



# Phenomenology and Bio-Art

Gabriela Castro

Professor of the University of the Azores,  
PhD in Contemporary Philosophy  
with a thesis on *Imagination in Paul Ricoeur*

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## Phenomenology

To speak of phenomenology is to resort to Husserl and resorting to Husserl is evoking Descartes, for Husserl and Descartes are closely connected in what concerns the history of western philosophy. The scholar that studies Husserl will have to have a deep knowledge of the Cartesian thought, for the discursive vector according to which the respective discourses are organized is the same: the gnoseological one. Descartes wanted to find an unfailing fundament which could be the basis of all perfect knowledge, that is to say, of the fifth degree of wisdom, to which the first philosophy, physics and what we call particular sciences (morals, medicine and mechanics) could be metaphysically rooted<sup>1</sup>.

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<sup>1</sup> These are Descartes' most important texts for us, here quoted in Portuguese: *Discurso do Método, Meditações sobre a Filosofia Primeira e Os Princípios da Filosofia*.

Husserl possesses an ideal similar to Descartes', for he<sup>2</sup> too wants to 'give scientific consistence to philosophy and, by doing so, to all the sciences'<sup>3</sup>. Having initiated his philosophical course just as Descartes did, Husserl rejected almost all known philosophical content of Cartesianism due to a radical development of Cartesian themes<sup>4</sup>.

Logic, being the fundamental science, is 'pure reason itself exposed', i.e., it is the science where purely theoretical reason performs self-meditation (*Selbstbesinnung*) fully objectifying itself in a system of principles<sup>5</sup>. Such an understanding of logic justifies its intelligibility, in the Husserlian

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<sup>2</sup> The following texts were especially important for this study: *A filosofia como ciência de rigor, A ideia da fenomenologia, Ideias Directrizes para uma Fenomenologia, A Crise da humanidade Europeia e a Filosofia, Lições para uma Fenomenologia da Consciência Íntima do Tempo, Meditações Cartesianas, Introdução à Fenomenologia e Recherches logiques, Prolegómenos à la logique pure*.

<sup>3</sup> Fragata, Júlio JS, 'A fenomenologia de Husserl', in *Revista Portuguesa de Filosofia*, tomo XI, Braga, 1955, pp. 3-35, p. 20.

<sup>4</sup> *Idem*, p. 21.

<sup>5</sup> *Idem*, pp. 24 and 25.

universe, as the 'science of sciences' or 'theory of theories', or even the 'theory of multiplicity', and will have as fundamental purpose the study of the conditions of possibility of a general theory.

Such as for Descartes to substantiate metaphysics was to substantiate philosophy and the new science, for Husserl likewise to substantiate logic was to substantiate philosophy, in the following principle as the principle of principles: 'Everything which is perceived through originary intuition is, by right, a source of knowledge' and therefore 'has to be accepted as presented'<sup>6</sup>. Nevertheless, it was necessary 'to clarify the concepts by returning to their essence in ideational intuition', which immediately positions us in the dynamics of the apodictic evidence fomented by significant intention (*Bedeutungsintention*) and by intuitive intention (*Intuition, Anschauung*).

Husserl himself, through a simple example, makes us understand his thinking: by the significant intention (*Bedeutungsintention*) we consider the meaningful content of things, as for example a meadow without its actual presence. That is: the «meaning» of meadow is understood thanks to imagination. While the imaginative elements are being replaced by the real ones, the intent grows in its actual contents until it becomes fulfilled. In the intuitive intention (*Intuition, Anschauung*), the intuition is full to the extent that the presence of the meadow is real, is before us and fills the emptiness of the significant intention (*Bedeutungsintention*). Thus, in the sphere of intuitions, perception has a fundamental role in the cognitive act in what regards imagination<sup>7</sup>.

Perception, for the philosopher of Fryeburg, is an originary intuition, inasmuch it is a fundamental intuition that designates a real «presentation» (*Gegenwärtigung*)<sup>8</sup> of the object. The object presents itself as real, it is there, and it is present to the consciousness that captures it. Because it is originary and capable of filling a significant intention (*Bedeutungsintention*), this real intuition is, in fact, a perception.

By taking the critic of objectivism to its final consequences, the father of phenomenology, in the final phase of his work, 'denies the claim

that the epistemology of natural sciences is able to provide humanities with the only valid methodology and (...) questions Dilthey by providing the *Geisteswissenschaften* with a method as objective as that of the natural sciences. On the other hand, Husserl's last phenomenology, when articulates this same critique of objectivism, on a positive issue that is subject to *Lebenswelt*<sup>9</sup>, opens the way to an ontology of understanding.

