the mind, body, and soul from the traumatic events of everyday life. The Space House was his first attempt towards that goal.

Kiesler designed his Space House as a perceptual boundary or semi-permeable shell similar to Freud's diagram of the Ego and the Id that could respond to inner needs while at the same time resist external pressures. [Fig. 5.21] The structural “outer shell” of the house facilitated the flux and flow of physical and psychical force.⁶⁶ It acted like a cellular membrane that provided as Kiesler said, “flexible division between outdoor and indoor.”⁶⁷ It was “not a wall,” Kiesler remarked, but instead provided glass panels for optic contact, movable-glass for physical contact and terraces for extensity.⁶⁸ Its overall structure was modeled on the concept of an eggshell, which Kiesler argued was the most “exquisite example we know of utmost resistance to *outer* and *inner* stress with a minimum of strength.”⁶⁹ Kiesler designed his Space House as one viable protective skin that could provide shelter, enclosure, and floor without conflict of interaction or use

⁶³ Ibid. 18, 20. Freud described the bodily ego as the “cortical homunculus”.

⁶⁴ Although not directly related to Kiesler's Space House, but in further support of a relationship between Kiesler's designs and Freud's theories on the Ego and the Id, Karl Sierek and Barbara Lasák recently describe in *Der Analytiker im Kino*, that the Space Stage actually served as the organizing principle for Dr. Sigfried Bernfeld's film project that attempted to illustrate Freud's 1923 theories of the Ego and the Id. Bernfeld's reference to Kiesler's Space Stage is characterized by an attempt to diagram Freud's convoluted matrix of these psychical constructs that function within the projected surface of a perceiving mind. See Karl Sierek, *Der Analytiker im Kino: Siegfried Bernfeld, Psychoanalyse, Filmtheorie* (Frankfurt: Sroemfeld, 2000).

⁶⁵ Kiesler, *Magic Architecture: The Story of Human Housing*, most complete version, Part 2, Chapter 4, pg. 1; Part 2, Chapter 4, pg. 5 (see chap. 4, n. 1; hereafter cited in the text MA, text references are to part; chapter; page(s)).

⁶⁶ Kiesler, “Architectural Solution,” 1933, 2.

⁶⁷ Ibid; emphasis in original.

⁶⁸ Ibid; see also Kiesler, Notes on Architecture: The Space House—Draft, 1933, 2.

⁶⁹ Kiesler, “Notes on Architecture: The Space House,” 296; italics added.

between parts. Continuous tension shell structures do not have joints that are subject to dis-joint. Instead, their elastic nature and cellular structure resist fracture and decay.

Kiesler was well aware however, the technology to construct his shell was still not available—"There is no question: a new construction method has not yet been reached. We are in transition," he said, "from conglomeration to simplification."⁷⁰ Kiesler aimed to construct architecture organically in contradistinction to techniques used to build the modern box. He rejected machine fastened panel and frame construction represented by the work of Mies and Le Corbusier, and he wildly departed from the International Style with his spheroid eggshell structures and palpable-tactile interiors that stimulated psychical experiences. In support of biomimetic structures, Kiesler envisioned elastic spaces held together through continuity to provided shelter, enclosure and floor without conflict of interaction or use between parts. In light of recent advances in building technology, Kiesler proposed to build the Space House of poured monolithic concrete with steel reinforcement.⁷¹ Ideally held-up in tension, the Space House would not require structural columns or joints, but would instead support endless spatial continuity within a unified building structure that modulated to the fluid bodily parameters of *alloplastic* systems.

Through architecture, Kiesler hoped to eliminate all joints. Joints Kiesler argued were dangerous due to their susceptibility to decay and dis-joint. Architecture historically governed by the need to assemble forms with joints is inevitably subject to eventual disjoint and decay. Understood in this light, all architecture, if not all manufactured forms, produced from an idea

⁷⁰ Ibid. 295. "There is no question: a new construction method has not yet been reached. We are in transition from conglomeration to simplification. Next simplified method of building: the dye cast unit...a continuous unit overcoming the four-fold division of column, roof, floor, wall. Such construction I call shell-monolith. ...Separation into floor, walls, roof columns, is eliminated. The floor continues into the wall...the wall continues into the roof, the roof into the wall, the wall into the floor. It might be called: conversion of compression into continuous tension." See Kiesler, "Notes on Architecture: The Space House," 27-28.

⁷¹ In an unpublished "Construction Outline," Kiesler listed a series of pragmatic solutions to the construction. Foundations would have walls 12 inches thick, built over a continuous two feet by four feet footing below grade. The structure above would be 8" thick with steel reinforcement to take temperature stresses with 1/4" diameter bars 24" on center. Walls and ceiling would be furred out to receive wire lath, plaster, or plywood paneling over 1" celotex insulation. Windows were of continuous steel with sliding glass panels. The exterior would be natural concrete finish with exposed aggregate, exterior floors tiled, and the roofs covered in "Barret 5 ply roofing". Tiled bathrooms, linoleum living room floors, and diagonal redwood bedroom flooring completed the modern look. Frederick Kiesler, "Construction Outline," 1934, Unpublished miscellaneous sketches, notes, and drafts, Space House Folder, Kiesler Archive, Vienna.

framed in the minds' eye that manifests the patterns, the draughts, the cuts to construct all artifice out of materials, is shaped alongside the ultimate fear of decomposition—losing a digit. The Space House with its aim of continuity formed in reaction to this ultimate fear.

The first digit removed as Freud had suggested is the feces that a child either offers or denies, as a gift to his love, which Freud proposed as the basis of all art and architecture through drawing, inscribing, and joining matter. In Kiesler's ideal Universe where animate and inanimate, subjects and objects, fused together in continuity without division, there would be no more joints. This ideal world would ensure prenatal hygiene and mental stability for all humanity, as there would no longer be a repetitive need for doubling forms to stave against mortality. In the ideal world of *informe*, there would be no joints, no feces, no separation anxiety, no need for cleanliness, and certainly no Freudian castration fears.

Raumseele (Space Soul)

To derive continuous connections that would best protect against human fears—fear of separation, fear of losing a loved one, and even the fear of being born—Kiesler looked to Nature. In hope to reconstitute unity, and relieve human anxiety, Kiesler responded as an *architect* to create mental and physical health through the art of construction. When asked by *Time* magazine why he became an architect—as retold by his second wife Lillian—Kiesler had invoked his favorite story of his beloved Chestnut tree:

When Kiesler was eighteen months old there was a nursemaid-housekeeper and one day each week she would knead dough to make bread. One warm spring day, she took the dough into the garden and kneaded it under his beloved chestnut tree. He said she wore full skirts and he didn't know why, but he went under her skirt and took some matches which he lit to look up, and that's how he started being an architect.⁷²

Whether remotely true, Kiesler and Lillian elicited human sexuality to describe the formative desire to produce architecture. As his nursemaid prepared nourishment in the shadow of his beloved tree, Kiesler fantasized he went under the skirt of a woman who substituted for his mother with all the eroticism associated with a fertile flame taken to light his passage.

⁷² Lillian Kiesler, "Kiesler Observed by Lillian Kiesler," *Frederick Kiesler: Arte Architettura Ambiente*, ed. Maria Bottero (Milano: L Electra, 1996) 208.

Embarrassingly, sex for Kiesler was the very nature of what it meant to be an architect.

Architecture proved for Kiesler a libidinal act of social engagement.

Kiesler's 1930 story titled "Chestnut" was a fragmented memory that Freud might suggest reenacted his primal scene, marking Kiesler for life. Kiesler's fantasy anticipated his fascination with primordial unity, automatism, environmentalism, and even his studies of plant and animal morphology. As Kiesler recalled,

from my earliest childhood on, one picture pursued me constantly. And I can still see it today very clearly, before my eyes. This vision was an obsession with me...Perhaps it had something to do with the big chestnut trees that stood in our backyard and under those shadows I played all summer long. I was very much attached to them, and often I would pick up the big fallen leaves, sit down quietly and take their structural affiliations apart and be delighted by the mystery of their intricacies.⁷³

The big trees in the back yard under whose shadow he played gave Kiesler a certain sense of security and interest. Similar to many children, Kiesler was attracted to them despite almost sadistically ripping apart their leaves. Kiesler expressed his curiosity for veined structures and skin like organic forms important to his later study on Duchamp's Big Glass. What was to strike Kiesler most in telling his story however, was that one day the gardener came over to speak with his nursemaid, who was kneading dough on the rear porch while watching over young Kiesler.

The gardener,

drove a nail into the big trunk of the chestnut tree, because it was very convenient for him to hang his straw hat there. When he went away, I lifted the straw hat off and looked at the spot where the nail was driven in the trunk. I saw that the body of the tree was hurt, that light fluid gathered around the hole, but that that clash of forces was not considered as something abnormal or prohibited, but rather as a matter of routine. If, so I said to myself, such a thing happened to the body of a human being, there would be violent reactions taking place, both audible and visible; but no one paid any attention to the clash of dead wood and dead steel. It was commonplace. (C 21)

Concerned with the wound inflicted by a nail driven into the big trunk of his chestnut tree, Kiesler understood the magnitude of routine loss caused by aggressive violence. He was angry that the gardener showed no empathy for the silent tree's pain. As Kiesler declared, "constantly after this event I wanted to design pictures where I had brought my beloved chestnut tree to life and had enlarged the very minute particles of the wood of its trunk to rebel against the intrusion of that

⁷³ Frederick Kiesler, "Chestnut," *Frederick J. Kiesler: Selected Writings*, e.d. Siegfried Gohr and Gunda Luyken (Stuttgart: Verlag Gerd Hatje, Ostfildern, 1996) 21 (hereafter cited in text as C)

steel bar.” (C, 21) Similar to Freud’s diagram of the Ego and Id, where *repression* is marked as if a nail had punctured the shell of the mind, Kiesler posed to design images that could “rebel against the intrusion” and bring his “beloved” tree back to life.

For Kiesler, art and architecture could alleviate repression that formed through acts of aggression. He felt the tree was alive with feeling and that the steel was an intruder, which he should engage in battle. (C, 21) It was the “inanimate chunk of form, the very villain in that drama.... Again and again that vision appeared in my dreams;” (C 21) “it constantly crowded itself during my days behavior into my consciousness.... The relationship between *animate and inanimate matter* absorbed me,” Kiesler explained. (C 22) The relationship between the animate and the inanimate became his obsession. In response to his concern, Kiesler manufactured a woodcut named “*Raumseele*” (space-soul) that featured,

a man seated with closed eyes, his hands and feet immovable, as though in a state of petrification. From him into the background of this picture extended a landscape and the extension continued into the sky, and the sky bent above his head, then backwards into the foreground, into the earth again, and forward toward his seat. It was evident from this picture and from the title given to it, that the man was conscious of his interrelationship with his environment, although not seeing it or actually touching it. (C 22)

From this calm, silent state, with his eyes closed and immobile, almost in meditative state of Nirvana, asleep or as here described—turned to stone, *Raumseele* (space-soul) as a work of art came to life as a psyche-real state through the act of artistic sublimation. It was born from fear of aggression against a loved object, and took the form of an image of a man accessing soul-space through projected connection otherwise unseen or felt.

