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Inner Structures

Drop City was founded in 1965 in the southeastern Colorado town of Trinidad by artists Steve Baer, Gene and JoAnn Bernofsky, Richard Kallweit, and Clark Richert. The impetus to create the community derived in large part from a speech by R. Buckminster Fuller that future members Richert and Kallweit attended at the Conference on World Affairs in Boulder. Heeding the galvanic nature of Fuller's call for college students to remake the world in their interests, the Droppers, as members called themselves, were struck in particular by the potential of Fuller's geodesic dome as an easy-to-erect habitation. They decamped to the country and erected an eighteen-foot-diameter dome out of donated and scavenged lumber and nails. More domes followed, some constructed from recycled junkyard car tops. The Droppers lived in the structures collectively as an artistic community, exploring new relationships with work, family, and creativity.

Richert has explained the draw of Fuller's innovations as both technical *and* social:

I really liked his idea of synergy, and so at Drop City we were trying to implement that idea that the whole is greater than the sum of its parts. . . . At Drop City we were thinking along those lines that we as individuals would synthesize some kind of creative effort which would be larger than what we could do individually.¹

For Fuller, the geodesic dome itself was a synergistic object: utilizing what he termed “tensegrity” (an engineering principle of continuous tension and discontinuous compression he pioneered with student Kenneth Snelson at Black Mountain College in 1948–49), a lattice dome is stronger the lighter its construction. With the “doing more with less” synergy of the dome structure, Fuller hoped to reorient the relationship of architecture to resource use; for him, materially efficient architecture was a key tool in understanding, representing, and effectively managing scarce global assets.

At Drop City, Fuller’s vision of the dome as a medium of educational exchange, social planning, and resource management was pushed beyond the physical and informational toward physiological and psychic registers. This expansion redefined the potential of art and architecture to enrich aesthetic experience and create new forms of social participation. Droppers revolutionized Fuller’s idea of the geodesic dome as the headquarters for modern adaptive information flows by making heightened visual and sensory perception components of both creativity *and* social interconnectivity. Exploring the mind-altering potential of stimuli circulating in a dome to affect the subject and expand consciousness, Richert and his fellow Droppers upended the notion of information processing as a merely data-driven cognitive response.

* * *

Fuller’s networking of the geodesic dome as a political project of resource reallocation was encapsulated in his Geoscope proposal, which Richert has cited as an influence. A twenty-one-foot prototype of a completely elevated geodesic dome sphere had been constructed at his instigation at Cornell University in 1952, and Fuller brought versions of the Geoscope to other college campuses in 1953–54 (figs. 28, 29).² In 1961–62 he developed a more detailed plan that would allow spectators to enter a two-hundred-foot-diameter globe displaying constantly refreshed networked information data on its interior. A dynamic, ever-updating map — a precursor to today’s “digital globes” — the Geoscope was envisioned as a spherical display covered with colored lights that viewers could program to visualize trends and longer patterns of global production and consumption.³

Fuller planned to have the dome updated with real-time information feeds — data that would allow spectators to visualize, study, and possibly redesign the total human environment, including shelter, infrastructure, communication, and other interconnected systems. A networked building, the Geoscope would act as a cybernetic hub receiving, displaying, and possibly feeding back information. Fuller’s hope was that visitors eventually would be able to respond to the data presented in order to quickly and efficiently allocate resources around the world, using computers that he envisioned as a kind of technocratic brain free of profit motive and supplanting political debates.⁴



Fig. 28
Students
assembling
the Geoscope,
Cornell
University
Geodesic
Structure
1952

Courtesy the
Estate of
R. Buckminster
Fuller.



