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Architectural Design cover, July, 1972.

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Materials of the Catalogue

By 1973, the 'Cosmorama' pages of *Architectural Design* magazine were flooded by bizarre material experiments. Begun as a collective landscape of the newest building acquisitions in different geographic regions, 'Cosmorama' – the introductory section of *AD* – evolved into an explosive index of exploratory material enterprises with an indefinite range of building applications. These luscious artifacts traced a larger disciplinary expansion in the latter half of the 60s, which interrogated the supremacy of 'building' as the primary product of architectural design. All imaginable provisional structures and strategies - pneumatics, domes, carpets, pills, spray cans, pistons, capsules, et al - became part of a new publication equation, one that would reflect the intense socio-political concerns of the time and the collective fantasizing about new technologies. As a platform for this new experimental mindset, in which vanguard architects and groups passionately indulged, there was a wide resurgence of 'little magazines' illustrating no polished products, but sketchy endeavors with a proactive stance that sought to redefine the notions of 'shelter' and 'habitat'. This was a radical and almost instantaneous transition that took place between 1968 and 1973. In 1965, *AD*'s 'Cosmorama' was featuring cathedrals and airport extensions, theatres and office buildings, presented as grand displays of 'civic achievement'¹. Yet, by the December *AD* issue of 1973, the discipline was presented with maximal elasticity in a spectacular refocusing of 'Cosmorama's main constituent works. The new focus is characteristically

suggested in this proposition for occupiable environments that occur by 'snow moulding'²:

David Sellers has solved the rather tricky problem of creating cheap but variable moulding forms for free-form polyurethane shelters – by using snow. The snow is built up to the required shape and covered with hessian. It is then sprayed with low temperature foam to create a shell of a thickness of between two and eight inches, depending on the structural requirements. In this way Sellers was able to build a four room 1000 sq. ft house for less than the \$8,000³

In combination with a series of proposals of a similar nature – "Soft Future"⁴, "Vacuumatics"⁵, "Foam House"⁶, "Giant Flexible Tubes"⁷, "Parachute House"⁸, et al - 'snow moulding' exemplified a novel material genealogy (fig. 1) that became an underlying theme in *AD* and climaxed in its last issue of 'Cosmorama'. This genealogy was characterized by materials that resisted standardization and cataloguing; in other

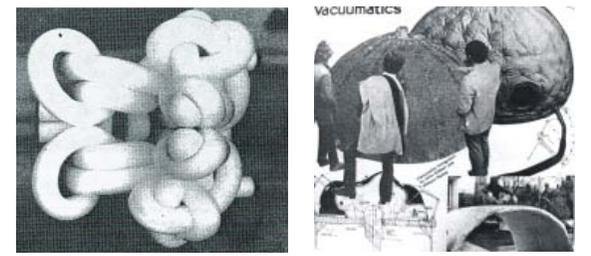


Figure 1
(left) "Vacuumatics." 'Cosmorama,' *Architectural Design*, Vol. 41, April 1971. p. 198
(right) "Soft Future." 'Cosmorama,' *Architectural Design*, Vol. 43, October 1973. p.617

words materials that withstood framing into repeatable pieces of knowledge that could accordingly be directly selected and applied in various conditions. Rather than absolute indexical objects, they were the offsprings of a local inventory; an inventory by which the selection of material and the technique of its deployment fused semantically towards the production of unique and variable solutions. Such material experiments will here be entitled 'materials off the catalogue.' With this rather slippery name, a clarification is necessary: the lineage of these experiments cannot be singularly defined by the selection of peculiar materials that would otherwise not be used for construction purposes. Rather, it is precisely the inseparable merging of a material (eg. snow) and its deployment tactic (eg. moulding) which positions them within an alternative lineage of building processes; made evident in the pages of 'Cosmorama'. In fact, 'snow moulding' had an immediate predecessor⁹: "Ice City"¹⁰ (fig. 2), the product of a workshop held by the Symbiotic Process Laboratory of Texas University that took place in Fargo, Minnesota at the beginning of 1973 and experimented with ice as a building material for temporary shelter. The selection of ice as an un-catalogued material, abundantly available in nature was at the crux of the workshop, for it emphasized numerous free-form possibilities derived from ice's inherent material properties. The case of 'snow moulding' however, was methodologically different. As explained by Sellers, snow was used as a mould, onto which low-temperature foam was sprayed, so that the occurring shelters resulted from the synergistic effect of two