Kiesler believed man was “conscious of his interrelationship with his environment” through a *space* which was the *soul* that extended out into the landscape and sky and then back to his *place* on earth. (C 22) The space of the soul related all things, inanimate and animate; it expanded out to the cosmos and contracted back to earth. Environmentalism as Kiesler derived through psychoanalytic perspective, hoped to heal the divide between “Man and Nature”—to perform a necessary unity.⁷⁴ As an environmentalist hoping to protect “Mother Earth” from the

⁷⁴ Although not a direct reference and an altogether varying point of view, Gregory Bateson evokes very similar environmentally conscious themes to Kiesler with Bateson’s strong emphasis on unity, ecology, psychoanalysis, and evolutionary theory. See Gregory Bateson, *Steps to an*

impact of thoughtless human acts of aggression, Kiesler proposed an ecological theory of the Universe that might relieve modern society of its repressed anxiety. Through the defining act of *Architecture*—a form of therapy in the libidinal world—Kiesler hoped to bring the mind, body, and soul back into balance in continuity with surrounding nature.

Kiesler presented an *animist* concept of *soul space* that hoped to heal the split between the animate and inanimate, subjects and objects—people and their environment. Kiesler envisioned space—whether best represented by the natural sciences as nuclear, magnetic, or electrical forces, or through psychical entities of cathexis, affects, or spirits to connect all things conscious, unconscious, alive or dead. Space for Kiesler was an architectural construct that resolved subject and object relations while at the same time warded against humanity's greatest mortal fear—inevitable death.

Raumseele is the space created by “architecture [that] seems to be the plastic (spatial) link between the here and the beyond, between the tangible and intangible,” Kiesler explained. (MA 1; 5; 3) Architectural space for Kiesler linked life and death. Kiesler understood “the beginnings of architecture are strangely enough not connected with life necessities, but with death.” (MA 1; 5; 1) “Architecture [connects] with death,” and “the anxiety of explaining to himself the process of death leads...even today [one] to believe in immortality,” he observed. (MA 1; 5; 3 and 1; 3; 2) For the modern architect of the 20th century, not only was architecture consequent of a fear of death (Loos' theory of the *tomb*) but so was the desire to modulate space in continuity (Kiesler's idea of *soul space*).⁷⁵

The idea of the *soul* as understood according to Rank at this time in 1930 was a manifestation of the desire for immortality whether represented as spirit, the unconscious, or as a reality in itself. For Rank, the very concept of a *soul* posed there was a connection that guaranteed from within all states of being including death that humanity existed and related in collective space somehow—somewhere—outside or beyond conscious sense, time, and

Ecology of Mind (Chicago: University of Chicago Press, 1972); see also Gregory Bateson, *Mind and Nature: A Necessary Unity: Advances in Systems Theory, Complexity, and the Human Sciences*. (Cresskill, New Jersey: Hampton Press, 1979)

⁷⁵ For Loos on the tomb see: Loos, “Architecture,” 104-109. See also Hubert Damisch, “Toward a Tomb for Adolf Loos”, *Grey Room 01* (Fall 2000).

mortality. In historic myth and religion, Rank argued in *Psychology and the Soul* that the totem is the embodiment of the immortal collective ancestor soul preserved through procreation, while dreams are the “proof” that there is an individual soul beyond the body that locates subjectivity externally and eternally.⁷⁶ For Rank, the work of Freud first associated the soul with the unconscious as the expression of our “inner life” for psychoanalytic purposes of self-knowledge and knowledge of the “other.” (PS 5, 7-8) Through psychoanalysis, we heal our soul. Ultimately, the “Psyche” became associated with the maternal as “woman represented the soul,” Rank explained. (PS 19) “This is the meaning of Psyche, the later conscious representation of the feminine soul, and patron saint of our science, which was named for her,” he concluded. (PS 19) For similar to the primitives, women represented and guaranteed the immortal soul Rank described by “animating children while keeping her own soul,” women were understood to be the “Soul Bearer”. (PS 19) The maternal body represented the very potential for birth of the next generation, effectively seen as a *soul space*, at least in historic logo-centric myth.

Not surprisingly for Kiesler, *Raumseele* (space-soul) would be associated with the maternal for generation and re-generation of mind, body, and soul through inhabitation of the house to recreate the *aura* of the maternal body. As Kiesler recognized in the 1940s when writing his chapter “Enigma of Birth”, in *Magic Architecture*, “man...finds a strange attraction for the locality of birth,” and “this locality may be called the psychological shelter of man.” (MA 1; 4; 1) Similar to Rank and Freud, Kiesler associated psychological shelter with the maternal body. For as Kiesler explained,

the place of birth carries with it the memory of the sheltering love of the mother, and the matriarchate is then the first form of social contract. Whatever evolution man has gone through, the attraction to the place of birth and to the actual house and home remains the same. Exactly like the animals, he is drawn to return home no matter how far away the search for the necessities of existence may have carried him. It is well established that animals, which have been carried away from their place of birth will find their way back with an *uncanny* sureness. (MA 1; 4; 1-2)

⁷⁶ Otto Rank, *Seelenglaube und Psychologie* (Wien: Franz Deuticke, 1930); English translation, *Psychology and the Soul: A Study of the Origin, Conceptual Evolution, and Nature of the Soul*, tr. Gregory C. Richter and E. James Liberman (Baltimore: John Hopkins University Press, 1998), 16, 28 (hereafter cited in text as PS).

Kiesler was aware of the *uncanny* desire for animals, including humans, to return naturally home to the sheltering love of their mother. For someone like Kiesler who did not have a mother to return it is perhaps easy to suggest he hoped to reconstitute that love through architecture.

Although an easy criticism of Kiesler is to suggest, he had an *uncanny* wish fulfillment to return to the maternal body himself—a fear and flight-reflex to return to the womb, one has to recognize Kiesler was well aware of the Freudian and Rankian implications of his architectural research. Not altogether different from the surrealists, Kiesler studied Freudian texts and similar psychoanalytic resources to problematize, enact, and potentially work through historic and contemporary enigmas of modern society.⁷⁷ If it is true as Demos suggests that Kiesler had an *uncanny* desire to achieve pre-linguistic unity by invoking fusion between vision and reality in his 1940s surrealist gallery spaces, we have to account for Kiesler’s instrumentalization of psychoanalysis in his architecture practice. If Kiesler simulated the *aura* of the primal maternal relationship in his surrealist galleries, he did so to *work through* modern trauma and repressed wish fantasies in hope to arrive at what he believed a more critically engaging and ethically conscious building practice. Kiesler’s architecture *enacted* modern myths in his attempt to reconstitute *auratic* relationships associated with the maternal *soul space*, but not necessarily out of fear for his life.

For Benjamin, aura comprised a breathy ornamental halo that encased an inanimate object whose exact figure could be “read off” through the art of imaginative interpretation.⁷⁸ The halo that encased the object physically and psychically embodied traces of memory inscribed through acts of dwelling that gave an object sonic voice. Benjamin’s surrealist project endeavored to liberate the *physis* and *psyche*—the body and image space surrounding all things for political revolution. To this purpose, he idealistically sought to end “the cult of dwelling” by “reading off”

⁷⁷ See Chapters 3 and 4 for an evolution of Kiesler’s interest in psychoanalysis.

⁷⁸ Benjamin first observed aura on Hashish. Aura, he observed constituted a sense of space that surrounded the body, which could be “wounded”. Aura was quite personal for Benjamin, and formed through anticipation of a violent bodily intrusion—his friend Ernst Bloch reaching into his personal space. Aura for Benjamin, formed as a protective zone or atmosphere aroused in the psyche in response to anxiety of physical trauma. But as he later concluded in “Some Motifs on Bauderlaire,” aura was not limited to acts of physical aggression. Walter Benjamin, “My Second Impression of Hashish,” in *Walter Benjamin: Selected Writings Volume II: 1927-1934*, ed. Michael W. Jennings (Cambridge: Harvard University Press, 1999) 88.

auratic traces.⁷⁹ Kiesler on the other hand wanted to dwell in the most primal of all auratic spaces—the image of the abode of the maternal being.

Kiesler's 1940s galleries were the idealizations of the confines of his continuous embryonic eggshell structures designed to recreate the sensual environment of continuity with the mother. As he often sketched, Kiesler intended these galleries to be the interior of his egg shaped spaces that encased surreal habitation within a spheroid-matrix shell. Kiesler's was obsessed with spherical spaces since the formation of his 1924 Endless Theater project—even though he struggled to build spherical forms. When he could not build the 1933 Space House as a continuous egg shell structure for example, he drew it to appear as an egg anyway. [Fig. 5.22] He also drew the interior of his 1942 Surrealist Gallery as if it were an egg, and he painted his egg as the culminating figure of his 1947 Blood Flames Surrealist Gallery. [Fig. 5.23, Fig. 5.24, Fig. 5.25] In his 1947 Halls of Superstition, he perhaps most innovatively wrapped the entire gallery within a mobius strip—an endless strip—to form the space of his egg shaped shell. [Fig. 5.26] Kiesler's creative project derived in the struggle to build spherical forms that created endless spaces to dwell.

The Endless House

Kiesler began his design for the Endless House while completing the Halls of Superstition exhibition in Paris after the war in 1947. Kiesler produced a series of sketches that formed sinuous enclosures and cavernous spaces of varied house-like conditions. [Fig. 5.27, Fig. 5.28] Only one elementary drawing however constituted an actual egg; the majority appeared as a series of angular solids in which he carved out interior spaces and applied shadows to emphasize solid presence and a ground plane. [Fig. 5.29] Kiesler designed the Paris Endless from a solid, or germ cell of a rock or egg, and then stretched out areas to constitute spaces from the original mass. In these carved and stretched-out forms, he created orifices and protrusions that constituted potential skylights, doors, and windows. [Fig. 5.30] In addition, he cut sections from

⁷⁹ Walter Benjamin, "The Return of the Flâneur," in *Walter Benjamin: Selected Writings Volume II: 1927-1934*, ed. Michael W. Jennings (Cambridge: Harvard University Press, 1999) 264.

loosely sketched axonometric drawings that revealed confining interior spaces with potential stair configurations. [Fig. 5.31] Kiesler's Paris Endless incorporated bodily growths and unnerving appendages with estranged primitive structures.

Not altogether different from Le Corbusier's Ubu sculptures and poetic rock formations Le Corbusier associated with the very essential acts of place-making in his *New World of Space*, 1948—Kiesler began evoking primitivist fantasies in his architecture to inform his housing designs.⁸⁰ Kiesler looked primarily to pre-historic cultures and the structures of animal shelters to re-naturalize modern building practice. Kiesler's *uncanny* regression into primitivism highly influenced his study of *Magic Architecture* and subsequently his Endless House designs.