This new issue has *Lebenswelt* for theme. The German philosopher outweighs the idealism of his first stage, that of the *Logical Investigations* and of the *Cartesian Meditations*, where he apparently contested objectivism, for there he calls the correlates of intentional life *phenomena*, precisely. [Here Husserl led the way, later developed in *Krisis* which indicates the subject (individual) as intentional, that is, directed to... as correlate of a branch of meanings, being the *phenomena* the correlate of that intentional life]<sup>10</sup>.

It is therefore in the last Husserl that the theory of understanding is built and where, instead of the idealistic individual, locked into his or her own system of meanings, we discover a living human being who has for horizon a world. Before objectivity, or in face of it, there is a horizon of the world; and before the individual of the theory of knowledge [as opposed, always, to a known object] there is always an operative life<sup>11</sup>.

Let us recall the imaginary presentification in view of the perceptive presence. By emphasizing the imaginary presentification, Husserl allowed spontaneity for several structures that was denied to perception. Thus, this comparison allows Ricoeur to establish with Husserl's thought the assertion of the primacy of the real world and the opening to the world of possibilities, for 'there is between phenomenology and hermeneutics a mutual belonging worth explaining: belonging of phenomenology to hermeneutics [inasmuch] «phenomenology cannot be structured without the hermeneutics' assumption»; belonging of hermeneutics to phenomenology [inasmuch] 'phenomenology is the necessary presupposition

<sup>6</sup> *Idem*, pp. 70-71.

<sup>7</sup> Maria Manuela Saraiva, in the second chapter of the quoted work 'Imaginação e intuição' shows how Husserl positions the primacy of perception.

<sup>8</sup> Fragata, Júlio JS, oc., p. 58

<sup>9</sup> Ricoeur, Paul, *Le conflit des interprétations, essais d'herméneutique* I. Paris: Ed. du Seuil, 1969, p. 10. From this point on we will refer to this text as *CI*.

<sup>10</sup> Undoubtedly, in spite of this apparent overcoming, he reconstructed a new idealism, close to the new Kantian philosophy.

<sup>11</sup> Agís Villaverde, Marcelino, *Del símbolo a la metáfora, introducción a la filosofía hermenéutica de Paul Ricoeur*, Universidade de Santiago de Compostela, Santiago de Compostela, 1995, pp. 82-83.

of hermeneutics', so that 'hermeneutics is built on the basis of phenomenology'<sup>12</sup>. 'There are [however] two ways of doing that: the short way, [Heidegger, or the 'shortcut']<sup>13</sup>, and the long way, [Ricoeur, or 'the longest path']<sup>14</sup><sup>15</sup>.

Interpretation is, then, precisely the capture of the different proposals offered by the world of references of the artworks or the texts. For us, the ability to project a world must be identified with the poetic<sup>16</sup> dimension. To interpret an artwork implies being able to explain the being-in-the-world that is detached from it and captured by the aesthete and integrated in one of the closest possibilities of the percipient<sup>17</sup>. We complete the interpretation when we can interpret ourselves, for better understanding the others or begin to understand oneself<sup>18</sup>.

Due to this claim, artistic interpretation involves the appropriation of the artwork by the aesthete. With this kind of appropriation, the percipient widens his or her own understanding in front of the artwork, exposing him or herself in order to receive from it a more comprehensive Self. Therefore, away from everyday reality, art speaks to us of all possible worlds and possible ways of being and living<sup>19</sup>.

## Art and bio-art

Husserl's eidetic description of the cognitive act revealed that intuition and evidence are its fundamental and inseparable concepts, which require a new phenomenological-aesthetic approach because, by the end of the twentieth century, the artistic object has changed significantly.

Since Classical Antiquity that the notion of art is linked to the human being's ability to create, or to produce. If we search for the origin of this creative ability of the human being, we shall find it either in reason or in imagination, according to the ontological universe in which we position ourselves: the universe of objectivity of Aristotelian-Thomistic heritage or the ontological universe of subjectivity of Kantian heritage, to which Husserl belongs.