Figure 2 "Ice City," Wolf Hilbertz. *Architectural Design*, Vol. 43, April 1973, p. 213-216..

materials - one as the mould and the other as the cast. Equally, the process of moulding was of seminal importance to most 'materials off the catalogue'. For instance in the 'parachute house,' air acted as an invisible mould onto which a polymer would set: "The parachute ... deploys itself within about 2 seconds to its natural shape under air pressure, which in fact provides an invisible mould for the resin to set"¹¹.

In both the 'snow moulding' and 'parachute house' cases, moulding was in many ways an open construction process; one that allowed the shelter under formation to be affected by environmental parameters, such as local winds, temperatures and other meteorological phenomena. In this sense, a more expanded definition of moulding was suggested; one in which the 'mould' was becoming an *accumulator* of physiological contingencies that played an active role in the construction process. This simple fact implied a new course of thinking on two levels. First, it juxtaposed moulding experiments to mainstream techniques for temporary shelter, in which the logic of efficiently assembling a kit of component parts was the predominant site of design thinking. Secondly, moulding methods set up a speedy and almost *automatic* mode of spatial production that could provide shelter in seconds. So, in parallel to participating in vanguard agendas of the time - eg. embodying chance (as by dropping or dripping a shelter¹²)- the instantaneous production of habitats responded to real world problems very much in line with the social imperatives of the day.

Ideas for 'automatic construction' were presented as a response to distressed housing and urbanization predicaments, radiating from the UK as a collective social concern. In the 60s, there was common consensus amongst both avant-garde advocates and their conservative opponents, that every individual be entitled to an equal right for housing. While the state and the planners remained lethargic in their response, new hope was sought through a bottom-up material approach and newly acquired technical skills in building science. Technology and science

were put into effect as reflex mechanisms by which to allegedly address these problems, since the practice of urbanism seemed to no longer offer any alternative routes out of the housing crisis; other than the practice of abstract formal arrangements. Essentially, these methods suggested an alternate model for urbanism that "presupposed a new form of description that could no longer be satisfied with formal explanations of an environment that is constantly changing."¹⁴ While the improvisatory techniques of 'materials off the catalogue' only provided rudimentary shelters, they suggested a new method of approach, in contrast to prior geometric configurations, allowing for the integration of constantly changing environmental parameters within the design/construction process. Interestingly, this germinal connection between the macro-urban scale and the micro-material scale was vigorously registered in the pages of *AD's* 'Cosmorama.' The two main subjects consistently covered during the late 60s were urban analyses and

material experiments. In effect, what was gradually left out of the equation was 'building'. "Peter Cook recalled in 1975 how, at the end of the 60s, 'it was fashionable to introduce a project as 'anti-building', or a 'conglomeration of environmental elements.'"¹⁵

However, even though housing and the need for shelter instigated endless quests for solutions within the fields of building science, in the course of this procedure, these very same quests derailed from their original destination, towards a remarkable playfulness. After a point, material exploration precipitated as an autonomous epiphenomenon, or as architectural critic Reyner Banham put it, a "science for kicks; a way of using the mind for pleasure, or just the hell of it, in such a way that it flourishes not vegetates"¹⁶. But the ramifications of such kicks were crucial to design practices. In a sense, material experimentation was a recovery of alternate means of spatial production in architecture that resisted representation - namely drawings - as an exclusive mode of prescription. In

