

## Capítulo 1 - Technological mediation and the human body

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## Technological mediation and the human body

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From time immemorial, we have been enchanted by and cherished mediated images. The human figure has an exceptionally significant place in art history and has been celebrated throughout the ages by splendid representations in museums, publications, performances and lately the Internet. The nature of representation however, is changing remarkably from classical archetypes. Today, the human body is increasingly penetrated, scanned and appraised. In this process, the stripped human body became transparent, exposed, naked to scrutiny and thus more vulnerable than ever before (Czegledy, 1997). It seems that the post-modern body became separated from its own reality and converted into a coded object of new explorations and analysis. Thus century long beliefs of our bodies have shifted resulting in a frequent loss of individual identity. On the one hand, the speedy development of technologies has led to certain improvements in the standard of our everyday existence, at the same time the technological advances have highlighted truth-seeking considerations regarding the relationship between the biological body and machine/technology. These paradigm shifts have been duly recorded by an infinite number of texts, paintings, music, and sculpture. The question arises: how accurately do these representations reflect the subjective perceptions of the human body in a given time and a given cultural context? Are we redefined by these various narratives and how will we accommodate – within the ever shifting epitomes – other forms of interpretations?

For many centuries, the depiction of the human figure remained one of the most persistent themes in visual culture. The human body was portrayed in the arts as a surface, as a screen upon which symbolisms are encoded and social structures are inscribed (Meskell, 1996). In recent decades the human body has become a key site of scientific, social, political and cultural interpretations. The scientific interpretation of the human body was previously revealed through anatomical investigations. Anatomical art, posited on the threshold of the arts and medical science is an atypical discipline. Science is based on factual observations and interpretations. Expert anatomical visualization, while based on factual information and scientific data, is more personal, frequently beautiful yet sometimes frightful or grotesque (Czegledy, 2011). Due to historic complexities regarding moral and religious concerns, anatomical investigation has an uneven and little known history. While it dates back to ancient cultures, it is only since Andreas Vesalius (1514-1564), a figure considered by many to be the founder of scientific anatomy, broke with medieval traditions and taboos and systematically dissected the human body that a detailed scientific view of the body emerged (Florkin, 2018). By the 16th and 17th centuries, when medical practitioners and amateur anatomists were dissecting corpses in front of open audiences, such events were considered a valid form of popular scrutiny as much as an opportunity for anatomical examination conducted in the name of scientific advancement. The University of Padua had the first and most widely known anatomical theatre, founded in 1594. As a result, Italy became the center for human vivisection (Klestinec, 2004). Over the following centuries, the intimate, private landscape of the human body was charted in greater and greater detail. Yet until very recently the body was solely viewed through the naked eye or (since the 17th century) through compound microscopy<sup>1</sup> via elementary mechanical magnification. The proliferation of new technologies and the new bodily imagery in the public domain, primarily through the media and commercial advertising, has matched contemporary trends in visual culture.

Imaging systems and visualization techniques have successively contributed to multiple perceptions of the human body that have had profound social and cultural consequences in changing the way we see ourselves. This has led to a situation whereby the visual material of our

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<sup>1</sup> The compound microscopy was invented by Antony van Leeuwenhoek in 1675.

bodily reality is increasingly supplied through a variety of technological means and the corporeal is now often seen in ways distinct from human vision, and completely dependent upon the mechanics of science or advertising. What is mirrored in the inner minds of those who were involved with these mediated images? And how do we account for those who were seduced by them? These long standing issues are often explored beyond scientific or commercial investigations in contemporary arts.

Today, we mostly consider our bodies with scientifically supported objectivity. This is due to readily available information offering seemingly direct access to previously unknown territories in science. At the heart of digital image management lays the image itself. Manipulated, processed, stored, compressed and archived to the point where it has become difficult to establish the difference between sourced reality and the manufactured image. According to George Legrady "The digital image betrays no surface evidence or alteration. One must first suspect that the image is less than accurate, then one needs a computer with the right program to detect the changes" (Legrady, 1995, p. 192).

Our ability to "zoom-in" into the innermost crevices of our body, to expose minute microscopic details, has extended our consciousness, altered our perceptions of the human body, and changed the way science operates. The key epistemological question is: Has the image of the human body as a metaphor significantly changed as a result of current advances due to enhanced digital visualization? Kim Sawchuk coined the term "biotourism" to describe investigations of the interior space of the body, a passage from light into the dark, from the well-known to uncharted territories, evoking a longing for a time when we felt less naked, less exposed, less vulnerable.