Art is production. Art is creation. But Nature also produces and its products are not classified as works of art, but rather understood as natural products. Aristotle understood this difference in terms of causes. In Nature we did not find an efficient causal producer, but a constitutive one, an organic-metaphysics' cause. In art it is different. We understand its cause as *techné* or *poiesis* and the efficient causality is found in man himself, what justifies its appearance as a cultural product. Also Kant, in the 18<sup>th</sup> century, was concerned with the distinction between art and Nature and explains it in these terms: «art is distinguished from Nature, [by a different causation] as the 'do' (*facere*) is distinguished from the 'act' or 'cause' in general, and the product or consequence of art is distinguished, as work (*opus*), from the product of Nature as an effect"<sup>20</sup>. To Mikel Dufrenne this Nature is for us an eternal enigma, as 'we only know Nature metaphorically, because we don't know how it does what for us seems to be done'<sup>21</sup>.

Even today, trying to define art is a difficult and complex task. In the words of Mario Periniola<sup>22</sup>, this notion is closely related to the socio-cultural situation in which it operates. For this author, the explicitness of art has known three cultural and economic fundamental turns: Renaissance, Romanticism and post-industrialism, where we stand today. 'The fundamental idea which underlies [the] first cultural change in art (...) remains valid and undeniable, even today, in the theory of Western art: the artist cannot be ignorant. (...)'<sup>23</sup>. The alliance 'between art and

<sup>12</sup> Renaud, Michel - "Fenomenologia e Hermenêutica, o Projecto Filosófico de Paul Ricoeur", in *Revista Portuguesa de Filosofia*, tomo XLII-4-1985, Faculdade de Filosofia de Braga, 1985, p. 418-29. Without altering the style, we altered the order of the quote.

<sup>13</sup> Bleicher, Josef. *Contemporary hermeneutics, hermeneutics as method*, Philosophy and Critique, Routledge, Freeport, Andover, Hans, 1980, p. 330.

<sup>14</sup> *Idem, ibid.*

<sup>15</sup> *Idem, ibid.*

<sup>16</sup> Cf. Ricoeur, Paul, *Du texte à l'action: essais d'herméneutique*, II, Ed. du Seuil, Paris, 1986, translated to Portuguese with the title *Do texto à acção, ensaios de hermenêutica*, II, Rés. Ed., Porto, 1989, p. 127, Portuguese translation, p. 132-133. From this point on we will refer to this text as *TA*.

<sup>17</sup> Cf. *TA*, p. 115, Portuguese translation, p. 123.

<sup>18</sup> *TA*, 152, Portuguese translation, p. 155.

<sup>19</sup> Cf. *TA*, article "Qu'est-ce qu'un texte?" pp. 137-160, translation, pp. 141-162.

<sup>20</sup> Kant. *Crítica da faculdade do juízo*, Int. by António Marques, translation and notes by António Marques and Valério Rohden. Lisboa: Imprensa Nacional, Casa-da-Moeda, 1992, § 43.

<sup>21</sup> Mikel Dufrenne. "L'esthétique de Paul Valéry". *Sens et existence en hommage à Paul Ricoeur*, Paris, Éd. du Seuil, 1975, p. 39.

<sup>22</sup> Professor of the University of Tor Vergata - Roma.

<sup>23</sup> *Estética e Artes. Controvérsias para o séc. XXI, Colóquio Internacional, Maio 2003. Lisboa: Centro de Filosofia da Universidade de Lisboa, 2005.*

knowledge or even between art and science, as is expected to happen with the whole area of production<sup>24</sup> justified the critical notion of 'culture industry' as the 'industrial mode of production characteristic of a given technological rationality' which, in our situation, is closely related to the scientist.

With the scientific-technological advance of the second half of the 20<sup>th</sup> century, the scientific object is no longer the 'given' and is now the 'construed', that is, what is *produced* or *created* by the inter-relationship between the scientist and his or her investigation supported by technology<sup>25</sup>. This position assumed by Bachelard in his scientific perspective opens, in the sphere of speculation, a huge field that allows the evidence of 'Poem' in Heidegger, or the statement of Ortega y Gasset that 'physics is poetry'.

At the dawn of the 21<sup>st</sup> century, with the development of science and technology applied to the artistic dimension, we have a kind of art in which scientific rationality is present. It is not a useful art. It is not an art that seeks only the pleasure of enjoying the object produced; it is much more than all of this. What this art aims at is to intervene in the genetic natural production, leading to a new and very peculiar art which intersects with the technical and scientific knowledge. There is a 'new order' ('art and technique') that seems to impose a new understanding between 'aesthetics and art'.

