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Paradox in sculpture: Hypermodernity, nature, and digital medium

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13. PARADOX IN SCULPTURE: HYPERMODERNITY, NATURE, AND DIGITAL MEDIUM

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Abstract

Artistic creation has mutated from its introverted nature to become a collaborative act merging the scientific and artistic domains into an extroverted process of creation. Referencing research creation, we explore sensory knowledge inspired by environmental concerns ranging from ecological to technological perspectives. The artwork "Vulnerable: The Salmon Project" addresses the condition of our natural environment and aims to create an awareness in the viewer of questions of sustainability. The sculpture installation project proposes opposing temporal forces—a 3D digital and technological approach as a mode of production, in opposition to an ecological statement on the vulnerability of the living environment—which stresses the values of an hypermodern society, evoking a culture of paradox. Hypermodernity also reflects an economic context which emphasizes the value we bring to tradition, as a need to safeguard our heritage. The sculpture discourse focuses on the vulnerability of the salmon species, a Canadian icon, perceived as a metaphor for the human condition. This paper explores the ways in which artists adapt to new ways of experiencing 3D in an hypermodern epoch where space-time and materiality are greatly affected by the growth of digital mediums.

Keywords: Sculpture, nature, digital medium, environment, sustainability, hypermodernity, technology, Science, creative process

From Modernity to Hypermodernity

The technological era that influences the way we perceive a work of art is subject to socio-cultural changes and technological advancements in our society (Benjamin, 2008). Through research creation perspectives, this paper draws a parallel between the ways in which digital media[1] affect our socio-cultural point of reference and the paradoxical impact and tension within the mode in which a 3D digital and technological medium affects the way artists experience space, time and materiality.

To approach the study of the impact of a 3D digital medium[2] on the artist's creative process we must consider the impact of digital media on our society and its immersion in our daily life. We must look at the present as an essential point of reference, a present that builds on a modernist and postmodernist perspective and proposes a hypermodernist viewpoint linked to the concept of the "here and now" (Lipovetsky, 2005). As suggested by Lipovetsky, societal values are changing to a different mode of being that he associates with *hypermodern times* and he states,

> Now that genetic technologies, liberal globalization and human rights are triumphing, the label 'postmodern' is starting to look old; it has exhausted its capacities to express the world now coming into being.
>
> ... It all happened very quickly: the owl of Minerva was announcing the birth of the postmodern just as the hyper-modernization of the world was already coming into being. (Lipovetsky, 2005, pp. 30-31)

Technology's ubiquitous influence on our daily life brings about digital media as a paradigmatic example of the influence of hypermodern times on the arts. Artists' creative process, sensory experience, and artwork production mode are nowadays influenced by digital mediums. But what factors influence the artwork?

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[1] Digital media encompasses various forms of electronic media where data is stored in digital form.
[2] Digital medium: defines software, hardware and various devices and technologies using digitized data to create digital art or computer assisted artforms.

Digital Media: Digital Medium

To elucidate how a digital medium impacts on the artist's creative process and artwork, this paper examines a research creation work from conceptualization to production mode. The work is studied from two perspectives: the artist's sensory knowledge and the artist's production mode, both influenced by an interaction with a 3D digital and technological environment.

The claim is proposed that hypermodernization, which emphasizes time as a main societal value, has an impact on artistic manifestation that engages with sensory knowledge. In *Hypermodern Times*, Lipovetsky describes how in today's society our cultural heritage reflects as a temporal referent; he claims that as a consequence of the unrestrained expansion of the ways we engage today with recollection, the *nostalgic society* paradoxically conveys a concept of the here and now. It is as though an excess of present and a proliferation of memory bring to conclusion the concept of modernization at a time when tradition has become fashion.[3] Lipovetsky states:

