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***Broken Circle &/ Spiral Hill?:* Smithson's spirals, pataphysics, syzygy and survival**

ABSTRACT

The copious literature on the work of artist Robert Smithson has made very little of the many parallels between the inventor of earthworks and the nineteenth-century author of pataphysics, despite the established fact that the artist read and made notes from Alfred Jarry's Dr. Faustroll (1898) while working on the Spiral Jetty in 1970, which undoubtedly influenced the subsequent Broken Circle &/ Spiral Hill (1971, Emmen). Given the insightful literature reassessing Jarry's influence on twentieth-century artists including Marcel Duchamp, John Cage and Rodney Graham, a consideration of Smithson's spiral earthworks in connection with Jarry is long overdue. In contrast to prevailing art research practices today, Smithson's work is much more aligned with the pataphysical pursuit of 'imaginary solutions' that examine 'the laws governing exceptions' and describe 'a universe which can be – and perhaps should be – envisaged in place of the traditional one'. Art historian Jack Burnham's interprets Smithson's earthworks as a 'time-bound web of man-nature interactions ... didactic exercises ... [that] show a desperate need for environmental sensibility'. In this respect, the work of both Jarry and Smithson can provide a useful corrective to an overly rationalistic approach to art research, offering the field – and contemporary art in general – potentially valuable tools for forms of practice that challenge rather than adopt conventional academic models and epistemological constructs.

KEYWORDS

Robert Smithson
Alfred Jarry
Jack Burnham
earthworks
pataphysics
Broken Circle
Spiral Hill
Spiral Jetty

1. The film, by Smithson's widow, artist Nancy Holt, is entitled *Breaking Ground: Broken Circle/Spiral Hill (1971-2011)*; the exhibition, 'Robert Smithson in Emmen'. *Broken Circle/Spiral Hill* revisited, at the Center for Visual Arts, Emmen, 17 September–27 November 2011; the volume: *Art in Continual Movement* (2012); and websites: brokencircle.nl and landartcontemporary.nl. Ironically, this moment coincides with the publication of an extensive new biography on Jarry, Alastair Brotchie's *Alfred Jarry: A Pataphysical Life* (2011).

Robert Smithson's *Broken Circle* and *Spiral Hill (BC &/ SH)* were commissioned for the renowned exhibition 'Sonsbeek '71 Beyond Lawn and Order' and created offsite near Emmen, the Netherlands. The 40th anniversary of *BC &/ SH* occasioned a significant reconsideration of these major earthworks, including the world premier of a documentary film, an exhibition in Emmen, the construction of a visitor's centre at the site, the publication of a book, and two newly launched websites.¹ Given Smithson's interest in science and his expansive conception of artistic materials and media, I intended to interpret *BC &/ SH* from a contemporary vantage informed by recently formulated conceptions of art research, art-science and media art practices. However, after an exhaustive review of the Smithson literature, including the artist's own remarkable writings, and site visits to *BC &/ SH*, *Spiral Jetty (1970)*, and the exhibition, 'The Smithson Effect', at the Utah Museum of Fine Arts, I determined that such an approach was problematic. Art researchers and art-science practitioners typically function in the context of academic institutions and often approach their work from a design perspective as a problem to be solved, following more-or-less established models of academic enquiry. There are many exceptions to this generalization, however the recent institutionalization and professionalization of art research, particularly within the context of doctoral programmes in the visual arts, demands approaches that parallel the methods and outputs of humanistic and scientific disciplines. Although Smithson read about various scientific topics and applied this knowledge to his work, he was fundamentally anti-institutional, and was as skeptical of science and industry as he was of environmentalism and the artworld. His artworks and writings are brilliantly insightful, formally resolved, and logical as well as infuriatingly opaque, unresolved. His work is anything but systematic and bears little resemblance to the scientific and pedagogical aims of academic



Figure 1: Robert Smithson, *Broken Circle*, Emmen, the Netherlands. Photo credit: Edward Shanken and Yolande Harris.

contemporary art research. And then he died at the age of only 35, leaving us to wonder how his work might have matured, and what clues his subsequent art projects and writings might have offered to understanding his *oeuvre*.