Through his research Kiesler maintained that *protection* was the primary concern of all shelter design as it was for all animal dwelling since primitive times. "Man's house-building is nothing else but Animal-Architecture" he explained; "its function is physical protection" through "nest-building". (MA 2; 2; 2) For Kiesler, "the talent for building is...nothing else but the extended gesture of defense of the animal-psyche: protection against attack and death; preservation of food, shielding the weakened sick," and so on. (MA 2; 2; 1-2) The house existed fundamentally for the safety it provided and for Kiesler, "no better illustration of the house as a shield for physical protection can be found in the homes of the termites."⁸¹ [Fig. 5.32] For Kiesler, termites produced the safest forms of shelters and so he looked very carefully at the manner termites constructed in drone-like fashion arches and shelters from grains of sand with grass reinforcement. (MA 2; 2; 2) [Fig. 5.33] Termites he observed instinctively build in mounds primarily through cellular chambers that envelop the queen and her nursery.⁸² [Fig. 5.34] Similar to the white ant—the termite—who constructs towering mounds like skyscrapers, Kieser proposed humanity must *instinctively* build the same:

It is now clear that the instinctive ability of ... man in general to build and to wear clothing has a dual root: a physiological as well as a psychological one: Physiologically arbitrary reflex motions of the body are in time, mechanized and

⁸⁰ See Le Corbusier, *New World of Space* (New York: Reynal & Hitchcock, 1948).

⁸¹ (MA 2, 2, 1) See also excerpt text and images published in "Frederick Kiesler: Magic Architecture, 1940s," *Friedrich Kiesler: Endless House*, ed. Österreichische Friedrich und Lillian Kiesler-Privatstiftung and MMK—Museum für Moderne Kunst Frankfurt am Main (Ostfildern-Ruit, Germany: Hatje Cantz Verlag, 16-17).

⁸² "Frederick Kiesler: Magic Architecture, 1940s," 16.

standardized through our nervous system. Psychologically all animals, and especially man, living collectively, invariably learn by imitating. (MA 2; 1; 3)

To design as nature, humanity Kiesler proposed should build autonomically—trained through imitation of reflex action built-up in our nervous system habitually over time—like termites.

Recalling James' automatist theories, Kiesler studied the instinctive construction and cellular building patterns of animals, to imitate more innate building practices and thereby construct more environmentally sensitive modern shelters.

Caves, nests, and stones were the basic elements he concluded that architects should mimic. Caves, not surprisingly for Kiesler represented the innermost cell and first natural shelter for all humanity, while the nest proved the first artificial building. [Fig. 5.35] In piling stones, humans could imitate the space of sheltering caves as a continuous arch of rocks.⁸³ Studying nests similar to the Orangutan, Kiesler observed how shelters could "retain elasticity" so that their structure more "easily accommodates the movement of the body which they protect." (MA 1; 7; 3) From his research, Kiesler asserted cellular mounds, rock formations and flexible building structures were the fundamental building blocks that create natural shelter designs. *Magic Architecture* was Kiesler's historic proof that both justified and informed his interest in elastic architecture practices.

Kiesler's 1947 Paris Endless was his first response alongside the Halls of Superstition exhibition to these natural history studies. The final version of the house emerged from a series of rock like formations, with cellular spaces that performed to create a cohesive structure within an elastic skin. [Fig. 5.36] The Endless House supposed a mass that Kiesler stretched, pulled, and modulated about a delineated circulatory path to form one organic system. Derived through the cavernous shaping of rocks, Kiesler lifted the Endless House off the ground at different locations. In the final version, it had punctures through its skin on appendages and on top the main body of the house. These openings showed lines exuding dynamic forces between interior and exterior spaces. The whole body of the Endless House undulated to the contracting and expanding rhythms in release of what appeared to be dynamic energy forces. Besides its primitive qualities, Kiesler's 1947 Paris Endless had an especially erotic disposition.

⁸³ "Frederick Kiesler: Magic Architecture, 1940s," 19-21.

Both the visual and verbal descriptions of Kiesler's houses ultimately resonated with his extensive interest in Wilhelm Reich's writings on Orgasm Theory. Kiesler had seen Reich's lectures in New York at the New School for Social Research between 1939 and 1941 and held several of Reich's books in his library including *Die Bione*, 1938, *Listen, Little Man*, 1948, *An Introduction to Orgonomy*, 1960 and *Wilhelm Reich, Selected Writings*, 1961.⁸⁴ Reich's work sustained Kiesler's interest throughout his entire study of the Endless House from the 1940s through the 1960s.

Similar to Kiesler, Reich researched human physiology and psychology to propose a "functional unity" between the "balance of forces" between the tension and relaxation—contraction and expansion—of the *psychic* and the *somatic* systems of the body.⁸⁵ Reich's theories of course all pertained to sexuality. Reich proposed an analogy between the physical and psychological structures of the body, the sexual organs, and the urinary system. Similar to the bladder, the body—as the sex organs—build-up forces between internal pressure and surface tension—expanding and contracting—in search of release.⁸⁶ Referencing Freud's theory of the drives, Reich associated sex with the psychological entities of pleasure and pain. Expansion of the physical body represented for Reich pleasure and joy "outside the self—toward the world," and contraction represented sorrow and pain "away from the world—back into the self."⁸⁷ Very similar

⁸⁴ See Lillian Kiesler, "Personal Library of Frederick Kiesler," 112, 113, 115, 116. See also Steffi Kiesler Diary.

⁸⁵ William Reich, *Selected Writings: An Introduction to Orgonomy* (New York: Farrar, Straus and Cudahy, 1960) 116-117. Reich compiled his essays into this one complete edited book, which included varied texts originally published from 1942 on by Orgone Institute Press.

⁸⁶ For Reich, and I suspect Kiesler, "all biological impulses and sensations can be reduced to the fundamental functions of *expansion* (elongation, dilation) and *contraction* (constriction)." Reich directly studied their relationship to the "*autonomic nervous system*". For Reich the parasympathetic system equated with expansion, elongation, hyperemia, turgor and pleasure, while the sympathetic functioned wherever the organism contracts and withdraws blood from the periphery—"where it shows palor, *anxiety* or *pain*". He of course related these to the enlargement of the sex organs. See Reich, *Selected Writings*, 136. In addition, he correlated this same process to cellular division and growth. As a cell is fertilized for example Reich argued it first becomes "*tensed*", internal pressure and surface tension increase simultaneously. As the "egg cell" is elastic, through a process "characteristic of the function of living substance: *the stretching results in contraction*." "The nucleus begins to 'radiate,' i.e., to produce energy." Through observing Bion cultures "at a certain point the membrane begins to contract" at the point of maximal tension resulting in a visible vibrating, undulation and contracting. "If the cell could talk it would express *anxiety*" Reich insisted—division occurs which "*corresponds to a process of relaxation*." Reich, *Selected Writings*, 133.

⁸⁷ Reich, *Selected Writings*, 136

to Kiesler, he deduced “Life process” takes “place in the constant alternation of expansion and contraction.”⁸⁸ “Sexuality” he deduced was nothing other than “*the biological function of expansion* (“out of the self”)...[and] *anxiety*...(back into the self).”⁸⁹ On an instinctual level, “expansion and contraction function as sexual excitation and anxiety, respectively” Reich surmised.⁹⁰

Reich not surprisingly deduced that the process of reaching orgasm was instinctual, and had natural benefits for both the human *physis* and *psyche*. As Reich observed during the act of sex, a balanced organism reaches a convulsive state of “autonomic innervation” not altogether different from the act of breathing. “Life process” he observed, “in especial respiration, can thus be understood as a constant state of pulsation in which the organism continues to alternate, pendulum-like, between parasympathetic expansion (expiration) and sympathetic contraction (inspiration).”⁹¹ Like the “rhythmic behavior of an ameba, a medusa, or heart” the body releases pressures autonomically through sexual orgasm. For Reich—sex had nothing to do with love—but *pelvic anxiety* that built up towards release. “*The elimination of sexual stasis through orgasmic discharge eliminate[ed]...every neurotic manifestation*” he believed.⁹² In the compulsive act of sex, associated with a natural release of aggression, the body achieved if momentarily therapeutic benefit from achieving orgasmic fusion with another human being.⁹³ Through the orgasm, one gives themselves over fully, autonomically, if involuntarily to the benefit of being fused momentarily with internal and external atmospheric energy—what Reich described as the aura of “Comic Orgone Energy”.⁹⁴

Similar to Reich, Kiesler hoped to instrumentalize the automatisms of everyday life, to simulate a state of auratic communication of deep release with the cosmos. If Kiesler’s house

⁸⁸ Ibid.

⁸⁹ Ibid. 117-118. Reich compared sexuality and anxiety of the “orgasm formula: tension—charge—discharge—relaxation” to be the same “life formula” between “Pleasure (Expansion) and Anxiety (Contraction).

⁹⁰ Ibid. 137.

⁹¹ Ibid. 142.

⁹² Ibid. 189; emphasis in original.

⁹³ Ibid. 190. For Reich the need for gratification--“*for the discharge of the surplus energy in the organism by way of fusion with another organs*—makes itself felt at more or less regular intervals;” emphasis in original.

⁹⁴ Ibid. 5, 216.

posed a relationship to Reich's theories on the benefits of sexual orgasms, the Endless House enacted one of its most primal expressions. It performed as a bodily supplement—a prophylactic sex device—to release pent-up frustrations. If Loos' modern house hoped to build-up bodily armor on the exterior by repressing sensual pleasure on the interior—Kiesler hoped to release modernism's repression through architecture of sexual liberation. Within the contracting and expanding apertures of surreal dwelling, like a sex doll, the Endless House conformed to the body to enact modern pleasure in the hope to release repressed pain.

1950 Endless

When he returned to New York from Paris in 1947, Kiesler had few design projects waiting for him. But as the post war years incited an enormous modern housing boom across the country, Kiesler believed his research ever more dire and necessary. In 1946, Kiesler had written a proposal to re-open his Design-Correlation Laboratory that he sent in 1948 to the University of Michigan. Arguing his point, he asserted there was an "URGENT NEED" after the war, "when all those interested either by profession or speculation plunge into housing-design, with studies of necessarily limited scope".⁹⁵ To counteract "this rush with investigations independent of immediate application and sales," Kiesler proposed his housing studies as a more appropriate response.⁹⁶ The Endless House ideally posed to relieve trauma and anxiety of a post-war generation, but there was no immediate interest in Kiesler's particular research.

Kiesler's first break, in the postwar years was through his publication "Manifeste du Corréalisme" in *L'architecture d'aujourd'hui* in 1949. Kiesler presented his most significant housing and design projects alongside familiar ideas from "On Correalism and Biotechnique," and "Magic Architecture".⁹⁷ Upon recommendation by Lewis Mumford, Kiesler showed a more

⁹⁵ See Frederick Kiesler, "The Laboratory of Design-Correlation," New York City, March 21st, 1946, unpublished, 2, Laboratory for Design Correlation, REC 03 Box, Activities/Reports, Reports on the Laboratory for Design Correlation Folder Kiesler Archive, Vienna. See also Frederick Kiesler to Holm, November 27, 1948, Frederick Kiesler Papers, Box 4 of 7, Correspondence 1949 Folder, Smithsonian American Archives of Art, Washington D.C.

⁹⁶ Ibid.

