# A Fuller Map: Latent Meanings within Jasper Johns' *Map (Based on Richard Buckminster Fuller's Dymaxion AirOcean World)*

*Joseph Ramsey*

In 1967, Jasper Johns painted his *Map (Based on Richard Buckminster Fuller's Dymaxion AirOcean World)* situated in the American Pavilion at the 1967 International and Universal Exposition in Montreal.[1] The map was modeled directly off of what is today known in common parlance as the Fuller Projection. In order to create his largest canvas to date at 33 feet by 15 feet, Johns projected an image provided to him by the creator of the map, Richard Buckminster Fuller, and painted the data on geometric panels also directly modeled from Fuller's Dymaxion AirOcean World. While Johns was able to directly trace the information from source image to canvas, due to the work's large scale, he was restricted to working on each panel individually and only saw the work as one piece once it had been installed at the exposition. Though ultimately not realized, Johns had originally planned to outfit the work with a number of hinges so that it could be transformed into a three-dimensional geodesic sphere, another invention of Fuller's design and reminiscent of the domed exhibition space of the American Pavilion. After the painting was de-installed from Expo 67 and returned to him, Johns spent a number of years editing the painting because he remained dissatisfied with how it looked like a map and not a work of art.[2] By disassembling the piece and layering collaged media and gray encaustic over the twenty-two original panels, Johns effectively undermined the legibility of the map through subverting its most obvious cartographic signifiers. These artistic choices thus render the work useless as a tool for comprehending the external environment and distance it from its plausibility as a map.

Through the redaction of this piece, Johns challenges the commonly-held belief of the infallibility of maps as objective and inherently accurate documents. Consequently, this paper will address how maps—and by extension artistic representations of maps—can span the gulf between objective conceptualization and subjective spatial imagining. Considering Fuller's Dymaxion Map as a conscientious attempt to promote an utmost sense of accuracy in cartography, Johns' own mimicking of Fuller's map evinces his concerns with the tension between this ideal and the realities of personal (mental) map-making. This necessitates an understanding of Johns' cartographic interests, in general. Specifically, the concept of a map pertains to Johns' definition of "things the mind already knows," hereto exemplified by other objects including targets, letters, and numbers. For Johns, these signifiers of knowledge suggest a comprehension by virtue of familiarity, but, upon further consideration, frustratingly preclude complete understanding because they remain figments of human creation. Thus, if maps are an attempt to communicate how to perceive the space that surrounds us, then they must also grapple with the inherent biases of what people choose to illustrate and the manners in which these subjects are conveyed. Jasper Johns' *Map* exemplifies this crisis present in the science and art of cartography. By choosing to replicate a scientific document such as Fuller's Dymaxion Map and then subverting those very conventions used by cartographers to create maps, Johns questions the definitions of mapping, and transitively, the very perceptions of space.

## *Origins and Implications of Richard Buckminster Fuller's Theorizations on Cartography*

The term "Dymaxion" was a portmanteau of Fuller's invention which he used to describe three corresponding technical concepts that he implemented in his theorizations and designs, namely that of dynamism, the maximum ideal, and the microscopic ion.[3] When combined together, these tenets imply the most rapid efficient visualization and commodification of new ideas. Scholar Robert Marks observes

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1 For the sake of convenience, the piece will be hereafter referred to as *Map*. When discussing Johns' other paintings of maps (specifically those of the United States), the works will include the year of the work's production.

2 Numerous interviewers including Roberta Bernstein, Milton Esterow, and David Shapiro have elicited the response from Johns that he painted over the original composition rather than create a new work from scratch.

3 "Dymaxion," The Thames & Hudson Dictionary of Design Since 1900, accessed 8 December 2015, http://school.credoreference.com/content/entry/thdesign/dymaxion/0.

that "a Dymaxion structure, thus, would be one whose performance yielded the greatest possible efficiency in terms of the available technology."[4] It is by way of this new map, an object so implicitly cognizant of not only communicating various sources of information across space, but also the very notion of space itself, that Fuller identified the ever-changing interpretations of the global forum.

