Chaos/Appearance/Baroque

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Where does writing about an idea start? Here, with the "similarity of appearance" between two things not normally associated with each other. But this was not the start, for the making of things, not the writing of words, produced this similarity. So this writing is an account of making things—art—and how this process can be useful to understanding why ideas might appear similar. However, writing informs production, as writing about the similarities between ideas can be useful to making art. So this is about the place both making and writing have in the investigation of an idea, as much as the idea itself. But, as Stanislaw Lem comments, maybe "there is no such place. The Universe is a labyrinth made out of labyrinths."

To begin with, how do we see relationships between things and ideas? Is it reasonable to see relationships between things disconnected by time and the space created between intellectual disciplines such as science and art? How can sense be made from the proposition that these two things look the same? One, the interior of the Wieskirche, was completed in 1754 based on designs by the brothers Dominikus and Johann Baptist Zimmermann, while the other, the Mandelbrot Set, was described in 1980 by the mathematician Benoit Mandelbrot. Is there between these things a no such place from which to view the world? Perhaps not, for originally the baroque was understood not as a place, but a past time, a period of art history. But what if chaos theory, a creation of contemporary science, can be shown to share its defining characteristics? Shown as in "Look here, these things look the same". Could it then be supposed that the baroque, a-historical in nature, requires a subtle re-definition, a definition that allows the style an ongoing use? If so, it would be reasonable to think that contemporary artists, architects and designers are exhibiting these characteristics in their work, and contemporary writers discussing the relevance of the baroque.

Certainly, the last decade of the twentieth century saw a number of publications re-analysing the baroque and the art, design and architecture, in particular, of what is often called the "new baroque." But what characteristics are these practitioners displaying (to which theorists are responding)? How do these characteristics constitute "proof" of similarity between the baroque and the new baroque? And, for the assertion that the baroque and chaos theory are similar, proof enough to overcome the problem of unintended comparison across, on the one hand, 400 years and, on the other, between, the sciences and the humanities? It is, after all, unlikely that the originators of chaos theory thought of their work as "baroque" science or that the baroque artists of the sixteenth century understood their work as chaotic. If such a comparison is to be made, how can it be rigorous? Erwin Panofsky in the transcript of his lecture What Is Baroque? writes of the "considerable confusion" likely to result from any extension of the style beyond its originating period, particularly as "non-art historians" apply the term to the Classical, or Gothic, periods of art history . He is not the only one to recognise the potential problems of unintended comparison; recently Michael Ostwald in a paper analysing fractal architecture of the late twentieth century, observes it may not be enough for architects to have an intuitive grasp of fractal geometry for it to constitute serious study, or that it is appropriate for understanding of such to be applied retrospectively to architecture of other periods. Even Heinrich Wöfflin, credited by many as constituting Art History as a science, fails by omission to distinguish with sufficient rigor the periods immediately following the Renaissance and the appearance of the baroque proper, at least in the view of Panofsky.

Interestingly, Panofsky's lecture begins with an etymology of the word baroque as derived from baroco, a word invention of the late-Scholastic logicians. Baroco is a mnemonic device, an aid to remembering a syllogism consisting of one general and positive proposition and two

particular and negative ones. To the later Humanist writers, “it came about that the word Baroco (French and English Baroque) came to signify everything wildly abstruse, obscure, fanciful, and useless.”

The etymology is fancifully appealing, but not useless, suggesting syllogism goes to the core of the baroque. For it is on a circularity that I would base my argument that a connection between the baroque and chaos theory can be “proved” using the research methodologies of art and design, a circularity that is syllogistic in nature. If chaos theory is used to make artwork—artwork that looks baroque—then chaos theory must share some defining characteristics with the baroque. In other words, if a body of artwork that is baroque in appearance can be created using the formal devices and material practices suggested by chaos theory, then a relationship between chaos and the baroque is established. As research the hypothesis relies on art and design method to construct meaning out of appearance, something scientific research has traditionally avoided. Appearances, after all, can be deceptive. However, the method is very familiar to artists and designers for whom “how things look” is of critical importance. This might seem so obvious as to not need stating, but the relationship between writing and practice—between the word and the object—is far from clear, as many practitioners working within academia have found. While they themselves see their work as “experimental” and “conceptual” outside the discipline their activities are often perceived to lack rigor, or fail even to conform to the definitions of research as provided by either the sciences or the humanities.