Today, the artist brings out his or her work, not in a traditional material such as stone, wood, fabric, paper, film, or sound, but the raw material of his or her production is now Nature itself.

This new model projects not the difference between two realities, Art and Nature, but their combination, a combination that in the 21<sup>st</sup> century finds its expression in a new artistic representation called Bio-Art. As we said, this is not a useful art, not even a fine art, it is more than all this, it aims at intervening in the moment of the genesis of the natural production whose raw material is life itself. Thus, the following phenomenological question arises: what is this *bio-artistic object* that we perceive, Nature or Art?

Bio-Art shows how biological techniques can be used as a way for artistic creation, and the

product of that combination calls for a new concept of substance capable of ushering a new aesthetic dimension, Bio-Aesthetics.

### A New Concept of Substance

Having in mind what we have just said, where will studies on the semantic-philosophical contents of the notion of art lead us, if applied to fields as distinct as the traditional ones, such as forging transgenic products or genetic manipulation? The possibility of life produced in the laboratory presents us with the question of the ontological dimension of man: natural or artistic object? Natural or cultural product?

This question about the ontological constitution of man as being organic- metaphysical or technical-scientific leads us to reflect on the notion of substance. Does the Aristotelian notion of *ousia* remain the same, or has it suffered a profound change with the known scientific progress within a transcendental universe?

After all, what are the objects that our eyes perceive? Are they the result of an original insight, the presentation of the real object or the appeal to the necessity of hermeneutics?

To the scientific ideal, understood as a final justification, pertaining to phenomenology, hermeneutics opposes the primordial experience, featuring the cognitive subject, active and suffering as the experience of belonging to a world that is primarily experienced in the form of passivity and receptivity. To the Husserlian exigency of returning to intuition, hermeneutics opposes the need that all the comprehension of the Being must be mediated by an interpretation capable of showing its characteristics of plurality.

Let us recall Aristotle in his work *Péri Hermeneias* or *On Interpretation*<sup>26</sup> and the term *hermeneia*, 'which portrays reality as it says «something of something»; there is *hermeneia* because enunciation is a capture of reality through significant means of expression'<sup>27</sup>.

Nevertheless, these significant expressions tell us of the objective unit, achieved by crossing meaning with truth, which Aristotle called *ousia*. In the Aristotelian universe to call Fernando, Paulo or Jorge 'men' means that they all have

<sup>24</sup> *Idem*, p. 191

<sup>25</sup> *Idem*, *ibid.*

<sup>26</sup> Aristotle, *Organon, I Catégories, II De l'interprétation*, trad. et notes par J. Tricot. Paris, J. Vrin, 1977, pp. 77-144.

<sup>27</sup> *CI*, p. 8.

the same essence. In Aristotle it is the immanent order of *ousia* that makes interpretation possible as a capture of meaning and truth of 'beings as beings'. We face now an ontological discourse, where the causal quartet supports the intelligibility of the Being itself.

In the new ontology, art, as a privileged field for the manifestation of being, is no longer a free creation for the production of pleasure, but reaches now the onto-bio-aesthetic field, where the object created calls out to be integrated in the Being, and projects itself in new aesthetics hues.

For Marta Menezes, artistic director of Ectopia, the laboratory of artistic experimentation of the Calouste Gulbenkian Institute, in Lisbon, the new dimension of art requires new meanings. For example, the modification of wing patterns of live butterflies, and the use of different biological techniques, including the Functional Magnetic Resonance Imaging of the Brain to create portraits where the mind can be seen, fluorescent DNA fragments to create micro-sculptures at the core of human cells, sculptures made of proteins with DNA or with live neurons, demonstrates that the new applied genetic technologies justify a new idea of art, Bio-Art, and this is a new notion of substance.

When man has the power to intervene at this level, we can think of a hypothetical change in the notion of substance. Questions as 'what is the natural object?' or 'what is the art object?' lose their differential substrate once the objects coalesce into a new organic-cultural-metaphysical notion.

Let us take, for example a transgenic tomato. It looks like a natural tomato, but is it a natural product? The transgenic doesn't have as an efficient cause the *physis*, the spontaneous generation, rather man through a scientific-technical activity upon Nature.

Let us delve deeply into our thoughts because we believe this warrants some reflection regarding genetic engineering applied in humans.

Here we find one of the greatest achievements of science in its intersection with technique: cloning.

