

2012

Gemma

Erasmus Mundus Master's Degree
in Women's and Gender Studies

Monika Glosowitz

Bio-cartography

Towards a New Theory of Portraying

Main supervisor:

Dr. Gerardo Rodríguez Salas

Senior Lecturer in Literatures in English
English and German Department
University of Granada

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ABSTRACT

The project of bio-cartography interconnected the metamorphoses of subjectivity with the progress of representational thought, having drawn on the different fields of reflections concerned with the changing self: poststructuralist philosophies, feminist theories, studies of science and technology, linguistics, postcolonial and social sciences. Thus, through its title, this paper established the interrelations between theory, science, and art practice. The ubiquitous notion of representation (hence its different variations: figuration and transfiguration) was examined on the ground of bio-art works, and various exemplifications became not only illustrations of presented ideas, but also dynamic mappings of vivid metamorphoses.

The attempt was to prepare new tools which facilitate the reception of new class of portraits, which I called 'bio-portraits'. The concept of the bio-portrait was born on the crossroads of the philosophical reappraisal of the representational approach, the etymological roots which came from different origins and the background of bio-technological development. My aim was to show that the art practice no longer represents reality, but it transfigures and transcends it. Therefore, my analysis showed the presented works as effects of sociopolitical power relations and the way of their transformations, having opened possibilities of two-directional way of cooperation between theory and practice, science and art, reality and its representation.

RESUMEN

El proyecto de biocartografía ha interconectado las metamorfosis de la subjetividad con el progreso del pensamiento representacional, inspirado en los diferentes campos de pensamiento relacionados con el cambio en sí: filosofías postestructuralistas, teorías feministas, estudios científicos y tecnológicos, la lingüística y ciencias postcoloniales y sociales. A través de su título, este trabajo establece las relaciones entre teoría, ciencia y la práctica del arte. Se ha examinado la noción ubicua de la representación (de ahí sus variaciones: figuración and transfiguración) basándose en obras de bio-arte, y varias ejemplificaciones se convirtieron no sólo en ilustraciones de las ideas representadas sino también en estructuras dinámicas de metamorfosis vivas.

La idea fue preparar nuevas herramientas que facilitan la recepción de una nueva clase de retratos, los cuales llamo 'biorretratos'. El concepto de biorretratos ha nacido del cruce de la revaloración filosófica con el acercamiento representacional, de las raíces etimológicas que provienen de diferentes orígenes y del fondo de desarrollo biotecnológico. Mi propósito fue indicar que la práctica del arte ya no representa la realidad, sino al contrario la transfigura y la trasciende. Por consiguiente, mi análisis ha indicado los trabajos presentados como consecuencia de las relaciones de poder en un contexto sociopolítico y el camino de sus transformaciones, dando mas posibilidades en la creación de un camino bidireccional de cooperación entre la teoría y la práctica, la ciencia y el arte, la realidad y su representación.

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1. INTRODUCTION

We have been living in times of advanced metamorphoses. The challenges that we face are fast-changing and they require a considerable amount of thought to the permanent high-tech development.

These are strange times, and strange things are happening. Times of ever-expanding, yet spasmodic, waves of change, which engender the simultaneous occurrence of contradictory effects. Times of fast-moving changes which do not wipe out the brutality of power-relations, but in many ways intensify them and bring them to the point of implosion. (Braidotti 2002: 1)

Throughout the progress of philosophical thought, after three wounds of the Western human (the Copernican, the Darwinian, and the Freudian), the notion of subject/ivity has gone into pieces (Haraway 2008). Different — centripetal and centrifugal — forces interplay in the process of the structural transformation of the subject, which becomes a kaleidoscope, a fusion of experiences, memories, dreams, and possibilities immersed in various subsystems and arranged into power-relations interacting today: technological, religious, political; class, gender, and age-based, etc. Furthermore, the intensified brutality of inner and outer hierarchies has brought them to the point of implosion, as Rosi Braidotti notes.

Hence the vision of the subject has changed, through the “permanent processes of transition, hybridization and nomadization” (Braidotti 2002: 2), from a stable unity of being to a dynamic and changing entity. The proliferation of multiple identities is followed by the proliferation of discourses about those identities, and it is not only a quantitative multiplication, but rather a qualitative one (Braidotti 2006: 94). Again, following Braidotti: “Contrary to those who fear that the proliferation of micro-discourses will result in a realistic drift into nihilism¹, I see this process as productive of new and more adequate accounts of our being-in-the-world” (Ibid.: 18).

¹ More about a drift into Thanatic fixation in chapter 4.

The established mode of representation has become a historical condition submitted to theoretical discussion. Theoretical debates deeply rooted in poststructuralism have shown that representation does not give Others the possibility of expression (Spivak 1988). More specifically, psychoanalysis claims that representation is only the ectypal product of acquiring subjectivity; moreover, it is a phallogocentric system, where there is no place for any other subject. Further hierarchies (such as subject-object, nature-culture, etc.) are linked to this “patriarchal, Oedipal familial narratives” (Braidotti 2006: 57; see also Irigaray 1985). Thus, I believe that feminist theories will stand as a renovation, redefinition and reappraisal of the web of interrelations between subjects and representations in the light of techno-transformation.

Therefore, my attempt is to interconnect the metamorphoses of subjectivity with the progress of representational thought, drawing on the different fields of reflections concerned with the changing self: feminist theories, studies of science and technology, linguistics, postcolonial and social sciences. Through its title, this paper establishes the inter-connections between theory, science, and art practice. The ubiquitous notion of representation (hence its different variations: figuration and transfiguration) will be examined on the ground of bio-art works, and various exemplifications will become not only illustrations of presented ideas, but also dynamic mappings of vivid metamorphoses. I would like to emphasize not only the conceptual framework of a cartographical approach, but also the importance of stylistics. Deleuzian philosophical nomadology is seen “as a variation on the theme of *écriture féminine*” (Braidotti 2002: 97); thus, my contribution also uses creativity as a dominant mode of expression.

1.2. Initial hypothesis

What is central to my project is the notion of representation. After a series of radical deconstructions, the category itself seems no longer vital for the mimetic paradigm. My primary aim is to scrutinize the shift from “subject-object” positioning to “subject-subject” relation. The latter is present in the process of (self-)portraying, particularly in the domain of bio-art, inevitable focal point of which is always a reflection on the changing role of art in thinking about the importance of science and technology in inter-subject relations.

The main research question is: how is the body involved and transformed in the interconnection of science and art practice, evolving in the process of representing itself, self-portraying? Therefore, I want to include a secondary question: how is the notion of representation being changed within the passage of two big paradigms —the linguistic and the material one? I will show different bodily functions in contemporary art: functions as a sign/symbol/cultural representation, and matter as such. The main question will inevitably disseminate, proliferate into many different issues and ideas presented in the following chapters.

1.2. Methodology

The research is necessarily interdisciplinary and, although it is focused on contemporary art works (made not only by women), its aim is to re-read bio-art through the lens of philosophical and literary theory united into feminist studies lineage. The art works will be seen then as a result of discursive production (process of culturally acquiring subjectivity and its representation) as well as material dimension of used bodies (one of the common features of various bio-projects is their thematic connection with a phenomenon of life formulated in the context of biology and biotechnology).

Such a frame supports the project of laying the foundation for the new transdisciplinary overview of artistic practice. By becoming not only a synchro- and diachronic marker, but inevitably a philosophical reflection, it is taking into account the scientific knowledge about the metamorphoses of subject and representation corresponding with that subject-in-becoming.

I will work with different areas of contemporary feminist theory in order to bring them close to bio-art practice. They will be linked together in a shape of non-linear cartography of current debates dedicated to the new kinds of subject exceeding “the norm, the norm-al, the norm-ative view” (Braidotti 2006: 32) of them. More specifically, I will engage the new material philosophy represented mainly by Braidotti (deeply rooted in Deleuzian thought) to support my reflections about alternative subjectivities, which exist on the border between living/nonliving, grown/constructed, born/manufactured, and object/subject. These ideas will be completed with feminist science studies (Donna Haraway, Evelyn Fox-Keller), which try

to break up the debate about stability of nature opposed to abnormal, non-normative hybridity and take on the far more serious challenge of joining scientific and cultural discourses with the ethical insight.

1.3. Structure

My work is divided into three chapters, where the first two correspond together and stand as a theoretical apparatus. The compression of reflections about bio-technology as a fantasy and as a field of science includes a reassessment of systems of representation, interlaced with theorized statements of bio-artists that provide the basis of further analysis of particular artistic exemplifications. The attempt is to prepare new tools which facilitate the reception of a new class of portraits, which I call 'bio-portraits'. The concept of the bio-portrait was born on the crossroads of the philosophical reappraisal of the representational approach, the etymological roots which come from different origins and the background of bio-technological development. I will display the artistic exemplification of affinity with other organic and mechanic phenomena, ranging from the most stable scans of human interior to the mutual, inter-bodily union of human and non-human, mediated by the technological apparatus. The detailed analysis of certain art works (Marta de Menezes, Frederik de Wilde, Eduardo Kac, Stelarc, Marc Quinn) will be provided in a frame of categorization of various cross-referring issues. The visual analysis will close my reflections and provide conclusions.

The second chapter indicates the synchro- and diachronic location of the bio-art works, drawing on a quasi-scientific approach of teratology arisen in antiquity and contemporary development of genetics. It also deals with a challenge of defining the 'bio-art' and shows different phases of evolution which join bio-technological apparatus with artistic imaginary. The third chapter deals with the second big notion used in my work — the concept of representation. It examines the etymology of the notion of representation, using tools of comparative linguistic studies — the comparison of etymology (originated from different languages) of notions related to referents included within the category of representation, so then: a (self-) portrait, an image, a mask, etc. By working on differences and similarities between categories of representation and figuration, I will compare various definitions and conceptions of representation functioning within feminist theory. Finally, the fourth chapter becomes a confrontation of the previously prepared evolution of my theoretical apparatus

with the newest bio-art realizations. It includes the introduction of the artists, whose works are subjects of my analysis. The examination of their works will expose different strategies of bio-portrayal, and critical remarks towards non-human representation included within the part of analyzed works.

2. BIOLOGY, ART, AND BEYOND. THE INTERLACEMENT OF SCIENCE AND ART

*And yet, we want so much to see, don't we?
To see! We want: to see!
Perhaps we have never had any other will than to see
[dautre vouloir que voir]?
(Cixous 2001: 16)*

2.1. Synchro- and diachronic drawing on the bio-art location

The dream from movies like *Gattaca* (1997), *AI* (2001) or *La piel que habito* (2011) has come true. Practices of transgenesis or eugenesis may not be so common, but are undoubtedly present in everyday life. Moreover, now they are being used even for artistic purposes. Nowadays, not only has cosmetic and plastic surgery become common, but fantasies of *Frankenstein* origin become reality (as well as others, such as: the ancient Greek chimera, Bosch's allegorical and moralist medieval paintings and Wells's vivisection parable *The Island of Dr. Moreau*, the figure of Robocop, Lara Croft, *et al.*). They have always expressed and will always express an anxiety over nature².

After the end of the somatophobic dimension of our culture, which had ended with the Freudian revolution, we entered into a 'biotechnological century' (Bakke 2011). Recently scholars have noticed that "interest in biotechnology ha[d] been increasing in the humanities and social sciences, causing a proliferation of specific case studies of individual technologies or particular processes" (Landecker 2005). The most visible signs of this shift are presented on artistic ground, wherein we can observe:

² The notion of 'nature' has been already problematized by Bruno Latour (2009) and Donna Haraway (2008, 2010). See also a very apt categorization of the classic concept of nature, which — according to Andrew Light — is based on 1) separation from human and civilization; 2) wilderness of citizens — beasts; 3) superiority of civilized human (1995: 197).

[...] some major currents of the relationship between the arts and the techno-sciences, the trend of the coming together of nature and (new) technologies, the continuous evolution of the link between ‘natural’ and ‘artificial’, and the glimpse of a *new real* [...]. It seems [...] to be a vision opening onto a new worldview. (Shapiro 2010 [4.04.2011])

But now it is not only a myth, prediction, or wishful thinking — as some people have read early texts of cyberfeminists³. In the world of oncomouse, GMO, and advanced prosthetics there is no longer a place for biophobia or technopanic. Interestingly, this “development has stimulated debate over whether feminism may be seen as ‘biophobic’ in its past treatment or exclusion of the biological, or whether the new materialists have over-emphasized this point” (Twine 2010: 402). I will talk more about the feminist approach to biotechnological metamorphoses of societies later on, but it is worth underlying the atmosphere of reluctance to bodily interventions. Therefore, the body had been treated before as a closed container, regarding material and spiritual/linguistic/performative/social displays⁴. As I have already mentioned before, the postmodern turn showed that the container had cracks, and it is not so impermeable. There were certain steps of mining this ‘Ark of Unity’.

After the three wounds of the Western human —the Copernican, the Darwinian, and the Freudian— it is time to accomplish the fourth turn, the IT or cyborgian one, which “infolds organic and technological flesh and so melds that Great Divide as well” (Haraway 2008: 12). The Great Divides are synonymous to investigation by deconstruction (understood as a methodological approach), binarisms — sets of opposites, which are always hierarchical, one of the notions is superior, the other less important, less visible, always ‘less than’. So then, we have the antithetical juxtapositions of woman/man, animal/human, nature/culture, organic/technical, and wild/domestic, etc. The binarisms which organize the patriarchal system give a privilege to men and set up a normative, hierarchical way of constructing power relations in societies. Derrida’s deconstruction offers a method of subverting those oppositional constructions by inverting them in the first phase and creating of a new concept, emerging in the second phase, which replaces the previous hierarchy (Derrida 1987: 41-42)⁵. As we will see on the art exemplifications, “new subautonomous entities located at the fuzzy border between the living/nonliving, grown/constructed, born/manufactured, and

³ See mainly the iconic text of Sadie Plant (1997).

⁴ It is quite interesting that in 1995 Elizabeth Grosz saw body as a “concrete, material, animate organization of flesh, organs, nerves, skeletal structure and substances, which are given a unity and cohesiveness through psychical and social inscription of the body’s surface” (1995: 104). Although she differentiates the two layers of bodily activities: inscriptive and phenomenological, she still treats the wholeness as a stable construction.

⁵ See more about the deconstructive method of overcoming binarisms within the field of gender in Rodríguez Salas (2006).

object/subject” (Kac (ed.) 2007: 232), were created by scientists and artists to overcome those rough borders.

