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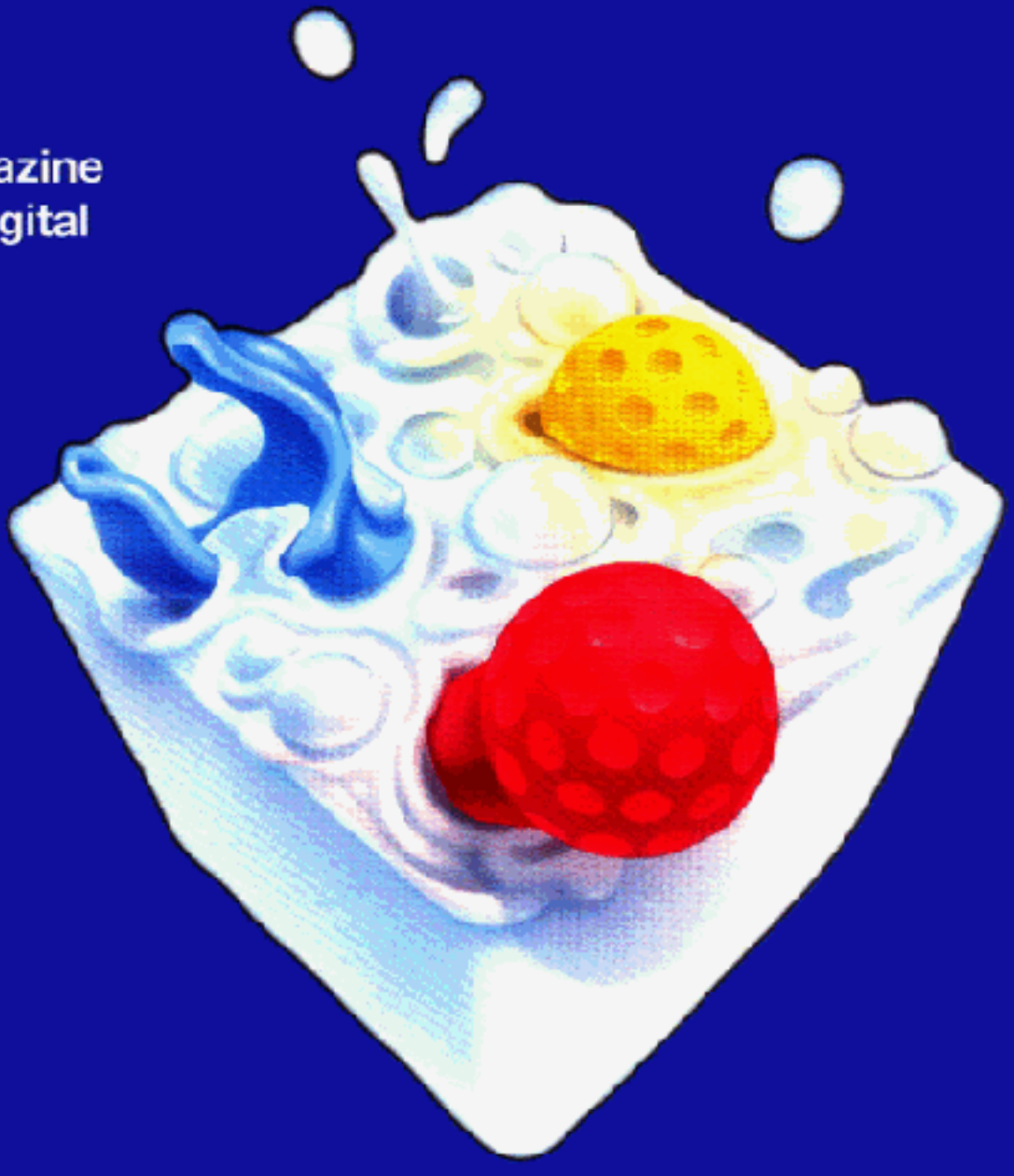

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Buckminster Fuller: Illusive Mutant Artist

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Impossible to Categorize, the Anticipatory Design Scientist Foreshadows the Complex Persona of a Contemporary Media Artist