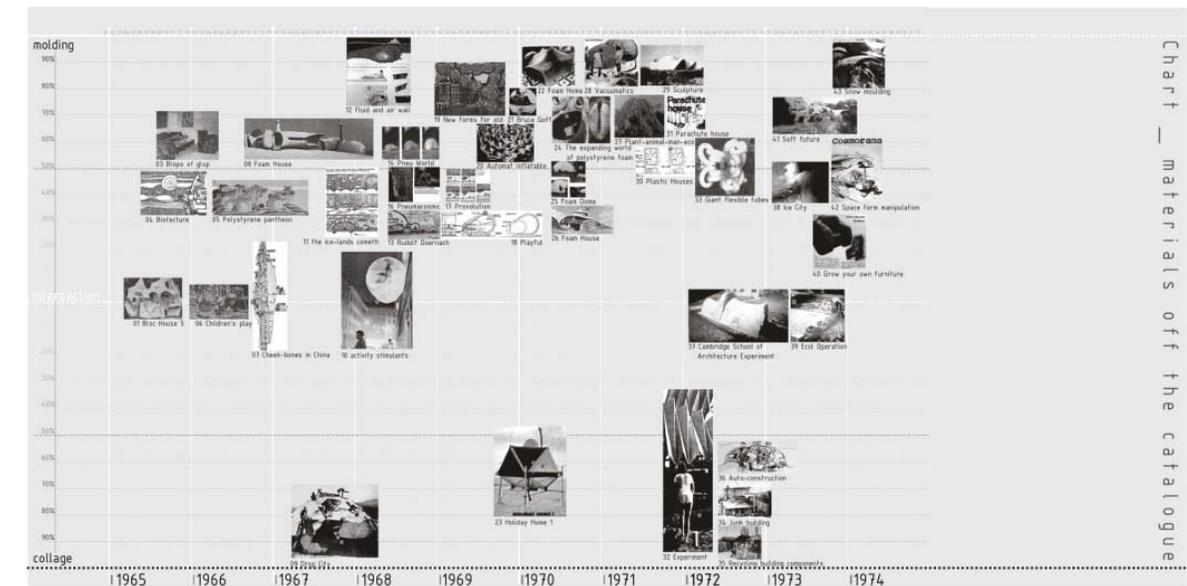


Figure 3 Diagram by the author, indicating the emergence of 'materials off the catalogue' in the Cosmorama section of *Architectural Design* (AD) magazine between 1965 and 1974. All these case studies are ephemeral structures basically categorized along a spectrum of 'collage' to 'moulding'. The former represents structures where the primary method of construction is the assembly of parts. The latter, moulding, represents the examples analyzed within the framework of this paper, in which moulding, casting and sculpting constitute the techniques for spatial production.

many of the experimental projects, the final product-artifact was not firstly represented and accordingly executed. This mere fact of a practice generated directly from the use or misuse of materials challenged conventional assumptions deeply rooted within the discipline, namely the momentous role that representation can play in the cohesion between a conceptual artifact and a material spatial entity. This mischievous course is extensively registered in the multiplicitous paradigms of 'materials off the catalogue' (fig. 3) invading the 'Cosmorama' division of *AD*. Describing an epitome of 'hypothesisless' investigations, 'Cosmorama' reports in 1969:

Ferdinand Spindel (b.1913, German) hoping to break down our preconceptions of the well-ordered space, has been experimenting with plastic foam and has built a series of spaces that, whatever other virtues they might possess – and they would probably be good for spastics – have the supreme virtue (in his estimation) of not being conceived first on the architect's drawing board. Space, he suggests should be thus dematerialized; it should be over-run by plastic foam. Hans Koetsier (b.1930, Dutch) even more determined to break down our unthinking adherence to a Euclidian geometry and a traditional range of architectural forms, offers two weird proposals. They are proposals for nothing in particular. They mean nothing; they might perhaps not be possible of realization. They are offered only as suggestions for a way out.¹⁷