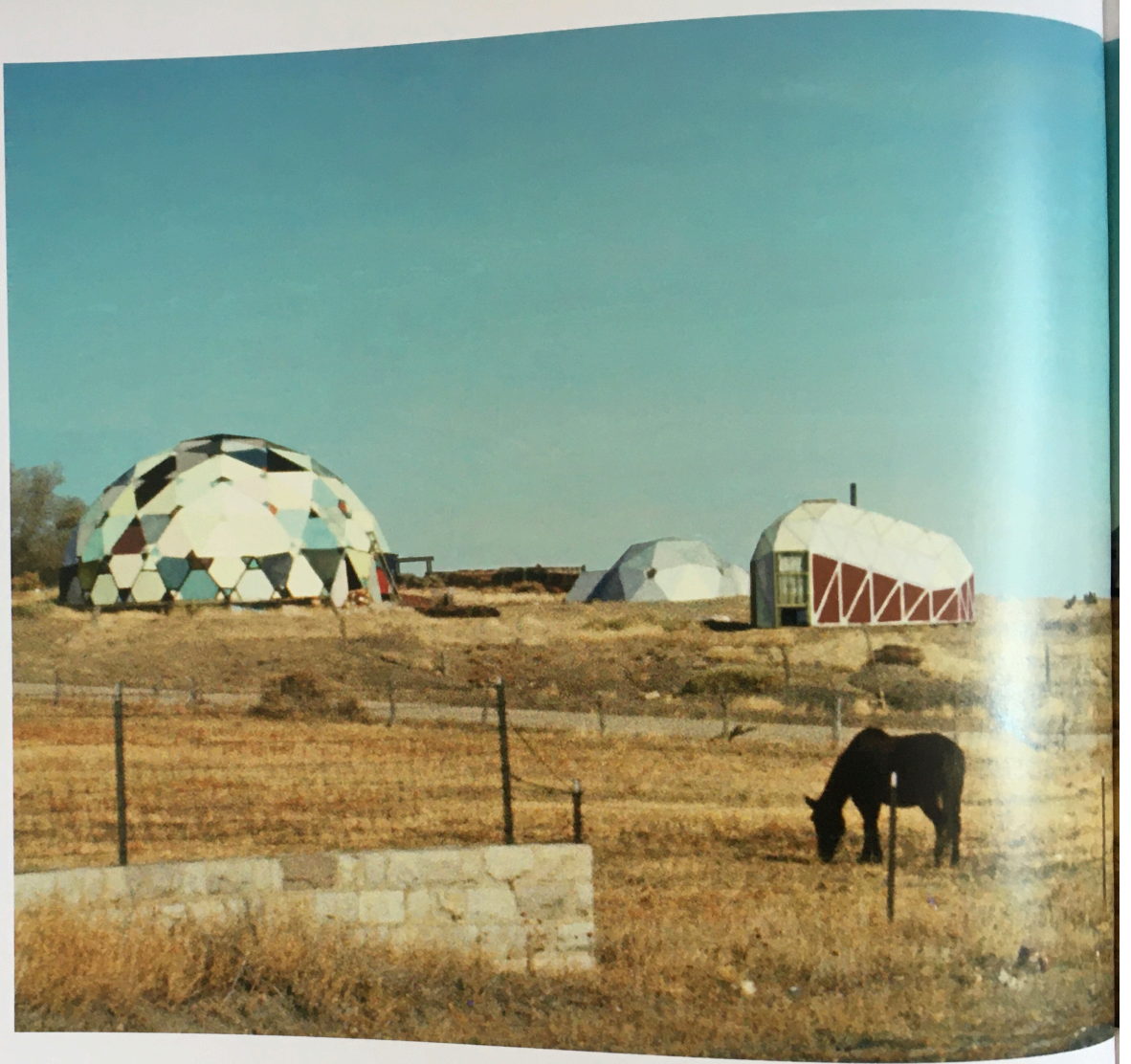
Fig. 29
Geoscope,
School of
Architecture,
Nottingham,
England
n.d.

Courtesy the
Estate of
R. Buckminster
Fuller.

Fig. 30

**Drop City,
near Trinidad,
Colorado,
1965-73**

Photograph by
Clark Richert.





The Geoscope project remained in the realm of speculation, however; it never harnessed sufficient computing power to act as a real-time data visualization object, nor did Fuller develop a lighting source with sufficiently detailed sensors to represent complexly shifting variables. But the enveloping space the Geoscope proposed—literally, the earth's environment—was part of Fuller's argument that architectural forms were embedded in systems that demanded to be understood holistically and as functions of society's total needs. Yet Fuller never considered the *subject's* efficiency at receiving multiple data flows in his haste to use the structure as a tool for data visualization.

If in the Geoscope Fuller shifted the utility of the planetarium from the astronomical to the informational, the Droppers put the geodesic dome to uses of psychedelic disorientation, modifying the earlier emphasis on information management, social planning, and visual attention proposed by Fuller. How and why did the Droppers begin to employ the dome as a space of collectivity and mind expansion, of personal growth and social connectivity, and, possibly, as a trigger to wider cultural transformations about how art can activate those relations?