Typically one may look to movements and specific personalities embodying certain characteristics to set the stage for the emergence of the new. In terms of movements foreshadowing the issues surrounding art and technology on the Net-copyright, identity, gender, space, and so on-one might consider performance, happenings, and conceptual art of the 60's. When searching for a prescient historical personality prefiguring the digital age to come, what better example than Buckminster Fuller. Much ignored by the generation of artists who may profit most by being acquainted with his vision, Fuller, with his carefully constructed persona of Anticipatory Design Scientist, heralded the coming age of artists who work in tandem with scientists and toward innovation and discovery of the aesthetic of the invisible realm.

It is important to stress that Fuller was at once a philosopher and a practitioner - a necessary mix for contemporary artists, no matter what the media of choice. For anyone working with volatile technology, being able to ground oneself historically and articulate the work that evolves in the midst of chaos is simply mandatory for survival. Definitions of Buckminster Fuller are as myriad as the fields he traversed. On different occasions he was referred to as an architect, inventor, scientist, engineer, mathematician, educator, philosopher, poet, speaker, author, consultant, economist, futurist, transcendentalist, and designer, and the list goes on. His visionary, magnetic personality had an inspirational, and in some cases catalytic, effect on many influential people in various disciplines. Each field had something to learn from his comprehensive outlook, yet no one field completely embraced him, including art or architecture.

Strongly influenced by his great aunt Margaret Fuller, a leader in theosophical society, he considered the machine inseparable from the spiritual principle operating in the universe. Margaret Fuller's transcendentalism was an inspirational force through his lifetime, as was Albert Einstein's theory of relativity and Henry Ford's introduction of automation into the workplace. This triangle of spiritualism, science, sculpture and mechanization is ever-present in his work, and it is reappearing in the emerging field of the digital arts. Fuller influenced and inspired many artists who went on to revolutionize and redefine the idea of art and his complex relation of links to interests, activities and people could easily be likened to one of his geodesic structures consisting of a seemingly endless number of triangular links. One particular triangle of connections is that of Fuller to the artist and composer John Cage, the media theorist Marshall McLuhan, and the scientist Albert Einstein.

For artists working with networks, it is the performance aspect of Fuller's work that is most compelling. He made his life a performance and left behind an enormous amount of data documenting this effort. A modern-day shaman who expressed his ideas in disorganized fragments and marathon lectures, he was magnetic, mesmerizing, and inspiring to those he made contact with, even if they did not understand what he was saying. Delivering more than 2,000 lectures at 500 universities and colleges and making 48 trips around the world, he was a tireless performer. Famous for his non-stop "talkathons," he put his ideas to the test in architectural forms, eighteen books, and, toward the end of his career, in World Games which engage global problems through gaming. Buckminster Fuller was the ultimate net- worker-physically moving from place to place, making connections igniting inspiration everywhere he went.

In 1928, Isamu Noguchi planned to do a sculpture portrait of Fuller who suggested that he use the chrome, nickel, and steel alloy that Henry Ford had just used on the radiator grilles of the Model A car. Noguchi wanted to challenge the accepted method of using negative light (shadows) to produce definition, and the chrome, nickel, and steel alloy allowed him to experiment with this notion and create a surface that was absolutely reflective. It remains an early example of the use of industrial materials in art.

Fuller referred to Noguchi as a scientist-artist, pointing out that Noguchi "learned that in the Orient there was historically no general concept of 'sculptor' as we know it." Their collaborative relationship continued for years In 1934, Fuller asked Noguchi to make the small-scale plaster models for his Dymaxion Car, and in 1936 Noguchi, inspired like Fuller by Einstein's theory of relativity, worked on his first major public sculpture in Mexico. It was a seventy-two-foot-long wall, part of which would be a figure of an Indian boy observing Einstein's equation for energy. Noguchi forgot the exact equation and wired to Fuller for help. Fuller sent back a telegram explaining

E=mc2; in precisely fifty words. Soon after, on the cover of the November 1932 issue of his magazine Shelter, Fuller published a photograph of a Nogochi sculpture to which he later gave the name "Miss Expanding Universe." Elements of Fuller's tensegrity spheres and icosahedrons can be found in the tensile web of at least one of Noguchi's public monuments. Noguchi is just one of the many artists who were influenced by and had a relationship with Fuller.