Sculpting chicken wire in order to spray it with foam, using biodegradable moulds that would disappear in the hardening process of a substance; inserting beads in pneumatic envelopes so that they could collectively act as a mould when air was evacuated; manipulating the solidification process of a material; these are just a few of the many examples in *AD* that marked a new set of physical techniques that were receiving increasing attention. However, these techniques, although stemming from scientific principles and discoveries, could only be judged as elementarily scientific. Rather, using the terrain of science as a background, they creatively deployed scientific discoveries to serve the most brilliantly absurd purposes, such as providing food and shelter to homeless people by a parachute that falls from the sky and solidifies as it reaches the ground with the help of proper chemical catalysts.¹⁸

Dr. B.S. Benjamin proposes a method whereby parachutes used to drop food supplies to disaster areas can be converted into a shell house unit to house the homeless families with adequate temporary shelters (which in seriously underdeveloped regions have a sad habit of stretching into semi-permanent homes). The basic idea is to convert the flexible fabric parachute into a rigid shell before it hits the ground. This can be accomplished by soaking the parachute fabric in a suitable catalyst in its container. Seconds prior to its drop, however, a suitable resin is introduced into the container either by injection or by crushing several previously placed phials within the container. The resin proceeds to react with the catalyst and setting commences. The parachute then deploys itself within about 2 seconds to its natural shape under air pressure, which in fact provides an invisible mould for the resin to set. The parachute fabric acts as reinforcement for the now fast setting laminate. Set is achieved in under 30 seconds and the parachute is a rigid shell before it hits the ground. The supplies dropped would prevent the shell being blown about in high winds until anchorage has been carried out.¹⁹

As humorous as this may sound, for the day it was serious play; a play that was creating new ground for a radical reconsideration of the notion of 'material'. Francois Dagognet defines 'the material of invention' as something that "does more than to reverse a cultural approach and endow matter with speech (logos). It also helps to redefine matter."²⁰ 'Materials off the catalogue' may have given birth to ideas derived directly from the inherent properties of materials, but even beyond the generative potential of matter and the revival of a material doctrine that could circumscribe design decisions, the experiments also served to redefine their very matter.

Matter was now bonded to the stages of its production and conceptualized in relationship to chronological factors. In other words, materials were not singularly self-defined according to their embedded attributes, but considered in effective relation to the phases they would undergo. The processes and intermediate states of conversion, necessitated for the production of a material in its final 'catalogued' form, were extracted and creatively manipulated. In this sense, time as a fourth dimension, became integral to materiality through the dynamic use of the successive stages of formation.

Going back in time, this effectual linkage between materials and their potential for formation over time could be described as an insurgent state of previous traditions, vivid in the heroic times of early 20th century design practices. The seedbed of the Bauhaus tradition promoted the invention of materials with diverse properties that could perform innumerable tasks provoking wonder and scientific awe. As recorded in "G", the German avant-architecture journal issued in 1924, this aspiration was largely predicated upon a belief in pioneering scientific-chemical discoveries: "Our technology must and will succeed to invent a building material which can be technically produced and industrially processed which is strong, weather resistant, soundproof and thermally insulating."²¹ In the immediate post-war decade, this new scientific-chemical sensibility had become so well engrained within the common psyche that it developed into a significant factor in assessing the credibility of building materials. As is evident in the advertisements of the 'Architect's Standard Catalogue'²² from 1950-52, guaranteed credibility of a product was paired in one way or another with the image of the laboratory space, and the labeling of a product as 'chemical'. (fig. 4)

Throughout the following decade, the 'chemical' awareness was sustained, however the notion of *animated matter as a tool for social reform* found itself increasingly correlative to a secondary discourse evolving out of its roots. 'Materials off the catalogue' became the gear wheels of a short-



Figure 4 Advertisement for P J Paint, *Architects' Standard Catalogues*, 1950-52, 11 Edition, Vol. 1.

lived, explosive era between 1967-1975, in which a spiritual 'extension' of matter, beyond its physical limitations, was sought. Put differently, the scientific-chemical discourse was gradually paralleled by a spiritual-alembic one. Both sharing an interest in both the temporality and animation of matter.

