

An Entropic Spiral: From Pre-Columbian Art to the Post-Industrial Era

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ABSTRACT

The aim of the research is to deepen Robert Smithson's theoretical study in relation to the concept of an entropic landscape during the first years of Land Art and the consequential impact on today's contemporary art. This study explores and interrogates the reflections and successive considerations on landscape and entropy that the artist developed during the construction of Spiral Jetty, his most important work. The main topic is the critique and analysis of landscape through art. These experiences inaugurated a new and avant-garde approach: the aesthetics of the entropic, which leads to a form of socio-political debate that will be analyzed through artistic expression. The idea of an art that builds a new vision reflects the collective action toward reality, simultaneously expressing the landscape condition and the current entropic, instead of resolving it in the form of an object belonging to an armored dimension.

Keywords: Contemporary Art, Entropy, Land Art, Landscape, Robert Smithson, Spiral Jetty.

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I. INTRODUCTION

This research proposes an analysis of the artwork Spiral Jetty belonging to Land Art, an artistic movement that originated in the United States towards the end of the Sixties, in relation to the concept of entropy, having as an empirical object the reflections of Robert Smithson, who through writings, works and videos built the first experiences of the movement, also revealing the urgency of a radical cultural change that implied a rethinking of the multiple factors that built the artistic debate of those years.

Beyond the transformations linked to the materials traditionally used, the first land artists have been driven and inspired by a radical choice: to distance themselves from models belonging to the academic past, to modernist aesthetics or to the "frame and easel syndrome" (Lippard, 1973), preferring art that developed to the external part of institutionally established places such as museums or galleries. In this way, art confronts life, analyzes it and deepens it, giving rise to an unprecedented type of work until that moment: the site-specific. These ephemeral interventions, carried out directly in the territory with natural materials, mutable and permeable to the passage of time, show the renunciation of the pioneers of the movement to the creation of selected and permanent objects, seeking to reflect problems linked to the environment, society and landscape.

The concepts that revolve around Land Art are transversal and functional to different historical phases and cultures. Thus, some contemporary artists face the same paradigms and difficulties that were experienced in the first phase. Particular attention is given to the early works of the movement (1969-1973), specifically those that suggest a type of study and development linked to the world of reversibility, degradation and abandonment that built the entropic landscape proposed by Smithson: *Spiral Jetty* (1970), *Partially Buried Woodshed* (1970), the trilogy *Asphalt Rundown/Concrete Pour/Glue Pour* (1969) and *Hotel Palenque* (1969-1972).

Robert Smithson used the term *earthworks* to refer to his ephemeral interventions. *Earthworks* was also the name of Land art's first exhibition carried out at the Dwan Gallery in New York, in October 1968. The word finds its genesis in Brian Aldiss' book, *Earthworks*, which presents a psychological portrait of a futuristic society, highly economically unequal, living to the extreme of his strength, and having begun a journey of no return because of his rampant consumerism and greed, which is why the Earth continually suffers natural disasters. These artworks which could no longer be analyzed as sculptures, exceeded the limit of using conventional materials such as stones or earth to be created. In addition, they summarized a series of issues related to the role of the media within contemporary art. In this way, Land Art found in unexplored areas and far from the traditional artistic circuits of the time, forests, lakes, deserts and plains, places with which to measure, experiment and deepen the theories of the entropic landscape.

II. TOWARDS A NEW KIND OF LANDSCAPE

In the beginning, the new proposal did not reflect or consider the balance of the ecosystems in question, but promoted a traditional and naturally American and spectacular expression, due to the enormous size of the interventions. Subsequently, a more sensitive link towards nature was generated, and preliminary studies were carried out where the possible consequences, permanent damages and alterations of the landscape were measured.