The idea of the Dymaxion Map originated from Fuller's reflections on the possibility of evolving strategies of spatial cognizance and that "all men are…necessitous, among other items, of a precise means for seeing the world from a dynamic, cosmic, and comprehensive viewpoint."[5] Just as the early-modern sailor had mapped the world with strictly maritime navigational objectives in mind, the exigencies of modernity required a new system of precise yet flexible mapping. When Fuller advocated a "revolution in map-making," he keenly applied this to his comprehension that an increased global mobility now permitted humankind to "girdle the planet in an infinite number of directions" and that this expansion of physical movement necessitated a complementary shift in the interpretation and production of global terrestrial space in mapping.[6]

Crucial to the realization of this goal in particular was Fuller's rearrangement of all continental landforms into one contiguous continent which were, as Fuller explained, "linked together without visible distortion, without a break in their contours."[7] However, Fuller's technique of transferring data directly from a spherical form centered on individual facets of an icosahedron made it possible to reorient the landmasses adapted to the needs of the viewer while abiding by his own formulae. Fuller illustrated this notion by providing six templates of his map in his patent (Figure 1). He averred that "by means of these elective arrangements, our thinking may be realistically insinuated within the special geographical environment of the people of any one world area as predicated upon *their own set of conditions* [Author's emphasis]."[8]

The cartographic projection of Fuller's Dymaxion Air-Ocean World exemplified the theoretician's optimism that citizens of the modern world could apply new technology to deconstruct impediments to an unbiased interpretation of global space. It should be noted that the map's creation in 1943—at the time of a radical geopolitical shift on a global scale at the dénouement of World War II—undermines any purported neutrality of the document. Yet even within the article of *Life Magazine* in which the Dymaxion Map made its debut primarily to American audiences, the optimism of the projection's ability to defy a pre-established political agenda comes to the fore.[9] The didactic map-making exercise within the article included cutouts of equilateral triangular facets that could be assembled by the reader into a three-dimensional form (Figure 2). The reversal of Fuller's process in which he translated data from a spheroid to a flat surface encouraged individuals to construct a larger image of the globe themselves and underscored Fuller's own interest in providing the layperson the opportunity to scrutinize the larger world from different perspectives.

*Jasper Johns' Mapping Interests*

Jasper Johns' own interest in maps considers the possibility of public consumption of the knowledge the maps convey. As scholar Edward Casey posits, Johns was "not interested in the map as a cartographic representation, any more than he was concerned earlier with the American flag as a symbol of patriotism." [10] He did, however, seek to experiment with how his artistic modifications to a map's surface could transform the object into something completely different: a painting of a map. Johns changes nothing beyond the surface of the map in his paintings; even in his re-representation of Fuller's Dymaxion Map, Johns does not alter the essence of the map. Rather, his intervention on the surface of the canvas addresses how a viewer should question to what extent the superficial visual information within and upon a map guides an interpretation of physical space.

First realized by Johns in his manipulation of a mimeographed map of the United States provided by Robert Rauschenberg in 1960, Johns' experimentation with maps illustrated his interest in obfuscating these objects of familiarity. The mimeographs upon which he painted were used by schoolchildren as didactic exercises that aided in the memorization of the geography of the United States.[11] Johns' direct application of encaustic onto the surface of the mimeographs without regard to their clearly-limned pre-ordained boundaries mimics the performative action of locating pre-established perimeters, but it also provides the opportunity to explore the possibilities of subverting a map's legibility and purpose as a source of knowledge.

Eventually, Johns moved beyond the exercise of painting upon mimeographs of maps to producing them on canvas as exemplified in *Map* (1962) and *Map* (1963). These maps,

4 Richard Marks, *The Dymaxion World of Buckminster Fuller* (New York, NY: Reinhold Publishing Corp., 1960), 9.

5 Richard Buckminster Fuller, "Fluid Geography" in *The Buckminster Fuller Reader*, ed. Richard Buckminster Fuller and James Meller (London: Cape, 1970), 131.

6 Fuller, "Fluid Geography," 143.

7 Ibid., 133.

8 Ibid., 133.

9 *"LIFE* Presents: R. Buckminster Fuller's Dymaxion World," *LIFE*, 1 March 1943, accessed 30 November 2015, 45-52 https://books.google.com/books?id=WlEEAAAAMBAJ&pg=PA41&source=gbs_toc_r&cad=2#v=onepage&q&f=false.