In Deleuzian terms an art “has the power not to represent the world or located subjects, but to imagine create and vary affects that are not already given” (Colebrook 2002: 103). In this vein, art works have the possibilities to offer visions of new phenomena which go beyond the images of human as the crown of all beings, the king of *ratio*. Donna Haraway explains how the mechanism of putting categories in binary order works⁶:

How would we sort things out? Canid, hominid; pet, professor; bitch, woman; animal, human; athlete, handler. One of us has a microchip injected under her neck skin for identification; the other has a photo ID California driver’s license. One of us has a written record of her ancestors for twenty generations; one of us does not know her great grandparents’ names. One of us, product of a vast genetic mixture, is called “purebred”. One of us, equally a product of a vast mixture, is called “white.” Each of these names designates a different *r a c i a l d i s c o u r s e*, and we both inherit their consequences in our flesh. (2008: 15; emphasis mine)

Rearranging the oppositions can be done by means of human imagination, as Colebrook points Deleuzian ideas out:

The human becomes more than itself, or expands to its highest power, not by affirming its humanity, nor by returning to animal state, but by becoming-hybrid with what is not itself. This creates ‘lines of flight’; from life itself we imagine all the becomings of life, using the human power of imagination to overcome the human. (Colebrook 2002; 129)

The noteworthy question, showing the power of imagination, was finally (or already?) asked in 1988 by Vile’m Flusser (in his column “Curie’s Children”, for the magazine *Artforum*):

Why is it that dogs aren’t yet blue with red spots, and that horses don’t yet radiate phosphorescent colors over the nocturnal meadows of the land? Why hasn’t the breeding of animals, still principally an economic concern, moved into the field of aesthetics?

⁶ However, Haraway strongly criticizes Deleuzian notion of becoming and tries to ground it within individual struggles: “But the category ‘companion species’ is less shapely and more rambunctious than that. Indeed, I find that notion, which is less a category than a pointer to an ongoing ‘becoming with’, to be a much richer web to inhabit than any of the posthumanisms on display after (or in reference to) the ever-deferred demise of Man” (2008: 16).

Breeding of animals and flowers has already moved into the field of aesthetics. Moreover, biotechnological has replaced traditional artistic techniques, and now they are used to 'produce' new kind of entities.

2.1.1. Teratology and hybridity

Teratology, a new scientific subgenre, shows that 'identity trouble'⁷ always existed, but has not always caused fear. The Greek etymology of the word *tera/teratos* presents two interpretations: it refers both to a prodigy and to a demon. It is something which evokes both horror and fascination, aberration and adoration. It is simultaneously holy and hellish, sacred and profane (Braidotti 1996b: 136) and it has been still present in the contemporary approach to the prospect of becoming posthuman, which evokes terror and excites pleasure at the same time (Hayles 1999: 283). Fascination has always accompanied the dimension of the uncanny, but the ancient strategy of merging aesthetics with morality became the actual paradigm of dualist perception of the following concepts: 'nature' and 'artifice', 'beauty' and 'ugliness', 'norm' and 'deviancy':

An idealized notion of 'beauty' inherited from Greco-Roman art held sway in the West as an aesthetic guiding principle until the twentieth century, for the history of Western art can be seen as couched in the biologically normative representation of human and animals. In other words, traditionally, the representation of atypical life-forms was meant to reinforce the distinction between 'normal' and 'deviant,' and not to underline the continuity among all life. (Kac (ed.) 2007: 9)

Throughout centuries, the attitude towards abnormal creatures has changed. According to the work of Braidotti (1997), we can sum up those turns, in the historical light, by stages:

- 1) The monstrosity of Other is treated with curiosity and as a positive phenomenon, something wonderful (16th and 17th century);
- 2) With the institution of the anatomy clinic, the monsters became the negative side of the norm, something 'less than';

⁷ Of course, I am referring to the 'bible' of gender studies — *Gender Trouble* by Judith Butler (1990), but concurrently changing one of the titled notions, I would like to open it for other subjects and avoid criticism, which was previously addressed towards this term.

- 3) Within feminist discourse there is a place for overcoming the negative way of seeing monsters. Following the Derridean deconstruction (see chapter 1), the logic of binary oppositions should be broken.

The crucial feature of monstrosity is mentioned by Braidotti as an interconnection of the bodily and technological, and furthermore — I would add — between ‘humanness’ and other organisms. The next stage, to concretize very abstract principles of feminist deconstructionism, unites various levels of social interactions. I will organize them into three dimensions: 1) theoretical (academic discourse), 2) artistic (practice, creation), 3) social response (actual change).

Previous reflections and theories of subjectivity did not encompass the new ‘technoreality’ and interactions between different kinds of organisms. The fluid subjectivity turned out not only a utopia, but ‘atopia’ as Elizabeth Grosz claims for: “[...] the atopic is not a definite place, but rather a non-place, an indeterminate place, but place and space nonetheless” (Grosz 2000: 215). Greek roots indicate that atopia is another dimension (*atopos* means different, strange). Also Bataille’s concept of heterology (from French adjective *heterologue*, which means sick tissues in anatomical pathology) treats about everything, what is evicted outside the norm, what is linked to madness and delirium (Bataille 1985). So then, for instance, Grosz’s concept of ‘atopia’ and Bataille’s heterology do mark a general shift in thought about identity, and frame so-called postmodern drift of differentiating subjects, rather than standardizing them.

The contrast between the modern and the postmodern era⁸ made sense, “when you juxtaposed the era of the body organized by systems of production and reproduction, and the body organized by informatics” (Haraway 2009-2010: 4). I would say that this juxtaposition is marked by two flagship milestones: the work of Michel Foucault (mainly his *History of Sexuality*) and *A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late*

⁸ On the artistic ground the contrast is also significant. To put it roughly: the modernist definitions of art consist of aesthetic values, linear evolution, and consecrating of the avant-garde movements. However, the series of postmodernist changes have reevaluated the notion of originality and artistic irresponsibility: these transformations were oscillating mainly around conceptual dimension of art and free-floating ideas submerged into an intertextual grid. The postmodern transformations of artistic productions include the so-called anti-institutional turn, which erases big institutions (museums, galleries, etc.) as only carriers of esteemed art works. But after anti-institutional objection, institutions as such have managed to remain platforms for critical positions. They have started to offer “a free space in which concepts as well as experiments in the contemporary production of art and culture can be tested and further developed — even when this can sometimes be confrontational, transgressive, or even shocking” (Horn 2012: 4).

*Twentieth Century*⁹ by early Haraway. The first one examines the modern mechanism of discipline, which sees the body as a machine in two dimensions: anatomico-metaphysical (rooted in Descartes) and techno-political (Foucault 1975: 136). The second — operating on a symbolic level — presents a cyborg as a metaphor of subjectivity after IT revolution. This way Haraway sees the cyborg simultaneously as a narrative construction and living being, which moves beyond the traditional limitations of gender, and a myth of origin which is concerned with the Christian tradition and Oedipal constructions of relations between men and women: “Formed through a radical disruption of otherness, cyborg identity foregrounds the constructedness of otherness” (Balsamo 1996: 33); however, the identity of woman is explicitly mapped onto the image of the cyborg and this connotation recalls the traditional gender distinction and identifies the figure of woman with anxiety or even fear of the technological (see Brown 2011, Kakoudaki 2000). Nevertheless, after a very simplistic juxtaposition of woman with cyborg, the next turn — marked by reflections about *companion species* (Haraway 2008) — encircles the whole variety of subjects (including animals, plants, and entities ‘in-between’), whereby every entity is a hybrid (“no organism is a one” — as Haraway paraphrases a well-known sentence of Luce Irigaray; 2009-2010: 15). An effort to destabilize the opposition between nature and culture is highly visible, wherein authors are trying to break up the debate about stability of nature opposed to abnormal, non-normative hybridity.

The postulate of, among others, Graham Huggan and Helen Tiffin, is to place human and non-human subjects as equal participants on the same arena. They write: “the humanist concept of subjectivity is inseparable from the discourse and institution of speciesism which relies on tacit acceptance” (2007: 6), what implies an ethical postulate of reinforcing power relations: more reciprocity of human and non-human, than the binary opposition between men and women, so culture and nature (Hoving 2005: 157), and further: biology and technology.

Furthermore, new hybrid-beings spring into existence. They are called ‘technoteratogens’ (Kac (ed.) 2007: 88), and inhabit not only the lab world of genetic modifications, but also seen as unnatural, impure, and unstable, they become inheritors of ancient big mythical critters:

⁹ “A Cyborg Manifesto...” firstly appeared as “A Manifesto for Cyborgs” in *Socialist Review* 80 (1985); the revised version has been reprinted many times, among them in her major collection, *Simians, Cyborgs, and Women: The Reinvention of Nature* (Routledge, 1991), which includes other important essays.

Calling this construct transgenic gives it a dimension of endogenous abnormality, a hidden dimension that divulges the underlying pressure of degrading and impure procedures that engendered it. (Kac (ed.) 2007: 86-87)

The mixture of fear and fascination still defines the attitude towards the unknown; hence, a clear hierarchy is founded upon the negative prefix. Moreover, this is the challenge for feminisms, because one of the main questions which the feminist theories are struggling with is: “how can one free difference from the negative charge which it seems to have built into it?” (Braidotti 2002: 4).

2.2. Marriage of science and art

As I have already shown, my contribution combines present debates on visual art and its direct and indirect links to science with insights from gender studies and literary, cultural, postcolonial studies. In spite of the fact that the marriage between science and art is highly present on the ground of theoretical discussions (see especially the magazine *Leonardo* and *Leonardo Book Series* published by MIT Press), there is a gap which should be fulfilled by the interdisciplinary analysis of the notion of representation. By joining linguistic, literary, cultural, art and gender perspectives with biotechnological and cognitive prospects, my research can shed a new light to the meaning of art practice.

A similar approach has already been offered by Evelyn Fox Keller, whose point of departure is a duplicate of former ideas which I mentioned before: border-crossing between binarisms — metaphors and machines, software and hardware, saying and doing, and in general — science and language studies. The novelty of Fox-Keller is based on the extended notion of Austin’s performativity. Her assumption is that all language is performative, but not in speech-acts terms, rather beyond them. This statement provides her to reflect about the effectiveness of metaphors in science, which depends on “shared social conventions and the authority conventionally granted to those who use it” (Fox-Keller 1995: XII). I think, however, that her analysis misses the emphasis that is placed on two different ways of interacting — so the effect that science has through language on society (such as common ideas) and vice versa changes the way that science is actually represented. When we think about performativity, we can fall into the trap of a one-sided, unidirectional way of linguistic

constructivism and see metaphors as something which create our life entirely. Fox-Keller raises the question about borrowing techniques from literary studies to scrutinize science, which encourages me to join humanist and scientific disciplines.

Using examples from bio-art, I will show how representationalism goes hand in hand with materialism. Uniting these two growing (but not linearly evolving) branches may contribute to ‘noncanonical hypertrophy’ — in Deleuzian language called ‘rhizome’ — of interlacing representations. Each of them has its tangible fountainhead, because “[...] language is always the language of bodies” (Deleuze 2000: 92), but not only human bodies, which is what bio-art works clearly represent.

2.2.1. Biology as an art

As Eduardo Kac has clearly pointed out, there are two stages of development of bio-art. The first, not the ‘proper’ one, is seen as a longing for an artistic element within the functional production/creation of biological entities.

However, human beings have not restricted their creativity to solving practical problems. Artworks created by our early ancestors have been discovered in multiple locations. It is likely that aesthetics motivated not only the creation of objects, but also the selection of animal and plant characteristics. It has been suggested that early efforts to domesticate plants and animals were not associated with an increased demand for products for human consumption, but rather with the production of plants and animals for special occasions frequently of a religious nature. The different breeds of cats and dogs that exist today are living evidence that animal selection has frequently been based on aesthetic characteristics. (Kac (ed.) 2007: 216)

Therefore the beginnings of bio-art — as a legitimized trend in art — are seen in the event of showing genetically altered flowers in two different exhibitions of flowers. It is worth underlying that never before were the animals or plants themselves the object of artistic invention and development (Ibid.: 11). First it was done in 1936 (sic!) in MoMa, where Edward Steichen showed the results of the process of developing the ultimate aesthetic possibilities of the delphinium (Ibid.: 347). In 1988 *George Gessert’s Iris Project* was exhibited at the New Langton Arts in San Francisco. Since the 1970’s, Gessert has been working on breeding plants and looking for a new kind of iris-hybrid for aesthetic purposes.

Marta de Menezes — the next well-known bio-artist — claims that “[...] biology is similar to photography, video, and computers in that it can be successfully adapted by artists for use as an art medium” (Ibid.: 217). At this stage biology-as-a-material is not disturbed later when new materials are incorporated (such as previously invisible DNA, proteins, cells), transformation, interconnection and multiplication become a clue of a new face and phase of art.

But at this moment in time, even without inner intrusion, biology is seen as a piece of art, not only as a material or mode of creating, but as an actual work of art. Such a goal was also raised by the event titled *Beauty in Science*, organized in 2011 in the Boijmans Museum in Rotterdam¹⁰. Besides the main question: “Does aesthetics also play a part in scientific research?”, the project prepared by Professor Hans Galjaard shows the interchangeability of discourses. It seems to me that the same goal is raised by natural history museums, but without the surplus of theoretical context. Besides tracking strict aesthetic dimension of the science-art adjacency, we can also study this matter in depth and absorb its ontological consequences. Moreover, I think that such fruitful combination of artistic languages and science should bring not only a mixture of languages and convertibility of scientific and artistic images, but also an ontological reflection which is concerned with different status of subjectivity in technoreality.

To summarize, within the historical dimension of bio-art we can then see three different approaches, and I would categorize them into following:

- 1) biology as a material of artistic activity (aesthetic)
- 2) biological processes as a way of creating art (functional)
- 3) biology as a way of perceiving art work (ontological)

As we will see, all those three views on biology as art are combined in the new stream: ‘bio-art’, however, I would regard the last — ontological dimension of artistic creation — as the most significant.

¹⁰ More about exhibition: <http://www.boijmans.nl/en/7/kalender/calendaritem/754/schoonheid-in-de-wetenschap>. [5.04.2011 r.].

2.2.2. Art beyond biology

In spite of the series of postmodernist changes that have reevaluated the notion of originality and artistic irresponsibility, these transformations were oscillating mainly around a conceptual dimension of art and free-floating ideas submerged into an intertextual grid. Simultaneously, since the 1990's, the streams of 'transgenic/genetic/bio art' have been developing a new entrance into an art-science split, calling into question the borders between human and non-human.