⁹⁷ Frederick Kiesler, "Manifeste du corréalisme," *Arts plastiques 2e numéro hors-série de L'Architecture d'aujourd'hui consacré aux arts plastiques* (Boulogne, *Architecture d'aujourd'hui*, 1949)

complete version of the text to McGraw-Hill hoping to publish under the title *Towards a Union of Art and Architecture*.⁹⁸ The manuscript also included his recent article “Pseudo-Functionalism in Modern Architecture” published in *Parisian Review*.⁹⁹ Interest in Kiesler’s work gained momentum that year, as he presented lectures at Harvard University, University of Michigan, Columbia University, and the Institute of Design in Chicago.¹⁰⁰ By June 1949, Kiesler met for the first time with Director of the Museum Collections, Alfred Barr of the MoMA.¹⁰¹ Upon recommendation from Philip Johnson who had begun to prove a “staunch supporter and ally” for Kiesler—he was invited to hold a Design Seminar group, “a sort of School for Designers” at the MoMA planned for sometime the following year.¹⁰²

In June 1950, Kiesler’s friend Hare invited him to participate in a collaborative group show, “The Muralists and Modern Architecture” at the Kootz Gallery, New York. Kiesler felt he had been “put amusingly on the spot” in light of the “type of architect which we will probably encounter”—namely Johnson, Gropius, and Breuer who were all directly invited to participate in the show.¹⁰³ Kiesler felt an outsider to this group, as reminded by the circuitous route he received his invitation.

⁹⁸ See letter Frederick Kiesler to William Larned, July 9, 1949, Frederick Kiesler Papers, Box 4 of 7, Correspondence 1949 Folder, Smithsonian American Archives of Art, Washington D.C.

⁹⁹ *Ibid.* During this time, Kiesler also applied for a Fulbright grant to study the integration of Art and Architecture in 18th century France. He was particularly interested in the Baroque and Rococo styles. See letter Frederick Kiesler to Gordon T. Bowles, November 28, 1949, Frederick Kiesler Papers, Box 4 of 7, Correspondence 1949 Folder, Smithsonian American Archives of Art, Washington D.C.

¹⁰⁰ See letters Frederick Kiesler Papers, Box 4 of 7, Correspondence 1949 Folder, Smithsonian American Archives of Art, Washington D.C.

¹⁰¹ See letter Frederick Kiesler to Alfred Barr, May 14, 1949; Alfred Barr to Frederick Kiesler, June 1, 1949, Frederick Kiesler Papers, Box 4 of 7, Correspondence 1949 Folder, Smithsonian American Archives of Art, Washington D.C.

¹⁰² See letter William Poliner to Frederick Kiesler, October 23, 1949. Johnson and Kiesler had a strong friendship after 1950, which included the exchange of many letters. Kiesler generously built Johnson an outdoor Galaxy sculpture for his garden in New Canaan, Connecticut in 1953 which Barr and he both felt was “a new art form of surpassing nature”. See letters from Johnson to Kiesler, June 8, 1953; Kiesler to Philip, September 14, 1952; Richard Kelly to Frederick Kiesler, February 14, 1953; Kiesler to E.M. Benson, April 25, 1953; and Philip Johnson to Frederick Kiesler, June 8, 1953, Frederick Kiesler Papers, Box 4 of 7, Correspondence 1949 Folder, Smithsonian American Archives of Art, Washington D.C. See also letters between Frederick Kiesler and Philip Johnson from 1951 to 1955, Briefe J, Mappe 4, Kiesler Archive, Vienna.

¹⁰³ See letter Frederick Kiesler to David Hare, June 28, 1950, Frederick Kiesler Papers, Box 4 of 7, Correspondence 1949 Folder, Smithsonian American Archives of Art, Washington D.C.

For the exhibition, Kiesler designed a 9" diameter scaled-model in clay of a new version of his Endless House. Perhaps too insecure to expose the overt sexuality of his 1947 Paris Endless, Kiesler proposed instead his ideal solid egg-shaped structure for this design. [Fig. 5.37] Hare and Kiesler collaborated similarly to their 1947 Halls of Superstition exhibition. Hare produced an interior sculpture to be surrounded by Kiesler's curvilinear shells. To fit his sculpture, Hare produced a large egg shaped structure based on Kiesler's smaller model, but as it proved too strange, they exhibited only Kiesler's small clay model and a fragment of the larger shell.

Presented in October, Kiesler's design was remarkably well received. In many ways, the exhibition proved a breakthrough that launched Kiesler as a significant figure in the history of modern architecture. Director of the Department of Architecture and Design at the MoMA, Arthur Drexler published Kiesler's project in *Interiors Magazine* in 1950 alongside an elaborate description of the work.¹⁰⁴ [Fig. 5.38] Johnson acquired the Endless House for MoMA in 1951 and showed it again at Drexler's "Two Houses: New Ways to Build" exhibition alongside Fuller's Geodesic Dome in 1952. *Life* and *Time* magazine featured Kiesler's Endless House in May and October of 1952, and soon after Kiesler became somewhat a celebrity to a wider audience of educators, architects, and critics.

If an altogether speculative clay model—Kiesler's Endless House successfully incorporated years of his design interests. Similar to the Space House, Kiesler generated its form in response to varied social dynamics, and proposed the Endless House be for extended family living; it brought two or three generations together under one roof. [Fig. 5.39] Different room sizes correlated to varied activity levels. Where "generous spaces preferable for group living demand double or even triple heights in such areas as the living room," Kiesler explained, "minimal 8-foot heights are best in bedrooms and other private areas," he observed. (EHI 125) [Fig. 5.40] The plan revealed three "individual recreation and sleeping areas," with minimal windows for daylight, a soundproof study, and a children's playground and workshop. All rooms were located off a central group-living-eating-area and separated by thick *Poché* space with doors as flexible

¹⁰⁴ Frederick Kiesler, "Frederick Kiesler's Endless House and its psychological lighting," *Interiors*, November 1950, 122-129 (hereafter cited in text EHI).

screens. (EHI 124) Unlike the Space House, however the Endless House did not advance overt mechanized systems and mobile furnishings to create spatial variation, but relied heavily on multi-media lighting effects similar to his Endless Theater.

In the Endless House, Kiesler's stage effects became psychological lighting effects, which dominated the interior atmosphere. [Fig. 5.41] Kiesler delineated psychic projection through a series of colored lines that enveloped and generated from within the Endless House. Lighting "push[ed] back the physical boundaries" of architecture while at the same time surrounded the inhabitant with distracting "color and brilliance" to inspire expansive rumination secure in remote havens of rest. (EHI 125) [Fig. 5.42]

Featured during the daytime in the "Endless House" was a large crystal that filtered the sun into a prismatic kaleidoscope. It used "convex mirror reflex devices" to translate light—"to diffuse it"—into rays that transformed into a series of three colors from dusk until dawn marking the passage of daily habits in "continuity of time" and "dynamic integration with natural forces." (EHI 122) [Fig. 5.43] Kiesler introduced time into his architecture to demarcate habitation—to codify the body's actions in relation to spatial conditions. As time passed—the room systematically changed color. Daytime lighting provided periodic riotous colors whose patterns recorded the passing of daily habits—diffused on surfaces and inscribed in personal memory. [Fig. 5.44]

Nighttime lighting provided similar effect, with "exhilarating" "double-direct-indirect" lighting that reflected off woolen white carpeting and then bounced back onto the walls and ceiling—"diffused" endlessly. (EHI 126) Night lighting being theatrical and motion sensitive, moved with the inhabitant and provided variety of experiences marked by "vast succession of shadows beyond shadows." (EHI 126) Spotlights focused upon objects and habitants. Diffuse light radiated upon curvilinear walls. Kiesler transformed the habits of everyday life into the *auratic* traces of surface memory dispersed as colorful illusory affects timed to the movement of the body and rhythms of sun and moon.

Dwelling no longer left traces in the physical markings upon material surfaces of the architectural body. Instead, dwelling existed dispersed as sensational images marked through

time as phantastic illusory colors and shadows recorded in memory. Kiesler believed 20th century beings could dwell in multi-media and he designed his architecture to envelop habitation within a *casing of illusory projection*. The house formed a virtual environment that became an effervescent halo surrounding the habitant—constructed as a seemingly elusive surface of “continuous tension” eggshell construction. The Endless House performed as a complex matrix or shell that encased, prefigured, adapted, and controlled the parameters of dwelling inside its virtual elastic skin.

Similar to the Space House, Kiesler conceived his Endless House as “a shock-proof shelter”.¹⁰⁵ Its image and form presented almost identically to the rock-shaped formations of his studies of pre-historic constructions of 14th century France.¹⁰⁶ The Endless House formed through a primitivist regression, but unlike the 1947 Paris Endless, it did not exhibit perverse primal elastic expression. Its auratic continuity did not form through the pornographic image of autonomic sexual release, but through palpable luxury of warm soft glowing atmospheres of multi-media affections. Kiesler achieved endlessness through *illusions* that “sweep past the boundaries” while at the same time integrate dwelling in a thick protective shelter. (EHI 127)

Despite its innovation and celebrated reception however, Kiesler’s eggshell construction remained purely a provocation. Johnson would later declare Kiesler, “the greatest non-building architect of our time,” in respect for Kiesler’s indefatigable ambition to design innovative structures that could not be built.¹⁰⁷ Although Kiesler never stopped searching for a client to build his Endless House, no materials or structural technologies were available to construct Kiesler’s continuous eggshell forms cost-effectively. Through the 1950s however, this technology started to advance.

The 1950s saw several continuous tension shell constructions similar to Kiesler’s vision. J. M. Johansen produced similar eggshell structures for his Sprayform House in 1954, and

¹⁰⁵ See Letter Frederick Kiesler to Mr. Markel, September 14 1952, Frederick Kiesler Papers, Box 4 of 7, Correspondence 1951-1952 Folder, Smithsonian American Archives of Art, Washington D.C.

¹⁰⁶ “Frederick Kiesler: Magic Architecture, 1940s,” 19.

¹⁰⁷ Philip Johnson, “Three Architects,” *Art in America*, nr. I, March 1960, 70.

constructed in a small version in Zagabria, 1956.¹⁰⁸ Saarinen constructed the TWA terminal in steel reinforced concrete in New York from 1956 to 1962 that proved it was possible to construct wild organic structures, at least in institutional design. S. Hohauser published his egg-shaped Beach House in 1956. While MIT architects produced the first continuous tension shell plastic structure, The Monsanto House of the Future in 1957.¹⁰⁹ [Fig. 5.45] Interest in technology similar to Kiesler's vision began to prove possible.

Interest in continuous tension shell technology advanced rapidly during the post war years—especially in the plastics industry. Haskell, editorial chairman of *Architectural Forum* argued in 1954, that plastics would generate a “second ‘modern’ order...to which today’s ‘modern’ will be just an antecedent.”¹¹⁰ Haskell proposed a second form of modernism that would signal a departure from the current trend favoring the manufacture of steel frame, mechanically fastened panel construction. In favor of structures similar to Kiesler, Haskell remarked,

today's typical “order,” as Mies van der Rohe says, is the skeleton frame.... Tomorrow's structure may be typically all “skin.” Its skin may be formed to become its shell *and* its interior columns of cellular structure.... A single continuous envelope of a thin sandwich material may yield structure and enclosure; resistance to destructive forces from outside; solidity or porosity; control of light and view; insulation for heat and sound, color and finish—all characteristics we now impose separately.... Future buildings may be as thin as egg shells.¹¹¹

Continuous eggshell construction hoped to promote an alternative building typology in contradistinction to the traditionally accepted modern practice of “skin and bone” architecture. Kiesler had known Haskell since their involvement at the AUDAC, and to promote his work, Kiesler sent Haskell his “Manifeste du Corréalisme” article that featured Kiesler's Space House in 1949. “To Doug Haskell with 20 years of fighting Memories (in the U.S.A.),” Kiesler wrote in hope

¹⁰⁸ Valentina Sonzogni, *Frederick Kiesler, La Endless House come infinita ricerca dello spazio infinito*, Masters Thesis, Università di Roma “la Sapienza”, 1999, 196.