> The formidable expansion in the number of objects and signs that are deemed worthy to belong to the memory of our heritage, the proliferation of museums of every kind, the obsession with commemoration, the mass democratization of cultural tourism, the threat of degradation or paralysis hanging over heritage sites because of the overwhelming floods of tourists – this whole new insistence on everything old is accompanied by an unbridled expansion, a saturation, a boundless broadening of the frontiers of our heritage and our memory: and in these we can recognize a modernization taken to its logical conclusion. (Lipovetsky, 2005, p. 58)
>
> ... The value attributed to the past is a symptom of the advance of cultural capitalism and the commercialization of culture: as such, it is less a postmodern than a hypermodern phenomenon. (Lipovetsky, 2005, p. 59)

As Lipovetsky suggested, hypermodernity reflects an economic context which emphasizes the value we bring to tradition, as a need to safeguard our heritage. The concept of values attributed to the past conveyed by hypermodern times (Lipovetsky, 2005) is manifested in the research creation concept of *Vulnerable: The Salmon Project* as presented in this paper.

Research Creation, *Vulnerable: The Salmon Project*

The sculpture installation work, titled *Vulnerable: The Salmon Project* (see Figure 1), conveys an hypermodern worldview which refers directly to the film narrative projected on the cast aluminium standing salmon sculpture installation work (see Figure 2). The film subject proposing an historical family documentary on salmon fishing in the Gaspe Peninsula from the 1940s brings to the work, the concept of memory. The artist's family heritage becomes a metaphor for the declining condition of the salmon population, and the expression of the vulnerability of today's marine life. Through image mapping of a referential past on one side of the cast aluminium standing salmon sculpture form, whereby means of extruded letters on the other side, the viewer can read the text "Vulnerable"

Figure 1. Vulnerable: The Salmon Project. Cast aluminium sculpture

Figure 2. Vulnerable: The Salmon Project. Cast aluminium sculpture rear view with film projection

[3] Conference presented by Gilles Lipovetsky (2008). Deve-se culpar a Midia (vimeo). Part 3 Realizacao TV Cultura de Sao Paulo.

referencing a present condition, the artistic work encompasses an hypermodernist worldview exploring a sensory knowledge inspired by ecological to technological perspectives. The sculpture work itself posits opposing temporal forces: a technological approach manifested throughout the conceptualization and production mode of the salmon sculpture project, in opposition to the signified ecological discourse conveyed by the sculpture installation work as signifier.

The work stresses the opposing values of an hypermodern society reflecting a culture of the paradox in which Lipovetsky sees the need to acknowledge our heritage and he states, ". . . hypermodern society belongs to an age where everything is made into part of our heritage and duly commemorated" (Lipovetsky, 2005, p. 57). Furthermore, the French philosopher also indicates that through the celebration of the present or "the here and now" our society witnesses a technological growth focused on virtual means that affect human cognition.

In the sculpture installation project *Vulnerable: The Salmon Project*, the artist's experience of 3D technology is influenced by a digital knowledge that builds on a more traditional analogue production mode. From conventional transformative processes such as mould-making and metal casting, the research creation method expands towards computerized technology where the concept of transformation becomes linked to that of digitization. Digitizers such as 3D scanners or 3D modellers offer a broad and under-explored creative potential that propose new ways to appropriate, cast, duplicate, and transform objects in space.

Moreover, the sustainable attributes of a digital approach to artistic practice that avoids unnecessary material consumption proposes an openness to a more sustainable future—a future in which all sorts of goods and resources are accounted as valuable, where material waste is no longer conceivable and where preserving and recycling become a necessity. Finally, I would claim that the impact of the digital medium on artistic practice encourages the merging of concept and process through a medium ecology perspective that extends the relation of artistic and scientific domains.

Notions of Temporality and Spatiality

The notion of temporality is embedded in the study of digital medium, which in the context of this paper is linked to a digital spatial environment inside which the artist interacts with 3D computerized technology. The influence of a digital medium is emphasized through technologies such as: 3D modelling, 3D scanning and rapid prototyping (RP) or automated fabrication technology. A spatial dimension is explored where the notions of materiality, spatiality and temporality are linked to a computer environment and where the artist's creative process is subject to the influence of a digital spatial context.