The first usage of the term showed up in 1997, when Eduardo Kac had been employing the phrase 'bio-art' in reference to his own works that involved biological agency, such as *Time Capsule* and *A-positive*, both presented in 1997 (Kac (ed.) 2007: 164). In 1998 the *ART+BIO* exhibition took place at Central Michigan University. The next significant events in the history of bio-art were taking place in 1999 within *LifeScience* at the Ars Electronica festival, and L'Art Biotech in Nantes, in 2003. The last decade abounded in a significant amount of events that would address bio-art-related subjects, such as *Art of the Biotech Era* (the Adelaide Bank Festival of Arts 2004), *Dias de Bioarte '06* (CAPSULA in Barcelona), *Still, Living* (Biennale of Electronics Arts, Perth 2007), and *Sk-interfaces* (Foundation of Arts and Creative Technology, Liverpool 2008). In 2007 a new award category, dedicated to hybrid art, was institutionalized within Ars Electronica (see Kallergi 2008: 2; Stairs 1998: 263). *Antennae: The Journal of Nature in Visual Culture* was founded in 2006.¹¹ Moreover, in March 2012 *Animism* — a project asking questions about the borders between objects and subjects, between nature and culture, between the psyche and the material world — has been started in Berlin.¹² A work titled *Agency* (1992; special selection for *Animism*, Berlin 2012) poses the particular question: can non-human protagonists — animals, objects — be creative, and thereby engages non-human as subjects on the artistic stage?

As Adam Zaretsky pointed out: "Bio-art is a way of looking where we interface with ourselves, human culture and the rest of the living world" (Pasko; Kac (ed.) 2007). Of course, there is no clear and uniform definition of the bio art. One of the common features of various bio-projects is their thematic connection with a phenomenon of life formulated in the context of biology and biotechnology. Kac offers the most comprehensive categorization of bio-art diversity:

¹¹ Access online: <http://www.antennae.org.uk/>. [1.04.2012].

¹² More information: http://www.hkw.de/en/programm/2012/animismus/animismus_68723.php. [1.04.2012].

Bio art is a new direction in contemporary art that manipulates the processes of life. Invariably, bio art employs one or more of the following approaches: (1) the coaching of biomaterials into specific inert shapes or behaviors; (2) the unusual or subversive use of biotech tools and processes; (3) the invention or transformation of living organisms with or without social or environmental integration. (Kac 2007: 18)

One of the most important features of ‘bio-turn’ in contemporary art is the change from seeing the new biological entities as a class of objects, and instead as new subjects: “The difference between biological agency and biological objecthood is that the first involves an active principle while the second implies material self-containment” (Kac (ed.) 2007: 164). From the one-dimensional space that represents without intervening in the used material medium (paintings, virtual media, graphics, etc.), the artistic practices have been going toward complicated art manipulating life mechanisms, such as transgenesis, bio-robotics, synthesis of artificial DNA, biotechnological and medical autoexperiments, etc. Because of the limited space of my work, I can only mention the ethical controversies concerned with these kinds of artistic processes of production, which raise discussion about this trend.¹³

2.3. Bio-art as uncovering and discovering

Hélène Cixous in the short story wherefrom the motto of my work is taken describes a tale about a myopic woman, who “had been living in the cave of the species, docile to fatality” (Cixous 2001: 8). One day she received a surgery and from that day forward she saw the world clearly. She began nostalgic reminiscing about the life ‘before’, delineated as ‘not-seeing-oneself’. This very metaphorical story raises the riddle of the process of acquiring self-consciousness, while showing the irreversibility of the course of our culture. Another metaphorical, short but cunning, sentence —a “body is an Egypt” (Deleuze 2000: 93)— shows perpetual desire to look inside, under the cover, under the skin:

Science has developed powerful tools to image the interior of the body. Since Roentgen’s discovery of X-rays, we have begun to be able to see what is hidden behind the skin.

¹³ *GFP Bunny* by Eduardo Kac stands as an example of controversies concerned with law regulations of transgenic animals. The project was completed in February 2000 with the birth of *Alba* in Jouy-en-Josas, France. The author wanted to take *Alba* home (Chicago) and incorporate her into his family. It appeared as an impossible challenge because of legislative differences which have emerged between Europe and US. See more about governing Laws in the United States and the EU and moral implications of transformation of living being in Perzigian (2003).

Today, new imaging technology allows better visualization of both biological morphology and function. (de Menezes; Kac (ed.) 2007: 223)

Feminist art historians mention two stadia within history of art, I would add the third one, now only briefly and generally describing phases, not relating to any specific genre (as I am going to explain in the next chapter):

- 1) man looking at woman
- 2) woman looking at woman
- 3) woman/man looking inside a body

Voyeurism has been widely criticized mainly by feminist film theory and overcome by feminist artists who instead, developed alternative ways of portraying women (*e.g.* Mulvey 1989, Portuges 1996, Smelik 1999, *et. al*). The new, third level would be called an ‘inner voyeurism’, which scopes out DNA, proteins, cells, and organisms, transgressing former stable borders which regulate the social order.

Those powerful tools have altered the binarisms suggested by previous formulations and found the third way, being a mediation between representation and life itself. Not enough, because “[t]he process of redefinition uncovers an unknown and dangerous terrain where each of these productions becomes a vertiginous and terrifying sign” (Bec; Kac (ed.) 2007: 84). And that would be a subject of my examination in the next chapter.

3. REPRESENTATION, FIGURATION, TRANSFIGURATION. A CONTRIBUTION TO THE CARTOGRAPHY OF MODES OF DEPICTION

The task of bringing into adequate representation the sort of new mixtures that contemporary subjects have become is at the heart of poststructuralist philosophies [...].
(Braidotti 2006: 78)

3.1. Upheaval of representation

“Modes of ‘representation’, ‘expression’, ‘knowledge’, and ‘modeling’ are literally exploding. They are symptoms of the fundamental upheaval that shakes the normative models of contemporary societies” (Bec; Kac (ed.) 2007: 84). The notion of representation no longer seems to be an innocent concept which has no influence on reality and, at the same time, does not come under anyone’s influence. Representation becomes a core-issue for contemporary philosophy and critical theory (or, rather, philosophies and theories), dealing with new political arrays, new power-relations filtered and reformulated by technology, finally — dealing with new subjects has emerged, voiced-up in connection to the processes of decolonization, settlements after the most dramatic *Endlösungs*, emancipation, technological transgressions, etc.

The postmodern era is often seen as an anti-representational passage because of the rejection of the universal and superior moral/political/religious instance. While feminism(s) showed that the representational thought is highly masculine (Irigaray 1985, Cixous 1975), postfeminism clarified that the feminist representation is unfairly standardized, and postcolonialism revealed that the subaltern cannot speak on behalf of him/herself (Spivak 1988). Recapitulating the traditional, normative, classical way of representing is inappropriate nowadays when we have a stake in a vision of a non-unitary subject, in Deleuzian words “a rhizomatic subject-in-becoming” (Braidotti 2006: 14), being a complex intersection of subjective embodiments (“new forms of micro-, infra- and counter-subjectivities”; Ibid.: 44), located in certain time and space.

A bit caricatural a once-over of the twentieth-century theory of subjectivity shows the gradual disintegration of that monolithic category. The psychoanalytical revolution of Sigmund Freud has become a flywheel of metamorphoses of subjectivity. It has broken the Cartesian battlefield, scraped distinctly in a few words: “Since now I am pretending that I don’t have a body, these are mere fictions” (Descartes 1993 [1647]: 5), and pulled reflections out from the somatophobic dimension. Then the time for a linguistic turn has come and the Lacanian paradigm has made the binding way of ‘reading’ subjectivity. Derrida comes to the Lacanian aid: the next direction within the poststructuralist abyss is the deconstructionist following *différance* as a masterpiece of aporetic landscapes. Michel Foucault brings in the perspective of historical analysis of power. Gilles Deleuze goes a step further and stops on the ground of radical empiricism. Subjectivity is no longer a frivolous play of signifiers. It is grounded, rooted in monistic ontology, whereas the subject is seen in non-anthropocentric categories. Deleuze re-thinks “subjectivity as an intensive, multiple and discontinuous process of interrelations” and sees “this ‘somatic’ dimension [...] in vitalistic terms” (Braidotti 2002: 69, 72). Maurice Blanchot calls into question the possibility of creating a community where members’ identities are not simply in the process of merging with a collective ego (Blanchot 1988). Afterwards, it is even said that individuality/subjectivity is replaced by ‘trans-individuality’ (Guattari & Simondon’s term; qtd. in Braidotti 2006: 41) and I will expand on that at the end of this chapter.

Therefore, the very challenge is to find such modes of representation that are adequate for the complexities of the real-life world (*pace* Braidotti 2006), regarding the traditional notion of representation (and other synonymic categories such as a portrait, self-portrait, mask, an *imago*, icon, etc.) was rejected¹⁴ — as a linguistic tool which cannot represent the reality and/or subjectivity — within the new critical wing of feminism (I mean mostly early Judith Butler’s theory associated with linguistic paradigm¹⁵ and the subsequent material turn,¹⁶ deriving inspirations from Deleuzian philosophy). Those reflections, repeatedly coming back on the theoretical ground of (postmodern) theory of culture and memory studies are my starting point to rethink the notion of representation one more time. In spite of the fact

¹⁴ Rosi Braidotti’s thought encouraged me to state this inadequacy so flatly: “Representational thinking and the linguistic turn are outdated models to account for the kind of subjects we have already become” (2006: 40).

¹⁵ The linguistic paradigm is understood here as an over-emphasis on textuality, representation, interpretation and the power of the signifier (*pace* Braidotti 2006: 50), rejecting bodily reactions (and even presence) of author and receiver as well.

¹⁶ The material turn (also known as new materialism) can be seen as a new intellectual formation, which goes beyond geopolitical formations, spreading between different academic communities. To put it bluntly and shortly: it restores the materiality of subjects to philosophical reflections.

that the representation has lost its firepower after superannuation of the linguistic turn, the category itself is no longer vital for the mimetic paradigm. But even then, after the series of perturbations, we cannot get rid of this term. Representation, rather, has stopped meaning a free chain of signifiers, whereas each one refers to one another and there is no referent outside the language. Neither can we run away from the body nor can we pass over the morphology (biological and linguistic as well). We have to take up the gauntlet of situating this symbolic structure in a new order. After years of feminist literary criticism rooted in academia, we do not have to draw visions of utopian atmosphere. In/ability of representation is concerned with changeable, fluid ontological status of the subject (no more Subject). The difference between presented realms can be seen as a passage from a discursive realm to a *stricte* material one; from omnipotence of the symbolic system to the proliferation of discourses, and finally, to the multiplicity of beings.

Molly Andrews has already used the category of a ‘new representation’:

What might this new representation look like? And might new forms of narrative be a useful tool in this most challenging pursuit? These are questions which scholars of trauma testimony have been grappling with, and to which there are no definitive answers. (2010: 160)

I would like to try to respond to her questions (even though it is not exactly in the direction of trauma testimony), by taking the new techno-cultures into account and being guided by feminist critical theory. I believe that feminist criticism can be seen as a re-novation in the light of transformations of humanist studies. After the series of criticisms directed at blurring, spreading out notions of feminist collective,¹⁷ after a significant popularity of hybridities, which have become empty words, we can rethink the content of our metaphors and add new semantic fields.

The goal of my project is to re-think, re-read, re-interpret the concept of representation. My primary aim is to scrutinize the shift from ‘subject-object’ positioning to ‘subject-subject’ relation. The latter is present in the process of (self-)portraying, particularly in the domain of bio-art, the inevitable focal point of which is always a reflection on the changing role of art in thinking about the importance of science and technology in gender relations. Hence we will see how the instability, in other words — the permanent becoming of a subject — gains new figuration on the artistic ground. I hope to connect the traditional tools from literary and

¹⁷ This is the next big and problematic notion, but somehow solved within the intersectional approach, embracing and taking into account all the differences between subjects and their equal features.

linguistic background with the broad cognitive science achievements as new methodological ability to explore bio-art works.

First, I would like to examine the etymology of the notion of representation, using tools of comparative linguistic studies. Following the Deleuzian notion of a “violent effect of a sign” (Deleuze 2000: 23), I will compare etymology (originated from different languages) of notions related to referents included within the category of representation: a (self-) portrait, an image, a mask, etc. Secondly, working on differences and similarities between categories of representation and figuration, I will compare various definitions and conceptions of representation (among others: Hall 2010, Spivak 1988, Butler 1990, Sobchack 2004) and figuration (Braidotti 2002, 2006; Haraway 1991) functioning within feminist theory.

I have prepared a ‘minicartography’ of concepts that will show that the representational *status quo* is insufficient to analyze bio-art works. In the end, I will make an attempt at preparing new tools facilitating the reception of a new class of portraits.

3.2. Etymology of the notion of representation

The history of the portrait — as an artistic form, as well as a social practice — goes back to the 3rd millennium B.C. when portraits of Tii, Nefretete and her daughters were created. The connection between a ritual of mourning and preparing epitaphial images is well-known in theory and practice of portraying.¹⁸ Before the word ‘masque’ became operative, a ‘larva’ had been an Etruscan designation for a shamanic mask,¹⁹ from which the portrait has evolved. Gilles Deleuze also refers to ‘larval subjects’, elaborating on his concept of becoming-subject:

We do not begin as subjects who then have to know a world; there is experience and from this experience we form an image of ourselves as distinct subjects. Before ‘the’ subject of mind, then, there are what Deleuze refers to as ‘larval subjects’: a multiplicity of perceptions and contemplations not yet organised into a self. (Colebrook 2002: 74)

The ‘larval entity’ marks then the not-ready, unstable subject who performs him/herself in the never-ending story built throughout his/her life. Now, as we will see, the portrait (or self-

¹⁸ For instance, in the works of Władimir Toporow (2004), Vladimir Jankélévitch (2005), Hans Belting (2007), Rosi Braidotti (1994), *et al.*

¹⁹ Latin *larvāre* means practise magic. See: Bańkowski (2000: 5).

portrait) neither gives the solid, invariable image of a person, nor aspires to the ‘truth’, although it is supported by scientific authority.

First of all, the portrait as a genre in the new artistic version goes back to the indicated etymological relation. ‘Larval roots’ become incorporated in art as strategies of performativity, which show the relational basis of being the “I”. As Amelia Jones writes, analyzing the photographic self-portraits:

Exaggerating their own performances of themselves, [...] artists, then, explore the capacity of the self-portrait photograph to foreground the “I” as other to itself, the artistic subject as “taking place” in the future through interpretive acts that bring her or him back to life via memory and desire (the “I,” I am arguing, is always other to itself; these practices merely foreground this structure of subjectification). (2008: 950)

Secondly, the noun ‘image’ in Polish is ‘obraz’. The word includes the part ‘-raz’, which means ‘a blow’ and connotes associations with violence (see Bańkowski 2000: 349), already pointed out by Deleuze. We find ourselves in a similar situation, analyzing the etymology of the word ‘to portray’, which leads us to the meaning of the term ‘trace’.²⁰ A trace not only directs us to the semantic field connected with the process of drawing, but also hides the second connotation — concerned with captivity: it designates a cord used to truss people and animals. Latin term ‘portrahere’ (‘-trahere’ shaped into ‘trace’) primarily means invoking, coming out, spreading, extending, which makes a mechanism of coercion, the connection between image and death being very distinct. To quote Jones again: “the subject performs herself or himself within the purview of an apparatus of perspectival looking that freezes the body *as* representation and so — as absence, as always already dead — in intimate relation to lack and loss” (2008: 949).