To probe these issues, it is necessary to return to what the Drop City domes achieved in terms of an experience of space, community, and aesthetics, and how the media-rich Geoscope proposal to visualize data became something very different in the hands of the Droppers.

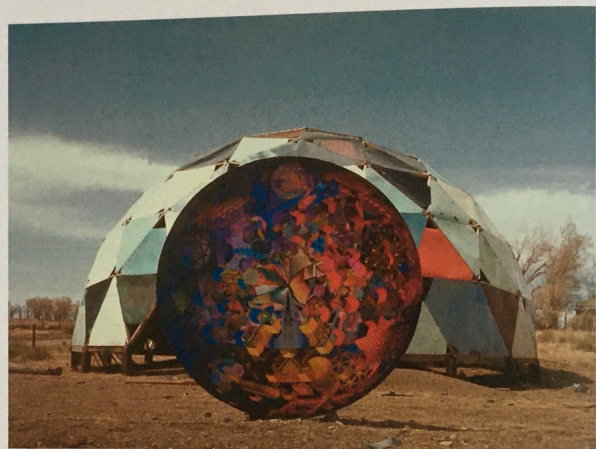


Fig. 31

The Ultimate Painting in front of the Theater Dome at Drop City 1966

Courtesy the Drop City Photo Archives.



Fig. 32

*The Ultimate
Painting*
1966/2011

Archival inkjet
on canvas with
strobe control
console, 60 x
60 inches.

One of the Drop City images that circulates frequently is Richert's photograph of the colorful mosaic of the car-top Theater Dome, the largest one in the Drop City commune, seen with the Droppers' work *The Ultimate Painting* (1966), a circular construction of acrylic on a five-foot-diameter panel, propped up before it (fig. 31). In the photograph the round painting echoes the silhouette of the domed structure behind it, becoming an emblem of the hybrid nature of Drop City's artistic and architectural aspirations. Collectively produced by Richert, Kallweit, the Bernofskys, and Charles DiJulio, *The Ultimate Painting* is actually a kinetic sculpture that produces an immersive multimedia environment in its use of movement and timed lights (fig. 32). Undertaken after the community was founded, it was given pride of place in the Theater Dome after its construction. Using a console much like a light-and-sound mixing table, viewers could adjust settings that controlled the rotational speed of the disk as well as sync strobe lights to create various effects of stasis or vertiginous movement. (The original work was lost after being displayed as part of an Experiments in Art and Technology [E.A.T.] exhibition at the Brooklyn Museum of Art in 1968–69, organized by engineer Billy Klüver and artist Robert Rauschenberg, though it was later re-created by the Drop City artists.)

If the intention of the Geoscope was to provide a space for the display of cybernetically adapted information about the total physical environment calculated elsewhere, the deployment of *The Ultimate Painting*

sought to expand painting's capability to control attention and create perceptual complexity in the surrounding environment. With the painting, the Droppers achieved this in three distinct ways: first, they deployed the painting as part of a live, interactive performance; second, the play of light upon the moving painting in a darkened dome created kaleidoscopic effects that appeared to extend beyond the painting into the space; and third, the optical effects of the disk, which includes a partially obscured image of the latticing of a geodesic dome and contains brighter elements at its center that taper to a darker edge, give it an expansive and unstable appearance as it turns.

The hybridity of *The Ultimate Painting*—an object kinetically activated to create a theatrical event—must be understood reflexively with its primary site of display in the Theater Dome. For in that space other kinds of communal activities took place, including panoramic movie projections, performances, and dance events. In the Theater Dome the visual dynamism of *The Ultimate Painting* was but one of a series of events that could foster social engagement. It used the visual and physical associations made between art and the surrounding architecture of the dome to foreground the interpersonal connections between viewers in a dynamic circuit of art and environment. In contrast, for example, plans for the Geoscope never seemed to incorporate much beyond the didactic transmission of previously collected



Fig. 33
**Atomic
Speculatory
System**
1968

Black-light
poster, 22½ x
23½ inches.
Published by The
Third Eye, Inc.



Fig. 34
Snowflake
c. 1969

Black-light
poster, 22 x
22 inches.
Published by The
Third Eye, Inc.

information to spectators, though they would ostensibly control the order of variables that it could display.