Although embraced and befriended by revolutionary artists of his time, Fuller was never able to define himself as one of them. His complexity, mobility, and use of various technologies alluded to and attracted many fields, putting him in the position to be the predecessor of a complex persona that was yet to emerge. Although he refrained from calling himself an artist, perhaps because of the constraints of the time he lived in, his definitions of artists are probably much closer to describing himself than any of the definitions he readily acknowledged. And although he used the word "artist," when he referred to painters, sculptors and dancers, he proclaimed that one day Henry Ford and Albert Einstein would be recognized as the greatest artists of our time. As a practitioner, he was most inspired by those who were able to change society with their work, and his life was a devoted effort to do the same. Einstein was a major influence and inspirational figure in Fuller's life. Fuller's book Nine Chains to the Moon is largely driven by ideas arrived at by analyzing Einstein's theory of relativity through his prism. The chapters in the book that specifically referenced Einstein were initially turned down by the publishers, who felt that Fuller did not have the appropriate background to comment on physics. But this did not stop Fuller, who wrote to Einstein, and sent him the manuscript. Subsequently, the two men met, and Einstein approved of the text, commenting that he was delighted by Fuller's interpretation of the theory of relativity.

Fuller once referred to Einstein by quoting Emerson, one of his great-aunt's contemporaries. "Ralph Waldo Emerson defined poetry," said Fuller, "as 'saying the most important things in the simplest way.'" By that definition Einstein may have been history's greatest poet-for who could say so much as simply as Einstein did when he described the physical universe as E=mc2?' But by calling Einstein the greatest poet and artist of our time, Fuller created an oppositionally defined space between science and art, which he occupied for the rest of his life. In this way he preceded a generation of artists who seek to form a bridge between the arts and sciences.

"The great scientists and great artists are not only subjective and pure but also objective and responsible inventors," Fuller said. He felt that artists had a unique position because of their comprehensive training which frequently gave the artists a broader viewpoint: "I feel that it is the artists who keep the integrity of childhood alive until we reach the bridge between the arts and sciences." He felt that the broad outlook artists are privy to is their strength: "Artists haven't painted themselves into the special corner. Because of a comprehensive outlook, their art reflects the many disciplines, especially science," he wrote "The only ones who don't get trained for specialization are artists, they want to be whole." [2]

Fuller often stressed the importance of blurring the artist's and scientist's roles. He felt that the artist often created patterns through her imagination that the scientist later saw in nature. But at the core, Fuller's vision was that these two opposite sides of the cultural pendulum's swing would eventually come together.

Fuller was perfectly aware that this was not an entirely new thought, as he himself quoted Leonardo da Vinci, who he called a "painter, sculptor, architect, engineer and inventor of the wheelbarrow, and other useful instruments from the speaking tube to the mechanically gyp-proof whore-house," and who wrote: "the further art advances the closer it approaches science, the further science advances the closer it approaches art." [3]

In many ways Fuller was rooted in centrality, universality and Cartesan principles that seemed to contradict his visions. Because he is impossible to classify, it is all too easy to focus on one aspect of his character and dismiss the entire complex persona. This is unfortunate, as it is precisely the contradictions that makes his work so important today. The problem of how one may navigate contradiction and complexity is central for those working in art and technology. Fuller provides a model that points to integrity as being key in the work one builds while on this Spaceship Earth. Although he professed a lack of interest in how his projects looked, he believed that a project at completion was beautiful if it possessed integrity, which to him was the key to aesthetics. Integrity is a crucial word in redefining art according to Fuller - integrity of individual communication independent of the medium of its articulation.

The great aesthetic which will inaugurate the twenty-first century will be the utterly invisible quality of intellectual integrity; the integrity of the individual dealing with his scientific discoveries; the integrity of the individual in dealing with conceptual realization of comprehensive interrelatedness of all events; the integrity of the individual dealing with the only experimentally arrived at information regarding invisible phenomena; and finally integrity of all those who formulate invisibly within their respective minds and invisibly with the only mathematically dimensionable, advanced technologies, on the behalf of their fellow men.