Like the pataphysical proposals of late nineteenth-century author Alfred Jarry, who died at 34, Smithson seems to have been seeking out and articulating an alternate reality, a new system of values in which the 'imaginary nature of things as glimpsed by the heightened vision of poetry or science or love can be seized and lived as real' (Shattuck 1996: 9). In contrast to prevailing art research practices today, Smithson's work seems much more aligned with the pataphysical pursuit of 'imaginary solutions' that examine 'the laws governing exceptions' and describe 'a universe which can be – and perhaps should be – envisaged in place of the traditional one' (Jarry 1996: 21–22). In this respect, the work of both Jarry and Smithson can provide a useful corrective to an overly rationalistic approach to art research, offering the field – and contemporary art in general – potentially valuable tools for forms of practice that challenge rather than adopt conventional academic models and epistemological constructs.

The copious scholarly and critical writing on Smithson has made very little of the many parallels between the inventor of earthworks and the author of pataphysics, despite the established fact that the artist read Jarry while working on the *Spiral Jetty* in 1970 (Harris 2006: fn 13). This oversight can be explained in part by current trends in Smithson scholarship (Commandeur and van Riemsdijk 2012), which disparage readings of the artist's work that emphasize symbolic and/or mystical inferences.² Nonetheless, given the insightful literature (Anastasi 2000; Harris 2006) reassessing Jarry's influence on twentieth-century artists including Marcel Duchamp, John Cage and Rodney Graham, a consideration of Smithson's spiral earthworks in connection with Jarry is long overdue.

The spiral is a central symbolic figure for both artists. A spiral adorns the protagonist's bloated belly in Jarry's familiar woodcut print, *Véritable portrait de Monsieur Ubu*, which serves as the frontispiece of *Ubu Roi* (Jarry 1896). The spiral also serves as a recurring theme in *Exploits & Opinions of Doctor Faustroll, Pataphysician*, written in 1898 and published posthumously in 1911. Early in the story, Dr. Faustroll bathes in 'two-tone wallpaper painted by Maurice Denis, with a design of trains climbing up spirals' (Jarry 1996: 7–8). Later in the story the pataphysician drowns, and

the wallpaper of Faustroll's body was unrolled [another spiral form] by the saliva and teeth of the water.... Like a musical score, all art and all science were written in the curves of [his] limbs, and their progression to an infinite degree was prophesied therein.

(Jarry 1996: 99)

The narrative continues with the following passage, which Smithson entered in his notebook, 'A metamorphosis of the spiral':

For, just as Professor Cayley [British mathematician] recorded the past in the two dimensions of a black surface [chalk-board], so the progress of the solid future entwined the body in spirals.

(Jarry 1996: 99)

Jarry's pataphysical spiral metaphor (or rather, *pataphor*) holds potential for interpreting Smithson's spiral earthworks and their relationship to each other.

2. In an e-mail to the author, 10 June 2011, Commandeur claimed that,

the essence of ... the book [*Art in Continual Movement*] is to correct these kinds of mystifying interpretations of land art by stressing the fact that Smithson's work is about the diverse use of media (photography, film, magazines), modes of documentation and use of location that could only come about in an age of the use of new media by artists and the activist, anti-institutional spirit of the time.

Following the passage quoted above, the essentially two-dimensional *Spiral Jetty* may be read as recording the past, while his three-dimensional *Spiral Hill* – an inverted vortex – may suggest a prop for envisioning the future.

Recognized as a key inspiration for surrealism, Jarry insistently joined sense and nonsense, art and science, religion and perversion. By creating friction through unexpected juxtapositions, and by destabilizing meaning through leaps of logic, he challenged the epistemological foundations of institutional knowledge. Similarly, Smithson was fascinated by science and technology but no more so than he was fascinated by science fiction novels and B-movies, having an ‘almost mediumistic sensitivity to the cryptanalysis of pop culture’, according to his friend, artist Carl Andre (1997: 102). Much has been made of Smithson’s interest in geology, geological time, mineralogy, the molecular structure of crystals and glass, and, of course, the Second Law of Thermodynamics, known as entropy: the tendency of closed systems to lose energy or order. Similarly, Jarry, who considered a career in science and studied philosophy with Henri Bergson, gravitated towards the ‘eccentric brilliance’ and ‘bizarre experiments’ of Lord Kelvin, who proposed an early theory of entropy, and Clerk Maxwell, whose ‘Sorting Demon’ thought experiment attempted to defy the Second Law of Thermodynamics in order to achieve a net gain of energy. For Jarry, ‘science was an adventure, domestic and transcendent’ (Shattuck 1996: xiv–xv). The same could be said of Smithson.