If my argument that follows exhibits a syllogistic circularity, it does so because it reflects the difficulty of establishing the primacy of idea or practice in the making and interpretation of art. I resort to describing my research, writing up the results, so to speak, while being aware that to do so does not constitute proof of my hypothesis unless an understanding and acceptance of “similarity of appearance” occurs. It helps that while chaos theory may have arisen as a science, it is a science that has often paid attention to the appearance of things. As the jacket of James Gleik’s chaos: Making of a New Science tells us,

> This new science...offers a way of seeing order and pattern where formerly only the random, the erratic, the unpredictable—in short, the chaotic—had been observed....The science of chaos cuts across traditional scientific disciplines, tying together unrelated wilderness and irregularity: from the turbulence of water to the complicated rhythms of the human heart, from the design of snowflakes to the whorls of the windswept desert sands.

Vivian Sobchack wrote as early as 1990 that “In recent years, chaos theory—that new science of non-linear dynamical systems—has captured the public imagination. Its computer-generated representations appeal not only to mathematicians and natural scientists but also to visual artists and a broad segment of the lay-public.”

However, scientific theory has always proved obstinately resilient to the interest of artists, and Sobchack’s essay is a sobering argument against the uptake of this new science in the visual arts. She interprets its imagery as subjecting the world to a scientific totalising that has both “fascist yearnings and a dangerous relativism.” Bearing this in mind, how are artists meant to respond to these words, or even the computer-generated imagery that arises out of chaos theory? I suggest one answer is to construct correlations between the scientific texts and those that speak directly about art and design, rather similar to the way in which the Rosetta Stone unlocked the meaning of two Egyptian language scripts through classical Greek. Of such use is Formless, a Users Guide by Rosalind E. Krauss and Yve-Alain Bois; it is not a text on the subject of chaos, but a taxonomy for the art of the twentieth century derived from the critical philosophy of Georges Bataille. Central to their analysis is Bataille’s concept of the informé, or formless, as:

> not so much a stable motif to which we can refer, a symbolizable theme, a given quality, as it is a term allowing one to operate a declassification, in the double sense of lowering and of taxonomic disorder. Nothing in and of itself, the formless has only an operative existence: it is a performative, like obscene words, the violence of which derives less from semantics than from the very act of their delivery. The formless is an operation.

Here, in the description of formless as an act rather than a thing, is something that looks like Gleik's description of chaos theory as "a science of process rather than state, of becoming rather than being."

Krauss and Bois set up four principles of high Modernism: the vertical, the visual, the instantaneous and the sublimated, and countered them with "four operations of the informé": horizontality, base materialism, the pulse and entropy, and proceeded to apply these operations to understanding art in a way that is intensely "useful" for practitioners. Here it is useful as a translation mechanism towards an understanding of chaos, a mechanism that can be expressed so; chaos theory looks like Krauss and Bois on Bataille, therefore Krauss and Bois' taxonomy can be followed to make art that will, in turn, look like chaos theory (in the visual arts).

Certain kinds of art practices are suggested by the above methodology, formulated around, to use Krauss and Bois' word, "operations" performed in and on an exhibition space rather than the manufacture of discrete objects, sculptures for example, in the studio. These operations create artwork through cutting, folding and gluing paper, or casting and placing wax, or directing an audience towards a certain kind of participation with art objects, providing a spectacle. The work is not necessarily "site specific," it could be performed in any number of places, but it is site responsive, as acting "in and on" requires a particular attention to the nature of interior space, and of how space is experienced. And, over time, the work changes, the objects growing in number, or deteriorating: collapsing, crumbling, fading, and otherwise exhibiting the symptoms of entropy.