Essential to alchemy is the precondition that its materials contain life, which is only different by degree from that of an animal or man"²³

Among others, the turn to a spiritual-alembic material sensibility was manifest in the work of Haus-Rucker-Co in Vienna. Through their use of plastic materials (fig. 5), they claimed the 'expansion of the mind' ('Mind Expander' project²⁴), relaxation and concentration, as well as yearning for love ('Balloon for two'²⁵) all in service of enhancing an individual's cosmic view, as depicted in the lyric lines of *Pneumacosmic morning*:

I am lying deep in the bulb on a yellow foil cushion, beyond the furniture-tree a violent helium moon is rising. After a while it sets and becomes larger and larger, I remember XANA and that she has marvelous legs.²⁶

Concurrently, Rudolph Doernach from Germany, "one of the chief early pioneers of plastics architecture"²⁷,



Figure 5 (left) 'Mind Expander'* by Haus Rucker Co., 1968. Cook, Peter. *Experimental Architecture* (New York: Universe Books, 1970). (right) 'Balloon-for-two,* by Haus-Rucker-Co.. Quarmby, Arthur. *Plastics and Architecture* (New York: Praeger Publishers, 1974).

* appearing in 'Cosmorama', *Architectural Design*, Vol.37, November 1968.

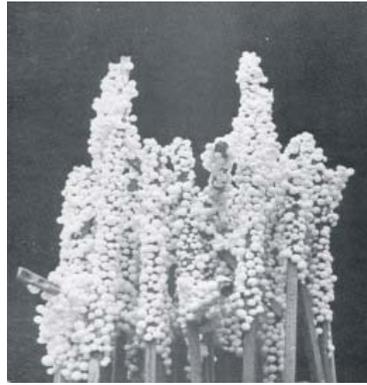


Figure 6 Edible architecture: 'Biotecture 70.6' Quarmby, Arthur. *Plastics and Architecture* (New York: Praeger Publishers, 1974).

was regularly hosted in the pages of 'Cosmorama' putting forth a peculiar socio-spiritual material discourse that strategically positioned organic matter as the primary foundation upon which, and by which a city could grow. In his project 'Biotecture'²⁸, "contractible and reusable organic matter becomes the universal building material, invented and programmed by the environmental scientist, the comprehensive architect."²⁹ (fig. 6) However, this desire for enhancing matter with superior properties such that they could reify endless and exploitable transmutations is most vividly described in the 'Organics' manifesto by William Katavolos:

A new architecture is possible through the matrix of chemistry. Man must stop making and manipulating, and instead allow architecture to happen... New discoveries in chemistry have led to the production of powdered and liquid materials which when suitably treated with certain activating agents expand to great size and then catalyze and become rigid. We are rapidly gaining the necessary knowledge of the molecular structure of these chemicals, together with the necessary techniques that will lead to the production of materials, which will have a specific programme of behavior built into them while still in the sub-microscopic stage. Accordingly, it will be possible to take minute quantities of powder and make them expand into predetermined shapes, such as spheres, tubes and toruses. Visualize the new city grow moulded on the sea, of great circles of oil substances producing patterns in which plastics pour to form a network of strips and discs that expand into toruses and spheres, and further perforate for many purposes.

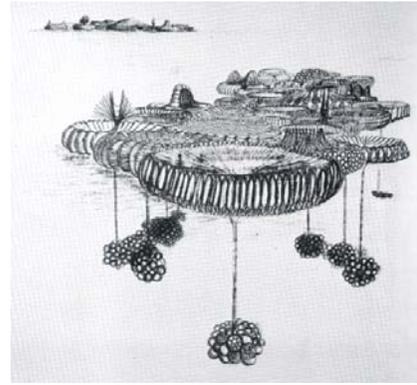


Figure 7 "Plastics Floating City" by William Katavolos. Quarmby, Arthur. *Plastics and Architecture* (New York: Praeger Publishers, 1974).