10 Edward S. Casey, "Maps and Fields: Jasper Johns and Richard Diebenkorn on Icons and the Land," in *Earth-Mapping: Artists Reshaping Landscape* (Minneapolis, MN: University of Minnesota Press, 2005), 125.

11 Roberta Bernstein, *Jasper Johns' Paintings and Sculptures: 1954-1974: "The Changing Focus of the Eye"* (Ann Arbor, MI: UMI Research Press, 1985), 27.

principally comprised of encaustic and collaged media, are, according to Bernstein, "open systems" meaning that they include references to information absent from the canvas.[12] They thus entice the viewer to consider what exists outside of the immediate range of the eye's perception. Moreover, in conventional cartography, geographers often utilize color to interpret distinct definitions of space. Johns' usage of shades of black and white and, in some cases, sketchily painted swaths of primary colors, on the contrary, challenges the universally-accepted definitions of space depicted through color apparent in most maps. The artist's seemingly random employment of different shades of colors and brushstrokes, furthermore, undermines the incontrovertibility of maps as documents of objective information.

The differences in how Johns employs textual signifiers to label territories rendered in both pieces also allude to his subversion of cartographic principles. Johns uses stencils to label these toponyms in both paintings of maps. The stencils themselves suggest a standardized method for illustrating text, but in Johns' works some letters appear faded, deformed, and consequently illegible. In *Map* (1963) especially, Johns subverts the legibility of text by concealing elements of it under either another layer of information or his expressive brushstrokes: the toponym "Ohio" is covered by an "O" while the Canadian province of Manitoba is scratched out with a black line spanning the entire space of the territory itself (Figure 3). Essentially, when comparing the two maps, it becomes clear that there is no standard system that dictates how Johns labels geographic subdivisions. In essence, the arbitrariness with which Johns employs names of states, the primary signifiers of our conception of this space, distinguishes the very system of perception as fluid and impermanent.

### Map *at the Expo 67*

From *Map*'s conception to its exhibition in Montreal, Johns made known Fuller's own interpretation of global space through a variety of formal qualities. First and foremost, Johns retained Fuller's original compositional arrangement of his patented Dymaxion Map. The distinct edges and intersections of each triangular panel recall Fuller's own mathematical process which contributed to the realization of the projection. *Map* thereby becomes a manifestation of the visions of two different creators.

Resembling more of an advertisement for Fuller's new cartographic model, Johns' first rendition of the work included gradations of color traditionally used by cartographers to indicate Earth's climatic zones. While placement of color delineated the landmasses of *Map*, the juxtapositions of color within serve to concretize and make more legible these geographic forms. So closely did *Map* resemble an actual map by way of its codex of colors that art critic David Shapiro explicitly dismissed it as simply a "blowup of Fuller's original schema: an image divided into clear information of areas and place names, with no sense of being a painting."[13] Shapiro's comment suggests that there are inherent tensions between works of art and utilitarian visual objects like maps. This raises the question why the piece merited inclusion in such a comprehensive vaunting of American contemporary artistic achievement and why Johns sought to present such a punctilious replication of Fuller's map to the exhibition.

At first, it might appear that Johns' conceptual intentions were overshadowed by the exhibit's premise to convey America's cultural preeminence during the Cold War years within the enclosed heterotopic space of the American Pavilion. On the other hand, the theoretical layering implicit in this exercise of spatial placement—of situating the work within such a microcosmic "map-able" environment—heightens the piece's epistemological significance. Upon further investigation, therefore, Johns' initially direct portrayal of Fuller's map would more effectively introduce these metaphysical concepts of nuanced site-viewer relationships to a wider audience while also considering Fuller's own conceptual intentions.