Following the spiral path shared by Smithson and Jarry offers further insight into some possible meanings of this dynamic form in *BC &/ SH*. The direction that a spiral coils, typically read from extremity to centre, has symbolic significance, though specific meanings vary by culture. According to art historian Lucy Lippard (1983: 225), ‘the creative, or clockwise, spiral has been a universal symbol of growth’. In contrast to Ubu’s spiral, which coils clockwise, Smithson’s spirals turn counterclockwise, suggesting the reverse, in accord with his concern with entropy. But this directionality is only part of the story and one need not presume that the spiral begins at its extremity. In his systematic exploration of the dynamic quality of forms, Paul Klee noted that because the whole of a spiral is in movement, whether the motion is from the inside out or the outside in, the form ‘tend[s] towards total fulfillment’ (1961: 247) and is the ‘purest conceivable form of movement’ (1961: 377). For Klee, the direction of a spiral’s movement clockwise or counterclockwise was not as important as its contraction (decreasing radii) towards the centre or expansion (increasing radii) away from the centre: ‘Am I being released from the centre in a movement that is becoming more and more free? Or: Are my movements more and more bound to the centre, which in the end will swallow me up?’ (1961: 399).

Given the pilgrimage required in order to experience any of Smithson’s earthworks, the symbolic meaning of spirals as signifying a spiritual journey is particularly poignant. Smithson’s performance in the film *Spiral Jetty* (1970, 32 minutes, colour) at the end of which the artist runs the length of the spiral counterclockwise from the shore to its centre core, has been described as a ‘reiteration of innumerable initiation rites’ (Lippard 1983: 225). However, this cinematic journey does not offer a univocally transcendent moment but, in contrast to Klee’s theorization, tends towards total *un*fulfilment. After reaching the terminus, Smithson, slightly out of breath, seen from the back at roughly 45 degrees overhead, looks out south-southwest (away from the shore and over the lake). His figure recedes into the distance as the helicopter filming him pulls back and up into the sky. The ascent of the camera’s eye might

symbolize a form of spiritual liberation, an ascension in which the artist's eye/mind is freed from its body by following an inward-turning path. At the same time, reaching the inner tip of the spiral has an anticlimactic quality that suggests nothing particularly mystical so much as it seems to confirm, as the artist's monotonous voice-over intones, that it is all just 'mud, salt crystals, rocks, water' in every direction. The film leaves Smithson at the tip of serpent's tail, arrested in time if not history, 'bound to the centre' of the spiral that, to use Klee's words, 'in the end will swallow [him] up' – a conclusion possible only in the fictional cinematic construction.

Visited *in situ*, Smithson's earthworks elicit completely immersive experiences that are highly charged with affect. They invoke an expanded awareness of space and time and of energetic forces that elude rational analysis on the basis of science, formal qualities and media. Notwithstanding the film's strategic defiance of the inevitable (i.e. it ends with Smithson at the centre of the spiral), anyone who walks the *Jetty's* counterclockwise spiral path from shore to core must reverse direction and walk clockwise from core to shore. Artist John Coplans noted 'One enters *Spiral Jetty* backward in time, bearing to the left, counterclockwise, and comes out forward in time, bearing right, clockwise' (Hobbs 1981: 47). This insight seems related to Jarry's own reflections on the spiral – albeit a three dimensional one – as holding the potential for embodying the future. By contrast, Smithson's film suspends the spiral journey into the future – at least as a corporeal experience – and places it in tension with the ephemeral liberation afforded by the spiraling camera, freeing the point of view-cum-spirit from the physical meat of existence.