What is ultimately at stake in that, as we will see in the next chapter, is the insufficiency of definitions of representation which are still being understood in the mimetic vein. The etymological track, showing a violent practice hidden in representational strains, leads our reflection further. The newly released subject, always performing him/herself, cannot be frozen in a shape of representation of his/her temporary body, simply because the body is permanently changeable. Even though we will always create representations (usable or artistic, figural or conceptual, realistic or abstract, etc.), our terminological apparatus is

²⁰ Online Etymology Dictionary. <http://www.etymonline.com/index.php?term=portray>. [2.02.2010].

outdated. That is why I would like to suggest a contribution of metamorphoses of this nomenclature, giving, if possible, ample space to illustrate the new theoretical tools.

3.3. A contribution to the cartography of representations

At this point in time we need a new look at past methodologies and we have to “show that contemporary feminist epistemology has moved away from producing classifications and towards *cartographical* approaches” (van der Tuin, 2009: 18). Earlier the metaphor of cartography, *implicite*, was used by Irigaray (1985), Cixous (in Cixous’ case it is the strategy of describing a bodily territory of women; 1975), and, *explicite*, by Butler (1990), Braidotti (1994, 2002, 2006) in order to emphasize the complexity of the feminine experience and the performative approach to subjectivity. As Braidotti categorically notes: “The process of drawing cartographies of the present is central to the social theory and cultural studies, in both feminist and mainstream theories” (Braidotti 2006: 78).

My trial to rank the most important definitions and conceptualizations of representations will be formed as a contour map, prepared to fulfill and provide with details. But for now, ‘rough isolines’ will stand as scaffolding for my project. I will now present the critical evolution of the concept, trying to underline the most important changes. Stuart Hall — probably the biggest theorist of representation — sees representation as a process which links together several elements: meanings given to the world by constructing a set of correspondences or a chain of equivalences between things; constructions of sets of correspondences between conceptual map and webs of signs, arranged into various languages (Hall 2010; Hall (ed.): 19). Furthermore, he dispenses three approaches to representation (*ibid.*):

- 1) reflective/mimetic — where the meaning is thought to lie in the object/person/idea/event;
- 2) intentional — where the speaker/author imposes a unique meaning on the world through language;
- 3) constructionist — the meaning is constructed through concepts and signs, neither lies in reality nor in language.

This categorization misses, generally speaking, the political dimension of representation and is focused on the process of generating images, thus the reception is passed over. One of the most important ascertainties was made by Gayatri Spivak (1988: 70), who highlights “[t]wo ways of representation are being run together: representation as ‘speaking for’, as in politics, and re-presentation, as in art and philosophy” within the theory of the subject. Butler (1990) adds that representation is a normative function of language, which shows or deforms “presumed truth about category of women”. Moreover, she postulates ousting conception of representation and replacing it by the term of ‘open coalition’, which should stand as an affirmation of identities, the infinite puzzle without necessity to follow toward normative *telos* — that is — a closing definition. At the same time, however, she claims that the politics of representation is not about judging between good and bad or authentic and imposed representations. Rather, it works through the paradoxical mechanisms repeating norms, whereas each repetition is already a change within the represented self (see Colebrook 2009). Haraway goes even further with the criticism of traditional representation, *implicite* referring to etymology of that concept, and claiming that “[...] representation depends on possession of a passive resource, namely, the silent object, the *stripped* actant” (1991: 89). In the same vein, Rosi Braidotti reminds us that:

[...] in Western philosophy, the masculine as term of reference of the dominant view of subjectivity²¹ coincides with the exercise of basic symbolic functions, such as reason, self-regulation, self-representation, transcendence and its corollary; the power to name and appoint positions of ‘otherness’ as a set of constitutive outsiders who design by negation the parameters of subjectivity. Deleuze argues that the masculine coincides with the fixity of the centre, which in western philosophy is represented through the notion of Being. (2008: 307)

Moreover, David Richard turns his critique into a postcolonial tone: “[t]he representation of other cultures invariably entails the presentations of self-portraits, in that those people who are observed are overshadowed or eclipsed by the observer” (1994: 298), again emphasizing the hierarchy between subjects engaged in the process of representing, which empowers the observer/the portraying person to impose his/her subjective point of view.

As we can see, the notion of representation is being highly deconstructed as a medium infected by the hierarchical structure of the subject–object relation: portraying–portrayed person or model–voyeur asymmetry. One of the most influential criticisms of asymmetric

²¹ The postulate of creating one’s own imagery and imagination was broadly discussed by the French wing of feminist philosophy (Luce Irigaray, Hélène Cixous), but there is no place to describe all the theoretical options.

gazes in narrative cinema was proposed by Laura Mulvey. Drawing on the psychoanalytical theory of the subject, particularly on taking pleasure in looking, Mulvey criticizes the scopophilic mechanism of desire, functioning on the axis of activity and passivity, whereas woman is identified with object-position and, therefore, passivity (Mulvey 1989).

One step further, Steven Shaviro claims that the relation between two levels (the level of body and the level of representation) is non-hierarchical and there is no mimetic effect of the image. On the contrary, the relationship is 'reversible', simply meaning that the representation causes receiving results:

[...] the body and representation (cinematic representation, linguistic representation, et. al.) do not simply — or only — oppose or reflect each other. Rather, they more radically in-form each other in a fundamentally non-hierarchical and reversible relationship of commensurability and incommensurability that, in certain circumstances, manifests itself as an oscillating, ambivalent, and often ambiguous or 'undecidable' experience. (Shaviro; Sobchack 2004: 61)

Finally, going through Butler's path of performativity, Lilie Chouliaraki clearly underlines the performative capacity of representation, which enables us "not only to re-present the world to its audiences but also to propose to them how to think and feel about the world" (2008: 838).

This superficial review of differently stretched criticisms of the notion of representation shows, on the one hand, that the concept has to be adjusted to new conditions again, but on the other hand indicates the "multiple economy of representation" (Ibid.: 847), which could be developed within a refined system of depiction. The question is: which form of representation enables subjects to include the permanent change within the figure of self-representation? Various feminist texts mention four figures, which have already become formal *topoi* of representation. Three of them are the traditional figures of speech (metonymy, metaphor and catachresis); two of those three come from Lacanian theory (metonymy and metaphor).

- 1) Metonymy — in literary studies — is a figure of speech that uses one object in place of another related concept.²² In Lacanian theory unconsciousness is treated as a linguistic mechanism, contrary to the traditional Freudian thought, where language (or its lack, for instance, in the case of aphasia) becomes only a symptom of bodily

²² Babylon — Literary Terms Dictionary. <http://www.babylon.com/define/58/literary-terms-dictionary.html> [2.05.2012].

reactions (see the famous Dora's diagnosis). In *The Agency of the Letter in the Unconscious, or Reason since Freud* Lacan, analyzing the two operations of the unconscious displacement and condensation, identifies displacement with metonymy or the syntagmatic pole of language (Rabine 1987-1988: 35). Following Roman Jakobson, Lacan links metonymy to the combinatorial axis of language, as opposed to the substitutive axis (reserved for metaphor), and defines metonymy as the diachronic relation between one signifier and another in the signifying chain. Meanwhile, Peggy Phelan interprets those ranks differently and sees the realm of metonymy as a *stricte* bodily way of representing (on the contrary to the Lacanian linguistic definition of the term): “[i]n moving from the grammar of words to the grammar of the body, one moves from the realm of metaphor to the realm of metonymy” (1993: 150). But even in this interpretation, the metonymical mechanism is restricted to the pure body art, where the body produces meanings, stands as something else.

- 2) Metaphor — in rhetoric it is described as “[...] emerging from a *hierarchical relation* between a primary and secondary context of language use. That is, a word is understood as literal insofar as it is used in a normative (hence ‘naturalizing’) context and becomes understood as figural or metaphoric only when it is used in an unusually extended sense and transferred beyond its normal context (indeed, the word ‘metaphor’ means ‘carried beyond’)” (Sobchack 2004: 80). Within the psychoanalytical discourse the condensation and the metaphor are the same process. According to Lacan, there are two kinds of metaphor: metaphor as condensation, which, while erupting as a symptom of the unconscious, “disrupts the unity of that symbolic order and the Oneness of the subject based on it”, and metaphor as substitution, “identified with the psychoanalytical figure of the father” (Rabine 1987-1988: 35-36). The second term uncovers the masculine regime of unconsciousness within Lacanian theory, which as mentioned before, Luce Irigaray was fighting against. But the first one, again, identifies metaphor with the substitutive axis of language, and shows the aporetic basis of representation, the split between subject and representation, where one replaces another, hence they can never be united.

- 3) Catachresis — as a rhetorical sign becomes a misuse of words; stretching a metaphor, or using a word inaccurately in a metaphorical way.²³ Vivian Sobchack offers this term as the most suitable, and joining the representational with material dimension: “What kind of representation or linguistic construction conflates the literal and figural [...]? The answer is not metaphor, but *catachresis*, sometimes called false and improper metaphor. Catachresis mediates and conflates the metaphoric and the literal and is used when no proper, or literal, term is available” (Sobchack 2004: 81). Unfortunately, catachresis operates ably in the literary realm, but cannot cope with all the different kinds of new art practice.
- 4) Figuration — as a term related to art theory it means a shape; molded form; figurative performance; figurative decoration.²⁴ Therefore, according to Braidotti — figuration is the most suitable figure for the new mode of representing subjects, because — described within cartographical mood — it “stands for transformative account of the self” (Braidotti 2002: 3). This very definition will be the subject of my following analysis.

3.3.1. Figuration(s)

The notion of figuration is the broadest from all those presented terms. Traditionally contrasted with abstract and conceptual, the figurative art showed silhouettes, presenting congealed entities. The new re-reading of the figurative way of depicting subjects also encompasses their commotion, understood as a great amount and variety of the positions of self and, more importantly, different intersections, connections and combinations of them. The proliferation of subjects and their multiple belongings²⁵ cannot be expressed only by means of traditional rhetorical figures, which I have already shown above. Metamorphoses of subjectivity in contemporary socio-political showed that we need more flexible tools of representing ourselves, divested of the “violent effect of a sign”. As Braidotti explains:

²³ Ibid.

²⁴ Ibid.

²⁵ This term comes from Aiwa Ong’s work on Chinese migrants and is widely used by Rosi Braidotti in her works (2002, 2006).

Figurations are not figurative ways of thinking, but rather more materialistic mapping of situated or embedded and embodied, positions. A cartography is a theoretically-based and politically-informed reading of the present. A cartographic approach fulfils the function of providing both exegetical tools and creative theoretical alternatives. As such it responds to my two main requirements, namely to account for one's location in terms both of space (geo-political or ecological dimension) and time (historical and genealogical dimension), and to provide alternative figurations or schemes of representations for these locations, in terms of power as restrictive (*potestas*) but also empowering or affirmative (*potential*). I consider this cartographic gesture as the first move towards an account of nomadic subjectivity as ethically accountable and politically empowering. (2002: 2)

Going down the nomadic road, Braidotti presents the vision of this theoretical alternative, far away from the structuralist attachment to the form, as well as from the poststructuralist practice of 'interpretative drifting'. The nomadic strategy requires the knowledge about inner characteristics, but, even so, about external conditions. This is why the figuration is no longer only a rhetorical figure. It is also just as firmly rooted in the philosophy of becoming, which stands as a way of reclaiming and relocating the process of acquiring subjectivity. The whole story begins with the Deleuzian reinvention of philosophical thought and then looking for new images which could become more than metaphors that are well-known from the philosophy of the Enlightenment period:

The non-Oedipal woman is for Deleuze the prototype of the nomadic vision of subjectivity which marks his entire philosophy. Deleuze invents a unique philosophical style to convey this alternative view of subjectivity, which I read in terms of 'figurations' for alternative subjectivities. Firmly convinced that: *c'est l'image de la pensée qui guide la création des concepts*, Deleuze tracks down with rigour and originality the pre-philosophical passions or intensities which underlay philosophical concepts. [...] Deleuze argues that philosophy is the *extramural* activity which consists in the creation of new concepts and new images of thought. This project of re-imaging the activity of thinking lies at the heart of the stylistics invented by Deleuze. All of Deleuze's figurations — be it the rhizome, the body without organs, the nomad or the becoming — alternate a creative multiplicity with a singularity that is nonetheless deprived of stable roots and fixed foundations. (Braidotti 1996a: 308-309; emphasis mine)

Moving the philosophical activity outside the cathedral, Deleuze opens a whole new space which can be developed by an individual or even by an intimate analysis of the self in transit between all the significant, geo-socio-political, dimensions of life. Every-body, based on these interconnections, becomes a figuration, an inner inscription containing dynamic stories:

Figurations are not mere metaphors, but rather markers of more concretely situated historical positions. A figuration is the expression of one's specific positioning in both space and time. It marks certain territorial or geopolitical coordinates, but it also points out one's sense of genealogy or historical inscription. Figurations deterritorialize and destabilize the certainties of the subject and allow for a proliferation of situated or 'micro' narratives of self and others. (Braidotti 2006: 90)

In general, the same idea is shared by Donna Haraway, who sees figures (instead of figurations) as an interconnection between biology and art:

Figures are not representations or didactic illustrations, but rather material–semiotic nodes or knots in which diverse bodies and meanings co-shape one another. For me, figures have always been where the biological and literary or artistic come together with all of the force of lived reality. My body itself is just such a figure, literally. (2008: 4)

This complex methodological frame will lead my analysis of particular bio-art works. The representations of various bodies are then considered as living organisms and art figures, material and metaphorical images, because “[w]e are all matter, and we all matter” (Birke, Bryld, Lykke 2004: 178).

3.3.2. Transfiguration

I have already mentioned the notion of ‘trans-individuality’ (Guattari & Simondon’s term; qtd. in Braidotti 2006: 41), which has replaced single individuality/subjectivity. The movement of transhumanism in its declaration established a vision of transhumanist subject, stating that: “Humanity will be radically changed by technology in the future. We foresee the feasibility of redesigning the human condition, including such parameters as the inevitability of aging, limitations on human and artificial intellects, unchosen psychology, suffering, and our confinement to the planet earth” (WTA 2005).