- Buckminster Fuller, 1973

John Cage, America's foremost avant garde composer, became enamored of Fuller during the first summer Cage spent at Black Mountain College, and his admiration grew over the years. That summer at Black Mountain, Cage mentioned Fuller in his infamous "Defense of Satie" lecture in which he laid the groundwork for his artistic position. Two years later, in the "Lecture on Something," Cage again cites Fuller, stating, "As Bucky Fuller is fond of pointing out: the movement of the wind of the Orient and the movement against the wind of the Occident meet in America and produce a movement upwards into the air—the space, the silence, the nothingness that supports us " [4] Richard Kostelanetz, a biographer of Cage, notes that Cage refused to acknowledge the "totalitarian tendencies" in Fuller's thinking. [5] The point Kostelanetz misses is the power and inspirational force of Fuller's persona. Although Cage's exploration of space differs from Fuller's, in his embracing chance and unpredictability he is initially inspired by Fuller's more uniform and idealistic abstract space. As Reinhold Martin notes, it is ironic that the very concept of "eermentation" that Cage linked to Fuller's image of airborne movement is what most clearly distinguished his outlook from Fuller's.

Cage, with his open-ended, conceptually driven performances was influential and liberating to visual artists wanting to break out of the wall and frame. He rejected dualistic thinking, and through his work explored the multiplicitous realms of chance and indeterminacy. Fuller and Cage's connection to each other was based on their deep appreciation of something beyond thought-intuition, unmediated insight, intelligence-experience that can be accessed only through silence.

Both men were rooted spiritually yet worked in the material realm and considered the condition of the world. Cage was conceptually able to go beyond Fuller's utopian prophesying, by introducing chance and random possibilities into his work, but it is significant that Fuller consistently acted as an inspirational force for Cage throughout his creative life. His last public reading, in 1992, the year he died, was a piece entitled "Overpopulation and Art." In this final message, he clearly points to the importance of re-examining Fuller's ideas: "Fuller is dead but his spirit is now more than ever the spirit the world needs, it is alive, we have it in his work, his writings... Let us not forget we are having to continue his work, in music the absence of the conductor's score and barline, spaceship earth." [6]

In the 60s and 70s McLuhan and Fuller were frequently cited together But after Fuller's death, he was often ignored in favor of McLuhan. This is particularly true of the digital-arts community that started emerging shortly after Fuller's passing. Fuller's ideas-broad, comprehensive, and complex-were never easy to digest and were closely linked to his magnetic personality. Thus, once his physical presence ceased to exist, so did the public engagement with the complex web of his ideas. Many have been transfixed by Fuller's presence and have fed off his energy Many took just a few concepts out of the stream of consciousness that flowed relentlessly out of him, distilled them, and brought them back in a form easier to digest, without crediting the source.