¹⁰⁹ See Stephen Phillips, “Plastics,” *Cold War Hothouses* ed. Beatriz Colomina, et. al. (New York: Princeton Architectural Press, 2004) 91-124.

¹¹⁰ Douglas Haskell, “In Architecture, Will Atomic Processes Create a New ‘Plastic’ Order?” in “Building in the Atomic Age,” *Architectural Forum*, September 1954, 100.

¹¹¹ Haskell, “In Architecture,” 100; emphasis in the original.

that his vision might one day be taken seriously. Finally, in the 1950s Kiesler's ambition was starting to break ground.¹¹²

Endless Sculpture

Kiesler broke through the shell of his egg shaped structures through a series of Endless Sculpture projects he produced around 1954. The "Endless Sculpture" titled "The Vessel of Fire", began from a series of three hollow clay shells that lay nested together "like broken eggshells."¹¹³ Originally designed for his 1950 Endless House, the shells had cracked due to faulty craftsmanship and were then cast in bronze to retain their form. "The mutation into sculpture," took place by accident Kiesler observed. He had received a Graham Foundation grant to pursue artistic work, so he began serendipitously standing one of the cast shells upright for amusement. (ES 21) The "form became more prominent than its function," he remembered, and the Endless House became a sculpture that needed a base for support. (ES 21) Using wood planks ripped to appear "utterly muscular" from "a tree trunk," he made a support for the shell; he then added two more shells to the sides as "wings," to create "breath" for the sculpture. (ES 21, 23) To support its growing weight he needed a "widespread base," and found a series of burned, charred wood planks out in the foundry, and fastened them together. [Fig. 5.46] He realized the sculpture was incomplete and he added a vessel of fire to light beneath the shells between the widespread base of its muscular tree trunk legs. (ES 24)

As he made more sketches to add more shells—more units—to achieve "continuity", Kiesler believed the endless sculpture proved "indigenous to its environment"; it "constitutes a global organism" he proposed, "in itself growing constantly from fixation to discontinuity within the will of an unlimited continuum." (ES 28) Kiesler's sculpture proved to him a series of part objects brought together in continuum that he believed breathed life. For as

¹¹² Frederick Kiesler, "Manifeste du corréalisme," *Arts plastiques 2e numéro hors-série de L'Architecture d'aujourd'hui consacré aux arts plastiques* (Boulogne, *Architecture d'aujourd'hui*, 1949); signed copy as held in the Douglas Putnam Haskell Papers, 1866-1979, Box 112, Folder 6, Misc. Frederick Kiesler, Department of Drawings and Archives, Avery Architectural and Fine Arts Library, Columbia University, New York.

¹¹³ Frederick Kiesler, "Towards an Endless Sculpture," *The 'Endless House: Inside the Endless House: Art, People and Architecture: A Journal*. (New York: Simon and Schuster, 1966), 21 (hereafter cited in text as ES).

you see, the sculptor's wings are really made of clay and his work is earthbound. It is the breathing of the intervals between details that makes his materials live and expand visually. Isn't the dimensioning of space-distances, the exactitude of intervals, the physical nothingness which links the solid parts together so powerfully—isn't this the major device for translating nature's time-space continuity into man-made objects? (ES 27)

For Kiesler, he fantasized one could translate nature's life principles of time-space continuity and make the inanimate animate, by marking space through relative distance in time. Kiesler envisioned he could connect different objects, even those broken apart through endless spatial connections— through *soul space*—that he imagined existed virtually in the intervals.

Kiesler had a consistent obsession throughout his practice to resolve subject object relations by evoking relative spatial distance to connect all things. Kiesler commingled his obsession with theories by Einstein and Minkowski on space and time. By the 1950s, his pseudo-scientific fantasies resonated with events of contemporary culture. As modern developments in “nuclear science, fission, fusion, and satellites unexpectedly rocketed everybody's imagination into outer space,” Kiesler realized, popular culture “suddenly made the Endless a natural”.¹¹⁴ Science and technology had motivated Kiesler since the 1920s, long before “the new terminology ha[d]...entered our vocabulary” he observed.¹¹⁵ Kiesler hoped to negate separation and difference between things through elaboration of *space science*. In his 1959 essay on “How Things Hold Together,” Kiesler proposed a similar theory of spatial connectivity for his “galaxial” sculpture projects.¹¹⁶ Not surprisingly, he ultimately concluded to set his sculptures to motion—to create an “indoor cosmos”—his “mobiloids” that appeared to breathe life through perception in *parallax* or electro-mechanical devices.¹¹⁷

¹¹⁴ Kiesler, “Kiesler's Pursuit of an Idea,” 114.

¹¹⁵ Ibid.

¹¹⁶ Frederick Kiesler, “How Things Hold Together,” *The 'Endless House: Inside the Endless House: Art, People and Architecture: A Journal* (New York: Simon and Schuster, 1966) 214-215.

¹¹⁷ “Of course, the next step would be to have these paintings or sculptures or sectional architecture move,” Kiesler explained in the text—“be in motion, like a human being who can lie quietly, stand fixed, but can also walk, run, jump and come back to repose. It is not difficult to imagine a magnetic wall where such objects...would move, guided by a built-in electro-magnetic force, either slowly or fast, or stop on premeditated orbits, run or move in such slow motion as the minute hand on our clock which seems, when you look at it, to stand still... Now we can easily gear this power to a minute cycle, an hour cycle, or day and night cycles, and, although the play would be premeditated and properly set...it could also have the freedom of chance movement, chance produced by the mechanism itself, or imposed by an observer, at will. These

Animated by the miracles of motion, Kiesler gave his sculptures names. His expanded wall sculpture he called “Heliose”, and his ceiling sculpture “Embryo.” “Heliose” was the daughter of the “Vessel of Fire,” that was “slender compared to the mother.”¹¹⁸ She was the regression from the mother Kiesler explained for “she stands now in my house, threefold puberty: shyness, anguish, longing. She is wrapped in snow-white cloud tissues, a heavy body of bronze inside.... We shall undress her as soon as Alice arrives to view her...the kettle is whistling. I must go and prepare my brunch.”¹¹⁹ As Kiesler prepared to undress his pubescent child for her unveiling he returned to food as he was constantly hungry, virtually starving, consistently plagued by unresolved needs and drives.¹²⁰ In the 1930s, Steffi began a diary to record major events in Kiesler’s life that almost always revolved around food, and by the 50s Kiesler elaborated his own story to be consumed *Inside the Endless House*.

Inside the Endless

Johnson and Drexler presented Kiesler with an opportunity to construct a new Endless House inside MoMA’s garden courtyard in the late 1950s. Kiesler received a \$12,000 grant from the R.H. Gottesmann Foundation in February 1958 to build the model and plans. Drexler invited Kiesler to present his plans and model at the “Visionary Architecture” show planned for the MoMA, September 1960.¹²¹ Convinced he should make a large-scale mock-up, He began to

‘mobiloids’...would create an indoor cosmos.” Through speed—setting objects in time and motion—Kiesler hoped to “create an indoor cosmos” for his “mobiloids”. Kiesler’s fantasy to animate the inanimate through an electro-magnetic power however, only begged the same question of all estranged automata since the 18th century. As in the fate of Offray de La Mettrie’s treatise *L’homme machine* (1747), the notion of quintessential *perpetuum mobile*, or self-moving machine, has always been regarded suspect. Even vitalists such as Paul-Josef Barthez ridiculed the attempt to animate inanimate objects with the miracles of “self motive power.” Kiesler tried every idea imaginable to get his designs to move, and if he could not use a mechanical device, he relied on perception of parallax do the trick. Kiesler, “How Things Hold Together,” 214-215. See also Anson Rabinbach, *The Human Motor: Energy, Fatigue, and the Origins of Modernity* (Berkeley: University of California Press, 1992) 52.

¹¹⁸ Frederick Kiesler, “Heliose,” *The ‘Endless House:’ Inside the Endless House: Art, People and Architecture: A Journal* (New York: Simon and Schuster, 1966), 231.

¹¹⁹ Kiesler, “Heliose,” 232.

¹²⁰ Colomina makes a similar observation in Beatriz Colomina, “The Medical Body in Modern Architecture,” *Anybody*, ed. Cynthia Davidson (Cambridge: MIT Press, 1997) 237-238.

¹²¹ In addition to his intention to build the Endless House, Drexler also arranged soon after to exhibit Fuller’s structures and Paul Nelson’s Suspended House design in the MoMA garden courtyard. Drexler was convinced industry would be more interested in Fuller’s design, and so

construct a new version of the Endless out of hammered bronze metal sheets. Friends had criticized Kiesler for his former 1950s version of the Endless House—a small uninhabitable egg—it was considered a castrated scrap of Kiesler’s original intention.¹²² Instead, Kiesler chose to build a “super-galaxy” in shells to give the space-time feeling of the Endless House.¹²³ To dwell inside its raw materiality became one of Kiesler’s ultimate obsessions.

The first form of the Endless House Kiesler built was too amorphous, so he abandoned presenting it at the MoMA; he instead invented a smaller version with new techniques.¹²⁴ Kiesler began cutting, hammering, and twisting together metal wire mesh to produce loosely defined hollow forms held up in tension. [Fig. 5.47] He doodled the size and shape of the house program by forming *bubble diagrams* that enveloped various intertwined spaces—some small, some large—that modulated to a series of intuitively defined intrinsic parameters. [Fig. 5.48] Kiesler worked intuitively as a sculptor—feeling his way through the form to shape his ideas.¹²⁵ Like a surreal artist, Kiesler accessed his autonomic nervous system—i.e. the nonlinear complexity of aconscious habitual experience—to evade the limited prescriptions of over rationalized thinking. Through his expertise from his life-long study of housing, bodily measure, and spatial relationships, Kiesler instinctively projected the size, shape, and quality of forms he was

intended to build Fuller’s structures first. All plans and models would be exhibited at the “Visionary Architecture” show September 1960—an exhibition Drexler explained was “devoted to buildings that were either impossible to execute at the time they were designed because of technological difficulties, or because no social framework existed that could support the new concepts.” Kiesler’s Endless House likely appealed for both reasons. Both difficult to build and too sexualized for functionalist sensibilities, it perhaps best represented Drexler’s ultimate interest to “focus public attention on the enormous time lag between what great architects have wanted to do and what they have finally been allowed to do.” The Endless House had been long in the making. See letter from Arthur Drexler to Paul Nelson, May 28, 1959, as held in Douglas Putnam Haskell Papers, 1866-1979, Box 14, Folder 9, Paul Nelson, Department of Drawings and Archives, Avery Architectural and Fine Arts Library, Columbia University, New York.