The prefix ‘trans-’ also precedes the analyzed above notion of figuration. What does it change? Again, it demarcates a new state of art (on the contrary to the current *status quo*): mobile, non-monolithic, non-hierarchical, hybrid, cartographic, anti-normative, etc. The hegemony of traditionally understood aesthetics is replaced by the critical role of art:

[...] the new biological self-inflation is not a private resistance to reality but a generalized recrafting of it. Currently, we have the transfigurational dress of flesh: Think of

Orlan, whose self-sorcery consists in tirelessly sculpting mutations of herself and then redoubling them over the Internet. And we have the apotheosis of the decorative detail: Think of Eduardo Kac's augmented or transgenic bunny Alba—altered with a single fluorescent green protein (GFP). In either case identity is jostled, but not at the visceral level. Kac's skin-dressing art obliges us to recast Derrida's 'logic of the supplement'—defined as the operation by which an element that a given system tries to exclude is readmitted to that system, but only in a negated or debased form. (Stafford; Kac (ed.) 2007: 377-378; emphasis mine)

Therefore, we can trace the series of metamorphoses of the general notion of representation, presented here in different alterations. The meager cartography of changes presented here includes numerous operations taking place on different levels. The process of merging, fusing, in different words: the mechanism of hyperplasia or symbiotic growth abrogates the binary oppositions, organizing, so far, the art practice, transforming them into “a fluid flowing of becomings” (Braidotti 2006: 9):

- 1) subject-object
- 2) activity-passivity
- 3) reality-reproduction
- 4) creator-receiver
- 5) material-linguistic/cinematic/painting/etc.
- 6) alive-dead
- 7) moving-stable
- 8) nature-culture
- 9) visual (voyerism, scopophilia)-differently sensorial

This is the new 'bio-logic', as Louis Bec named it, whereat the living self “imposes itself as a material subject that deals with itself, even beyond representation and current artistic and scientific categories” (Bec; Kac (ed.) 2007: 83). That is why the methods of analysis should be as moveable and transversal, transposeable, etc., as entities described by them. Thus, we get new heterogeneous methods and hybrid achievements, joining art, life and science. I would call the new class of alternative artistic modes by the name 'art-entities' (instead of art works, compositions, art productions). In my next chapter I will examine examples of bio-art works, particularly, different realizations of the genre of portrait.

4. TOWARDS BIO-CARTOGRAPHY

Art is a veritable transmutation of substance.
(Deleuze 2000: 47)

The titled neologism of bio-cartography defines a new dimension of art criticism. It joins two semantic fields: the realm of representation and biology. As mentioned in the previous chapter, Donna Haraway states that “diverse bodies and meanings co-shape one another” (2008: 4), formulating a material-semiotic mode of art practice, which has been already widely introduced in chapter 3. Artists have been trying “not only to portray the recent advances of biological sciences, but to incorporate biological material as new art media: DNA, proteins, cells, and organisms offer an opportunity to explore novel methods of representation and communication” (de Menezes; Kac (ed.) 2007: 218). In this regard, the presented chain of metamorphoses of representation offers a new perspective which reasserts the old methodological tools and enables them to work actively now.

The core of my case-studies will show five works — differently playing on the border of art and biology, representation and life itself. There is a common feature joining the works together: all of them stand as portraits (some even meet requirements of self-portraits). I have chosen them to show the range and variety of bio-art and create a kind of comparative anatomy of subjects and new entities. A new avenue of expression is variously attained within particular artistic frames. Nevertheless, as I have underlined in the second chapter, there is a very strong link between all those artistic insights: they embody the aesthetic paradox of exposing, uncovering what is hidden, invisible. They adopt the mechanism of probing, exploring the area so far standing as *terra incognita* for artists and when they display the final results of their work, even against the law, there is a bourgeois morality or shock-effect provoked on the audience. This way, the bio-art becomes a manifestation of new ethics; “[i]f the point of ethics is to explore how much a body can do, in the pursuit of active modes of

empowerment through experimentation, how do we know when we have gone too far?” (Braidotti 2006: 158).

The bio-art works function not only as test-machines, but also as public demonstration of scientific possibilities and simultaneously provide a critical dossier of laboratory experiments. Therefore, they bind the scientific to the artistic, the cognitive to the emotional, the human to the non-human, unfolding the whole new dimension of bio-techno-others. The paradigm of biotechnoteratology has somewhat ended, since hybrid critters have inhabited many domains of our everyday lives. The genre of (self-)portrait, unavoidable version of which is the bio-portrait, proves that we are much closer to biotechnoteratogens than we suspect.

In this chapter I will confront the previously prepared evolution of the theoretical apparatus with the newest bio-art realizations. Firstly, I will introduce the artists, whose works are the subjects of my analysis. I will vaguely locate them within the bio-art map, showing their main interests. Secondly, I will examine their works, exposing different strategies of bio-portrayal. Finally, I will formulate some critical remarks towards non-human representation included within the part of the analyzed works.

4.1. Artists' profiles. Short introduction

I have chosen five different names and works. Some of the artists are internationally recognized; some also became theoreticians of the new artistic trend. The offered juxtaposition becomes a non-linear, but not chaotic pattern, which aspires to be a minicartography of contemporary bio-art practice. A contribution to the cartography of transfigurations, it can never be complete and finished, fulfilled and irreversibly systematized. The selective introduction to the artistic achievements will provide a basic recognition of the context of the variety of artistic practice.

4.1.1. Eduardo Kac

Eduardo Kac is internationally recognized for his telepresence and bio-art. A pioneer of telecommunications art in the pre-Web-80's, Kac emerged in the early 1990's with his radical works combining telerobotics and living organisms. His visionary integration of robotics, biology and networking explores the fluidity of subject positions in the post-digital world. His work deals with issues that range from the mythopoetics of online experience (*Uirapuru*) to the cultural impact of biotechnology (*Genesis*); from the changing condition of memory in the digital age (*Time Capsule*) to the distributed collective agency (*Teleporting an Unknown State*); from the problematic notion of the 'exotic' (*Rara Avis*) to the creation of life and evolution (*GFP Bunny*). One of the most spectacular works of Kac is named *Edunia* and it is the central work of the *Natural History of the Enigma*. *Edunia* is a genetically-engineered flower that is a hybrid of Kac and Petunia and will be a subject of my subsequent analysis.²⁶

4.1.2. Stelarc

Stelarc (it has been his legal name since 1972) is a performance artist who has visually probed and acoustically amplified his body. He has made three films of his body's inside. Between 1976-1988 he completed 25 body suspension performances with hooks into the skin. He has used medical instruments, prosthetics, robotics, Virtual Reality systems, the Internet and biotechnology to explore alternate, intimate and involuntary interfaces with the body. He has performed with a *Third Hand*, a *Virtual Arm*, a *Stomach Sculpture* and *Exoskeleton*, a 6-legged walking robot. His *Fractal Flesh*, *Ping Body*, and *Parasite* performances explored involuntary, remote and internet choreography of the body with electrical stimulation of the muscles. His *Prosthetic Head* is an embodied conversational agent that speaks to the person who interrogates it. He has been surgically constructing an *Extra Ear* on his arm that will be internet enabled, making it a publicly accessible acoustical organ for people in other places. He is presently performing as his avatar from his *Second Life* site. I will be working on the

²⁶ Information about the artist from: <http://www.ekac.org/kacbio600.html>. [30.04.2012].

‘extension’ of the project *Extra Ear*, called *Ear on Arm* — the surgical construction of a full-sized ear on artist’s forearm, one that would transmit the sounds it hears.²⁷

4.1.3. Marta de Menezes

Marta de Menezes is a Portuguese artist born in Lisbon, working mostly on the connection between art and science, particularly art and biology. She was creating her works in research laboratories, demonstrating how new technologies can be used as art medium and proving that a laboratory can be an art studio (currently with a project called *Ectopia*). De Menezes is one of the first and well-known representatives of the trend called bio-art, having published her theoretical manifesto in the book edited by Eduardo Kac. Among her art projects we find: *Proteic Portraits*, *Inner Cloud*, *Nuclear Family*, and *Extended Family*, which take advantage of different DNA functions. Her work *Nature?* is a collection of live butterflies with wing patterns never before seen in nature; *Extended Family* shows the similarities between human and other species genes. I will focus on two works from the series *Functional Portraits* made in the years 2002-2003, which were created during a collaboration with Patricia Figueiredo, a physicist at the University of Oxford.²⁸

4.1.4. Frederik De Wilde

Frederik de Wilde is a Belgian artist, acting on the border area between science, technology and art. The conceptual crux of his artistic praxis is related to the notions of the intangible, inaudible, invisible. It is this interstitial territory that De Wilde explores in his various works; among others: *EODO2*, *Qu[Art]z*, *UMWelt:VIRUtopia*, *Vectors 4 [UN]Certainty* or *On Fire*. Sometimes on the side of the technological, and often in the perceptual, conceptual, social-human register, De Wilde’s art is grounded in the interaction between complex systems, both biological and technological. Moreover, the indistinct, diffuse, ‘fuzzy’ arena where the biological and the technological overlap and comeingle is

²⁷ Biographic entry gathered from: <http://stelarc.org/testForFlash.html>. [4.05.2012].

²⁸ More on the artist’s website: <http://www.martademenezes.com/>. [15.03.2012].

a productive and favored ground for his projects/projections. I will focus on the series of works called *Nano-Art*. “It features nanolandscapes (molecular and atomic landscapes which are natural structures of matter at molecular and atomic scales) and nanosculptures (structures created by scientists and artists by manipulating matter at molecular and atomic scales using chemical and physical processes). These structures are visualized with powerful research tools like scanning electron microscopes and atomic force microscopes and their scientific images are captured and further processed by using different artistic techniques to convert them into artworks showcased for audiences”.²⁹

4.1.5. Marc Quinn

Marc Quinn is a British artist and part of the group known as Britartists or YBAs (Young British Artists). He is known for *Alison Lapper Pregnant* (a sculpture of Alison Lapper which has been installed on the fourth plinth at Trafalgar Square), *Self* (a sculpture of his head made with his own frozen blood), and *Garden*. As one of the Young British Artists, he is known for his innovative use of materials to make art, including blood, ice, faces, etc., his use of bringing scientific developments into art, and his designs for ‘discussion-generating’ artworks. Quinn’s oeuvre displays a preoccupation with the mutability of the body and the dualisms that define human life: spiritual and physical, surface and depth, cerebral and sexual. Using an uncompromising array of materials, from ice and blood to glass, marble or lead, Quinn develops these paradoxes into experimental, conceptual works that are mostly figurative in form.³⁰ I will focus my analysis on the *Genomic Portrait* of Sir John Sulston, which was made by multiplication of the model’s DNA.

²⁹ More on the artist’s website: <http://frederik-de-wilde.com/biography/> and in Artists Network Database: <http://and.nmartproject.net/?p=1337>.

³⁰ Information from: <http://www.marcquinn.com/biography/>. [2.05.2012].

4.2. The classification of bio-portraits

Tracking down the etymology of the genre of portrait in chapter 3, I was trying to show that it already contains the dynamic, never-ending story of the subject, ‘who is not one’ (*pace* mentioned before Irigaray and Haraway, who emphasize the intersectional character of personality; Irigaray in feminist, Haraway in posthuman vein; see more in 2.1.1.). The experience of living forms cannot give an image of ourselves as distinct subjects, as Colebrook commented on Deleuzian ideas (2002: 74). It rather shows that the experience of being a subject is highly inter-relative, symbiotic, commutative and permanently mediated by different power-relations. In the light of what has just been said in the previous chapters, the experience of being a subject has been changed and functions in-between discursive and material levels. So then the transfiguration becomes an effect of hegemonic power and agency of the subject creating, and of that being represented, which then acquires the representation. The coinage of bio-portrait is based upon the rearrangement of the previously indicated elements: the living/nonliving, grown/constructed, born/manufactured, and object/subject. The borders are blurred, the bio-portrait is actively rearranging itself throughout its metamorphoses —the metamorphoses of, oftentimes, a living entity, regarding for instance the works of Kac or Stelarc. Life —as vital processes and incessant relations with surroundings — is not only represented as a petrified point in the taxonomy of knowledge, but also as perpetual change, which depends on particular location in time and space — the processes of vegetation (a genetically modified flower) and assimilation (an artificial ear blending into a skin). These kinds of intra-species variations, which are prepared as art works, stand for me as the bio-portraits. Albeit, they do not represent one stable position of a single subject located in monoculture, but rather multiple subjectivities always ready to change themselves or to be changed by rearrangement of living conditions.

Traditionally, the genre of portrait marked the social, ecclesiastical, class, monarchical, financial, etc. *status quo* of a poser. Portraits were made in order to emphasize financial stability, prosperity and prestige of a portrayed individual. There are some important changes in the evolution between portrait and bio-portrait:

- 1) Marking the end of the culture of thanatism, they are released from the mourning ceremony and eliminate the violent practice of universalization of the subject.³¹
- 2) They re-territorialize, redefine and shift the borders between the biological, the technological and the human.
- 3) As Deleuze argues, “the representation of embodied subjects is no longer visual in the sense of being scopic, in the post-Platonic sense of the simulacrum. Nor is it specular, in the psychoanalytic mode of redefining vision within a dialectical scheme of oppositional recognition of self and/as other. It has rather become schizoid, or internally disjointed [...]” (qtd. in Braidotti 2006: 48).

The modifications are present on different levels:

- 1) level of portrayed (traditionally — object)
- 2) level of portraying (traditionally — subject)
- 3) level of audience (traditionally — passive)
- 4) level of image (traditionally — stable effect).

Therefore, as an effect of these translocations, portrait becomes an intersection of reinterpretations of representation. Nowadays, in post-individual times, Kevin Clarck uses a person’s specific genetic code to represent his models, believing that this allows him to perceive them without marking their social background. Dui Seid, a Chinese-American artist, thinks that a person’s DNA is a portrait of his ancestry and probably even his descendents and expresses that belief in his work titled *Bloodlines*. His family portrait dissolves into his own image then into a myriad of all ethnically diverse people before finally dissolving into his own DNA (see Andrews; Kac (ed.) 2007: 129). Marta de Menezes decided to take advantage of the visual opportunities offered by structural biology in order to create a self-portrait using proteins as an art medium (de Menezes; Kac (ed.) 2007: 221). Marc Quinn used DNA which was taken from sperm to prepare a portrait of sir John Sulston; Eduardo Kac implemented the

³¹ Agata Bielik-Robson (a Polish philosopher) in her work *Wprowadzenie. Erros, albo życie problematyczne [Introduction. Errors, or, the dubious life]* (2011) concludes that we are living in the Thanatic culture. Also Braidotti points the fixation of Thanatos in critical debates today, and notes, writing about ethics and Thanatos that “Death need not to be the ‘unproductive black hole’ [following Ansell-Pearson 1996:68] that we all fear, but rather a creative synthesis of flows, energies and becomings” (2006: 235).

flower's capillaries by his own DNA taken from his blood; de Menezes and Frederik de Wilde made use of the newest technological tools to look inside bodies in order to present what normally cannot be presented. Furthermore, Stelarc used a soft prosthesis to permanently modify his body architecture, locating an artificial ear on his forearm.