In a chapter entitled "The Prophets: Buckminster Fuller and Marshall McLuhan," Peter Drucker in his book Adventures of a Bystander, makes a keen comparison of the two men, whom he knew from 1940, before they became celebrities. He first met Fuller at Fortune while he was working as a "technical consultant," hired by Henry Luce. At one point Luce told Drucker that he didn't know what Fuller was up to, and didn't understand a word he said, but thought he was a good performer and was willing to bet on him. Drucker describes Fuller's talks as "happenings" with no time limit. McLuhan, on the other hand, had a very straight, clear, and academic delivery In many ways, the two men could not have been more different. Drucker notes the primary contrast between them, as it appeared in their approach to technology: "Bucky is a transcendentalist, very conscious of the legacy of his great-aunt, Margaret Fuller, the last of the New England transcendentalists of the nineteenth century. Bucky's world is pantheist, man approaches his divinity the more he identifies with universal technology. Marshall McLuhan sees technology as human rather than divine. Technology is the extension of man." [7]
But there is some evidence that this idea of the extension of man, identified by many as the core concept of McLuhan's philosophical stance, may have come from the transcendentalist Bucky. From 1960 to 1970, Constantin Dioxides, an engineer, architect, and urban planner and the founder of the Athens Technological Institute in Greece, organized summer cruises complete with cutting edge guests such as Margaret Mead, and Jonas Salk. Many, including McLuhan, were guests more than once, but only Fuller was invited on every single trip for twelve years in a row. In The Synergetics Dictionary, under McLuhan, notes such as these were made by Fuller: "Marshall McLuhan told me the first day he met me-on one of the early Dioxide cruises-'I am your disciple.' He held up copies of No More Secondhand God and Nine Chains to the Moon and said to me 'I've joined your conspiracy!'" In his notes, he writes: "McLuhan has never made any bones about his indebtedness to me as the original source of most of his ideas. The 'Global Village' was indeed my concept. I don't think he has an original idea. Not one McLuhan says so himself. He's really a great enthusiast, a marvelous populariser and teacher. He has an irrepressible sense of the histrionic, like no one I've known since Frank Lloyd Wright." Indeed, in Nine Chains to the Moon, a passage reads: "Through the leverage gained by his inanimate instrument extensions of self, he has attained an extended mechanical ability far in excess of his own integral mechanical energy content ability." [8] He goes on to claim that the idea of "man backing up into his future" appears in his books and that Fuller's concept of the "Mechanical Extensions of Man" is the basis for McLuhan's

talk of the "Electrical Extensions" of man. [9] Ironically, even though resentment for not being acknowledged shows through in these notes, Fuller wrote a glowing letter of support for McLuhan's application to the Canada Council for a grant to write an inventory of all breakthroughs in arts and sciences since 1900. In the letter, he enthusiastically supports McLuhan's project, overriding his personal feelings in realization that the most important thing is to have the ideas live on.

Fuller, as someone who channeled an endless stream of information and ideas, inspired many He was at once slightly contemptuous of and impressed by the creative abilities of people such as McLuhan and Frank Lloyd Wright to absorb newfound ideas and re-create them as their own. Very early on, in his Nine Chains to the Moon treatise, he qualifies genius and talent: "The function of genius is to provide new instruments, and to process-means for the progressive growth of man; talent's function is the precise and harmonious popularization of the otherwise undetectable, and, therefore, otherwise non-useful products of genius. What is often mistermed as plagiarism is more precisely 'talent.' 'Plagiarism' is an ethical off-shoot label of the false property illusion described in our phantom captain chapter."
Unfortunately, Fuller ran into the same self-contradictory problem faced by artists working with digital media. On the one hand, it is wonderful that work can be endlessly reproduced and the idea memetically spread. On the other, the ego finds it hard to come to terms with the sacrificed identification mark on the idea manifest.

As noted earlier, Fuller very early on recognized the computer as a human extension, never losing the organic quality in his interpretation of the human/machine relationship. He describes man as a machine driven by the "Phantom Captain," without whose guidance the "human" mechanisms are reduced to imbecile contraptions. The Phantom Captain is likened to a variant of a polarity dominance in our bipolar electric world, which, "when balanced as a unit, vanishes as abstract unity I or O." With the Phantom Captain's departure, the mechanism becomes inoperative and very quickly disintegrates into basic chemical elements. Margaret Fuller's influence can be felt when reading Fuller's interpretation of the human/machine extensions-it is psychical. At the end of his life, Fuller reasserted this idea: "The new human networks' emergence represents the natural evolutionary expansion into the just completed, thirty-years-in-its-building, world embracing, psychical communication network."

Fuller, first and foremost a performance artist who constructed practical prototypes of some of his visions, was convinced that even the most fantastic scenarios were possible. He thought he could manifest utopia. He left behind a wealth of information for us to look through, leaving it up to each individual or group to decide how to categorize it. How does this help define the complex persona we refer to as a media artist? Just ask yourself if there exists, in all the complexity of a work you are considering, the invisible aesthetic of integrity.

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Author's notes:

1.The author greatfully acknowledges the director of BFI, Allegra Fuller-Snyder for her support and generosity.

2. This essay is an excerpt of a larger research project considering the relevance of Buckminster Fuller's work in relation to art and commerce in networked space.

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