While walking the decreasing radius of *Spiral Jetty* counterclockwise to its endpoint, I experienced at once a reduction and compression of energy, which was restored and released by walking clockwise along the spiral's increasing radius back to land. The diminished energetic state may offer a counterbalance to the hypertrophy of post-industrial life. Correspondingly, the compression that results from spiraling-in may be linked to a state of potential energy, which is transformed into the expansive release of kinetic energy during the process of spiraling-out. Whether or not one is transformed by the experience of walking the spiral, ultimately one returns back to where one started and heads into the future. Part of the beauty of Smithson's *Spiral Jetty* and *Spiral Hill* is that they offer fully embodied experiences of the energetic properties of spirals as architectonic forms that turn in both directions, contracting as the radius diminishes and expanding as it increases. It is unlikely that Smithson, who rejected the occult and Gnosticism as 'just dream worlds' (Roth [1973] 2004: 89), would have attributed anything mystical to the properties of spirals. But he might have accepted their ability to generate affective responses and physical effects, physiological parallels to the 'crystal steps' that wind themselves 'into a spiral during growth' (Verma and Krishna 1967: 207), to quote one of the scientific sources the artist employed in the film's script.

Smithson loved nature and he loved industrial detritus, but most of all he seemed to love their coexistence: the way that entropy was inevitably manifest in each and especially in their combination. For just as industry contributes to the degradation of its environment, so the environment contributes to the degradation of industry. Indeed, the dilapidated remains of an abandoned oilrig and a withering industrial jetty in the red waters of the vast Salt Lake furnished for Smithson an aesthetically ideal setting for *Spiral Jetty*. The site of *BC & SH* provides a very different setting: a functioning sand and gravel quarry, filled with fresh aquamarine water, in which bull-dozers and other

mining equipment, including a large dredging facility, continue to operate in the background of the artwork; or, rather, *BC & SH* coexists in the background of the industrial site. This play of inversions between foreground and background, of nature and culture, art and industry is suggested in the very form of the *Broken Circle*, whose alternating and continuous arms of sand and water suggest the Taoist unity of yin and yang. Jean Baudrillard (2007) claims that this sort of reversal, this logic of turning things back on themselves in order to demolish illusory reality, underlies pataphysics. Jarry ([c.1890s] 1996: 22) defined pataphysics as ‘the science of imaginary solutions, which symbolically attributes the properties of objects, described by their virtuality, to their lineaments’. From this spiraling, winking, bird’s eye’s view, pataphysics launches its assault on science and philosophy through the death-defying adventures of Dr. Faustroll. Such considerations set the stage for interpreting *BC & SH* in terms of ‘syzygy’, a central concept of pataphysics.

Syzygy has a broad range of meanings. It refers to complementary active–passive, male–female pairs in Gnosticism. For psychoanalyst Carl Jung, this archetype symbolized ‘the communication of the conscious and unconscious minds: the conjunction of two organisms without the loss of identity’ (*Webster’s Online Dictionary*). In astronomy, syzygy is commonly used with respect to solar or lunar eclipses, when the alignment of the Sun, the Earth and the Moon (or a planet) is such that one blocks the view of another by conjunction or opposition. As astronomical exceptions that can be elaborated by rules, such celestial accidents correspond to Jarry’s basic tenets of pataphysics and they are central to the cosmologies of many ancient cultures and their earthworks. Such correspondences are particularly relevant to *BC & SH*, which has been referred to by Smithsonian scholar Ron Graziani (2004: 125) as a ‘celestial observatory or an astrotime machine’. Moreover, in the introduction



Figure 2: Robert Smithson, *Spiral Hill*, Emmen, the Netherlands. Photo credit: Edward Shanken and Yolande Harris.

to the English translation of *Dr. Faustroll* that Smithson read, R. Shattuck (1996: xvii) claims that the concept probably appealed to the author 'because it suggests that something akin to crystalline form may emerge at intervals out of the random movements of the cosmos'. These ideas – and rhetoric – would have appealed to Smithson's dual obsessions with randomness (entropy) and order (crystals). Indeed, a general principle of complementary joined pairs can be seen in Smithson's site and non-site works and in his mirror displacements, in which the randomness of piles of salt (whose uniformly ordered molecular structure is crystalline) is juxtaposed with the apparent uniformity of mirrored glass (whose disordered molecular structure is amorphous).