All of the mentioned interventions and modifications of living bodily material have one specific attribute: cross-referencing between disciplines of art and science, but — I would say — on the level of complexity and accountability. They surpassed the simplified visions presented by Daria Martin or Jean Painlevé, where a personal narrator admires the intelligence, impressive memory, and capacity of the octopus to express their emotions (Painlevé, *Les amours de la pieuvre/The Love Life of the Octopus*, 1967), or the camera shows the mutual, bodily exploration of the naked dancer's body with the non-antropomorphic robotic devices (Martin, *Soft Materials*, 1973). In spite of the fact that the robotic structures are shaped in a non-antropomorphic way, and the octopi is observed by immersive, but not interfering means, there is still a 'distance-zone' between human and non-human. The "in-depth transformation of the dominant, unitary vision" (Braidotti 2006: 5) of coalescence of the variety of living subjects is not done yet. What is more, nature simultaneously reflects humanity, mirroring human emotions/feelings/situations. I think that we need an intervention instead of a simple mimicry. Among other determinants which indicate the bio-art trend, re-shaping human subjectivity through encounters with other life-forms is the most general (and the most important) one.

The works which I am going to analyze now were created about 30 years later than the ones described above; therefore, they imbibed the impact of new advanced technologies, which evolved during that time. I do not intend to create a full systematization of existing variations between human, robots and animals. Nevertheless, I do want to show the metamorphoses of biodiverse representation, arranged particularly on the line between the portrait and the bio-portrait. The new bio-cartography of subjective transfigurations overcomes the danger of colonialist politics. It avoids the imperialist practice of appropriating new lands, dark continents of the unknown; it rather shows the process of amalgamation of different spaces and congeries. The permanent mutation and the process of blending borders have a creative potential. That is why the map is never finished. The new cartographical approach gives a wanderer "a structure of complex dynamic equilibrium" (Rose; qtd. in Braidotti 2006: 6). It shows the conditions and representations of contemporary life at the

same time. Then, no one has to be afraid that there is nothing down below the paper (*pace* Baudrillard 1994: 1³²).

Commenting on all the adumbrated in this and previous chapters of the conditions of the new class of representation, I will now present five different realizations of bio-portrait. I prepared the categorization of various issues which are encompassed by bio-art works, being aware of the fact that they are cross-referring to each other. Ranging from the most stable scans of human interior to the mutual, inter-bodily union of human and non-human, mediated by the technological apparatus, I will display the artistic exemplification of affinity with other organic and mechanic phenomena.

I would like to divide the bio-art works which I am going to analyze into three categories, considering which one depends on the method being used for preparing/producing/creating them. The first one is focused on rearranging functions of traditional ways of representation by using the new technological apparatus: functional Magnetic Resonance Imaging (*Functional Portraits* by Marta de Menezes) and scanning electron microscopes and atomic force microscopes (*Nano-Art* by Frederik de Wilde). The second strategy is based on the hybridization of organisms, joining the human with non-human elements by means of engineering a soft prosthesis (the Medpor implant and a miniature microphone) in Stelarc's project, and genetic engineering (Petunia and author's DNA) in the Kac's bio-art work. The third manner of portraying consists in multiplication of samples of DNA code by means of the cloning process. My concern is, as I stressed in the second chapter, to analyze the mediation between human and non-human agents on the organic and symbolic level, jointly creating bio-portraits.

4.2.1. Functional portraits

While elements of the portrait's arrangement become an inflexible convention, artists look for different techniques to produce new languages and re-arrange old genres. In de

³² As Baudrillard writes in *Simulacra and Simulation*: "The territory no longer precedes the map, nor does it survive it. It is nevertheless the map that precedes the territory — precession of simulacra — that engenders the territory" (1994: 1).

Menezes' case,³³ the series of portraits was made by using the functional Magnetic Resonance Imaging (fMRI), which determines which regions of the brain are activated while a subject performs a given task. It is a type of specialized MRI scan used to measure the hemodynamic response (change in blood flow) related to neural activity in the brain or spinal cord of humans or animals. It is one of the most recently developed forms of neuroimaging. Portrayed persons were asked to mimic playing piano (Particia Figueiredo) or draw of the Gulbenkian Foundation's gardens, while watching a photograph from the gardens and then changes of activities of their cerebral parts are recorded. In de Wilde's case, the *Nano-Art* project was visualized with tools like scanning electron microscopes and atomic force microscopes, and then processed by using various artistic techniques in order to convert them into art works.³⁴

Both of the projects are focused on exploration of the invisible world of the human body. However, the first one, by means of the new technology, shows a well-known shape of a human brain framed in facial physiognomy, while the second work presents normally hidden shapes and molecular structures in a frame of landscapes and sculptures. One intends to portray a unique personal portrait, the second — to create a small aesthetic universe.

These portraits, or any others of this series, include the face of the subject, the morphology of his/her brain and the active areas of the brain that relate the subject to the task they were performing inside the MRI machine. They have been displayed as digital pictures printed on canvas, or as video projections onto canvas that is used as a screen. (De Menezes [6.06.2011])

Interestingly, in the project of the Portuguese author, a physiognomy is joined with anatomy. The face is almost replaced by the brain mapping. The most important remark is that the notion of time is included in the images. The portrait is no longer a stable, monumental effigy, which pretends to give mirror-reflection of the portrayed model. As we will see, it shows more than a volatile gesture or an image of petrified mimicry. Frederik de Wilde goes even further, exposing the nano-world and shattering our recognition of identifying common images.

³³ The project is described and shown on the artist's website: http://www.martademenezes.com/?page_id=102. [27.05.2012].

³⁴ Detailed information about the project: <http://frederik-de-wilde.com/wp-content/uploads/2011/07/Nano-Art.pdf>. [27.05.2012].

The *Functional Portraits* shows how insincere the conviction about stability of the subject is. Here the portrait (or self-portrait) neither gives the solid, invariable image of a person, nor lays claims to ‘truth’, although it is supported by a scientific authority. De Menezes’ works present the activity of brain captured in a facial frame. The body-mind opposition is re-worked and re-conceptualized. What is noteworthy is that it is also marked as a female anatomy. The Woman as a phantasm was the most common representation in the bodily object often concerned with emotionality (even with hysteric symptoms³⁵). Even the very structure of the human brain is used by researchers to show that there are fundamental gender differences and the perspective is arranged in favour of men³⁶ (Fine 2011: XVII). The conglomerate of artistic views and medical elaborations has already labeled the feminine image; although by these days the feminist practice has unmasked the mechanism of oppression rooted in such reified images many times. Beyond gender stereotypes, the *Nano-Art* project plays with our illusionary way of understanding the visual by penetrating deeper inside the structure which creates images. The contextualization of this particular artwork within the rich history of painting and photography and the connection with old and new masters in traditional painting shows how fallacious our instant reaction and recognition are. Moreover, the medium of the exhibition itself was seen as a tool of an institutional legitimization and objectification of art works, which often eliminates a deliberate critical reflection on the content and manner of exhibited art. Final discovery of the actual subject of perception reveals a failure of the audience’s expectations.

Works of both artists play at the intersection of two various levels — medical and phantasmal, artistic and scientific. I would like to use Lilie Chouliaraki’s term of the ‘multiple economy of representation’ and show how the portrait functions as a regulator and medium of multiple economies of emotions, technologies and phantasms. The question which

³⁵ There is a long tradition in identifying women’s emotional economy with hysterical behavior. Ranging from Jean-Martin Charcot and his student, Sigmund Freud to contemporary diagnosis concerned with eating disorders. More in feminist re-interventions in that field, for instance: *Mad, Bad and Sad: A history of the mind doctors from 1800 to the present* by Lisa Appignanesi, *The Madwoman in the Attic: The woman writer and the nineteenth-century literary imagination* by Sandra Gilbert and Susan Gubar, *Madness and Medicine: The Graphomaniac’s Cure* by Pamela White Hadas, *The Female Malady: Women, madness and English culture 1830-1980* by Elaine Showalter, and ‘Just as a scientific hypothesis: the literary language of madness in Charlotte Perkins Gilman’s “The Yellow Wallpaper”’ by Gerardo Rodríguez Salas.

³⁶ She writes more about that view: “There is also nothing new about looking to the brain to explain and justify the gender *status quo*. In the seventeenth century, the French philosopher Nicolas Malebranche declared women ‘incapable of penetrating to truths that are slightly difficult to discover’ [...] The neurological explanation for this, he proposed, lay in the ‘delicacy of the brain fibers’. Early brain scientists [...] proposed that women’s intellectual inferiority stemmed from their smaller and lighter brains” (Fine 2011: XXIV-XXV), showing a continuum within the contemporary scientific and popular opinions.

immediately pops out while watching de Menezes' works is: how does the portrait show the identity of the portrayed person? We obviously see three elements: face, morphology of the brain and changes of brain's activity during certain tasks performed by the model. It is known that:

[...] several areas of the human brain are involved in the analysis of the human face and that these areas may distinguish processing according to the functions of information they analyze. The analysis of the static features of faces, which convey identity and categorical information about faces, is probably carried out in a different part of the brain than analysis of the motions that carry social information. The processing of emotional information from the face is further differentiated neutrally. (O'Toole 2005: 349)

According to this knowledge, the series of functional portraits becomes a kind of labyrinth of mirrors — the audience watches the recording of the neural work, at the same time using several parts of the brain to analyze the face which they are looking at, whereas de Wilde's photographic project creates a system of inner labyrinths evoking architectural or fantasy spaces. Looking at them, we start asking questions: what do we see?, how do we see?, how do we understand what we see?³⁷ Without preparation to receive an art-work which is made by nanotech, the question about difference between art and science, and art and information, is raised. Then we discover to what extent affective reception and rational recognition are combined. The series of works by those two artists unmask³⁸ a whole variety of petrified conventions and prejudices which direct our interpretation of the world.

Those statements seem to overcome the way of reading metaphysical portraits (facial images) and help to understand the project of this Portuguese artist. By the notion of metaphysical, I mean the one presented in Walter Benjamin's or Ronald Barthes' theories looking for undefined magical aura (Benjamin 1969) or *punctum* of the representation (Barthes 1981). *Functional portraits*, as its title suggests, is focused on function — as I will argue not only biological, but social as well,³⁹ because “[b]odies take the shape of the very contact they have with objects and others” (Ahmed 2004: 1). The work of de Menezes shows

³⁷ The questions raised by the author; <http://frederik-de-wilde.com/wp-content/uploads/2011/07/Nano-Art.pdf>. [27.05.2012].

³⁸ The current series by de Wilde is even called *Un[masked]*.

³⁹ In the *Umwelt* statement Frederik de Wilde wrote: “All technologies are social technologies”, explaining that he is “[...] very much interested in how technologies can be rendered into social technologies and create a potential for change”. Frederik de Wilde: *Invisible Boundary Between Art & Science*. An interview of Silvia Bertolotti. <http://www.digicult.it/digimag/article.asp?id=2180>. [21.05.2012].

how the surface of a body changes when it is being asked to encounter objects (garden or imaged piano). The body is thus shown not as a monolithic unity which determines the liveable space for the subject and his/her possibilities, but as a machine-in-motion. Of course this trope leads us a long way to Descartes and his vision of a body-machine driven by Newton's forces and further to the Cartesian dualism of mind and body. I believe that *Functional portraits* goes beyond this binarism. Rather those images rework the traditional notion of the mythical, mysterious female body, unbridled and unpredictable. This presumption did not end with the dusk of the Victorian regime.⁴⁰ Ahmed reminds that “[f]eminist philosophers have shown us how the subordination of emotions also works to subordinate the feminine and the body” (2004: 3). Marta de Menezes shifts the order — the brain mapping on both images is framed by woman's face — and shows that it is only a seemingly non-gendered image. In fact, those works give different representation and state an active role of the gendered body. Most often, the depictions of bodies catch the whole of silhouettes, not showing the internal organs. On the contrary — analyzed diptych shows what is inside, not outside the body, cutting off a huge part of the figures. What is more — it goes a step further than the Irigarian proposition of female morphology as a corpus of new imaginary, showing not the morphology of genital organs, but of the brain and map of its activity while performing a certain task. Importantly, the task characterizes her (like drawing characterizes de Menezes or playing piano characterizes Patricia).

According to cognitive researchers, emotions do not play first fiddle in the mechanism of emotional reactions, an elaboration of the theory of William James and Carl Lange — they say that emotions arise after recognizing somatic reactions. So then emotions become the answer for bodily behavior caused by some external reason. Here, reason is the task, which the portrayed persons perform. Emotions cannot be deciphered without knowledge about morphology of the brain. It is more likely that they are interpreted from the faces of models. Notwithstanding, cerebral depictions call into question those simple interpretations. Thus the works of de Menezes and de Wilde show how false the reading of omnipresent representations can be. Ahmed in her text on cultural politics of emotions also argues that political and social discourse is based on the bodily and emotional metaphors which are signs of subordination of the Others:

⁴⁰ Fine notes that “the phenomenon that came to be widely known among the Victorian public” was “the missing five ounces of the female brain” (2011: XXIV).

We can see from this language that evolutionary thinking has been crucial to how emotions are understood: emotions get narrated as a sign of 'our' prehistory, as a sign of how the primitive persists in the present. The Darwinian model of emotions suggests that emotions are not only 'beneath' but 'behind' the man/human, as a sign of earlier and more primitive times. (2004: 3)

In fact, contemporary cognitivists working on the evolution of encephalic tissues also agree that 'emotional economy' is located in evolutionary older parts of the brain. It was also mentioned that the Victorian culture and early psychoanalytic work marked emotions in a similar way. But — what is most important — this critical discourse shows how the medical/scientific/evolutionist knowledge is already a kind of interpretation of the results.

Functional portraits re-presents to me (and denoted hyphen is significant) emotions as unavoidable activity: neural and cultural as well. I think that it does not fall into the pitfall of the model of 'emotional intelligence', which Ahmed also writes about — they are not tools which can be used by the subject in the project of life. They are 're-presented' because of the mechanism of double-imaging: showing the neural background of transformation and the cultural context of interpreting the physical process. Work shows the functional analysis of the brain, but it facilitates only conclusions about a laterality (division of two cerebral hemispheres) and activities of certain parts of the brain which are responsible for other tasks (optical, motor, aural, emotional, etc.). Regardless of that fact, the portraits are located within the frame of female physiognomy, what gives immediately the context of cultural representations of women. The interpretations of raw images — fMRI results: functional magnetic resonance imaging — would be a medical analysis of pathological changes. Here, as works of art, they are inevitably placed within the history of art and metamorphoses of female images. In the light of the previous reflection about the hysterical status of a woman being a hostage of the Victorian jail, works of the Portuguese artist call up associations with disorders, the pathological condition of the female body, but are instantly overcome. There is adumbrated joyfulness — instead of madness and sickness. Hence, the multiple economy of the portrait consists of a polemic character of presented images as genres and particularly — women's representations.