The Fragmented Data Object

The structure of an object generated through computer technology conveys a concept of fragmentation (individual units or dots, bits of information) and diversification (concept of plurality conveyed by a digital medium). From a philosophical perspective, this characteristic may link to the social theory of individualism, or to a societal fact identified as belonging to an hypermodern society where science and technology challenge the humanity–space-time relationship. One might thus hypothesize that the *digital object* as a consequence of technological advancement mimics this sense of *self* carried by hypermodern times. From diverse perspectives—philosophical, social, artistic and technological—we witness the same phenomenon of division. Thus, in reference to the theory put forward by scientist Richard Dawkins in his book *The Selfish Gene* (Dawkins, 2006), man appears to simulate a certain organic behaviour or patterning common to all living natural environments. This behaviour is also common to technological environments where the concept of mutability is visible and also manifested through the change of societal values. The mutability of the digital medium brings about a digital object constructed through various modes of digitization.

Investigating Digitization

As a means to further investigate the phenomenon of digitization, it is possible to scrutinize the notion of the medium. How does the term "medium" become intangible, and immaterial, through digital means? As enunciated by French philosopher Jean Baudrillard,

> The medium itself is no longer identifiable as such, and the merging of the medium and the message (McLuhan) is the first great formula of this new age. There is no longer any medium in the literal sense: it is now intangible, diffuse and diffracted in the real, and it can no longer even be said that the latter is distorted by it. (Baudrillard, 1983, p. 54)

This inevitable change in the nature of the medium that the coded environment of the new digital media engenders allows multiple interpretations of the data source.

By means of the sculpture installation work addressed in this paper, digitizing processes have been utilised where the sculptural object is vectorized (see Figure 3) or represented as a series of points positioned in space and in relation to one another on an XYZ axis.

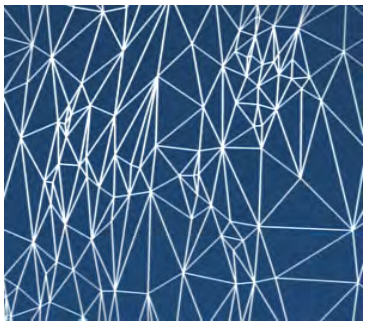

Figure 3. Polygon mesh. Close up view of vectorized Salmon sculpture 3D scan file

This computing representation of juxtaposed triangles recreates an object known as a data object (see Figure 4). The immaterial nature of the digital object conveys the notion of mutability or plurality of the digital medium. The data object can mutate into various forms of digital media, but it also conveys materiality. The mutability and volatility of the digital object contain the opposing values of the material and the immaterial. If we establish a parallel between the structure of a data object and that of a text, in a similar context to that of Derrida's deconstructionist theory[4] we can stipulate that the data object is dismantled in its original form[5] (Manovich, 2001). This extrapolation of the concept of *deconstruction* implies that medium specificity is now discarded through digitization.

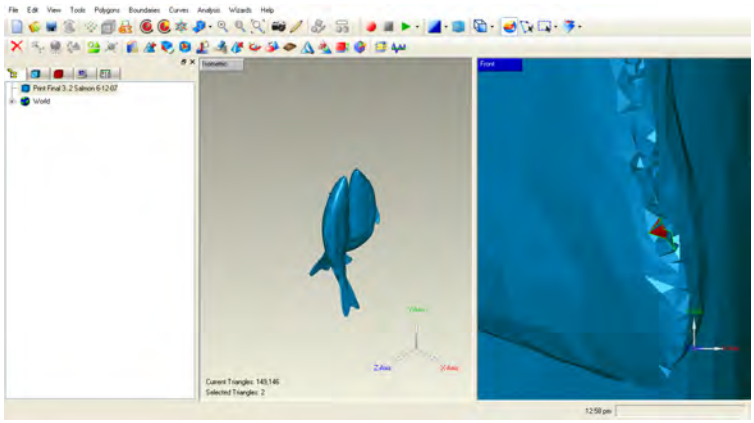

Figure 4. Computing representation of juxtaposed triangles recreates an object known as a data object