Although *BC &/ SH* is generally recognized as Smithson's only successful land reclamation project, such a contention emphasizes the autonomy of the artwork. But *BC &/ SH* can equally be thought of as an ongoing art restoration project on the part of the quarry, which periodically must reclaim the artwork from the entropic forces of nature. In other words, artwork and site can be interpreted as a syzygistic pair. In this sense, *BC &/ SH*, like the body of *Faustroll*, are 'unrolled' by the quarry from 'the saliva and teeth of the water' in an ongoing cycle of death and rebirth. Syzygy also is a useful concept for rethinking the relationship between the two sculptural forms that comprise the Emmen earthwork. Although Smithson apparently conceived of the elements as independent, autonomous works, referring to them as *Broken Circle* and *Spiral Hill*, he specified their creation in very close proximity to each other at the quarry and conceived of the former as a viewing platform for latter. The twin elements are now commonly referred to as *Broken Circle/Spiral Hill*, almost like a hyphenated marriage, but that convention makes an interpretive leap that must be questioned, as implied in my addition of an ampersand (&) preceding the slash (/) in the title, *Broken Circle &/ Spiral Hill*.

A comparison with the Great Serpent Mound (GSM, 1070 CE) reinforces but also complicates an understanding of Smithson's composite work in terms of syzygy. Smithson visited this prehistoric effigy mound built by the Fort Ancient culture in Ohio, and it has been credited as an inspiration for *Spiral Jetty*. But GSM bears even more striking formal similarities with *BC &/ SH*. The serpent effigy measures 420 metres long from its head through seven coils to the triple clockwise spiral of its tail. The serpent's mouth is wide open and its jaws appear to grasp an oval form that has been interpreted as an egg, eye or sun. In other words, the effigy and *BC &/ SH* combine two very similar elements: a spiral on a hill with a circular form. Lippard (1983: 222) notes that the configuration of a 'spiral on mound' is iconographically isomorphic with the 'snake on the egg', both being instances of the 'ultimate fertility symbol' related to archetypal creation myths involving egg, snake, and water dating from Paleolithic times. According to art historian Dale McConathy, as a child, Smithson collected snakes, self-identifying with them as 'reptilian, cold, earthbound' (in Lippard 1983: 225).

Indeed, spiraling, snakelike forms appear frequently in Smithson's notebooks and are manifest not only in *Spiral Jetty* and *Spiral Hill* (a 'spiral on mound') but in the ouroboros suggested in Smithson's later *Amarillo Ramp* (1973). The ouroboros archetype consists of a snake biting its tail, symbolizing self-reflexivity, cyclicity and/or primordial unity. In this context, *Amarillo Ramp* connotes either the coming into being or the breaking off of such symbolic states of being. Seen as an instance of syzygy, the Emmen earthwork can be interpreted as a joining of complementary pairs: *Spiral Hill* representing the dynamic, earthen, masculine, serpentine vortex, rising like an inverted

tornado above the static, ovaform, feminine *Broken Circle*, whose sandy and aqueous elements perfectly balance each other in an interlocking embrace. In this light, it is interesting to speculate to what extent *Spiral Hill* may be interpreted as a metaphorical embodiment of Smithson himself, or at of least his male aspects, and to what extent *Broken Circle* might be an embodiment of his female aspects or of his partner Nancy Holt, who helped him with the project.

Regarding some of the 'wild' accounts of *Spiral Jetty*, Smithson noted that 'the force of the twister can get so intense that it breaks into imaginative, or fairy-tale results ... you're propelled into this central image ... in Technicolor' (in Graziani 2004: 119). Indeed, it is easy to get swept up in, or away by, the sublime aspects of Smithson's work and the artist might well reject an interpretation based on pataphysics and syzygy. At the same time, this approach offers a vantage not just for a rapturous reading but also for pointing out when the artist falls short of the mark. In contrast to the GSM, where the elliptical egg/eye/sun is distinctly connected by a continuous linear element through the coiled body to its spiral tail, the linear element of *Spiral Hill* begins (and returns) behind the mound, where *Broken Circle* is hidden (eclipsed?) by it. This sets up the biggest challenge to interpreting the two elements as a syzygistic pair. While ascending *Spiral Hill*, potential energy accrues as one gains altitude and is compressed by moving counterclockwise along the reduced radii. While the process and exertion of the ascent prepare one, like a pilgrim to a hilltop monastery, for the epiphany anticipated at the apex, the energy remains dormant. From the top of the hill one visually projects psychic energy to the circular altar, the intended object of one's gaze, which lies below, but one remains physically disconnected from it. While descending, the store of potential energy, combined with the desire for the circle, is released as kinetic energy. But Smithson's spiral leads nowhere. It ends abruptly at the base of the hill, slightly reversing direction and facing the woods.