¹²² Frederick Kiesler, “Scarpita Endless House,” *The ‘Endless House:’ Inside the Endless House: Art, People and Architecture: A Journal* (New York: Simon and Schuster, 1966), 281-282.

¹²³ Ibid.

¹²⁴ Ibid.

¹²⁵ Similar to what D.H. Lawrence described like a skylark that sings through a “spontaneous or sympathetic consciousness, which flows like a flame from the corpuscles of the body...through the muscles and nerves of the sympathetic system to the hands and eyes and all the organs of utterance”—Kiesler doodled the shape of his design. See D.H. Lawrence, “Introduction to Pictures”, *Late Essays and Articles*, ed. James T. Boulton, (Cambridge: Cambridge University Press, 2004).

interested to produce. He allowed “intuition as method” to form his ideas.¹²⁶ He then smeared concrete over both the inside and outside of the mesh to create a series of undulating shell-like strips forming continuous spaces that he imagined fitting himself inside. [Fig. 5.49] Endlessness embodied virtual poetic spaces that resonated indefinitely between a series of forms. To achieve endlessness, Kiesler formed a multiplicity of spatial possibilities wrapped within a series of continuous temporal forms. He made an endless array of spatial intervals—a series of *soul spaces*—intertwined together intuitively (psychically) in tension.

“The Endless House is called ‘Endless’ because all ends meet, and meet continuously,” Kiesler said.¹²⁷ The final form of the house undulated with shapes and volumes that Kiesler demanded were not “amorphous, not a free-for-all form. On the contrary, its construction has strict boundaries according to the scale of your living. Its shape and form are determined by inherent life processes.” (EH 568) [Fig. 5.50, Fig. 5.51] Daily events of the family and guests shaped the form of the house—and not only guests of the conscious world, but those from the unconscious realm as well. For as Kiesler contended, “the ‘Endless’ cannot be only a home for the family, but must definitely make room and comfort for those ‘visitors’ from your own inner world. Communion with yourself. The ritual of meditation inspired.” (EH 567) The Endless House ideally provided comforting rooms to inspire meditation for inner communion. The home was “no longer a single block with either flat, curved, or zig-zag walls, Kiesler argued, for it had become a

¹²⁶ Intuition as method was a theory Bergson derived to resolve the problematics of binary logics and rational thinking. Bergson believed not altogether different from Plato, and recently Agamben, that false binaries are at the basis of all ineffective composite thinking. Bergson and later Deleuze developed intuition as method to problematize falsely stated perceptions to differentiate binaries into a series of qualitative (as opposed to quantitative) distinctions. They proposed dividing binaries by temporal qualities—understood in duration—into a multitude of intensities. Bergson recognized intuition fundamentally experiences temporal qualities—duration. Intuition is not merely a feeling, an inspiration, nor a disorderly sympathy, but a sense that perceives the qualitative temporal differences between things. Intuition can convey to our conscious perception intensive experiences. Intuition as method generates multiplicity out of conscious binary logic by instinctively imagining the qualitative temporal differences hidden between things. Endlessness—the elusive nothing that creeps between ideas (forms)—for Bergson was this intuitively perceived temporal quality of duration, this multiplicity that existed oscillating perpetually between intervals. See Gilles Deleuze, *Le Bergsonisme* (Paris, Presses Universitaires de France, 1966); English translation *Bergsonism*, tr. Hugh Tomlinson (New York: Zone Books, 1988) 13-35. See also Bergson, *Creative Evolution*, 317.

¹²⁷ Frederick Kiesler, “The ‘Endless House’: A Man-Built Cosmos,” *The ‘Endless House’: Inside the Endless House: Art, People and Architecture: A Journal* (Simon and Schuster: New York, 1966) 566 (hereafter cited in text EH).

softer, gentler space of recluse;¹²⁸ it was “rather sensuous, more like the female body in contrast to sharp-angled male architecture,” he mused. Inside the Endless House, “you could womb yourself into happy solitude.”¹²⁹ [Fig. 5.52] For Kiesler, the house was a body that one desired to inhabit; it was organic and non-rectilinear that provided for mental hygiene through an obsessive neurotic return to the womb. [Fig. 5.53, Fig. 5.54]

For Rank, an obsessive neurotic need to return to the womb stemmed from anxiety. But for Rank, anxiety came from the very essential nature of being born—upon exiting the maternal body—symbolized by the first fecal excretion, breath, or cry. Idealized in Rank’s theory in the *Trauma of Birth* was the notion that the womb was a warm—protective—nurturing environment in which a child developed in continuity with its mother. Rudely awakened to the cold harsh external environment an infant desired to return to that original humble dwelling. Separation anxiety Rank argued led to a neurotic need to return to the paradise of an ideal home. Of course, Rank gave no proof that such a place was in anyway comforting—Rank understood intrauterine fantasy was an *idealization* developed during extrauterine existence, and Rank in no way proposed a return to the womb was healthy. In fact, dwelling—the obsessive desire to regress to auratic unity surrounded by soft palpable warmth—can be an indication of an unstable and unhealthy life. For Rank and Freud it proved the infantile neurotic behavior pattern of a mal-adjusted person who had not yet developed facility to accept distinct subject-object relationships or reify “love” through external libidinal engagements. It was a narcissistic state of regression—as is all architecture that attempts to sublimate fear of action through internalized caves of the *unheimlich*.

Exposing the myth of this *uncanny aura*, the Greeks told the tale of the Minotaur, a hybrid monster that stood as a man with the head of a bull that lived inside a labyrinth until he was slain by the hero Theseus.¹³⁰ As Rank suggested Minotaur can be understood as the human monster

¹²⁸ Frederick Kiesler, “The Endless House: A Man Built Cosmos,” *Frederick J. Kiesler: Selected Writings*, ed. Siegfried Gohr and Gunda Luyken (Stuttgart: Verlag Gerd Hatje, Ostfildern, 1996) 130.

¹²⁹ *Ibid.* 126, 127.

¹³⁰ For more on the story of the Minotaur see Marcel Jean, *History of Surrealist Painting*, tr. Simam W. Taylor (London: Weidenfield & Nicolson, 1960) 231. See also Pierre Grimal, *The Dictionary of Classical Mythology* tr. A.R. Maxwell-Hyslop (New York: Basil Blackwell Inc., 1986) 124, 292; Adrian Room, *Room’s Classical Dictionary* (London: Routledge & Kegan Pauli, 1983) 108.

that lived inside the “complicated dark passages” of the labyrinth that “are a representation of the human intestines (the ‘Palace of Intestines’).” (OR 153-154) For Rank, the analytic concept of the labyrinth “as the prison” for “a mis-shapen form ([or] embryo [i.e. the Minotaur]) unable to find the exit, is clear in the sense of [an] unconscious wish fulfillment.” (OR 153-154) Inspired by Freud’s work on the “Uncanny” and the “Wolf Man,” Rank described this unconscious wish fulfillment as a neurotic infantile fantasy to return to the “underground labyrinth of the womb situation.” (OR 153-154) The endless environment of the labyrinth suggested a prenatal or digestive condition where there were only continuous spatial configurations riddled with enigmatic interior and exterior relationships.¹³¹ On the one hand the space of the labyrinth can be argued to be paradisiacal, while on the other can be said to lead one to wander about anxious, excited, and somewhat paranoid of what is yet to come.

Not surprisingly, Kiesler was given the role of Minotaur, in Richter’s surrealist “film-poem” *8x8* in 1957. [Fig. 5.55, Fig. 5.56] Kiesler’s architecture bore a striking similarity to Rank’s interpretation of the labyrinthine palace. Kiesler’s architecture however was not a simplistic return to intrauterine fantasy purely for regressive eternal bliss to completely avoid existence in the external world. For within Kiesler’s Endless House—at the darkest moment of solitude—sheltered in the warm palpable depths of intrauterine dwelling, Kiesler hoped to provide a phantastic dream world that could reach out to the cosmos and expand. He attempted to rely on the technology of magic illusion—theatrical projection, cinema, and even television as “Broadcasted Decoration”—to achieve expansive space.¹³² Although he recognized, “we *want* to live in a confined space, we want to be protected, so to say, from the outer world. What is important is the necessity of

¹³¹ Rank, *Trauma of Birth*, 72, 176. Only a hero, we are told by Rank, has the wherewithal to maintain clarity and recognition of exterior and interior relationships with critical agency of separation from the illusions and demonstrations of the labyrinthine condition. As such, it is the hero and the monster in the confines of an architectural manifestation of fantastic intrauterine experience that can be described as the place in which a critically paranoid and artistically hysterical battle can attempt to explicate the unconscious and conscious relationship as dream work, which can be defined as the awakening state of surrealist discourse.

¹³² Frederick Kiesler, “The Broadcasted Decoration,” *Frederick J. Kiesler: Selected Writings*, ed. Siegfried Gohr and Gunda Luyken (Stuttgart: Verlag Gerd Hatje, Ostfildern, 1996) 19.

temporary confinement.”¹³³ *Temporality* for Kiesler, however, could not happen within the shape of a box; it had to be formed biotechnologically in the shape of a shell, for as he stated:

when the moment comes when we want to move a wall way out, to breathe more fully-yes, when we want the ceiling to be higher, or the whole area to change into another shape-that is where the Endless House comes in. Because it has a twofold expression: first, it has the reality of the walls and the ceiling and the floor as they are...but also a lighting system...so that by changing the lights...one can expand or contract the interior in an illusionary way, You can't do that with boxes.¹³⁴

At the heart of Kiesler's interest in the Endless was the promise of the “illusionary way.” The Endless House provided no sense of boundary, but was still able to shelter. Kiesler created a machine for dreaming, as a living organism that could be inhabited and engaged by the body. Kiesler designed his Dream Machine for curative effect—to strengthen the body and psyche for discharging individuals back into the sensual world of men—digested, re-generated, and redeemed. [Fig. 5.57]

To strengthen the ego is a complex project, and as Melanie Klein argued in her pre-Oedipal theory of childhood development, phantasy and hallucination are primary to ego (and super ego) formation.¹³⁵ Born in a world without any self-distinction, Klein believed a child was bound to the mother's body without being as yet a separate object.¹³⁶ Challenged by experiences of both pleasure and pain indiscriminately introjecting everything, through phantasy and hallucination the child instinctively learns to project the negative, and idealize the positive.¹³⁷ It

¹³³ Frederick Kiesler, “Kiesler's Pursuit of an Idea,” 116; emphasis in the original.

¹³⁴ Ibid. 117. Sylvia Lavin's reading of the Austrian-American architect Richard Neutra's post-war houses contends with Kiesler's observations; she argues illusionary psychical space can be achieved inside boxed shaped houses. See Sylvia Lavin, “Open the Box: Richard Neutra and the Psychologizing of Modernity,” *Assemblage*, no. 40 (Cambridge: MIT Press, 1999), 6-25.

¹³⁵ See Melanie Klein, “Symbol Formation in Ego Development,” in *The Selected Melanie Klein*, ed. Juliet Mitchell (New York: The Free Press, 1986) 98.