The work of Frederik de Wilde projects a wider perspective on human mechanism of recognition, making all the crude prejudices questionable. The notions of nanosculptures or nanolandscapes repeat the traditional figurative forms of art, but in fact they portray living and non-living cells without giving a clue about their origins. The contextualization within a frame of history of art, particularly creating a connection with old and new masters in

traditional painting, directs our perception to aesthetic experience of symmetrical, harmonious arrangement of elements, use of light, and the diagonal lines, which build the construction of the image. For instance, the vertical alignment of nanotubes of carbon is supposed to be a relative at the artistic level of the carbon that one finds in charcoal pens or in pencils. The effect of *Nano-Art* reminds of the old visual experiments; for example, the well-known picture of the cord of dolphins and lovers. The perception of one or the other dimension of the image depends on the cultural background of the viewer: at a first glance, children see dolphins, but adults recognize lovers. De Wilde's project reveals a very similar mechanism: it hides the microparticles scanned by electron microscope and atomic force microscope by visualizing them in mode which reminds of ancient or avant-garde techniques of drawing or painting.

The series by Marta de Menezes and Frederik de Wilde stands for me as a suitable example for a 'new representation' or 'figuration' being in-demand within the latest feminist critical theory (not yet a 'transfiguration'). As Braidotti explains: "Figurations are not figurative ways of thinking, but rather more materialistic mapping of situated or embedded and embodied, positions" (2002: 2). Both works join in the most noticeable way the materialistic and representative level of subjectivity. They show that one is born and becomes a woman in defiance of Simone de Beauvoir's claim, or in a wider perspective: that the content of image comes into being through an interpretation. A biological entity that has undergone fMRI testing is not represented as a free from cultural layers being. Even registered emotions have to be seen as a cultural practice, not only recording of change in blood flow. Biological functions of the brain are shown through neuroimaging, but the object of scrutiny is already embodied and framed as an art work. Hence, the new representation proposed by de Menezes has a lot in common with Chouliaraki's proposition of "performative capacity of representation: its capacity not only to re-present the world to its audiences but also to propose to them how to think and feel about the world" (2008: 838). The audience does not get the transparent image realized in well-known, old, used-many-times convention, but rather, it is rich in intertextual streams work which connects scientific and artistic layers.

Woman is no longer represented as an object of the gaze inseparably linked with male desire. The subject which creates portraits does not look at a model and imitates caught-in-a-while-image, but arranges the lab-art studio and puts the results of medical investigation into cultural context. Furthermore, the audience does not stay passive, encountering such functional portraits. Hence, the portrait as a stable confirmation of social status, provocation of sexual desires or sacral legitimization is replaced by the record of various vital processes.

All of those factors need a separate cartography of changes. Notwithstanding, it is clearly shown that representation of a body that is always at least bi-layered (apart from the physical dimension, even within medical sources) is already culturally interpreted (even when we take into account emotional reactions). Functional portraits present a broad set of a portrayal's functions. The exploration of them is determined by the cultural space-time dimension of the researcher.

4.3.2. Hybridized portraits

Edunia is the central part of the *Natural History of the Enigma* (which encompasses a large-scale public sculpture, a print suite, photographs, and other works) of Eduardo Kac, first exhibited in 2009 at the Weisman Art Museum in Minneapolis. *Edunia* is a genetically-engineered flower that is a hybrid of Kac and Petunia, which was developed between 2003 and 2008. A sample of Kac's blood was drawn and subsequently isolated a genetic sequence which is part of the artist's immune system (distinguishing self from non-self, and protecting against foreign molecules, disease, invaders). Then this sequence was integrated into the chromosome of the *Edunia*, which means that it is genetically transferable.

Ear on Arm by Stelarc is a third part of *Engineering Internet Organ*, which has been ongoing for 12 years now. The first part — the *Extra Ear* was firstly imaged as an ear on the side of the head. The *1/4 Scale Ear* involved growing small replicas of his ear using living cells, while the *Ear on Arm* project began the surgical construction of a full-sized ear on Stelarc's forearm, one that would transmit the sounds it hears (see Stelarc). While having received surgeries, many medical problems emerged, but finally the implemented project has effectively become an Internet organ for the body.

Those two works perform different functions (one is an object of aesthetic admiration; the second functions in the technological and media terrain, conducting sounds). However, they stand together as a *technological bestiary*⁴¹ containing 'technoteratogens' — the entities which do not fit in the normative evolutionary order. Therefore, such "[s]ubjects are alive, free, and autonomous. From bacteria to bunnies, from frogs to flowers, living organisms

⁴¹ See also: G. M. Gatti *From The Technological Herbarium (1) - Telegarden* by Ken Goldberg. http://www.noemalab.org/sections/ideas/ideas_articles/pdf/shapiro_excerpts_01.pdf. [19.05.2012].

grown or bred in unique ways, modified or invented by artists, are the elements of a true art of evolution” (Kac; Kac (ed.) 2007: 14). The notion of evolution (as an inevitable, linearly progressive process) is replaced by the ‘art of evolution’,⁴² which eliminates the elements of inevitability and lack of external agency and by means of that it overcomes the mechanism of naturalization of new subjects emerging. The new continuous evolution is happening on the level between ‘natural’ and ‘artificial’, and gives the glimpse of a *new real* (see Shapiro 2010).

The ‘new real’ is being differently embodied. The two, chosen by me, are examples that show two various ways of incorporating non-human agents. The first created by Kac is an organic flower with human DNA. What is being generated and experienced by Stelarc “is not the biological other — but an excessive technological other, a third other” (see Stelarc). Both projects are effects of human agency but reappraised by the participation of outer elements. Throughout the process of living-with they become hybridities containing bodily architecture of different beings, adopting their vital functions, and extending operational/living systems of one species. The question is to which extent the reciprocity of human and non-human is achieved (Hoving 2005: 157; see chapter 2).

Edunia expresses his DNA exclusively in its red veins.⁴³ Apparently, it seems to be an ideal visualization of the notion of hybridity and a result of reciprocal cooperation between human and non-human dimensions of life. *De facto*, when we look deeper into that matter, we will notice that the human DNA is shaped after the anthropological example — located in veins, which reminds us of our circulatory system, especially when we take into account the red color of the capillaries. Furthermore, the purpose of *Edunia* is to show how close humankind is to the other species, which Kac describes as the one of ‘the wildest dreams’. Eventually, it becomes an image which mimics human anatomy. Moreover, the creator is outside his work, so then the project becomes an external self-portrait made in the likeness of him. However, at the same time, it is an excessive crossbreed other — partially flower, partially human. On the one hand, it expresses a contiguity of life between different species, as the author wants, but on the other hand, it shows a hegemonic status of the human. The method used in the process of creation of this hybridized entity becomes even more significant, regarding the paradoxical double-edge interpretation. Kac’s IgG DNA responsible

⁴² However throughout the invasive evolution, which seems to be non-invasive, there are also different examples of chimeric organisms: the humanimal worlds of dogs, chickens, turtles, and wolves; and in fugal, microbial, symbiogenetic counterpoint, the acacia trees of Africa, the Americas, Australia, and the Pacific Islands, with their congeries of associates reaching across taxa. See Haraway 2010: 1.

⁴³ More about work of Kac: <http://www.ekac.org/nat.hist.enig.html>. [5.02.2010].

for the identification and rejection of foreign bodies was located in the flower vascular system. Eventually, the genetic hybridity becomes a very complicated human-flower being, where the part of the human immunological system normally fighting against external invaders is incorporated in the system of external living organism. On the symbolic level — the method of molecular manipulation produces the effect of overcoming the apparently insurmountable mechanism of exclusion or marginalizing the Others.

The *Ear on Arm* also stands as a hybridity, but joins the human with the technological. As Stelarc describes, it manifests a desire to deconstruct our evolutionary architecture (see Stelarc). However it uses the technique of soft prosthesis and becomes a permanent modification of the body architecture. The project does not deliver a promise of filling in the missing bodily parts, but it is rather a symptom of excess. What is more important — the additional ear located on the forearm becomes not only a living sculpture and skin expansion, but also a medium which transmits sounds by integrating microminiaturized electronics inside the ear and distributes via the Bluetooth system. This strategy definitely opens up new vistas onto reappraisal of the notion of subjectivity and agency. The subject literary becomes a collective form, because the borders of skin or of having to be in proximity are no longer compulsory and insurmountable. There is a physical collaboration of different subjects within a frame of a single body, which becomes “an available, accessible and mobile organ for other bodies in other places, enabling people to locate and listen in to another body elsewhere” (see Stelarc). Those technological inventions do not only parallel the shift in focus that has occurred within human needs. They extend the functionality, becoming phantom positions of new subjects, no longer kept in the prison of time and space, no longer depending on single-sense organs. Again, it is worth emphasizing that the representation goes beyond the scopic paradigm of recognition of self (see 2.3 and 4.2). Stelarc’s project exceeds even the level which I have called ‘inner voyeurism’, scoping out DNA, proteins, cells, and organisms, transgressing former stable borders which regulate the social order. It does transgress the traditional social order where singular positions of individuality are considered as personal capital, changing them into fluctuations of life-forms, transmissions of data, into a flow of sensorial inter-subjective experiences.

The new transfigurations of human-animal (mediated by technological tools) and human-technological hybridities become self-portraits, “transformative account of the self” (Braidotti 2002: 3), re-mediated representations of their creators on the one hand, but on the other hand they are a continuum of the life of those subjects, perpetually changing entities

containing external elements of non-human world. Through the prism of representational theories, we can see how they express the desire to forge bonds of stability, a one-dimensional surface of image, time and space limitations and actualize trans-species and transgenic interconnections in a physical realization and symbolic gesture at once.

4.3.3. Multiplied portrait

The *Genomic Portrait* of Sir John Sulston by its title clearly indicates the genre of the presented work. The techniques of making such an image are, however, entirely different from traditional ones. The main strategy of creation — and this concept is also significant in the light of the following reflections — is based on multiplying DNA code.⁴⁴ British artist Marc Quinn used in his work standard methods for DNA cloning. He portrayed a Nobel prize-winning scientist, who is a central figure in the development of DNA analysis. DNA of this key figure in the development of the analysis of DNA and definition of the human genome was broken randomly into segments and treated so that they could be replicated in bacteria. The bacteria containing the DNA segments were spread out on agar jelly in the plate that you see in the portrait. The transparent entities are colonies of bacteria, each grown from a single cell containing a part of Sulston's DNA; at the point of visibility their growth was stopped.⁴⁵ The portrait of the star of genetic research is built on multiplication of his own DNA, taken from the sperm — which is also significant — and hyperbolized through forced bacteria to grow.

The strategy of multiplication is multilayered. First of all, it is based on the DNA cloning procedure, which reflects a kind of cross-fertilization. The process of spreading out the bacteria with DNA segments in some way evokes ejaculation. Second of all, the single portrait becomes a double mirror, a diptych of two charismatic persons working with genetics:

⁴⁴ Nobel prize-winning scientist, who is a central figure in the development of DNA analysis. After receiving his BA and PhD from Pembroke College, Cambridge, Sulston was a Postdoctoral Fellow at the Salk Institute, San Diego from 1966 until 1969. In 1969 he joined the Medical Research Council Laboratory of Molecular Biology, Cambridge, where he researched the cellular and genetic structure of the tiny nematode worm, *C. elegans*. From 1992 until 2000 he was Director of the Sanger Centre, Cambridge, working on the Human Genome Project to decode the human genetic sequence. In 2002 Sulston co-wrote, with Georgina Ferry, *The Common Thread: A Story of Science, Politics, Ethics and the Human Genome*. <http://www.npg.org.uk/collections/search/person/mp59340/sir-john-edward-sulston> [12.05.2012].

⁴⁵ More about the project: <http://www.npg.org.uk/beyond/exhibitions/touring/past/a-genomic-portrait.php>. [9.04.2011 r.].

Sulston and Quinn. Quinn's laudation, however, explicitly also contains his own portrait. As already mentioned, Richard notes: "[t]he representation of other [...] invariably entails the presentations of self-portraits, in that those people who are observed are overshadowed or eclipsed by the observer" (1994: 298). And third of all, the portrait of Sir John Sulston stands as a variation on the fantasy of self-birth, where "the mind replac[es] the womb as the site of procreation" (Braidotti 2006: 102). The mechanism of reproduction is one of the core-issues of contemporary technology (and bio-politics in Foucauldian words).

[R]eproduction, which is by now technologically assisted to a very large extent, provides the experimental ground for unique forms of experimentation. These are integral to biotechnological capital, but this does not prevent them from offering potential new forms of social relations and kinship. (Braidotti 2006: 100)

The work of Quinn has the potential to show these new forms of social relations and inter-species kinship, although it does not meet the requirement of relinquishing the dualism of male–female, and further human–non-human. It is directly connected with the notion of gender and — as an effect — produces 'racial discourse' in the forms of hybridities produced by human. Marc Quinn's work treats it explicitly by means of reproduced sperm. The most important aspect is the usage of bacterial colonies. As specialists say: "[t]his is done using a vector which carries things between species. In the case of using bacteria, the vector is the plasmid which is a circle of DNA found in bacterial cytoplasm. It can easily be opened up and a DNA fragment inserted into it".⁴⁶ However, it combines two circles of DNA — bacterial and human ones — the bacterial round helix (it is a material which includes the DNA) becomes only a container for the human DNA sampled from the sperm. There is a link between women and animals (here bacterial colonies), where women "personify the animal–human continuity, while men embody its discontinuity" (Braidotti 2006: 104). Women stand only as objects of exchange, whereas men manage reproductive capital. What is more, the sperm is burdened with lots of representational connotations — such as a spermatozoon as a hero⁴⁷ — which makes me think about the really traditional overtone of Quinn's work — a monument of a great scholar in a new form, replacing the bronze artifacts, which have been the most prestigious form of reward.

⁴⁶ *Genetic Engineering*. <http://scienceaid.co.uk/biology/genetics/engineering.html>. [6.04.2011].

⁴⁷ More about research on that theme: E. Martin: "The Egg and the Sperm. How Science has constructed a Romance based on stereotypical male-female Roles". In: *Signs*, Vol. 16, No. 3. (Spring, 1991), pp. 485-501.

The strategy of multiplication then becomes a multi-copy of the traditional representations of humans; however, they are closed in a technologically advanced form. The form does not destabilize the traditional view on the monolithic subject, and even fulfills the etymological designation, metaphorically becoming a cord used to truss people and animals (see more in chapter 3). Furthermore, it reproduces the *status quo* position of the human as a colonizer of nature. Although the non-human element is incorporated in and united with human form, and it is not seen as an ‘outer other’, it functions only as a container which makes DNA visible and grown. There is no transgression of former stable borders which regulate the social order.