Double walls are windowed in new ways containing chemicals to heat to cool and to clean, ceiling patterns created like crystals, floors formed like corals, surfaces ornamented with visible stress patterns that leap weightlessly above us.³⁰

Summing up this material genealogy of *AD's* 'Cosmorama', we can identify the following symptoms of 'materials off the catalogue': a) the implicit direct action of a local inventory b) the semantic fusion of material and its deployment process, inducing the integration of time into the notion of materiality c) the union of cultural mandates and material explorations, with the intent of providing solutions to pressing social problems via the 'animation' of matter.

In the spirit of experimentation and conjured through the prism of undercurrent publications, 'materials off the catalogue' clearly comprised a polemic discourse at the end of the 60s. Enmeshed in all essential parameters of an oppositionary thesis, the model of 'direct action' that they raised induced major reconsiderations within architectural design, the echoes of which are still vibrant in contemporary practice. Foremost, this emerging framework of thinking critically undermined the imperial significance of formalism as the distiller of value, in favor of the open-ended potential of procedural design. Otherwise stated, 'materials off the catalogue' positioned an experimental mindset at the forefront of design debates, in which manic formal

obsessions were not exclusive concerns (if at all). As an effect of this discourse, alternate means of production were recovered, disengaging design from the conventions and limitations of drawings, which have for the most part governed design practice throughout the century.

Architectural theorist Simon Sadler describes the lack of interest in formal exploration as a sacrifice of "ideal form in favor of an iconography of spontaneity."³¹ In many 'materials off the catalogue' cases, especially those interrelated with transformation techniques such as sculpting and moulding, the results were less than formally promising. As could be expected, initial attempts to explore the nature of new materials and techniques could not be other than coarse, given the lack of proficiency in their manipulation. Formal finesse is intimately bound to the accumulative knowledge embedded in the adeptness of established means of representation, implicitly acquired and passed from one generation to the other and regularly succeeding initial stages of experimentation. However, the majority of critics of the time were less than sympathetic to this juncture of open-ended exploration, pitilessly attacking such efforts for their formal vulgarity. Even in the pages of *AD's* 'Cosmorama' could this deeply engrained unwillingness to look beyond form be found, as a distinctive article states: "the sculptured house has always been a bit of a freak"³².

Material experimentation has often occasioned such denigrating critiques³³ by its evaluation on the basis of subjective aesthetic criteria beyond the scope of the authors' agendas. If one considers for instance the 'House of the Century' (fig. 8) constructed by AntFarm (1971-73), the experimental aspect of this vast undertaking for the time was to compute and construct doubly curved surfaces fusing different materials in gradient construction components³⁴. Despite the highly complex procedural method of the project, the critique the project received, when it got a citation in the Progressive Architecture awards of that year, questioned the eroticism of curvilinear forms, limiting the import of the project in the symbolic connotations

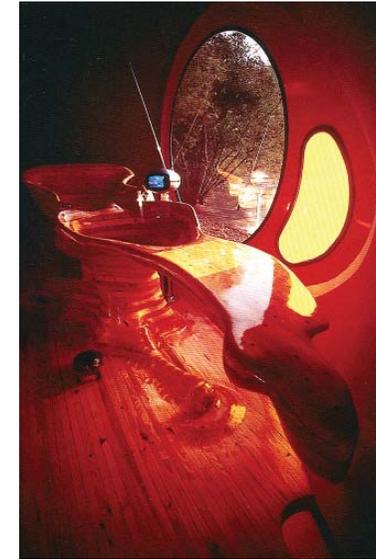


Figure 8 'House of the Century' by Antfarm (1971-1973) Constance M. Lewallen and Steve Seid, AntFarm 1968-1978 (Berkeley: University of California Press, 2004).

of its overall form. Apparently, this inquiry has never occurred to the architects, Michels, Lord and Jost, who were deeply involved in the application of ferro-cement boat building technology. As they state in their timeline notebook pages, "While the questions and responses by those who can't get past the form will go on, it may come as a surprise that the story doesn't end there. In fact it shouldn't even begin there."³⁵

However, despite the misinterpreted reception of such projects, formalism's temporal displacement, as recorded in the profusion of 'materials off the catalogue,' entailed a short-lived subversion of the belief in representation as an exclusive mode of spatial production, putting forward an agenda of 'direct making' before one is in command of formal intent. Latent in the punctuated lineage of this experimental trajectory, is the disciplinary necessity for ongoing, unceasing production; a production so brutally wallowing that it might 'devour' the heroic architect, and remind the discipline of the fragility of precious concepts before one indulges in action.