The word *psychedelic* is often applied to Drop City, and indeed, it bears further consideration as another means to understand the synergetic “art as community” current that impelled Drop City’s creation. Coined in 1956, the word comes from the Greek *psyche* (soul, mind, or spirit) and *deloun* (revealing or manifest); in its appearance, psychedelic art of the 1960s drew from many sources, including Art Nouveau organicism, the lapidary surfaces of Baroque and Symbolist paintings, and Op Art’s emphasis on retinal vibrations in perception. Photos of the interior of Drop City domes depict artworks by Droppers that explored these traditions. In these works, kaleidoscopic, entoptic graphics bend and pulse, especially with the combination of additional visual elements such as strobes, black lights, and projected liquid gels. Yet the vibrancy of psychedelic imagery is also its dependency on external factors beyond vision — dreamlike or archetypal themes, and its viewing context commingled with music, dancing, and psychotropic drugs — which give such works the experiential quality of the “trip.” Immersive multimedia environments seek to stimulate both mind and body in order to break down barriers between the self and physical externalities, both subjective and physical, to loosen distinctions between stasis (painting) and moving images (projection), between programmed narratives (traditional cinema) and dynamic, possibly participatory events (live

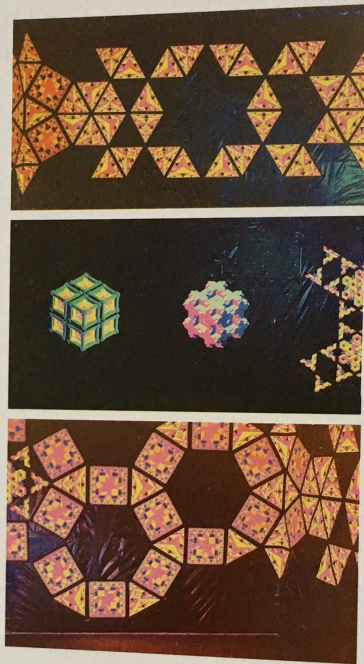


Fig. 35
Installation
photographs
of exhibition
of Drop City
black-light
posters at
the University
of Colorado,
Boulder
1969



Fig. 36
Triad
c. 1966-68
DayGlo paint on
paper, 24³/₄ x
24¹/₂ inches.

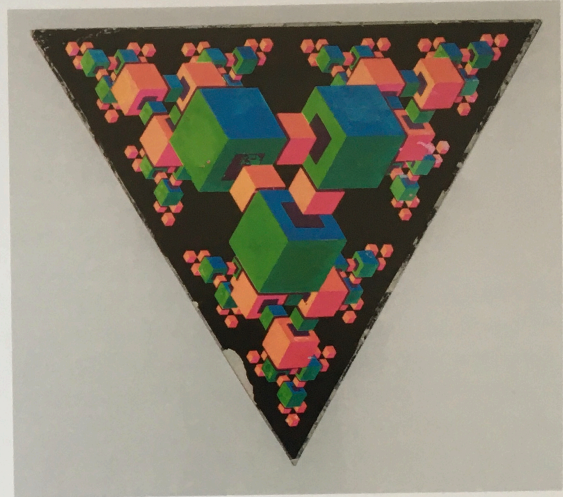


Fig. 37
Triadic
c. 1966-68
DayGlo paint on
paper, 18³/₄ x
21³/₄ inches.

performance), between abstract forms and found imagery and collage.⁵ In the case of *The Ultimate Painting*, the surface of the work becomes a screen upon which various technologies interact—light projection, amplified music, and the hallucinations produced by (often) lab-produced chemicals such as LSD. The play between immersion and mind expansion, especially when combined within the shell of the dome, creates a new kind of “high,” a euphoric shared experience of social participation fostered by the holistic merger of art and life. What might be produced is the “turned on,” engaged citizen of collectivity, what historian Simon Sadler has referred to as a kind of countercultural design activist, joining with others to build a heterotopia.⁶

In much of Richert’s work as a painter, he explores what he terms “inner deep structures,” by which patterns of nature, particularly mathematical ones, are exposed.⁷ The deployment of painting at Drop City worked to reveal social, perceptual, and aesthetic structures—the relationship of the viewing subject to the physical, architectural, and social contexts in which viewing transpires. In this sense, the psychedelic artwork is a tool to expand awareness about the centrality of the subjective psyche in forms of aesthetic perception and to reveal how individual consciousness is embedded in and can synergetically alter social frames.