We are witnessing a creative era where computing and softwarization favour the merging of all forms of artistic expression. Digital technology leads to a potential symbiosis of creative mediums by which artists experience a re-defined notion of space, time, distance, and materiality. The notion of distance

[4] We refer to Jacques Derrida's concept of deconstruction, which is not about the dismantling of the structure of a text but a demonstration that a text is already dismantled in its original form.

[5] For strong points of view on different aspects related to the concept of digital language, see Manovich, L. (2001) *The Language of New Media*. Cambridge, Mass.: MIT Press.

translates into a time measurement, an expanded definition of distance that considers both time and space as linked to the travel of information or computer data (Logan, 2010).

Distance has become intangible and through computer automated production modes, the distance between the time the data object representation is sent to the machine and information is received, collapses. We experience a certain degree of symbiosis between the data object and the material object that it encompasses. Therefore, we can stipulate that 3D digital technology does impact on the artist's creative process through its redefined notion of space, time, distance and materiality. The change in the artist's relationship to temporal and objectified values influences the correlation between concept and production. Through conceptual and practical approaches to the creative process we experience a shift from traditional values carried by analogue processes where we understand that both the material and the immaterial inhabit the data object.

Immateriality versus Materiality

Today, artists experience, perceive and imagine from different standpoints, guided by digital and analogue approaches. However, the notion of immateriality is now rooted in a computerized medium in ways in which a digital sculpture 'holds' materiality.

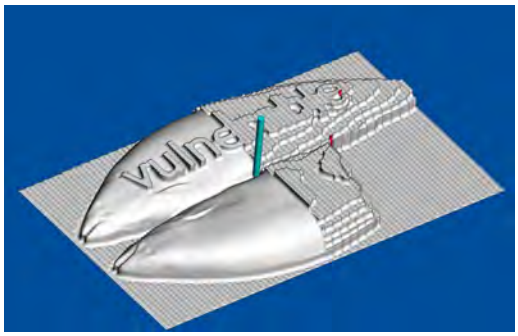

Figure 5. Simulation Computer Numerical Control (CNC) router pathway

Figure 6. CNC routing. Styrofoam Salmon sculpture form

When familiar with the technological environment and interacting with a data medium, artists' spontaneity becomes linked to the concept of the "here and now" conveyed by "hypermodern times" (Lipovetsky, 2005). The immediacy of function-action-reaction that artists experience while using 3D software tools or commands and the symbiosis between subject and object conveyed by computer automated fabrication (see Figure 5-6) are factors that encourage instantaneous pulse and artistic freedom. In addition, the gravity-free environment of data space does eliminate many of the constraints that artists experience while working with objects in space.

Creative Freedom

Creative freedom can be afforded in several ways. Firstly, we may look at how our societal values are influencing, through digital media growth, an era of the *self*, and the autonomous freedom that artists need to be able to experience creativity in totality through digital means.

Secondly, we look at creative freedom and share Lipovetsky's position about the difficulty of living associated with the level of inner freedom and intensity one wishes to live, that may be associated directly with the artistic temperament. As Lipovestsky proposes, technological advancement impacts on us and affects the individual's inner strength. He states:

> Thus it is that the ultra-modern period is seeing the growth of technological power over space-time, but a simultaneous decline in the individual's inner strength. The less collective norms can command our behaviour in detail, the more the individual shows a growing tendency to be weak and unstable. The more socially mobile the individual is, the more we

> witness signs of exhaustion and subjective 'breakdowns'; the more freely and intensely people wish to live, the more we hear them saying how difficult life can be. (Lipovetsky, 2005, p. 56)

Thirdly, on the one hand, we stipulate that creative freedom plays an important role in artists' creative thinking and mode of production. On the other hand it is acknowledged that collaborative work between artists and scientists is important, including technical assistance, where an increase in collective norms can greatly benefit artistic experience within a digital and technological platform.