Spiral Jetty is the most popular work of the movement, we can mention it as the complete outcome of the efforts of Smithson and the founding group of the movement to establish in the world of art the entropic landscape. This prehistoric ring is an interesting compendium of experiences, being also the crowning of an extensive course that had begun with visits to aboriginal reservations, trips to inhospitable territories or studies on pre-Columbian cultures, objects of multiple approaches and constants of study in the personal life of Smithson, in this sense, the spiral dock became the primordial leitmotif of his artistic career. To this end, we point out the first symbolic representations of the famous form in his first gouaches and collages, destined to materialize years later under forms of projects or sculptures, which are revealed in the 1967 essay *Towards the Development of an Air Terminal Site of 1967*, when a proposal for the new air terminal of Fort Worth-Dallas was publicly presented, Modern mega metropolis located in North Texas, is the cultural center of the entire region, and today has one of the busiest commercial airports in the world. Dallas, modern metropolis in the north of Texas, is the commercial and cultural center of the region:

Since July, 1966 I've been rendering consultation and advice as an "artist consultant" to Tippetts-Abbett-McCarthy-Stratton [...] I have engaged in these discussions not as an architect or engineer, but simply as an artist (Smithson, 1996, p. 52).

The architectural project presented was intended to be an example of modernity, the shape of a huge geometric spiral had to be seen from the height, and for this the surface that aspired to cover was greater than that of the entire Central Park of New York. The *Development of an Air Terminal Site* allowed us to relativize and order the analysis of visual perception through the hypothetical structure, which until today has not seen the light. From the documentary exploration of the studies carried out by Morris about the geoglyphs of the Nazca Lines, the aerial and satellite photographs present during the Cold War or the images of interventions such as *Las Vegas Piece* or *Cross*, we emphasize that the environment was conducive to evoke and problematize visual perception:

The mental spiral becomes a physical spiral. The viewpoint goes out like an inverse spiral. It's not a spiral that's going up (Smithson, 1996, p. 143).

Within the goal of the first phase of the movement, Spiral Jetty is intrinsically related to the interest in arid and dry rivers and lakes, extensive deserts and places abandoned to their fate that suffered from the change of the seasons and the rotational effect of the Earth. Together with Michael Heizer, Walter De Maria or Nancy Holt the artist visited the marginal areas of the American Southwest, places like Mono Lake, Massacre Dry Lake, or the Mojave desert became areas of exploration and experimentation; "My concern with salt lakes began with my work in 1968 in the Mono Lake Site-Nonsite in California" (Smithson, 1996, p. 143).

It is precisely in these years when a mature Smithson discovers, through essays, books, and oral history, the natural atmosphere of the Wild West, and delves into new cultures and uncontaminated landscapes that led him to address geographically more distant topics: in the same way as Robert Morris, after having traveled to Peru only to see the Nazca Lines, he was inspired by the remote South American Andean landscapes to write the aforementioned book *Aligned with Nazca*; Smithson considered some phenomena that occurred in the mountain range that includes deserts, pampas and lakes at a considerable height of Chile, Bolivia and Peru as a propitious source for the creation and analysis of his next work. In this sense, a significant literary influence was the book *Vanishing Trails of Atacama* by William Rudolph, of 1963, in which an analytical and detailed study is made, as an encyclopedia, of the largest and most important salt lakes of Bolivia, also considering the geological processes and drying phases of them. In addition, Rudolph took as an object of study other ecosystems of the Andean macro area, such as the fauna, flora and geography of the Atacama Desert, the driest place in the world, in northern Chile. The geographical heart of the Andes Mountains highly caught the attention of the artist, who dedicated himself to studying some particular and little-known environments in those years, such as the Salar de Uyuni, the largest and highest salt desert on the globe, the Laguna Verde and Colorada. In this new geological world, he discovered a strange natural phenomenon that occurs only in some periods of the year: the reddish coloration and change of hue of lake waters due to intense red mineral sediments and the pigments of a particular type of algae that lives and develops in those ecosystems. Thus, in a specific season of the year, and for a certain period of time, the entire Andean lake is transformed into an intense and luminous mirror of red water, being a unique visual spectacle to the world. Also, the flamingo Colorados who live at that point were a cause for surprise, by the way, Smithson commented: "The pink flamingos that live around the salars match the color of the water" (Smithson, 1996, p. 200).

It should be noted that the area where the Laguna Colorada emerges is highly rich in mineral diversity, which leads to the existence of different lands and pigments, those colored strata, which are mixed in the landscape with the borax islands that are inside the lake, create an unprecedented pictorial environment. When Smithson commented on the construction process of earthwork in the Great Salt Lake, he pointed to the text *The Useless Land* by John Aarons and Claudio Vita-Finzi, which analyzes the Laguna Colorada phenomenon, where Smithson found the chromatic inspiration for the Jetty:

The basalt (and the shores) is black, the volcanos purple, and their exposed interiors yellow and red. The beach is grey and the lake pink, topped with the icing of iceberg-like masses of salts (Aarons & Vita-Finzi, 1960, p. 129).