I had an overwhelming desire for the spiral to continue its clockwise descent and direct the growing energy from that unfurling towards the egg/eye/sun of *Broken Circle*, which, as the artist intended, was the focus of the my extended meditation from atop the *Spiral Hill*. Smithson's preparatory drawings indicate that the spiral should continue as a straight line away from *Broken Circle*. Yet, one's natural urge after ascending the hill and viewing the circle from that vantage is to go to commune with the circle at close range, walk along its sandy arm, experience the relationship of sand and water at close range, look back at the *Spiral Hill* and visit the giant boulder. On a warm day, one might be compelled to splash around in the water and have an embodied experience of the relationship and transition between the circle's sandy and aqueous elements.

How can one make sense of the energetic disconnect Smithson imposes between *Broken Circle* and *Spiral Hill*. Andre, a self-professed Freudian, described Smithson as Jungian (1977: 22). Following Jung's use of the term syzygy, perhaps it was paramount to the artist that 'the conjunction of [the] two organisms [occur] without the loss of identity'. Perhaps he intended to frustrate the viewer's expectations, to enforce a break between the viewer on the hill and the circle viewed below and between the syzygistic pairs that constitute the twin elements, to disrupt any Technicolor fairytale generated from the 'force of the twister'. Like the viewer of *Spiral Jetty*, the viewer perched atop *Spiral Hill* occupies a position not unlike that of Caspar David Friedrich's *Monk by the Sea* (1808–1810) and *Wanderer Above the Mists* (c.1818), so Smithson may have wanted to interrupt the sort of sublime reverie associated with the

tradition of German Romanticism. Graziani (2004: 119) interprets *Broken Circle* as a 'disciplinary device in jeopardy ... a broken clock', with political implications regarding current ecological debates in which the circle figures as a primary symbol and metaphor. Perhaps Smithson wanted to reinforce the broken state of *Broken Circle* – and by extension, the environment – by breaking the potential cyclical continuity between it and *Spiral Hill*.

Andre (1977: 102) described Smithson's writings as 'incantations' that 'follow like the lemmata [a subsidiary proposition] of an arcane and intricate theological argument' and he considered his major earthworks 'less as signs to us than messages for the earth carved in her bosom'. Although Smithson publicly disavowed mysticism, his earthworks repeatedly employed symbols laden with mystical significance. Indeed, his work can be criticized in terms of its use of such loaded symbols without sufficiently controlling how they are to be read. It is too easy, one might argue, to put such symbols into circulation on a grand scale, with obvious references to the land art of diverse cultural traditions over broad historical periods, and let them resonate with the full range of their many meanings. Following Andre's interpretation, might Smithson, in spite of himself, have been practicing a form of artistic, pataphysical wizardry?

Art historian Jack Burnham (1968b: 34) offers a systems theoretical analysis of Smithson's earthworks as a 'time-bound web of man-nature interactions'. He interprets Smithson's 'Site Selections' as 'didactic exercises ... [that] show a desperate need for environmental sensibility'. This approach 'makes eminent sense' to Burnham. 'Refocusing the esthetic away from the preciousness of the work of art' he claims, 'is in the present age no less than a survival mechanism'. Art historian Marga Bijvoet (n.d.: n.p.) notes the difficulty of ascertaining Smithson's knowledge of systems theory or its importance for 'the new way in which nature could be viewed'. Her assertion that, 'He took what interested him and used it as a kind of fiction', suggests an approach that is hardly scientific or didactic, to use Burnham's term, in a conventional sense. Yet, by quoting Smithson (1968: 44) at length, Bijvoet, like Burnham, also recognizes that the artist made insightful connections between mind and culture:

The earth's surface and the figments of the mind have a way of *disintegrating* into discrete regions of art. Various agents, both fictional and real, somehow trade places with each other – one cannot avoid muddy thinking when it comes to earth projects, or what I will call 'abstract geology'. One's mind and the earth are in a constant state of erosion, mental rivers wear away abstract banks, brain waves undermine cliffs of thought, ideas decompose into stones of unknowing, and conceptual crystallizations break apart into *deposits of gritty reason*.