NOTES

- 1 “Yvonne Arnaud Theatre, Guilford” in the ‘Cosmorama’ section of *Architectural Design*, Vol.35, July 1965, p.316.
- 2 “Snow Moulding” in the ‘Cosmorama’ section of *Architectural Design*, Vol.43, December 1973, p.751. “Snow Moulding” has first appeared in D & E winter 1972.
- 3 Ibid.
- 4 “Soft Future” in the ‘Cosmorama’ section of *Architectural Design*, Vol.43, October 1973, p.617.
- 5 “Vacuumatics” in the ‘Cosmorama’ section of *Architectural Design*, Vol.41, April 1971, p. 198.
- 6 “Foam House” in the ‘Cosmorama’ section of *Architectural Design*, Vol.40, November 1970, p. 545.
- 7 “Giant Flexible Tubes” in the ‘Cosmorama’ section of *Architectural Design*, Vol.43, March 1972, p. 135.
- 8 “Parachute House” in the ‘Cosmorama’ section of *Architectural Design*, Vol.43, January 1972, p. 15.
- 9 ‘Predecessor’ is defined here by considering *AD* as a historic outline. In other words, “Ice City” was published in the April issue of 1973 –reporting a workshop that took place in January 1973-, while ‘Snow Moulding’ was published in the December issue of the same year –reporting an experiment presented in D & E winter 1972. In reality the projects were almost concurrent.
- 10 Wolf Hilbertz, “Ice City” in *Architectural Design*, Vol.43, April 1973, p. 213-216.
- 11 “Parachute House”, *Architectural Design*, January 1972.
- 12 Although the term ‘dripping’ is for the most part drawn together with the work of Jackson Pollock and artistic practices of a similar nature in the early 50s, the term ‘dropping’ is related to an architectural paradigm launched by ‘Drop City’ in 1965. ‘Drop City’ was the first rural commune in America built entirely by geodesic dome frames, clad out of assorted found components or in other words, garbage. For its founders, dropping had a double significance. The first meaning is literal, referring to the droppers’ socio-political discontent that urged them to abandon the cities and ‘drop out’. The second meaning though, which correlated to the common understanding between droppers, adjoins a spatial narration to this previous action; something or someone being dropped from above, like a drip, a driblet or a splotch. The manner in which the droppers envisioned their relocation in abscond lands was similar to a ‘drop’ from the sky that lands and creates a thin-skinned membrane, an inhabitable environment that does nothing to disturb the ground and the milieu on which it was positioned.
- 13 Interview with Dennis Crompton, PhD Proseminar, Princeton University, Princeton, NJ, 11-10-2006.
- 14 Migayrou Frederic, “Extensions of the Oikos” in Marie-Ange Brayer & Beatrice Simonot (Eds), *Archilab’s Earth Buildings. Radical Experiments in Earth Architecture* (London: Thames & Hudson, 2003), p.20.
- 15 Peter Cook, “The Electric Decade: An Atmosphere at the AA School 1963-73” in James Gowan (Ed), *A Continuing Experiment: Learning and Teaching at the Architectural Association* (London: Architectural Press, 1975), p.142. Quoted in Nigel Whiteley, Reyner Banham : *Historian of the Immediate Future* (Cambridge, MA: MIT Press, 2002), p. 246.
- 16 Reyner Banham, “Architecture after 1960; Stocktaking 1960” in *Architectural Review*, Vol.127 (June 1960), p.388.
- 17 “New Forms for Old” in the ‘Cosmorama’ section of *Architectural Design*, Vol.39, August 1969, p.3.
- 18 “Parachute House”, *Architectural Design*, January 1972.
- 19 Ibid.
- 20 Francois Dagognet, “Material Invention Preface” in Ezio Manzini, *The Material of Invention* (Cambridge: MIT Press, 1989), p.12.
- 21 “G”, No.3, Berlin, 1924.
- 22 The *Architect’s Standard Catalogue* was the company that owned *AD* magazine ever since its inception.