III. SPIRAL JETTY

The famous spiral was located in the area of Great Basin, in the state of Utah, on one of the many shores and tongues of the Great Salt Lake, not far from the place where Nancy Holt made her most famous landscape intervention: Sun Tunnels. Specifically, it arises in a small peninsula of rocks of the Tertiary period called Rozel Point, composed of striations of black basalt and gray calcareous stone that mix irregularly, creating a remarkable pictorial composition. Technically we affirm that the intervention is presented as a spiral-shaped path that is born on the shore and projects towards the lake with a length of 460 meters long and 4.6 meters wide. To carry out such a work, more than 6,500 tons of stones, earth, debris and sand were removed with the help of huge bulldozers. Lawrence Alloway describes the process:

The working procedure on what was called Job n.73 was as follows. Front end loaders (Michigan Model 175) were used to dig out rocks and to collect sand on the shore. Ten-wheeler dump trucks carried the load to the lake, backed out along the coil, and tipped it off the ends. Here track loaders (Caterpillar Model 955) placed the dumped rocks and tamped them down within the narrow limits set up by the guidelines placed by Smithson (Alloway, 1983: p. 137).

Since the ambitious and majestic projects that the artist undertook towards the end of the sixties and the beginning of the seventies, did not allow him to move too far, in this case to Bolivia, it was decided to choose a town in the well-known American Southwest.

Because of the remoteness of Bolivia and because Mono Lake lacked a reddish color, I decided to investigate the Great Salt Lake in Utah (Smithson, 1996, p. 143).

Thus, before the technical execution, the artist contacted the authorities of the Utah Natural Park, who were the first to inform him about the chromatic mutation of the lake waters in some specific points. He first visited the southern area of the large water mirror, but it did not convince him because it lacked the phenomenon in question.

I called the Utah Park Development and spoke to Ted Tuttle, who told me that water in the Great Salt Lake north of the Lucin Cuttoff, which cuts the lake in two, was the color of tomato soup. That was enough of a reason to go out there and have a look (Smithson, 1996, p. 145).

Consequently, he found in Rozel Point the ideal place to carry out the intervention. The fluctuating movement of Spiral Jetty, which goes from the periphery to the center, is inspired by the works already cited, on the one hand, it highlights the importance of terrestrial movement in relation to time, on the other, it was conceived to be seen from above, it was not initially foreseen that the public would ignore this aesthetic process, Everything had to be seen necessarily from a high point, such as the proposal for the airport:

As the aircraft ascends into higher and higher altitudes and flies at faster speeds, its meaning as an object changes, one could even say reverses (Smithson, 1996, p. 52).

In this case, the object analyzed, in this case an airplane, is not the only one to be modified, the surrounding landscape becomes a true multisensory stage where the perceptions of artist and public are developed and lived, as if it were a natural open-air gallery:

The investigation of a specific site is a matter of extracting concepts out of existing sense-data through direct perceptions. Perception is prior to conception, when it comes to site selection or definition. One does not impose, but rather exposes the site, be it interior or exterior. Interiors may be treated as exteriors or viceversa. The unknown areas of sites can best be explored by artists (Smithson, 1996, p. 60).

The representation of the spiral is vital in much of the pre-Columbian cultures, sometimes symbolizing the Earth, in others the flow of life or fertility, the latter was present in some Central American tribes, particularly those of the southern Mexican zone. Smithson was inspired by these examples for the making of the Jetty, but they were not his only source. In this sense, we understand that the oil industry, mineral exploitation and the thousands of gold prospectors, had definitively modified, over the years, the panorama of the Great Salt Lake. The point of tension led to an irremediable environmental conjuncture since the landscape had become apocalyptic, Smithson pointed out about it:

Old piers were left high and dry. The mere sight of the trapped fragments of junk and waste transported one into a world of modern prehistory. The products of a Devonian industry, the remains of a Silurian technology, all the machines of the Upper Carboniferous Period were lost in those expansive deposits of sand and mud (Smithson, 1996, pp. 145-146).