If, without intention, but on consideration, the artwork looks baroque, we should not be surprised, for it does so because it satisfies descriptions of the baroque. As Wöfflin writes, "The baroque never offers us perfection and fulfillment, or the static calm of 'being', only the unrest of change and the tension of transience."

In order to better describe these baroque qualities, an analysis of the relationship between the baroque and chaos needs both unraveling and constructing. To start with, Krauss and Bois formulate "base materialism" almost directly from Bataille's description of formless as

not only an adjective having a given meaning, but a term that serves to bring things down in the world, generally requiring that each thing have its form. What it designates has no rights in any sense and gets itself squashed everywhere, like a spider or an earthworm. In fact, for academic men to be happy, the universe would have to take shape. All of philosophy has no other goal: it is a matter of giving a frock coat to what is, a mathematical frock coat."

Formless is that which gets "squashed everywhere," and otherwise gets left out; matter is a thing unto itself, the lowly and abject as much anything else.

Newtonian physics, on the other hand, is one of Bataille's mathematical frock coats, offering the universe as unfolding in an orderly and predictable fashion. It is difficult, if not impossible, to ever know the exact state of the universe, so assumptions must made for the purposes of calculation that approximately correct definitions of initial state will lead to approximately correct predictions of a future state. Research into meteorological prediction models in the 1960s at MIT by Edward Lorenz showed that in some circumstances this assumption is false; small discrepancies in the initial condition of a complex system, such as the weather, could result in dramatic unpredictability. The key feature of the systems that Lorenz was modeling is that they are dynamical, or governed by non-linear equations. These systems exhibit what is now called sensitive dependence on initial conditions; chaos theory throws a very small spanner into the workings of fate, destabilizing the Modern agenda of rationality.

While Lorenz discovered that his computer modeling of the weather lead to unpredictable results, he also found his artificial weather patterns exhibited artificial seasons. In this, his weather follows our everyday understanding of the world; we might not know, for example, what the weather will be next Easter, but we do know that winter follows autumn and that it will be colder than summer. Further analysis of complex, non-linear dynamical systems

revealed that these patterns are stable and definable, appearing in phase space as strange attractors. What Lorenz had discovered, according to Gleik, is a system attractor that is stable, low dimensional and non-periodic. It could never intersect with itself, because if it did, returning to a point already visited, from then on the motion would repeat itself in a periodic loop. That never happened - that was the beauty of the attractor. Those loops and spirals were infinitely deep, never quite joining, never intersecting.

The term chaos (theory) is, then, a misnomer, for beneath the apparent randomness of chaos is emergent structure, but of a kind that is 'formless,' lost to prediction. It is, I believe, something similar to what Bataille had in mind when he writes:
Starting from an extreme complexity, being imposes on reflection more than the precariousness of a fugitive appearance, but this complexity—displaced little by little—becomes in turn the labyrinth where what had suddenly come forward strangely loses its way.

The labyrinth, therefore, is chaotic, and embedded within is a strange attractor just, as legend would have it, the original labyrinth held the Minotaur. Daedelus, creator of the labyrinth, was inspired by the twisting turns of the river Maiandros and our word meander is thus derived. Angela Ndalianis sees this labyrinthine meandering in contemporary entertainment media, and calls it seriality, derived from Deleuze's reading of Leibniz and the fold. Here series proliferates, and thus Deleuze's horizontality is equivalent to the proliferation of series, a proliferation that is non-linear.
Ndalianis explores non-linear seriality through analysis of contemporary entertainment media, more often than not from the horror and science fiction genres. Films such as Ridley Scott's Alien (1979) spawn sequels, the storyline(s) proliferate through comic books and novels and mutates into computer games and theme-park attractions. As Ndalianis identifies, "The use of multiple narrative centres (multiple originals) typical of seriality [which] requires a reconsideration of traditional perceptions of linearity and the closed narrative form."