Based on these premises I would argue that often artists are affected by their limited capability to work independently with 3D digital and technological tooling. The level of freedom experienced while using 3D scanning or/and creating digitized forms inside a 3D digital and technological environment is dependent on one's comprehension of the data object structure and ease in playing with its mutability within the 3D software interface environment without experiencing technological constraints. Therefore we can claim that artists' creative freedom is subject to an adaptation to the pace at which technological growth develops and how they adjust to it. Artists need to adapt to new ways of experiencing 3D in an hypermodern epoch where space-time and materiality are greatly affected by the growth of digital media and interrelated manifestations of technological advancements.

Through research creation work I experience that while exposed to a 3D software environment, artists are subject to a digital spatial context that triggers their interaction with objects in space. Also observed were artists' sensory experience through data object creation, manipulation and transformation informed by a capacity to apply, understand and play with the software interface or tools, informed by a level of autonomy within the digital environment. Software knowledge influences artist's sensory experience in ways that follow the pattern of an exponential growth. I noticed through case study observation that the artists' level of autonomy is often limited to basic functions and subject to a *required* technical assistance. I claim that technicians' assistance can be perceived as an additional interface between the artist and the digital medium. This second interface layer affects artists' cognition and is an obstruction to the correlation between a conceptual and practical approach to the creative process. However it is acknowledged that constraints and obstructions may also act as creative stimuli that trigger the *unexpected* experienced through creative activity.

Paradox in Sculpture Practice

In the domain of research creation the concept of technological constraint again is paradoxical since it stimulates and encourages greater interaction between artist and scientist. As the relationship between science and art expands, it implies that artists and scientists collaborate more often to share knowledge necessary to the creative exploration of both a scientific and artistic domain growth.

Artistic Autonomy and Collaboration

A paradox is imbedded in opposing forces challenging the concept of collaboration, where the artist's creative process historically has been identified as a self-reflecting experience. How do we cope with this dichotomy opposing the artist's cognitive experience (the self) and the necessity of a collaborative work inherent to the gain of a necessary level of freedom from both perspectives—science and art?

While collaboration between artists and scientists increases, as well as mediums' intangibility and interaction with the expansion of digital media, the tangibility of the work of art, more specifically in the sculpture domain, is henceforth embedded in the digital object. The ubiquitous acceleration and expediency that digital media and, moreover, digital media production[6] provoke, is effecting a form of *effacement of traditions* (Lipovetsky, 2005). This concept of effacement of tradition is experienced in the arts, where the relevance of more traditional skills and more traditional approaches to medium are

[6] Digital media production addresses "the process in which digital files are created, enhanced, encoded and distributed using different methods of processing via computer hardware and software applications". (WiseGeek) http://www.wisegeek.com/what-is-digital-media-production.htm

being questioned. However, according to Lipovetsky nothing is really lost; it is different, "The fact is that we have lost neither past nor future—the relationships to these dimensions have assumed a new and different importance in tandem with the way the present is extending its empire (Lipovetsky, 2005, p. 41). Lipovetsky addresses the concept of presentism that rules our life today as if: "It never ceases to open out on to something other than itself (Lipovetsky, 2005, p. 41).

In sculpture practice, while the digitized object regains physicality through rapid prototyping technology, transformative analogue processes such as mould-making and metal casting (see Figure 7) are used to bring permanence to the sculptural object (see Figure 8).

Figure 7. Aluminium pour of the salmon project

Figure 8. Patination of cast aluminium sculpture

We can claim to "have lost neither past nor future" (Lipovetsky, 2005) but the concept of transformation today is perceived from a different perspective; it is where bits become atoms or, as stated by Negroponte "The change from atoms to bits is irrevocable and unstoppable" (Negroponte, 1995, p. 4) and vice versa.

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