As a result of his first explorations in the lake area, the artist explained his notions, sensations, and above all mental projections regarding the terrestrial movement and the connection with the Jetty. To access Rozel Point, you must drive for a considerable period through suggestive landscapes of great mineral and chromatic richness, post-industrial and entropy-bearing, these characteristics influenced the final shape of the mineral ring of the Great Salt Lake. Smithson's desire to continue with the constructive phase of the entropic landscape subject to the investigation of the primordial concept, which led him to highlight the deterioration of the chosen space and the creation of an allegorical symbology of ruin and abandoned architectures is eloquent. This earthwork also contemplated the precarious and advanced constructions that had emerged years ago in that area, and that, at the time of the site, was experiencing an irreversible process of disintegration:

A great pleasure arose from seeing all those incoherent structures. This site gave evidence of a succession of man-made systems mired in abandoned hopes (Smithson, 1996, p. 146).

Based on what has been developed in the technical explanations, it should be added that a local legend assures that there is in the deepest part of the lake a system of underwater caverns and galleries that connect directly with the Pacific Ocean. This geological phenomenon is to blame for producing the famous eddies frequently seen on the lake surface, which are perceptively and aesthetically connected to the centrifugal shape of the artistic spiral. The arrangement of the layers and strata of the terrain and the material that the artist evidenced particularly in the documentary video made and the related essays, was created voluntarily and with great care through loads and discharges of bulldozers, this performative action reaffirmed the line that Smithson had chosen and published in the 1968 essay, *A Sedimentation of the Mind: Earth Projects*:

Building takes on a singular wildness as loader scoop and drag soil all over the place [...] These processes of heavy construction have a devastating kind of primordial grandeur, and are in many ways more astonishing than the finished project, be it a road or a building. The actual disruption of the earth's crust is at times very compelling [...] (Smithson, 1996, pp. 101-102).

Deepening the aforementioned claims, Smithson successively made some considerations about Spiral Jetty's entropic process, comparing it to the stratifications of nature and the human mind:

Each cubic salt crystal echoes the Spiral Jetty in terms of the crystal's molecular lattice. Growth in a crystal advance around a dislocation point, in the manner of a screw. The Spiral Jetty could be considered one layer within the spiralling crystal lattice, magnified trillions of times (Smithson, 1996, p. 147).

He further added:

The "curved" reality of sense perception operates in and out of the "straight" abstractions of the mind. The flowing mass of rock and earth of the Spiral Jetty could be trapped by a grid of segments, but the segments would exist only in the mind or on paper (Smithson, 1996, p. 147).

From a synchronic look, it is vital to identify that some months after the realization of the spiral, the intervention underwent considerable changes in relation to the lake landscape, it was specifically an unexpected increase in the water level that inevitably led to a long waterlogging and immersion of the work. It had to wait until 1993 to see again the intervention of 1972 when the lake began to descend, revealing on the rocks that make it up the salt crystals that had formed over the years in which it was submerged. Smithson was always in favor of the progressive or radical transformation of his works, this circumstance, in the life of the Jetty, was conceived positively. In an interview conducted by Alison Sky, perhaps one of the last oral testimonies we have, the artist urged the public to "accept the entropic situation" and to "learn to assimilate things that seem in bad taste" (Cfr. Smithson, 1996, pp. 301-309).

This aesthetic postulate was warned and defended from its theoretical beginnings, the artistic value of some minerals was manifested in *A Sedimentation of the Mind: Earth Project*, when the artist identified the process of oxidation of iron and all that it entails, in addition to revealing the interest in the appearance of reddish color in this process:

Rust itself is a reddish brown or reddish yellow coating that often appears on "steel sculpture", and is caused by oxidation (an interesting non-technological condition) [...] In the technological mind rust evokes a fear of disuse, inactivity, entropy and ruin. Why steel is valued over rust is a technological value, not an artistic one. By excluding technological processes from the making of art, we began to discover other processes of a more fundamental order (Smithson, 1996, p. 106).