A single linear framework no longer dominates; characters, themes and metaphors weave in and out of the films, disappearing only to re-appear in a later film or a book or comic narrative development. Even death does not curtail the life of characters, for what happens "later" might be loosely dependant on "now," but certainly not necessarily on what has happened "before." Perhaps it is in the nature of the genre that time can be made flexible, however a similar thing happens in Martin Campbell's Bond film, Casino Royale (2006). It was some time into the film before I realised the narrative had gone back to the beginning of the Bond story, that this Bond was different from the other Bonds, and not just because he was played by a different actor. By the end of the film I was left wondering what kind of Bond Daniel Craig's Bond will become in the future that has already happened in the film-time past of Sean Connery's Bond or Roger Moore's Bond. Time has flipped, turned backward on itself to follow a storyline divergent from that which has already happened. Films like these are not closed entities; they are films of books, books made into films, prequels, and only the latest instalment of a series of sequels. It is better, perhaps, to see them as part of a franchise, and one that can intersect with neighbouring franchises. As Aliens expanded it intersected, first in comic form, then in film, with other dark beasts of the imagination: Alien meets Predator; Alien meets Batman, Aliens meets Superman and so on. Such series are irregular and apparently incomplete, unsettled and impermanent of form; Wöfflin's words, used to describe the "painterly" devices of the baroque. Similarly, storylines partially overlap, images replicate, repeating and never exactly repeating within a set of rules, an "operation" that is non-linear, returning constantly to a previous branching and continuing on other ways, again. Viewed as a whole, if this work has a single entry point, and even that is unclear, it has multiple exits, exits that are nominal, boundaries in the sense that the work is finite only for practical purposes: the number of the audience in a picture theatre, or the size and proportions of a gallery.

As in a baroque interior, where sculpture overlaps architecture, contemporary installation practice often collapses the boundary between pictorial and architectural space. This can be achieved through the use of time-based media such as video projection, however static, but

serial, meandering forms in space may allow multiple pathways through the work. This is obviously so in Joanna Langford's project "The Flower People," here described on the Physics Room website as: "winding paths meandering through the gallery space leading to little cities of wooden houses which teeter precariously in space. A twist in scale has forests of fake flowers towering ominously over the cities. Some of the flowers are mounted on clocks so they quiver and tick amongst the forest."

As mentioned earlier one of Stanislaw Lem's characters in Fiasco states that the universe is a labyrinth made out of labyrinths; chaotic structure is fractal, it is "self-similar" at different scales of magnification, it "twist(s) in scale." Fractal is a term coined in 1975 by the mathematician Benoit Mandelbrot from the Latin fractus, meaning "broken" or "fractured," and the Mandelbrot Set, computer generated from the itineration of a simple non-linear equation, creates an image of a "landscape" that is infinitely deep, repeating itself endlessly, but not ever repeating exactly. It is an infinite boundary within a finite space, and typically with chaos theory it is at the boundaries that interesting things occur, starting with bifurcation, the period doubling, quadrupling, and so on, that accompanies the onset of chaos. Examples of fractal structure can be found everywhere in nature—in trees and leaves, seashells, and snowflakes—and in human social and economic structures, such as commodity markets, where analysis revealed price fluctuations that, while appearing random, produced symmetry from the point of view of scaling with a large degree of constant variation over decades.