The dome in public contexts was and continues to be a pedagogical tool used to acclimatize subjects to the complex operations of technology, from visualizing

data movement of satellite technologies in the space beyond the envelope of the earth to understanding newly developing networked computer systems.⁸ Indeed, the intricate lattice of dome structures often serves as a metaphor for networked interconnectivity, just as their spherical shape mimics that of the space in which this networked information travels.⁹ Yet the location in which the dome cum media environment is sited is of crucial importance to what audiences might learn from and experience in the projects shown within. From state-funded pavilions, museum-bound programs, commercial art fairs, artist-organized happenings, and ticketed movie theaters, each site in which a geodesic dome is employed determines the model(s) of spectatorship it houses. In the case of Drop City, the dome site became a central node in a physical and ideological network, exploring what kind of experience of modernity and interiority a community could undertake together.

Notes

1. Oral history interview with Clark Richert, Archives of American Art, Smithsonian Institution, <https://www.aaa.si.edu/collections/interviews/oral-history-interview-clark-richert-16129>, 17.

2. See the chapters on Geoscope in Mark Wigley, *Buckminster Fuller Inc.: Architecture in the Age of Radio* (Baden, Switzerland: Lars Muller Publishers, 2015), 221–77.

3. Oral history, 35. Richert's painting *World Game* (1990) takes up the Geoscope in detail. It is worth quoting him in full on the work and its influence: "The name of the painting is *World Game*, which is—a Buckminster Fuller idea. And so in the painting, there's a room. Look out the room—out of the window there and you see Bucky's Geoscope, which was to be a two-hundred-foot-diameter sphere that would be covered with little tiny light bulbs that would be computer operated. And on this sphere, you'd be able to show all the demographic movements of—all the movements of money and all the ecological resource movements. So he thought that this sphere would show—he thought it would solve the world's problems. So he said that he would have people from every country in the world playing the *World Game* inputting on a computer and they'd play the *World Game* and they'd solve the problems. Like you could have women versus men and see who wins, and I thought if you did it, probably the women would win. It would solve the distribution of food. So I liked that idea a lot. And I thought that—I actually thought that

somebody should build that big two-hundred-foot-diameter sphere. But now—and then, one thing about the sphere is it was going to be informed by his world resource inventory. So he was keeping track of all the world resources around the world. And so when you're playing the game, you have all this information that you're working with." Oral history, 35.

4. The plan for a geodesic sphere as data hub connected to Fuller's proposal of "satellite structures," for which he imagined a series of geodesic domes of up to two miles in diameter in orbit around the earth and the moon that would function both as telecommunications satellites and as off-planet housing. His vision of domes as mobile information hubs and shelters may help explain why domes acquired their special purchase in postwar public and military cultures, especially through their uses in exhibition design and as a setting for projection. The viewing subject's processing of complex media in such a space, which was deemed a crucial aesthetic confrontation with the psychic and physical demands of Cold War modernity, helped to meet the most important challenge: to imagine humans inhabiting spaces beyond the envelope of the earth.

5. For more on light shows of the 1960s, see David E. James, "Expanded Cinema in Los Angeles: The Single Wing Turquoise Bird," in Elissa Auther and Adam Lerner, eds. *West of Center: Art and the Counter-culture Experiment in America, 1965–1977* (Minneapolis: University of Minnesota Press, 2011), 141–62; Brandon W. Joseph, "'My Mind Split Open': Andy Warhol's Exploding Plastic Inevitable," *Grey*

Room B (Summer 2002): 80–107; Yates McKee, "The Public Sensoriums of PULSA: Cybernetic Abstraction and the Bio-politics of Urban Survival," *Art Journal* 67, no. 3 (Fall 2008): 47–67; and Michel Oren, "USCO: Getting Out of Your Mind to Use Your Head," *Art Journal* 69, no. 4 (Winter 2010): 77–95.

6. Simon Sadler, "Drop City Revisited," *Journal of Architectural Education* 59, no. 3 (February 2006), 5–14.

7. Oral history, 33.

8. See the essay on domes as film exhibition sites in chapter 2 of my forthcoming book, *After Spaceship Earth* (Chicago: University of Chicago Press, 2019).