By biotourism, I refer to the persistent cultural fantasy that one can travel through the inner body, a body cape, which is "spatialized" and given definable geographic contours. Rendering the interior of the body as a space for travel is contingent upon the representation of the body as a frontier with glorious vistas that can be visited - perhaps not by a real body, but at least by the human eye". (Sawchuk, 1995, p.11)

Sawchuk's concept, at the junction of scientific research, critical discourse and popular culture, uses the narrative of prowling into formerly

hidden spaces, a metaphor of a journey into the interior panorama. Sawchuk also uses the concept of tourism as it is related to the notion of pilgrimage. This rhetoric, she noted,

reveals our ambivalence and anxieties, the response to the terror in some respects of the enlightened attempt to bring every aspect of life into the open. The rhetoric of sublime is contingent upon the inner space being rendered into an often panoramic point of view but accompanied by a statement that interpret to the viewer these “scopes” as experience of awe and wonder and appropriate response. In this scenario the relationship of the body to the phonological world is replaced in many senses by a nostalgic notion of contact and presence within nature. (Sawchuk, 2000, p. 11)

At the same time of investigating the formerly uncharted inner territories of the human body, the emergence of increasingly sophisticated and remotely operated sensors, combined with a growing need for data protection, is contributing greatly to a flourishing surveillance culture. The particular combination of circumstances has encouraged the technological separation of corporeal identity from personal bases of knowledge and control in much the same way that medical technologies have re-produced bodily selves through various forms. Bioinformatics forms a bridge between the source (human body) and encoded inorganic information.

“So, what we are facing, philosophically, technically, and politically, – noted Eugene Thacker (2000, p. 5) – with an event such as Double Twist’s annotated genome, is not the incorporation of the body into technology, and it is not a process of disembodiment – despite the far-reaching tendency towards informatics. Instead, we are seeing steps in a long, complex process of the creation of the conditions for an informatics-based approach to the body, where data not only encodes the molecular body, but it also precedes and constitutes the body”. The issue of data gathering and bioinformatics raises several questions. How can we decipher the ambiguities surrounding the documented data body? Simultaneously, how can we obtain precise information about ourselves, particularly in the coded terms of medical science? How can we preserve our individual integrity without becoming mere electronic spectacles? Perhaps more

importantly, how will the prospects of increased visualization affect our very future as social beings?

We don't seem to have answers yet however in recent years we have witnessed a remarkable surge of science related art projects as well as an increased production of collaborative works between artists and scientists. A noteworthy number of artists have initiated dialogue between modes of representation and scientific visualization (Czegledy, 2002). Artists, in search of appropriate metaphors, negotiate and re-negotiate the meaning of truth and engage in unending inquiries to present new ways of configuring concepts and experiences.

My own focused interest regarding the changing perceptions of the human body from an arts & science aspect began nearly two decades ago, when I began my research for *Digitized Bodies, Virtual Spectacles*, a touring project examining the relationship between art and biotechnology by exploring the shifting notions surrounding body perceptions, material realities, and current forms of visualization. This project travelling in three European countries included a series of closely connected events aimed to investigate the topic through on-site interactive works, installations, panel discussions, performances and on-line multimedia representation. The discussions focused on the experimental reality of scientists and artists working with the emerging spectacle of the digitized body (Czegledy, 2001).

*SPLICE: At the threshold of Art and Medicine* (my subsequent project a decade later on this theme) investigated changing corporeal perceptions influenced by scientific, social, political and cultural interpretations. To reach this goal *SPLICE* presented a scientific gaze at the human body by showcasing historic anatomical artwork rooted in classical traditions forming a boundary between the histories of anatomical depictions and complemented and challenged by contemporary artworks (Czegledy, 2012). The anatomical artist, in addition to his/her scientific knowledge requires an expert eye to decide on a specific point of view and the most appropriate interpretation. The archival anatomical depictions were selected from the collection of the University of Toronto, where Maria Wishart established, in November 1925, the Department of Medical Art Service (University of Toronto, 2012). In 1941 J.C.B Grant from the University of Toronto approached the Philadelphia publisher William and Wilkins to initiate the publication of an Anatomical Atlas (Grant, 1943).

Maria Wishart and her colleagues became major contributors to the Atlas, which is still in print.

In contrast to the historical renderings, contemporary artists take vastly different approaches in how they depict the human body. Today the body is frequently politicized, symbolized, digitized in order to manipulate, to dissect and to provoke. Orlan, the French performance artist, for example uses her own body in a highly dramatic and distinctly personal fashion. In her theatrically staged and technologically manipulated performances, she challenges concepts of selfhood and questions the status of the body versus current biomedical technologies of transformation, temporary and otherwise (V2, 2018).