¹³⁶ According to Julia Kristeva the mother's body acts with the child's as a sort of socio-natural continuum.” See Julia Kristeva, “About Chinese Women,” in *The Kristeva Reader*, ed. Toril Moi (New York: Columbia University Press, 1986) 148.

¹³⁷ Introjection for Klein is not limited to the physical experience of sucking up the mother's internal fluids for it also occurs with all other real objects and people as well, as she argued, “the child...in his phantasy, he takes into himself everything which he perceives in the outside world. We know that at this stage the child receives his main satisfaction through his mouth, which therefore becomes the main channel through which the child takes in not only his food, but also, in his phantasy, the world outside him. Not only the mouth, but to a certain degree the whole body with all its senses and functions, performs this ‘taking in’ process—for instance, the child breathes in, takes in through his eyes, his ears, through touch and so on.” See Melanie Klein, “Weaning,”

splits the continuum into bits. In bits, this feeling amounts to a state of disintegration, which is normally transitory.¹³⁸ This disintegrated body in bits, the ego in bits is reconfigured through a curative—reparative stage ushered in by guilt feelings of the developing superego.¹³⁹ The ego resolves identity and spatial configurations from amongst the flux and flows of partial objects in continuum. Whether intended or not, Kiesler had searched for an architecture to create a similar zone. As the editors of *L'Architecture d'aujourd'hui* once said, “but does it not seem that Kiesler pursues one goal only: to reach Man, to destroy him in some fashion to re-create him, and to let him eject a new ‘elan’ of imagination and liberty?”¹⁴⁰

Kiesler's Endless House performed to stimulate an idealized paradisiacal life inside an ergonomically designed illusionary cinematic spatial experience that could expand and contract to engage one's every motion and desire. It was geared to rebuild both the physis and the psyche of the dweller—tailored to mediate the flux and flow of the evolving demands of daily existence. Designed to adapt to constantly changing parameters, the house was built of materials that on a molecular level could absorb and resist shock. Fluctuating between reparation (building up) and destruction (breaking down) the house was ideally porous and protective; it enveloped the body in a phantastic elastic skin. This architecture of eternal contraction and expansion (*détente*) assimilated the perceiving body within “the total artwork [*Gesamtkunstwerk*] of effects.” Surface boundaries became diffuse and elusive—yet remained immanently maintained through “organic creation.” Its transmutable shape characterized the disposition of its inhabitants stretched between introjected perceptions and projected actions. Dwelling found its home between illusion and reality—continuity and individuality—vision and fact.

in *Love, Guilt and Reparation & Other Works 1921-1945* (United States: Melanie Klein Trust, 1973) 291.

¹³⁸ Melanie Klein, “Notes on Some Schizoid Mechanisms,” in *The Selected Melanie Klein*, ed. Juliet Mitchell (New York: The Free Press, 1986), 184.

¹³⁹ Klein believed at moments this is a sadistic phase in which “phantasies and feelings of an aggressive and of a gratifying, erotic nature...are to a large extent fused together (a fusion which is called sadism).” At other moments this is a reparative stage, as the split ego reconfigures identity and spatial relationships and resolves its negative and positive feelings. For Klein the “desire to restore” is a creative labor that responds to reconcile embarrassing feelings of guilt associated with sadistic moments of both love and hate. Melanie Klein, “Weaning,” 293.

¹⁴⁰ The Editors, *L'Architecture D'Aujourd'hui*, “Translation from the French of the Editorial of *L'Architecture D'Aujourd'hui*,” June 1949, 1 (see chap. 1, n. 120)

Endless Politics or Perverted Ethics

In the same years, Kiesler completed his speculative research on his now famous Endless House, he faced a daunting ethical responsibility—whether to apply his psychoanalytical research to real world politics in the design for the Shrine of the Book. “The Dead Sea Scrolls unfold a new life for me, architecturally speaking—demanding a blunt reality, not a theory,” recalled Kiesler in his diary May 19, 1958.¹⁴¹ Kiesler and his business partner Bartos were hired to design a hallway display for the Dead Sea Scrolls in the new Hebrew University Library at Jerusalem in 1957.¹⁴² Kiesler however disagreed with the University’s functionalist plan in favor of a more realistic proposition. As he explained to the building committee, “there is much more involved here than the display of rare manuscripts”. (DS 323) To design a mere modern display Kiesler contended, the University already had a group of architects “talented in the tradition of Mies and Corbusier,” who could readily handle such an assignment. (DS 323) “It would just be a matter of getting enough donations,” he proposed, “to put in a marble floor and walls, bronze showcases, heavy rubber plants in corners, Mies van der Rhoë chairs and couches throughout, and air-condition the atmosphere—that would be the ‘modern’ way, in the great tradition of the Bauhaus,” Kiesler surmised. (DS 323) Instead, he believed there was a greater ethical responsibility at stake. A project of such sacred scale and value required a more insightful proposition. The Scrolls were merely tattered strips of parchment—“only decorative ciphers”—effectively illegible “to a wide world which cannot read Hebrew,” Kiesler observed. (DS 318) “Yet these signs,” he noted, “have shaken with their content the somnolent religious world of the cathedrals.” (DS 318) As Bartos agreed, “it was up to us to say something about them.”¹⁴³ The Shrine had to speak to the history of the scrolls and their awe-inspiring significance to the Jewish people.

¹⁴¹ Frederick Kiesler, “Dead Sea Scrolls,” *The ‘Endless House’: Inside the Endless House: Art, People and Architecture: A Journal*. (New York: Simon and Schuster, 1966) 318 (hereafter cited in text DS).

¹⁴² Bartos was originally hired to design a gallery display. But after initial planning meetings in Israel, Bartos returned to New York to consult his new business partner Kiesler as to the viability of the proposed scheme.

¹⁴³ Quoted by Marlin Levin, “The Shrine of The Book,” *Hadassah Magazine*, May 1965, Vol. 46 #9, frame 249-250, clipping found in Frederick Kiesler Papers, microfilm reel 128, Smithsonian American Archives of Art, Washington D.C.

For as it is told, in 66 A.D. Jewish rebels had control of nearly all of Palestine and Jerusalem until Vespasian of Rome sent his legions to besiege the city in 70 A.D.¹⁴⁴ The Romans slaughtered over 800,000 Jews, and pursued the Jewish rebels until their last stronghold fell at Masada in 73 A.D. Near that time, at the North Western end of the Dead Sea in Qumran, a sect of ascetic Jews, the Essenes joined the revolt. However, when the struggle seemed hopeless, they concealed their sacred writings on scrolls in large terra-cotta vessels in nearby caves. The surviving Jews dispersed throughout Palestine, but by 135 A.D. Hadrian of Rome crushed through all resistance. Nearly 1000 towns and villages fell and more than a half-million more Jews were killed. As it is told, the Judean caves, wilderness, Dead Sea, and Palestine remained silent to the Jewish people for almost the next 2000 years.

It was not until November 29, 1947 upon vote at the United Nations to dissolve British control of Palestine that the Jews believed they were free to form the independent state of Israel. This date remarkably coincided with announcement of the discovery of the Scrolls. A Bedouin goat-herder by the name of Mohammed Ahmed el-Hamed (nicknamed edh-Dhib, "the Wolf") found seven of roughly 850 missing scrolls and documents hidden in the Dead Sea caves.¹⁴⁵ Fragments were taken to Israeli Archeology Professor Eleazar Sukenik, who deciphered and purchased three of the scrolls.¹⁴⁶ The Scrolls contained parts of the Old Testament bible in its original language providing remarkable documentation of human history. Their authenticity had enormous value; the Scrolls provided proof to the legitimacy, heritage, and religious rights of the Jewish people. Their fortuitous return symbolized promise and success for Jewish independence in light of years of suffering, persecution, and unfathomable extermination.

Yet despite priceless value to world history, four of the other more complete scrolls surprisingly surfaced years later through an advertisement in the Wall Street Journal, June 1

¹⁴⁴ Jewish history as recalled by Kiesler, "Dead Sea Scrolls," 321. See also clippings "On the Hill of Zion," *Newsweek*; and Levin, "The Shrine of the Book;" clippings found in Frederick Kiesler Papers, microfilm reel 128, Smithsonian American Archives of Art, Washington D.C.

¹⁴⁵ For history of the scrolls discovery, see Kiesler, "Dead Sea Scrolls," 319. See also clippings "On the Hill of Zion," *Newsweek*, and Levin, "The Shrine of the Book".

¹⁴⁶ See Kiesler, "Dead Sea Scrolls," 320. An Armenian antiquities dealer had brought Professor Sukenik the leather scrolls across a barbed wire fence erected by the British to separate Israel from Jordan during the 1947 rebellions in Jerusalem.

1954.¹⁴⁷ Yigael Yadin, son of Professor Sukenik purchased the scrolls for \$250,000 with funds from Israeli Finance Minister Levi Eshkol, and New York philanthropist David Samuel Gottesman.¹⁴⁸ On February 13, 1955, Israel announced that the Gottesman Foundation would fund a shrine to display the seven scrolls now held in Israeli possession.

Gottesman's son-in-law Bartos, and Bartos' former Columbia University professor Kiesler, were given the commission.¹⁴⁹ They had worked most recently together on a remarkable display space for the World House Gallery, completed in New York, 1957. [Fig. 5.58] The gallery provided continuous curvilinear surfaces to display paintings and sculptures in endless correlation.

Kiesler was posed with a once in a lifetime opportunity to build his endless research project on an incredible symbolic scale for the Shrine of the Book. In light of his architectural interests for the past 50 years, it was not surprising Kiesler invoked in his first meeting with the client a familiar—if breathtaking—vision:

I wonder if one could find a plastic expression for the idea of 'rebirth'—that is, an architectural concept that would make visitors feel the necessity for each person to renew himself while yet on this earth. To give birth to oneself—not to be satisfied with the birth by a mother, but to re-create one's own being in the image of his one life experience. This is not, of course, rebirth after death, but rebirth during one's very own lifetime. Perhaps a Sanctuary of Silence, with the flow and return of water suggesting to everyone the Second Coming of himself. (DS 323)

The Shrine of the Book would be a distinct architecture, a unique modern tale. The form—"a plastic expression of rebirth" inspired by a remarkable story of a Wolf man who followed a goat into a cave to discover hidden treasures of Biblical dimension brought forth to redeem mankind—a return, a second coming, a rebirth outside the mother's womb. Although altogether phantasmagorical, Kiesler's proposal appeared altogether intoxicating.

With approval from President Mazar, Kiesler quickly sketched his vision. "The sanctuary proper would be a vessel," Kiesler described, "A double-parabolic, old time wine vessel. [Fig. 5.59] The lower parabola, bulging outward from cave of the earth.... The upper parabola...the

¹⁴⁷ See Levin, "The Shrine of the Book".

¹⁴⁸ Ibid. The Gottesman Foundation which also funded Kiesler's Endless House models in 1958 was established after the death of David Samuel Gottesman in 1956.