9. For more on this topic, see my essays "Under the Dome: Architectures of Networked Engagement from Drop City to Rockaway Beach," <http://rhizome.org/editorial/2013/jul/25/under-dome-drop-city-rockaway-beach/>, July 25, 2013, and "Our Humble Outer Space," in *Wild Sky*, Michael Connor, ed. (Berlin: Hatje Cantz, 2011).

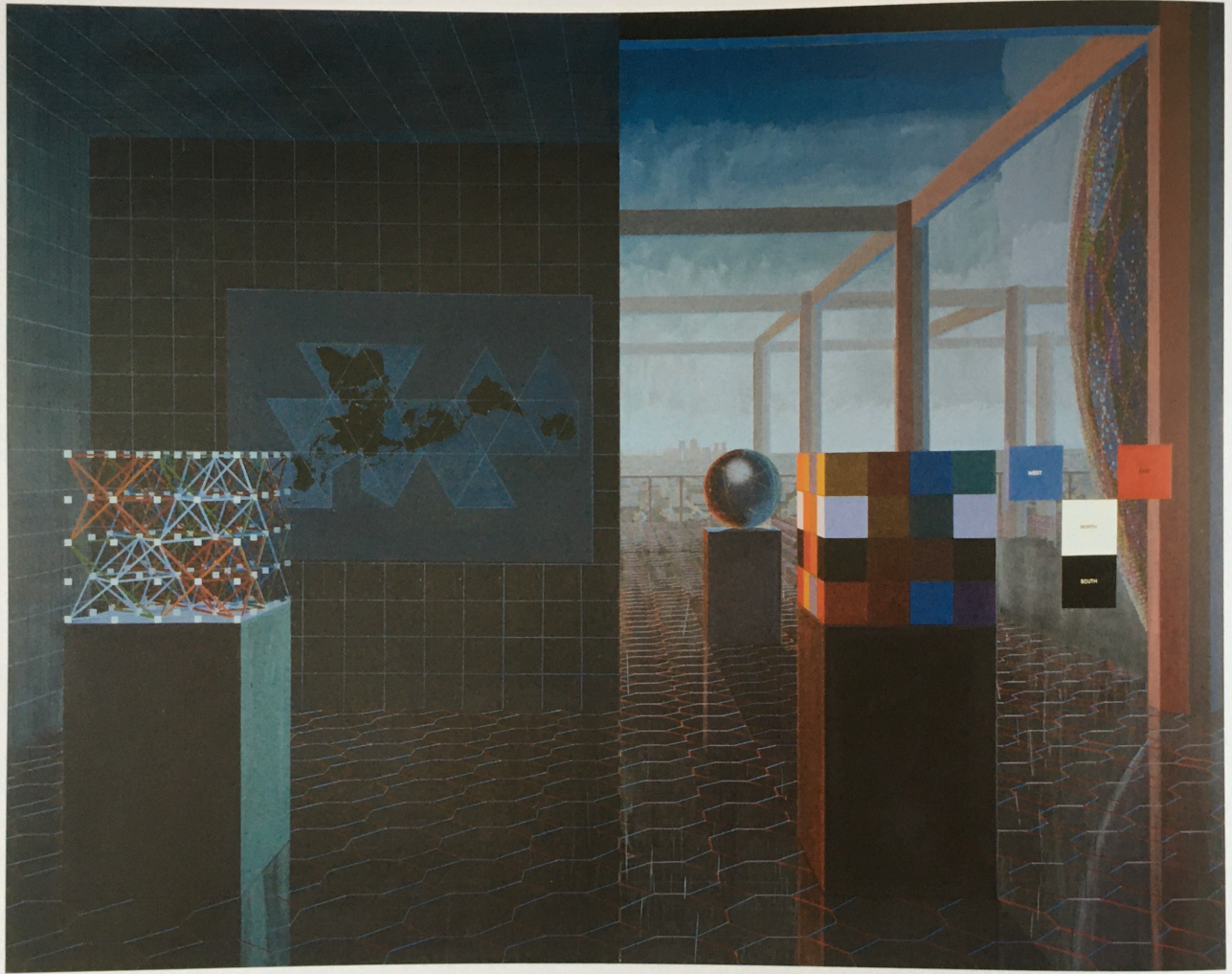




Fig. 40

Drop City
2009

Acrylic on
canvas, 70 ×
70 inches.

Private
collection,
Denver.



Fig. 41
*Black Mountain
College*
2009
Acrylic on
canvas, 70 x