(emphasis added)

Bijvoet concludes that Smithson 'define[s] our culture as a product of this disintegrating mind'. However, a more salutary interpretation is also possible. With respect to entropy and knowledge, the artist's insights into 'man-nature interactions' propose that erosion and decomposition reveal deep veins of intelligence. Like Jarry, whose pataphysical method simultaneously deploys and disarms science and philosophy, dismantling crystallized epistemological structures through the entropic force of satire, nonsense, and stream of consciousness, so Smithson uses science 'as a kind of fiction' in an artistic attempt to model what the author of *Dr. Faustroll* described as 'a universe which can be – and perhaps should be – envisaged in place of the traditional

one' (Jarry 1996: 21–22). Smithson's approach incorporates the earth itself, and his earthworks invite our physical participation in hybrid forms of nature-culture, where the embodied experience of archetypal forms calls attention to energetic forces, and where entropy reveals 'deposits of gritty reason'.

Just as Jarry's words attempt to disintegrate the western epistemological tradition of his mentor Bergson, so the philosopher's notion of *élan vital* (the immaterial force and animating factor essential to life) is displaced by Smithson's artistic deployment of entropy as a physical law that governs disintegration. In this sense, disintegration can be construed both as an apocalyptic force and as a necessary part of a cycle that includes renewal. Indeed, the 1960s have been referred to as 'the age of personal apocalypse' (Raschke 2011) but according to Burnham (1974: 11), 'the true meaning of this biblical term comes closer to revelation, rediscovery, and the ultimate disclosure'. Burnham molds this notion of apocalypse into a prophecy for the future of art and the human mind, suggesting that in time we may 'come to understand [that] the dialectics of art change as a process running parallel to the gradual demythification of our collective psyche'.

Burnham (1968a) argued, moreover, for the crucial importance of art as a means of survival in an overly rationalized society. Indeed, like many intellectuals in the 1960s, he feared that the cultural obsession with, and faith in, science and technology would lead to the demise of human civilization. Burnham proposed that an 'increasing general systems consciousness' may convince us that our 'desire to transcend ourselves' through technology is 'merely a large-scale deathwish', and that ultimately, 'the outermost limits of reasoning' are not reachable by post-human technology but 'fall eternally within the boundaries of life' (1968a: 376). In the context of my pataphysical interpretation of *BC & SH*, Smithson's work participates in the process of demythifying hyper-rational scientific culture and revealing alternative forms of knowledge and being. The value of Smithson's work, then, is not as a precursor to contemporary forms of new media art or art-science practice that promulgate the 'desire to transcend ourselves' through technology but as pursuits of 'the outermost limits of reasoning' that can be found all around us in the material, physical properties of matter and 'within the boundaries of life'. Along these lines, composer David Dunn (2005: 6) has more recently suggested that music 'may uniquely provide us with clues to our continued survival'.

Smithson's work, like Jarry's 'neo-scientific novel' creates a temporal lacuna in which past, present and future seem to coexist in the vast scale of geological time. The existence of *Homo sapiens* is but a blip in the course of geological events over hundreds of millions of years in the Earth's history. Perhaps it is Smithson's sensitivity to time, his awareness of continuity with ancient cultures, and his humility with respect to the planet's history that can offer the most useful insights for contemporary artists, particularly those whose work is engaged with the supreme virtuality of emerging technologies and social practices, desiring machines driven by market-driven cycles of ever more rapid development and obsolescence. Such technologies and behaviours are inseparable from the 'large-scale deathwish' Burnham attributed to the ethos of rationalization that for centuries has dominated western civilization, all aspects of which, including science and art, necessarily were pulled into its seemingly irresistible undertow. Smithson recognized this social malady and his earthworks, including *BC & SH*, function as a palliative to it. In this sense, his works 'shamanize us into realizing our true condition' (Burnham 1974: 143). Following the logic of ancient cultural traditions, like those referenced in his earthworks, Smithson's artistic, pataphysical, shamanic

incantations 'invert the evils of his tribe, and in doing so draw people away from substitute objects and back toward the ancient memories of life and productivity' (Burnham 1974: 144).³

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3. Burnham is discussing Dennis Oppenheim in this article but the point equally applies to Smithson's work. Indeed, an inverted black and white image of Smithson's *Spiral Jetty* appears on the cover of Burnham's book, *Great Western Salt Works ...*, the title of which is a cryptic play on words drawing together, among other elements, western epistemology, the alchemical philosopher's salt, Duchamp's *Large Glass*, and post-formalist art practices, such as *Spiral Jetty*, in the Great Salt Lake in the western United States.

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