Fractal structure is, therefore, a very appropriate and useful way for artists and designers to arrange objects in space, an alternative to compositional structures such as the figural, the perspectival or the grid. Similarly, the baroque provides an alternative way of looking at the world, and it is this that Martin Jay explores in Scopic Regimes of Modernity. Jay's proposition is that the baroque destabilizes the established art historical dichotomy between Cartesian persepectivalism and Baconian empiricism. The baroque, like chaos theory, does not displace existing ways of seeing the world, but rather is complementary to them, opening up new territories of understanding. However, to understand how fractal structure is baroque it is useful to return to Wöfflin's characterization of the baroque as painterly (recessional, soft-focussed, multiple, and open), and how this is related to materiality. For in Renaissance and Baroque Wöfflin is discussing architecture, objects of material being in space, albeit often adorned with images in the form of figurative sculpture and ceiling painting. As Jay observers,

> the baroque self-consciously revels in the contradictions between surface and depth, disparaging as a result any attempt to reduce the multiplicity of visual spaces into any one coherent essence. Significantly, the mirror that it holds up to nature… reveals the conventional rather than natural quality of "normal" specularity by showing its dependence on the materiality of the medium of reflection.

This painterly characterization of the baroque is easy enough to understand in terms of the image, the way of seeing, the mirror that is held up to nature, but how is materiality to be understood in these terms? In particular, what is a "soft focused" or "recessional" sculpture or building? An answer to this question may reveal why so much contemporary art is observed as made so "badly". Take, for example, this critique of the work of sculptor Barnard McIntyre:

> [the] joinery was rough; some ends of the pieces of custom wood sheet were left raw; lino and laminations did not quite fit, and sometimes overlapped edges. The results looked like an ambitious project made by someone whose skills were not quite up to it.

McIntyre's failure to join edges is a selective failure that does not reflect a failure to make the artwork "properly"; rather his method of manufacture draws attention the boundary between parts of images or materials. This allows a fractal understanding of his materials, operating to convey meaning at different levels of scale: one, the object in space, two, the object as a whole, three, the material spaces between, and so on. A no such place opens up, and into it drops another level of meaning. Similarly, Joanna Langford's trailing spider-webs of hot-melt glue that join the parts of her objects together create feathered edges that model the topsy-

turvy precariousness of the structure as a whole. Such material handling is analogous to a photographer's mechanical failure to focus the camera lens, destabilising a clear understanding of where, exactly, edge lies. As in the seventeenth century Fra Andrea Pozzo obscured the boundary between real architectural object and the images in his ceiling painting, so Langford's work knits image and space together using a fractal understanding of materials.

These baroque qualities of form and material can also be seen in The Fundamental Practice by the collective et al., the New Zealand contribution to the 2005 Venice Biennale. A collection of objects, sound and texts installed in the renovated fifteenth century Palazzo Gritti, the work displays none of the conventional signs of the baroque; reviewer Ian Wedde wrote of it that its "industrial appearance was discordant, gritty and urgently functional". However, in experiencing this work the viewer's attention crosses the threshold from street to interior, from installation to object, from whole object to its details, dropping through layers of sound to layers of text, softening and receding, endlessly lost. And, as with contemporary entertainment media that Ndalianis describes, The Fundamental Practice existed across a number of media platforms: the installation of old furniture and commercial-industrial apparatus, chain-link fences and sound cacophonies, postcards, a catalogue and a website. It is possible, even, that the predictable consternation The Fundamental Practice caused in mainstream New Zealand press, and its "performance" by the et al. collective, was another form of the work, expanding the "art" out past the boundary of the gallery or museum, out past the context of the Venice Biennale and into the mainstream politic.

The baroque proliferates and, like chaos, seems to be everywhere. Is that because, as Martin Jay asserts, the baroque has "finally come into its own in our time", or is it that, having constructed a confluence of ideas, it is only natural to want to see it everywhere? What comes first, the word or the image, the writing or the practice? Does the artwork prove what words do not, or does the artwork need the words to prove what the artist intended to mean? Like the question of the chicken and the egg, the answer seems to recede endlessly, lost in the labyrinth. But, to me at least, the baroque looks like chaos theory; art that is made to look chaotic looks baroque; chaos theory looks like the baroque. Chaos theory interests a number of contemporary artists and designers, their work looks baroque, the baroque is a-historical, and so, it can be said that the baroque is of contemporary use.

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