4.3.4. Critical remarks

Going through the posthuman path of reflection, organized around rethinking and destabilizing anthropocentrism, it is rather a matter for intersectional rewriting, reconceptualizing within postmodern theory, rereading through the theory of science and the other way round. Furthermore, we are oscillating on the ground of the politics of representations. Therefore, Derridean criticism on traditional representation of animals can be very useful here. As Haraway notices:

Derrida correctly criticized two kinds of representations, one set from those who observe real animals and write about them but never meet their gaze, and the other set from those who engage animals only as literary and mythological figures. (2008: 21)

We have been faced with another kind of representation (joining these two mentioned streams): figurative and material at the same time. This was a case of reifying real animals and giving them the shape of a metaphor for the highest human desires (of immortality, evolutionary manipulations, reproductive control). Haraway is writing about the danger of falling into the trap concerned with making the subaltern (so here: animal) speak (following Spivak’s theory mentioned before; Haraway 2008: 20). The question is: if and how the challenge is accepted by the artists. On the one hand, all those works can be seen as an image of human hegemony, treating the non-human world only as an extension of the former one. In other words, the concept which unites all these works can be simply understood as trying to

colonize nature (here represented by living organisms and different species). To quote Haraway one more time:

The discursive tie between the colonized, the enslaved, the noncitizen, and the animal — all reduced to type, all Others to rational man, and all essential to his bright constitution — is at the heart of racism and flourishes, lethally, in the entrails of humanism. Woven into that tie in all the categories is “woman’s” putative self-defining responsibility to “the species”, as this singular and typological female is reduced to her reproductive function. (2008: 18)

The question of reproduction seems to me to be the crucial and ambiguous point indicated by the artists. Using bacteria and the flower as containers of human DNA amounts to the human exceptionalism — being an entity who is able to administer, create, change other non-human beings because of its exception — uniqueness and exclusion.

Going back to the mentioned notion of an art in Deleuzian way of understanding: do these examples of bio-art works create new forms of life? Does this kind of art open up new possibilities for reciprocity between human and non-human entities? Or is it only a new form of colonialism of nature? As the author of *When species meet* has written: “Nature is only the raw material of culture appropriated, preserved, enslaved, exalted, or otherwise made flexible for disposal by culture in the logic of capitalist colonialism” (Haraway 1988: 592). It can be said that nature is treated as a surface, which can be patterned, used, modified, in order to achieve some results by the humankind and these bio-art hybridities locate animal parts on the position of otherness, which is shared with referents such as women or racialized Others. So then there would be no ‘sym-bio-genesis’ unfortunately. But it can also be seen as an effect of overcoming the apparently insurmountable mechanism of exclusion or marginalizing the Others, as I said before. The presented works perform the given differently by the new trans-specific ethics tasks. Some of them only duplicate the boundaries between human and non-human, already gendered, worlds (Quinn), the others ably balance on the line between techno-organic levels (Kac, Stelarc), yet others disprove general misrecognitions made by human (de Menezes & de Wilde).

Now then, is this “[...] the Man-making tale of the hunter on a quest to kill and bring back the terrible bounty” (Haraway 2010: 2) or the nomad-making tale of the newcomer on the new sustainable shore?

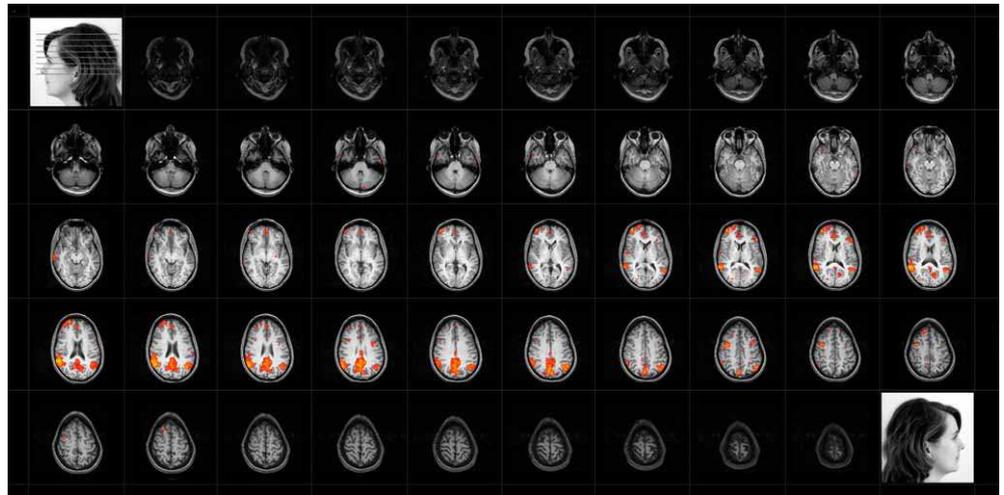


Image 1, 2. Marta de Menezes, *Functional Portraits*. 2002-2003.



Image 3. Frederik de Wilde, *Nano-Art: [un]Masked.a.* 2010-2012.



Image 4. Eduardo Kac, *Edunia*. 2003-2009.

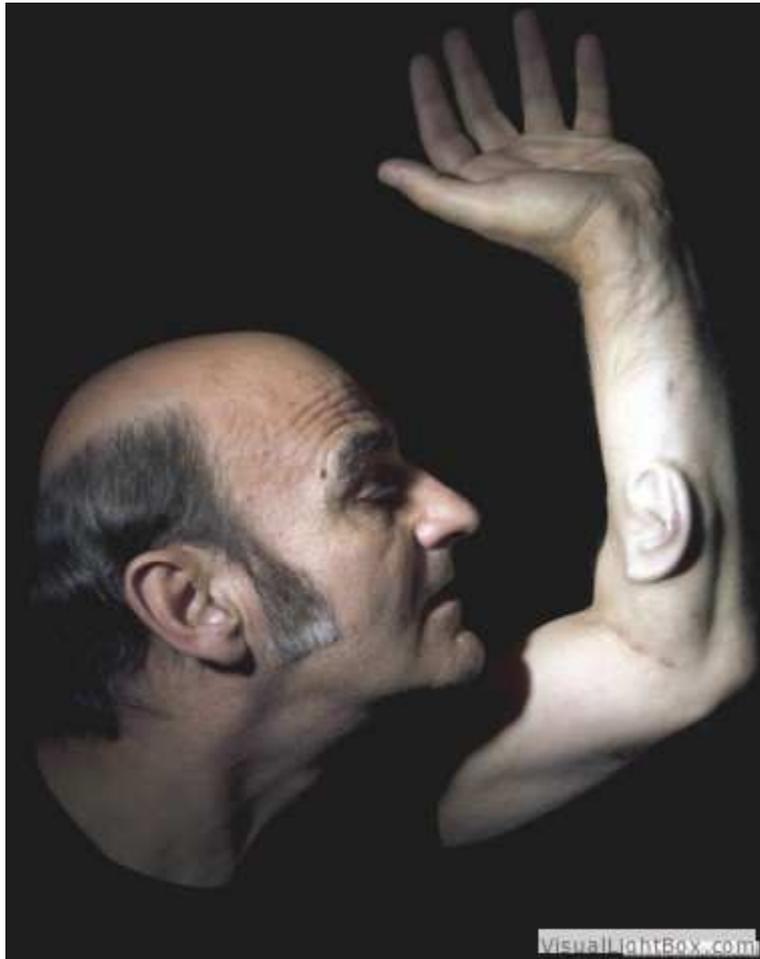


Image 5. Stelarc, *Ear on Arm*. 2003-2012.



Image 6. Marc Quinn, *Genomic Portrait (Sir John Sulston)*. 2001.

5. CONCLUSIONS

The temptation to call my work a genesis and synthesis of bio-art transformations has been rejected. Neither genesis nor synthesis is an adequate notion of what I have done. Moreover, it was said many times that it is rather a cartographical mode which supports any reconnaissance of contemporary subjective metamorphoses. In that case, it cannot be genesis either, because it evokes a Christian and highly anthropocentric fantasy of human origins, and, furthermore, a vision of Man as a Master of all beings.

It has to have an open ending because the world of techno-science has been instantly and constantly changing. New technologies become immediately used as new tools of art practice. Furthermore, the projects already presented are being continuously improved. The famous oncomouse has got a new companion: kidney-mouse, brainbow mouse, cancer-resistant mouse, mighty mice, and fearless mouse. That is why a contribution to the cartography of transfigurations can never be complete and finished, fulfilled and irreversibly systematized. By means of that, the new bio-cartography of subjective transfigurations overcomes the danger of colonialist politics. It avoids the imperialist practice of appropriating new land, the dark continents of the unknown, instead showing the process of amalgamation of different spaces and congeries. The permanent mutation and the process of blending borders have a creative potential.

The axis of my reflection was designated by the discredited notion of representation, which has been already transformed into renewed concepts: a new representation (Andrews), figuration (Braidotti, Haraway), transfiguration (ibid.) or even biotransfiguration (Bakke). The axis is two-directional (and as a horizontal axis cannot be hierarchical), which I have been repeating constantly. It joins fantasy with technoreality (chapter 2), metaphors and machines, software and hardware, saying and doing, and in general — science and language studies (chapter 2), subject with object position, material and formal figures (chapter 3), science (biology and technology) and art in general.

The fundamental relation between self and other has its origin in the process of metaphorization of the abnormal entities: the allegorical, moralist, and parabolic stories which have founded the paradigm of teratology. As we have seen throughout the conducted analysis, the monsters have been made real and they have become a part of the community again by banishing the overwhelming social fear of abnormality. The presented bio-art works which provide alternative figurations or schemes of representations have the potential not only to cause fear, but also to empower the newly created subjects. “The interaction or mediation between the self and [...] imaginary institutions provides the motor for the process of becoming-subject” (Braidotti 2006: 86) and also the other way round, the process of becoming-subject activates the mechanism of changes on the imaginary level. This way the trap of a one-sided, unidirectional way of seeing art as a mirror-reflection of reality or the reality as an imitation of life (*pace* Baudrillard 1994) is overcome. Thus, the mediation between art and reality emerges in a new shape.

Art has reformulated the functions which have been obtained for many centuries now: the didactic function and the role of social commitment have gone through great transformations of aesthetics–ethics distinction. Not only does it keep up with the development of science, but it also precedes it, showing possibilities for new-life adaptation. The art practice has come to the point where it no longer represents reality, but it transfigures and transcends it. Therefore, my analysis shows the presented works as effects of sociopolitical power relations and the way of their transformations, which indicates an alternative conceptual framework. This framework shows new ethical renegotiations which are concerned with changes of the concept of subjectivity (Others are no longer located on the position of an object) and stands as a basis for new bio-politics understood finally in empowering, not simply restrictive terms.

The notion of bio-art is surrounded by similar compounds: the concepts of bio-politics (Foucault), bio-logic (Bec), and nature-culture (Haraway). They are different conceptual realizations of new post-individual politics of subjectivity. The process of constructing identity has been inevitably transformed. In 1999 “about 10% of the current U.S. population are estimated to be cyborgs in the technical sense” (Hayles 1999: 115); also in the 90’s, the Human Genome Project started. After two decades, researchers have started wondering if it has become a standard and routine use in the care of healthy individuals (Brunham, Hayden 2012). After all, the technological apparatus like prosthesis, denture, artificial skin, electronic cigarettes, lenses, implants, etc. used to maximize human potential, have also become new

factors of subjectivization. Then a new axis of differentiation is added: except for sexualization and racialization, there is also an axis of naturalization (see Braidotti 2006: 62), which is being overcome by presented art practice and collection of feminist philosophies.

Therefore, bio-cartography corroborates the general shift towards genetic manipulations in scientific development and marks a step towards rehabilitation of representational thought. Thus, we can see that the various bodily functions are united in artistic activities, where the body not only stands as the Saussurean linguistic sign which contains a phonic and ideational element, but also as a fleshy material, which evokes many implications concerned with its vital functions. At this point of intersection there is a space for new questions and new analogies. Haraway has already drawn an analogy between oncomouse and Irigaray's hysteria or matrix (2008); Braidotti has marked out the line between Deleuze and specifics of *écriture féminine* (2002). The horizon of further research is delineated on the crossroads of language and body, united into a (self-)representation.

In the next step of my research I would like to work on the concept of *écriture féminine* (Hélène Cixous), *parler femme* (Luce Irigaray), or *writing as a Woman* (Corine Blackmer) which stand for me as a specific kind of representation as well. The variously named project has a whirlwind history. Preceded by Robert Grave's conclusion about specific language of the goddess in the 1940's (which we can name the 'prefeminist' reflections; 1948), in the 1970's it was elaborated by the 'French wing', which has taken feminist literary theory by storm (Julia Kristeva, Irigaray, Cixous, later also Marguerite Duras and Bracha Ettinger, instead of complications within their own nomenclature) and finally approached to film theory (Cathrine Portuges). I would like to show how the notion of female/feminine/feminist writing can be newly approached to literature and how it becomes a version of new representationalism. The presentation of diverse feminine figurations which will be analyzed from the perspective of this material turn could overcome the paradigm of axiological neutrality of the conducted research. Its aim would be to uncover the inter-relations between discursive and social practice, which undermine the *status quo* of female subjects in this case. The project would join the literary and the social-material dimension. In this regard, the category of *écriture féminine* on the one hand reflects existing differences within societies (*potestas*), all the while offering the possibility of transforming power relations once they are uncovered (*potential*). Moreover, this theoretical project will aim to produce knowledge about phenomena which are fundamental factors in the process of subjectivization and community

building and to examine the worlds created in poetry against the background of real metamorphoses of the societies, at the same time enabling their discursive cooperation.

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APPENDIX

CRITERIOS DE BÚSQUEDA Y LÍNEA DE INVESTIGACIÓN – DIGIBUG

TÍTULO DEL TRABAJO DE FIN DE MÁSTER:

Bio-cartography. Towards a New Theory of Portraying

NOMBRE: **Monika Glosowitz**

EDICIÓN: **4th**

CRITERIOS DE BÚSQUEDA: (POR FAVOR, PROPORCIONE PALABRAS CLAVE, QUE TENGAN QUE VER CON LA INVESTIGACIÓN DESARROLLADA, EN ORDEN DE PRIORIDAD).

* **representación**

* **metamorfosis de la subjetividad**

* **bio-arte**

* **filosofías postestructuralistas**

* **teorías feministas**

LÍNEA (S) DE INVESTIGACIÓN QUE IMPLICA SU TFM: SÚBRAYE LA(S) LÍNEA(S) PERTINENTE(S) DE LA RELACIÓN QUE SE LE PROPORCIONA.

- Género, trabajo, espacios y relaciones de poder.
- Migraciones, desarrollo y políticas de bienestar.
- Perspectivas feministas en antropología social.
- Género, salud y medicina.
- Mujeres, educación y género.
- **Mujeres en las artes plásticas y en la literatura.**
- Crítica literaria feminista.
- Historia de las mujeres.
- Arqueología de las mujeres y relaciones de género.
- Mujeres, familia y patrimonio.
- Evaluación y desarrollo en los Estudios de las Mujeres.
- **Producción científica desde una perspectiva de género.**
- Fuentes de información en los Estudios de las Mujeres.
- Producción y discursos científicos de y sobre las mujeres.
- Traducción y género.
- Género y paz.
- Género y psicología.
- Representación política de las mujeres.
- Democracia paritaria.
- **Teoría feminista**
- Metodología feminista