### *A Formal Analysis of Johns' Modified* Map

Johns counted himself among viewers who saw his *Map* fully assembled for the first time as a part of the *American Painting Now* exhibition under Fuller's geodesic dome. His reworking of the piece served as an exercise to reckon with the interplay of familiarity and unfamiliarity implicit in the work. On the one hand, Johns recognized the object's ability to convey knowledge based on its relationship to Fuller's projection. Johns relied on his previous techniques of tracing data from one of Fuller's drawings onto the individual panels just as he had done in his earlier representations of maps. On the other hand, the sheer size of *Map* in relation to a confined studio space made it impossible for Johns to fully envision the work's final form and possible effect on not just the audience but upon himself as well. Johns painted each panel separately with only the projection provided by Fuller as an indication of what the painting should resemble when the panels fit together.[14] Johns edited the painting in three significant ways: adding a layer of collaged media and encaustic to the surface of each panel; redrawing geographic elements in a fragmented manner so that the overall projection appears less coherent and more distorted; and abandoning the vertical orientation for a horizontal one (Figure 4). *Map* thus embodies both a representation and a disavowal of the intentions of Fuller's map.

David Shapiro equates Johns' action of "getting rid of the initial system of color," to "*secreting* the original as much as concealing" it.[15] To conceal simply implies covering some-

[12] Ibid., 28.

[13] David Shapiro, "Imago Mundi," *ARTnews* (October 1971): 40.

[14] Kirk Varnedoe, *Jasper Johns: Writings, Sketchbook Notes, Interviews* (New York, NY: Museum of Modern Art, 1996), 231.

[15] Shapiro, "Imago Mundi," 41.

thing while remaining cognizant of the continued existence of the object or idea; to make this information a secret, on the contrary, mystifies and complicates its very existence. As Shapiro comments, elements of the work's original color and composition peek through the thickly-applied encaustic, as evidenced most strikingly by the curved longitudinal and latitudinal lines observable most clearly near the polar regions. If Johns attempted to conscientiously conceal these elements as Shapiro implies, it follows that the appearance of these traces of information signify Johns' latent intention in illustrating the relationship of new interpretations of information to those associated with past manifestations of it.

In *Map*, Johns engages with the concept of cartographic legibility through his depictions of global landmasses and the decisions he makes when labeling sites on a map, just as in his *Maps* of 1962 and 1963, Johns' deployment of color determines the legibility (or lack thereof) and substance of these forms. Here, though, Johns recalls the arbitrariness of using color to define form. His rendering of portions of the northern Pacific Ocean in a pale gold color in relation to the gray color field of the interior North American continent and other fragments of the ocean challenges the conventional recognition of colored landmasses as distinct from a sense of background space. Moreover, several landforms comprised of contour lines of a variety of thicknesses and colors abruptly change and often navigate different panels of the work. This tactic of representation frustrates the compulsion to map each landform in a standardized fashion in order to support a universal method of mapping.

Similarly, the uniformly applied color fields that sporadically pepper the canvas suggest a definition of forms that do not exist in the physical observable world. For instance, like lines of longitude and latitude, the spectrum of colors depicted here represents abstract concepts rather than an experiential topographic space. The cacophonous placement of stenciled toponyms in various colors throughout the work challenges any ordered comprehension of the piece as a map, just as in his earlier versions of maps of North America, some letters of site names placed at the edges of panels become truncated and obfuscated. However, as exclusively seen in *Map*, some of these toponyms continue onto other panels but assume a different color as they continue their path throughout the composition. To accomplish this, Johns would have had to "map" where he wanted to position the toponym in relation to the edge of a panel and then plan where to stencil the remaining portion of the word on the adjacent panel.

Johns creates a central focal point for his work as well, but only to force the viewer to question its authority as such. For instance, mirroring the focus of Fuller's Dymaxion Map on the two Polar Regions, the viewer's eye is guided to Johns' representations of the Poles as well. His rendering of the Arctic Zone, suspiciously resembles a target whose rings expand throughout multiple panels while lines of longitude channel visual attention to peripheral zones of the projection (Figure 5). However, this focal point is merely a superficial ornament as all traditional conceptions of direction become challenged. The choice to indicate these signifiers remains up to Johns' discretion, and the arbitrary employment of these now hollowed traces of cartographic principles undermines the comprehension of the work as one unit.