IV. RESEARCH RESULTS

In summary, in the plural conception of the work, we affirm that it can be divided into three parts that are simultaneously linked to each other: the earthwork that lies on the shores of the lake, the theoretical essay *Spiral Jetty* and the homonymous short film, produced by Robert Smithson, Robert Fiore, Nancy Holt and Barbara Jarvis, that witnessed the entire work process and its phases. The two last integral parts were essential during the years in which the level of the lake increased, submerging the intervention. In addition, the only way to admire and get to know it was through the photographs of the Roman Gianfranco Gorgoni, who at that time was in the country making a coast-to-coast trip. The documentary, made by Smithson and filmmaker Robert Fiore, with the assistance of Nancy Holt and Virginia Dwan, was the only movie recorded and completed while the artist lived, was officially presented in the fall of 1970 at the Dwan Gallery in New York and can be easily viewed on some websites. Its structure, artistic point of view and decisions in the editing process demonstrate an experimental visual language, an investigation for all intents and purposes. In the first images presented, strictly speaking in the movie treatment, it is revealed that the video is essentially divided into two parts. The first is formed by a progressive and chained group of frames that evoke the world of literature, science fiction and anthropology, data and signals that lead and prepare the observing public to what will come successively, in this disjunctive montage you can see dissimilar frames, but that have a certain relationship with the spirit of the work. One focuses for a few seconds on a stack of books where you can clearly distinguish *The Lost World* by Arthur Conan Doyle, or also *The Day of the Dinosaur* by Lyon Sprague and Catherine Crook de Camp, another instead exposes the recordings made aboard a jeep traveling on an unknown gravel road. Regarding the images produced by Gorgoni, it should be noted that they were transformed over the years into true banners of the movement, in fact, the Smithson-Holt couple allowed in an unprecedented way all the coverage of the process to a professional photographer, until then they themselves had accepted that role. The shots, which were made from a helicopter made the work difficult since it was in continuous movement, keep a special connection with the first images of the Nazca geoglyphs and the satellite images that allowed to open the progressive debate on the importance of aerial perception. The propensity towards the inevitable presence of a camera in the realization and dissemination of *Jetty* and other works was highlighted in the artist's own words when he categorically stated that "the movie recapitulates the scale of the *Spiral Jetty*" (Smithson, 1996, p. 151).

Regarding the short movie, we identified that, as happened with *Asphalt Rundown*, a kind of entropic sound of a stopwatch or timer, officiated as the protagonist element of the work, associated with the deterioration caused by the passage of time, in addition to the voice out of the field that explains some decisions made about the materials and location. The first part goes on to present still images of ancient maps and hypothetical continents lost in time, along with a U.S. Geological Survey plan, where the camera spins nonsensically focusing on some points adjacent to the Great Salt Lake. The successive sequence exposes the constructive phases of the work: a human figure (the artist) works immersed up to his knees in the waters of the lake, nailing guide sticks that will help form the definitive spiral with the help of a long rope that starts from the center, immediately after attending the action of the bulldozers and mechanical shovels, images that were cut by some film still in red filter that analyze dinosaur fossils, so Ben Tufnell's claims about the *Jetty* find support:

In Smithson's conception, therefore, the Spiral Jetty not only provides a model of its own structure but functions like a time machine, focusing the distant past, recent past and entropic present into a single point, the centre of the spiral (Tufnell, 2006, p. 42).

V. CONCLUSIONS

In line with Tufnell, we maintain that everything is born from the center of the spiral, so much so that the first step in the creation of earthwork was to plant a stick with a rope at the primordial point, at the origin of everything, to, in a second moment, develop and project the definitive forms. In Smithson's thinking, the waters of the lake were transformed to the point of becoming the main stage for the coexistence of different temporal dimensions.

Everything about movies and moviemaking is archaic and crude. One is transported by this Archeozoic medium into the earliest known geological eras. The movieola becomes a "time machine" that transforms trucks into dinosaurs (Smithson, 1996, p. 150).

Smithson's voiceover incessantly repeats the material composition of the *Jetty* in its four cardinal points: mud, salt crystals, waters and rocks in the North-South-West and East. The final sequence transports the viewer to the interior of a film studio where you can see a photo of *Spiral Jetty* hanging on one of the walls behind the editing and editing board, on which it is perceived that the short film is projected. Thus, the artist offers two important messages and final signals: it is possible to identify the concept that the whole film is a spiral of frames, one has the feeling that when you reach the end you will start again in the opposite way.

The second clue has to do with the notion of the entropic landscape and its creation from a work of art:

it is possible to develop a temporal and multimedia entropy, since Spiral Jetty is inextricably linked to the passage of time and the changes of matter as well as to the video, photography and essay that testify to its creation and development.

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