A critical discourse generated by artists working through scientific and biomedical concepts related to the imaging technologies may shed some light on the answers to elusive questions as was shown by the work of the contemporary artists in the Digitized Bodies, Virtual Spectacles and SPLICE projects. It is in the contemplation of this decidedly creative (and admittedly speculative) commentary on the transforming body vis-à-vis the manifestations of the digital revolution that we might gain a better understanding of both changing perceptions and future trajectories.

Jack Butler's (2012) innovative contributions have created a third space between intimate, body-centered, hesitant, sexual, an internal dialogue. Reflecting on his *In the MRI* Butler said, "I draw. Drawing-as-process has taken me into diverse media for the realization of my ideas - extended into sculptural modelling, computer animation, video installation, and performances" (often in pedagogical contexts). Andrew Carnie (2012) demonstrates in *Lacuna* the vulnerability, exposure, and resilience of heart transplant patients: "What I am interested in from the science is a 'spark', an idea that will make a work, the little 'nub' of an idea that will allow me to make an artwork that has a resonance in the cultural domain" (personal communication). Interviews with the recipients of heart transplant patients revealed a rich source of feeling and emotion on the notions of embodiment and corporeality, from what the individuals said and didn't say but that was equally signified through bodily gesture. The gist of these conversations conveying doubt, defensiveness, fortitude, strength, and alterity have fed into *Lacuna* along with a medical type image of the exposed body and collective bodies as individual, cell and organ alike.

Piotr Wyrzykowski (1996) emphasizes technological influences on the perception of presence including the very identity of a human body. His video *Watch Me* (Wyrzykowski, 1996) is a visualization of the digitalization process of the artist, one whereby his own body is dematerialized into binary code and wedges of sliding pastel colours. Thus he presents his body as a specimen – and in the process the fractured, reflective, spectacular body gains an allegorical potency as the artist makes himself strange and object like. *The Anatomy Lesson* – by Joyce Cutler Shaw’s admission - is an exploration of the physical self and the human life cycle. “Exploring across the disciplines of art and medicine”, wrote Cutler-Shaw, “I have discovered the medical field to be an arena for the newest forms of body representation. It is at the intersection of art and medical science that new insights in interpreting the physical self can emerge.” (Shaw, 2009) Perhaps because of an awareness of the historicity of changing social and cultural approaches to technology and its visualization of the body, Joyce Cutler Shaw’s (2009) work questions whether present day medical visualization techniques point to a significant shift in the perception of the body (in contrast to long standing historical explorations when the body was solely viewed through the naked eye). For this reason, in her work, she evokes the current options of an enhanced body fitting into the contemporary social/cultural/medical environment. Cutler-Shaw’s artwork reminds us not only that the nexus between technology, the body and visualization is a complicated one, but also that it possesses a varied history in which an extremely heterogeneous mix of agents, forces and perspectives have taken part. Fred Laforge (2010) in his own deconstructions of the human body via pixelated drawings in order to emphasize a fascination with non-standard morphologies. This approach investigates the formal aesthetics of classical art along with more subjective concepts like Beauty. It thereby questions constructs of Permanence and Translation while simultaneously reminding us that so much of the visual framework of our society is open to technological mediation. Interestingly, even though Laforge reduces humans to their most basic geometry, each artwork still seeks to retain the unique character of an individual – his way of noting that despite the techniques of abstraction, there remains a necessity for recognizing the core individuality of our humanity.

Nell Tenhaaf (1995) investigates the body as an object of science and technology. Her research and art practice has echoed her

involvement in artificial life and issues of mediation. One of the key issues for Tenhaaf at that time was an ongoing curiosity in the sacrificial dimension of the body and how this body would fit into the notion of fast forward evolution. Her goal is to reveal, for what it is, a double and mythical transmission of information, presumably neutral and objective, submitted by sciences and in the case of the specific model of the DNA, the individual, potentially reducible to a personal equation of coded and reproducible genetic data.

## Conclusion

The investigation of certain unresolved issues regarding body politics, the objectification of the individual, bodily ethics and the sometimes contradictory discourses surrounding certain experimental technologies seems essential to reinterpreting the place of the individual as (especially) a corporeal entity in society. The recent paradigm shifts revealed important questions about alienation, the potential loss of agency and context while at the same time allowing us new opportunities for expressions of identity on a borderless scale. The increased uses of technologies have changed how we see ourselves and the world around us. Where once our identity was our bodies, it can now take the form of a computer file. The mediated images of the body—the object of ambivalent beauty, the object of society, the object of medicine, the object of science and technology – elicit a challenging response in us. The question remains whether the thorough documentation and encoding of the body – even if it eradicates disease – will improve the human condition. In the intricate loop between man/machine encoding (disembodiment) is only the first link in the chain, a prelude to further events.

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