*Conclusion*

David Shapiro insisted that it was only through the artist's "adventurous and all-embracing revisions," that Johns made *Map* "into a Johns painting."[16] Shapiro's suggestion that the work could not be claimed by Johns as his actual work until he modified it in some way reflects the issues endemic to the artistic representation of maps. Moreover, his tacit comparison of maps to works of art also challenges the tenuous claim of maps' unquestionable capacity to present truth. Fuller envisioned a new dynamic world and sought to create a map that could be used to provide an expansive yet precise understanding of the challenges of modernity. Through his unique reworking of Fuller's map, Johns subverts the comprehension of the map through a variety of distortive techniques. This mirrors the veil of obfuscation manifested within the representations of American maps undertaken by Johns in the 1960s. Maps no longer become a tool for locating one's position in space; rather, they become spaces in which it is possible to lose oneself paradoxically through the attempts to understand them.

Tulane University

[16] Ibid., 40.

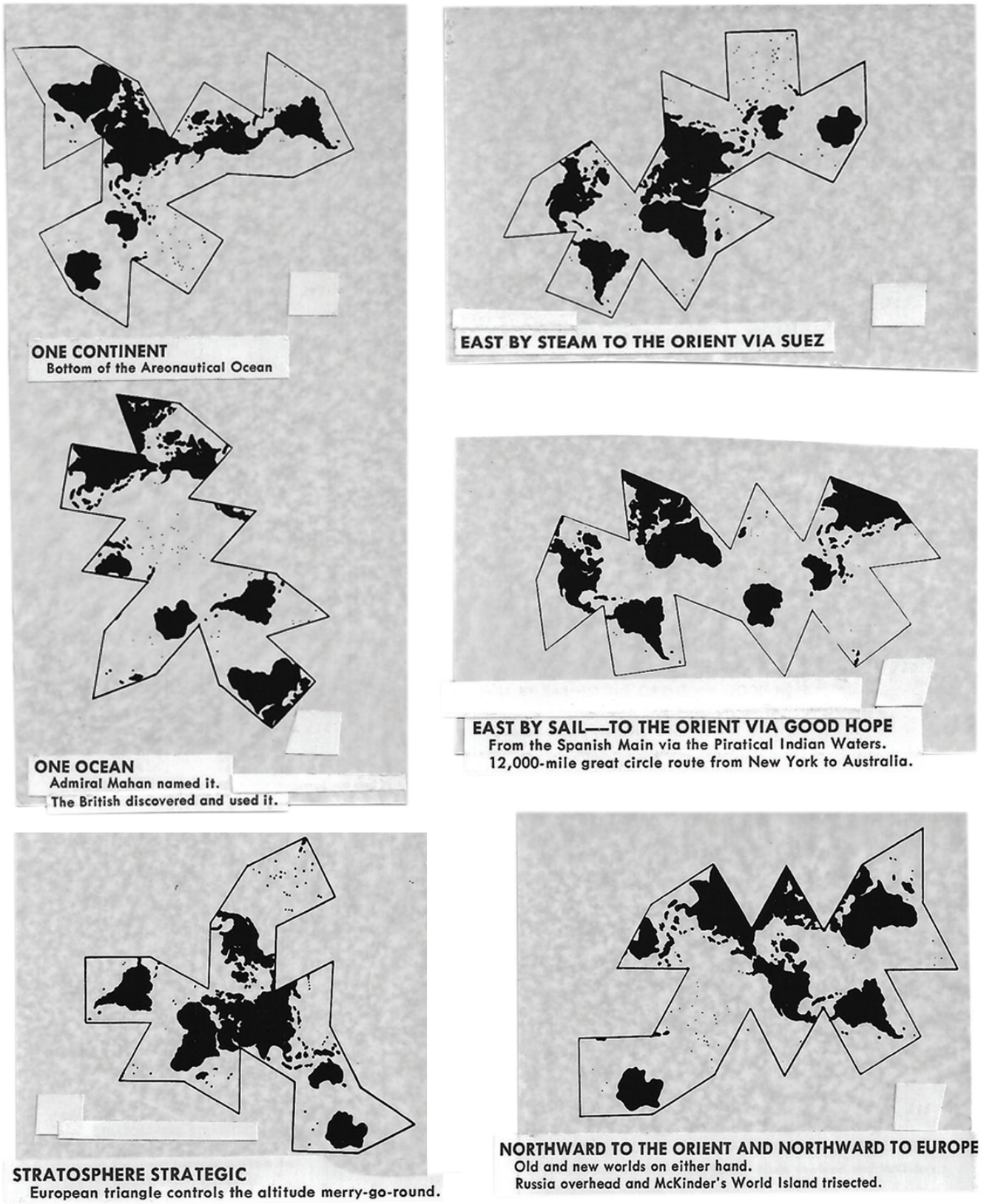


Figure 1. Buckminster Fuller map transformations. Courtesy, The Estate of R. Buckminster Fuller.