- 23 Robert Stockhammer, “From Excrement to Gold” in *Daidalos*, June 1995, p.59.
- 24 “Activity Stimulants” in the ‘Cosmorama’ section of *Architectural Design*, Vol.37, March 1968, p.100.
- 25 Ibid.
- 26 “Pneumacomic morning” in the ‘Cosmorama’ section of *Architectural Design*, Vol.37, November 1968.
- 27 Arthur Quarmby, *Plastics and Architecture* (New York: Praeger Publishers, 1974), p.170.
- 28 Rudolph Doernach, “Biotecture” in the ‘Cosmorama’ section of *Architectural Design*, Vol.36, February 1966, pp.4-5.
- 29 Quarmby, *Plastics and Architecture*, p.170.
- 30 William Katakavolos, “Organics” (1960) in Ulrich Conrads (Ed.), *Programs and Manifestoes on the 20th Century Architecture* (Cambridge, Massachusetts: MIT Press, 1970) p. 163.
- 31 Simon Sadler, “Open Ends: The Social Visions of 1960s Non-Planning” in Jonathan Hughes & Simon Sadler (Eds), *Non-Plan. Essays on Freedom Participation and Change in Modern Architecture and Urbanism* (Woburn, MA: Architectural Press, 2000), p.152.
- 32 “Sculpture” in the ‘Cosmorama’ section of *Architectural Design*, Vol. 41, No. 8 (August 1971).
- 33 A characteristic example of a clearly denigrating critique of material explorations can be traced in the article “Blops of glup” published in the November 1965 issue of *AD’s* Cosmorama. *AD* reports: “Aagaard Andersen’s ‘Chesterfield Suite’, made by spraying polyester from a garden hose and painting it black, is less the result of reconsidering how best we may sit in confort than a snook to be cocked at both the technologists who want new techniques and new materials for all new furniture designs and the traditionalists of contemporary architecture who have cornered the furniture market in Scandinavia. When they were first shown, at the forestry museum at Gävle, Sweden, these chairs not surprisingly provoked some angry and ugly comment. They are a self-indulgent fantasy, clearly intended to stimulate disgust, sick-laughter and pity for the poor furniture designer. And it is probably not by chance that they evoke that old, black image of Dali and Bunuel spraying their dead donkeys with glue”.
- 34 Specifically, “Michels, Lord and Jost decided to apply ferro-cement boat building technology to the house. Beginning with a three foot three dimensional grid interval, ½ in. pipe was hand bent to form the compound curves. The configuration of the pipe contours could have been solved more easily with a computer, the architects point out, but since none was available, they did the work themselves. Held in place by wood shoring that would later become the flooring, the pipe was the base for a layer of 3/8 in. steel reinforcing rods 6 in. apart. Four layers of chicken wire were then secured to both sides of the rod. Two reinforced concrete columns were placed to give support to the tower and it two floor levels, and reinforced concrete arches added extra strength to the tower-to-wing intersections. Specially designed door and window frames were installed. Three coats of high early strength Portland cement, hand applied to the mesh by a Houston plastering crew, were moist cured for seven days. Battens at the locations of the pipe contours secure four inches of foam insulation. The entire inside surface was finally covered with upholstery, pleated with batten lines.”
In Constance M. Lewallen and Steve Seid, *AntFarm 1968-1978* (Berkeley: University of California Press, 2004), pp.112-113.
- 35 Pages from AntFarm Timeline by Chip Lord, Doug Michels and Curtis Schreier 1976.
In Constance M. Lewallen and Steve Seid, *AntFarm 1968-1978* (Berkeley: University of California Press, 2004), p.112.