¹⁴⁹ Bartos had married Gottesman daughter Celeste in 1935.

mouth exhaling and inhaling space.” (DS 325) The container would pierce the floors of the newly planned University library to emerge from the roof to allow in light.¹⁵⁰

After initial approval, the project had three extensive revisions. The local architects responsible for the library first objected to the location of the form. “It seemed that the parabolas of the shrine were considered to be guerillas invading the cubicles of the Bauhaus,” Kiesler surmised.¹⁵¹ [Fig. 5.60] The Shrine was “Exiled,” as he lamented to a new site in front of the library.¹⁵² In this new scheme a partially submerged dome and patio were linked to the new library with an underground corridor alongside a stair that led to the nearby famed Monastery of the Cross.¹⁵³ This second scheme elaborated several new elements—including processional character and a free form Shrine—again the novel design challenged the aesthetics of the local architects.¹⁵⁴ The dome exceeded the functional requirements of the project and undermined the modern architecture of the University.¹⁵⁵

To prove their point, the University architects tested the design. In October 1959, they constructed a model dome without Kiesler’s consent, using two black rods at right angles spanned by chicken wire mesh and muslin—tattered and dangling.¹⁵⁶ No other elements were included—just a sham dome hanging in mid-air. “Totally missing were the architectural ritual of the one area following the other,” Kiesler bemoaned.¹⁵⁷ The dome was displayed without poetry

¹⁵⁰ See Kiesler, “Dead Sea Scrolls,” 325. As the library building had already been designed and excavations had begun, Kiesler designed the dome to penetrate the center of the building but not interfere with the boxy exterior. The wine vessel brought light into the center of the space down to the entry lobby.

¹⁵¹ Frederick Kiesler, “Dome’s First Act,” *The ‘Endless House:’ Inside the Endless House: Art, People and Architecture: A Journal*. (New York: Simon and Schuster, 1966) 328.

¹⁵² Ibid.

¹⁵³ The structure of the shell remained a challenge for Kiesler insisted the dome structure remain independent of any outside support from top to bottom. The structural engineer in this scheme posed to construct a circular bearing wall to support the top-half of the dome, more standard construction. Kiesler fought to maintain the integrity of his continuous shell design. Ibid.

¹⁵⁴ Frederick Kiesler, “Airplane Flight,” *The ‘Endless House:’ Inside the Endless House: Art, People and Architecture: A Journal*. (New York: Simon and Schuster, 1966) 331.

¹⁵⁵ Ibid. The local architects reminded Kiesler that there were only seven scrolls to display, and no need for his extravagant design. They suggested it he rethink the problem.

¹⁵⁶ To Kiesler’s dismay, the dome “looked like a gigantic skeleton of a crown set upon a rocky skull.” Ibid. 334.

¹⁵⁷ Ibid.

Kiesler resigned; “it was a cloak-and-dagger murder...a monster building...the project was dead, they had buried it alive.”¹⁵⁸

The Shrine was moved to its final location on the nearby hilltop development called Nave Shaabab (Peaceful Habitation) among three new museums designed by Al Mansfeld of Haifa and Dora Gad of Tel Aviv, and sculpture garden by Noguchi.¹⁵⁹ The design for the Shrine of the Book relied on a series of architectural elements correlated together along a path of travel. Each element carefully orchestrated to suggest a unique abstract form that would give its meaning in correlation to other elements in the composition. [Fig. 5.61] Similar to Kiesler’s extensive adaptation of the scroll in his art galleries and building projects, the architects imagined their work as a series of symbolic gestures that compiled together through metaphor to form a mythological narrative that unfolded through the experience and mystery surrounding ritual passage through the Shrine. [Fig. 5.62, Fig. 5.63] “Our task was to create a series of architectural events,” Bartos explained that did not consist of one or two units, but sixteen different constituents that work together to incite value and meaning.¹⁶⁰ The building performed, similar to a scroll, unfolding its history and power to the viewer.

Opening in April 1965, visitors approached the site along a slowly ascending marble promenade flanked by pines and olive trees—symbols of life, endurance, and light. [Fig. 5.64] The promenade opened onto a broad square plaza where the partly submerged circular dome appeared to float above the pool of water. [Fig. 5.65] Although occasionally referred to a large breast, the dome appeared to most—the shape of an “onion” with its rings of hand carved hard-

¹⁵⁸ Ibid.

¹⁵⁹ See “The Sculpture Garden,” *Supplement to Israel Digest*, 1965. See also “Symbol of State: Ian Nairn Looks at the New Israel Museum,” *The Observer, Weekend Review* May 14, 1965; clippings found in Frederick Kiesler Papers, microfilm reel 128, Smithsonian American Archives of Art, Washington D.C. An open-air sculpture garden by Noguchi and a future library were also included. The hilltop site was part of the new government center on the western edge of Jerusalem, one mile from the border of Jordan. It formed a triangle with the Hebrew University and the new Parliament House above the valley of the walled 11th century Monastery of the Cross. The scheme formed a strong modern planning structure using clear authoritative geometry.

¹⁶⁰ Levin, “The Shrine of the Book.”

fired ceramic tiles of decreasing corrugation set over a continuous concrete parabola shell.¹⁶¹

The top of the dome was cut-off to allow light to penetrate the interior, and fountains surrounded the dome to keep the underground Shrine naturally cool. A black Basalt wall blocked the natural elements on the exposed hilltop, and stood in contradistinction to the white dome. [Fig. 5.66]

Whether intended or not, the oversized sculptural forms set apart in tension provided a virtual wealth of opportunity for poetic imagination. To some the subterranean sanctuary represented the rebirth of the Israeli people, and the wall—with fire blazing atop—recalled the heavy burden of the past; while to others they represented symbols of life and death.¹⁶²

From the plaza, visitors descended alongside a pink stone wall and marble staircase to the plaza below to enter a set of bronze doors into a long cavernous tunnel, past a series of curved openings that undulated alongside a set of equidistant displays.¹⁶³ [Fig. 5.67] At the end of the cave, visitors began their ascent into the light of the dome structure where the Torah of Isaiah was presented in circular glass display. [Fig. 5.68] The scroll surrounded an oversized handle circumscribed by stone stairs that spiraled down into a seminal crypt. To protect the scrolls the handle could retract up and down. In climax, Kiesler hoped the handle would shoot water out the central oculus onto the exterior dome. Too erotic, suggestive, and not altogether pragmatic—they had to abandon the idea. [Fig. 5.69]

The Shrine was built as a memorial and symbol of great power. It was a “Symbol of State” and “Gesture of Great Confidence” as reported newspapers at the time.¹⁶⁴ Yet despite winning a national AIA Merit Award in 1966, critics readily attacked the Shrine specifically for its

¹⁶¹ “On the Hill of Zion”; see also “Dead Sea Scrolls ‘Shine’ Opened,” *The Israel Digest*, Vol III. No. 9, April 23, 1965, 2; Clipping found in Frederick Kiesler Papers, microfilm reel 128, Smithsonian American Archives of Art, Washington D.C.

¹⁶² Dead sea scrolls “Shrine” opened; see also “Israeli Museum to House Jewish Historical Testaments, New York Times, Sunday May 9, 1965; see also Marlin Levin, “The Shrine of The Book”; clippings found in Frederick Kiesler Papers, microfilm reel 128, Smithsonian American Archives of Art, Washington D.C.

¹⁶³ The cave recalled Kiesler’s 1942 Gallery Exhibition design or more provocatively doorways through Peter and Alice Smithson’s Plastic House of the Future, 1956.

¹⁶⁴ See “Symbol of State: Ian Nairn Looks at the New Israel Museum”; see also John Russell, “Gesture of Great Confidence,” *The Sunday Times*, May 16, 1965; clippings found in Frederick Kiesler Papers, microfilm reel 128, Smithsonian American Archives of Art, Washington D.C.

non-functional aesthetic. They saw it as quite “fey”, “off-beat”, and “flamboyant” with very disturbing and undeniably surreal psychoanalytic character.¹⁶⁵ [Fig. 5.70]

In his reference to psychoanalytic theory, in particular Freud, Kiesler perhaps more than any other architect consciously acted out the psychological repressions of the modern period. For Kiesler, the story of the Dead Sea Scrolls carried a number of references to Freud's famous story of the “Wolf Man”.¹⁶⁶ “This account seemed to me beyond belief,” Kiesler recalled, “but as I learned later, was factual indeed. The earth had given forth seeds of truth,” Kiesler said that inspired his design. (DS 319) In retelling the story of the Scrolls in his diary he emphasized the warm mud caves, the goat, the vessels, and the curious nickname of a boy—the Wolf Man. But in light of his final design for the Shrine of the Book and the history of Kiesler's interests, his intentions seem telling.

For Freud's famous case study of the Wolf Man was of a young man, whose childhood had been riddled with trauma that led to anxiety, frustration, and guilt. The Wolf Man exhibited these tendencies through obsessional neuroses demonstrated through appetite, piety, and sadomasochistic tendency. His experiences with incest and abuse from his sister amidst unrequited love for his nursemaid and father fused into an erotic desire laden with deep-rooted anxieties and fears. Through dream work, the Wolf Man's anxiety was revealed in the form of seven wolves that represented a story of “The Wolf and the Seven Little Goats” perched in a tree, not unlike young Kiesler's formidable tale of the Chestnut tree. Freud's Wolf boy had sadistically carved into his Walnut tree only to fear cutting off his finger—the digit. In the end, Freud treated the Wolf Man with periodic enemas that resolved his intestinal problems, along with his obsessional neuroses. The enema, Freud observed was as a symbol of re-birth that ripped or tore through the bowels of the Wolf Man's infantile veil, his caul or lucky-hood.¹⁶⁷

¹⁶⁵ See “Symbol of State: Ian Nairn Looks at the New Israel Museum”.

¹⁶⁶ Sigmund Freud, *Aus der Geschichte einer infantilen Neurose* (1918); English translation “From the History of an Infantile Neurosis”, tr. J. Strachey, *Standard Edition of the Complete Psychological Works of Sigmund Freud*, ed. J. Strachey et al., 24 vols., London, 1953-74, XVII, 7-122; reprinted in *Three Case Histories*, ed. Philip Reiff (New York: Macmillian Publishing Company, 1963; 1996 edition) 133-280.

¹⁶⁷ For more on the study of the “Wolf Man”, “The Uncanny”, and the caul or lucky hood, see Vidler, *The Architectural Uncanny*, 153, 241.

The Wolf Man gave birth to feces, Freud's symbol for all gifts, all disjunction, and all fragmentation offered to the loved one (including that of the penis, money, art, architecture, and the baby). Freud believed intrauterine fantasy stemmed from unresolved sexual satisfaction in the libidinal world. For the Wolf Man, according to Freud he desired to copulate both with his mother and with his father. He had a wish-fantasy to be back in the womb. But from the womb he hoped to take his mother's place and be with his father, with the ultimate goal to be reborn a baby, free of all previous traumatic life experience. In his extreme architectural vision, Kiesler hoped to perform this ultimate cleansing—to re-generate and liberate humanity, to start all over, free again. [Fig. 5.71] Through building the Shrine of the Book with all its psychoanalytic nuance and eroticism, Kiesler performed his greatest therapeutic act—to rip through modernism's tectonic veil and release architecture from all its pseudo-functional repression.