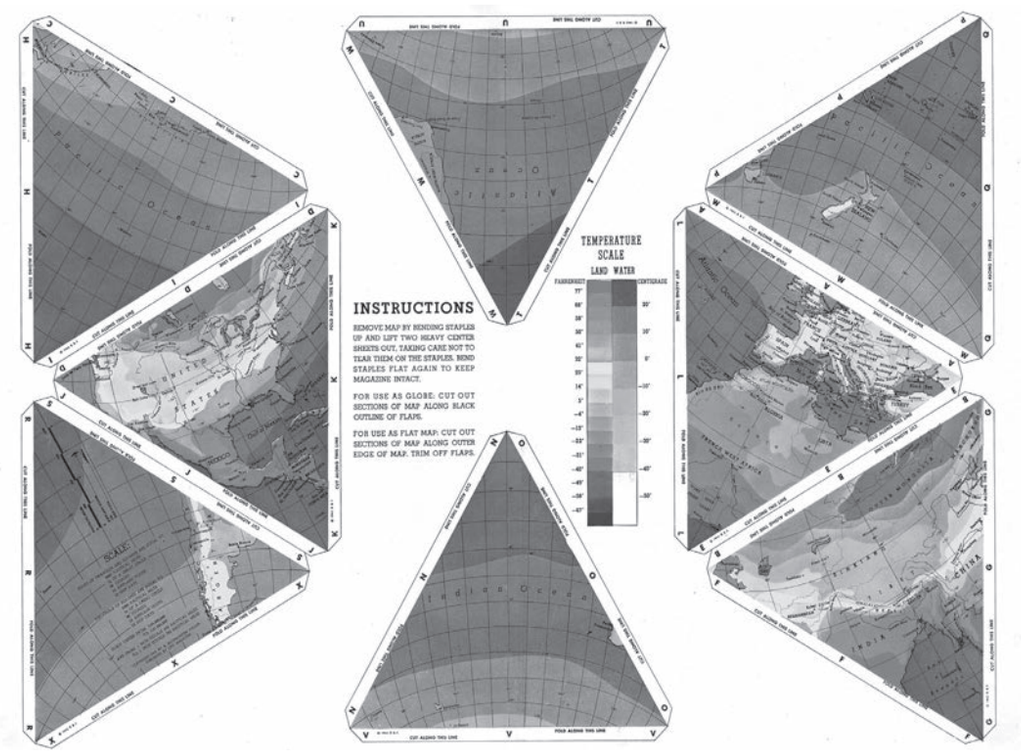


Figure 2. Cutout of Richard Buckminster Fuller's Dymaxion Map from a photographic essay entitled "LIFE Presents R. Buckminster Fuller's Dymaxion World," page 41ff., March 1, 1943, from *LIFE Magazine*, vol. 14, no. 9, published by Time Inc. Courtesy, The Estate of R. Buckminster Fuller.

Figure 3. [*below*] Jasper Johns, *Map*, 1963, encaustic and collage on canvas, 60 x 93 inches. Art © Jasper Johns / Licensed by VAGA, New York, NY.

Figure 4. Jasper Johns, *Map* (*Based on Richard Buckminster Fuller's Dymaxion AirOcean World*), 1967-1971, encaustic and collage on canvas (twenty-two parts), 196.85 x 393.7 inches. Art © Jasper Johns / Licensed by VAGA, New York, NY. Photo credit: Rheinisches Bildarchiv der Stadt Köln.

Figure 5. Jasper Johns, Detail of *Map* (*Based on Richard Buckminster Fuller's Dymaxion AirOcean World*), 1967-1971, encaustic and collage on canvas (twenty-two parts), 196.85 x 393.7 inches. Art © Jasper Johns / Licensed by VAGA, New York, NY. Photo credit: Rheinisches Bildarchiv der Stadt Köln.