Natural sciences not being our academic training, let us open a parenthesis in our study and turn to the *Relatório n.º 48 do Conselho Nacional de Ética para as Ciências da Vida*, on the issue of cloning<sup>28</sup>.

<sup>28</sup>Patrão-Neves, M. e Ferreira, Pedro, Relatório n.º 48 CNECV/06, *Relatório sobre a Clonagem Humana*, Lisboa: Presidência do Conselho de Ministros, Abril, 2006, in <http://www.cneec.gov.pt>.

## Cloning: science and techné

The development of different techniques to produce a human clone, either for reproductive purposes, in order to obtain an individual genetically identical to the person to be cloned, or for biomedical research, continues to fuel many discussions in different forums for reflection.

'This situation is clearly developed after the reported birth of the Dolly sheep' in 1997 (Ian Wilmut, et al., 1997). Since then, several species of mammals (rats, pigs, cattle, rabbits, goats, cats, monkeys, dogs and horses) were cloned, although with relatively low efficiencies (up to 10% for most of the species listed) (Susan M. Rhind, et al., 2003). The main purpose of developing this technology was the faithful reproduction of elite genotypes identical or obtained by transgenesis, some of which can produce human proteins, obtained by recombination, which will have a therapeutic activity compatible with humans (such as the growth hormone), to ensure the efficient achievement of identical individuals expressing in a homogeneous and permanent way rare and desirable characteristics; this was the original intention of the Roslin Institute when it developed the methodology that led to Dolly. (...)

In the methodology that created [it], a nucleus from a somatic cell, cultivated *in vitro* and treated to stop the cell cycle in a quiescent state, is removed from the donor cell and transferred to an oocyte previously enucleated; this product, upon receipt of the nucleus, is activated by an electric current and thus induced to multiply and differentiate. This method is generically known as somatic nuclear transfer, but it is popularly known as cloning<sup>29</sup>.

### Somatic nuclear transfer in mammals for the production of clones

'The main steps that allow today the production of clones of living mammals using somatic nuclear transfer are:

1. Availability of oocytes from a female of the species to be cloned;
2. Removal of the nuclear DNA of the oocyte to produce an enucleated oocyte (ooplasm);

<sup>29</sup>*Idem, ibid.*

3. Inserting the nucleus of a donor adult cell into a ooplasm in order to produce a hybrid cellular structure (alternatively, it is possible the fusion between the cell and the adult ooplasm);
4. Activation of the cellular structure by hybrid electric or chemical stimuli to this cell so that division begins;
5. Maintenance of the development of the cloned embryo to a stage suitable for transfer to a uterus properly prepared to receive it;
6. Birth of an animal genetically identical (except with respect to mitochondrial DNA) to the animal that donated the adult cell nucleus.

In theory any animal can be cloned, male or female, newborn or adult, and in any quantity<sup>30</sup>.

We draw attention to the note carefully pointed out by the author: 'Now, the cloned embryo and the *syngamic* embryo have different semantic contents'<sup>31</sup>; and the author carries on with a very interesting perspective for us; 'based on this perspective it has been proposed that to the product of a nuclear somatic transfer was given the name «clonoto» (Rudolf Jaenisch, 2004), as well as the ones of «constructo» (Mario de Sousa, 2005) or «nuclear transfer unit» («nt-unit»).

Bio-art, Bio-aesthetics

Let us return to our question: natural object or art object, *constructo*?

In order to continue our reflection we need to rely on the aesthetic dimension, so we can glimpse a vision of Aesthetic Cloning. For that we need the notion of the new ontology and the new concept of Bio-Aesthetics.

Let us recall the notion of Aesthetics, as the notion for introducing the one of Bio- Aesthetics.

Man is, in addition to other constituent dimensions of his identity, imagination and creativity. Assuming imagination and creativity as the two dimensions that are able to identify a man in his way of being, we must not forget that he is also 'affectivity'.

Now, affectivity reveals the originary unity between thinking and being.

How can man be affected?

For example, direct intervention of man in the organic processes of nature affects us because imagination, when playing freely with reason, leads us to a very special feeling, which Kant called Sublime. Sublime projects the human being beyond his own finite nature, calling upon his dimension of unlimited possibilities.

It is precisely because of this dimension of the unlimited possibilities that Bio-Art wins its place in the field of the arts, to the extent that the new object that it produces provokes a feeling whose impact goes beyond the sublime and is lost in the unlimited of the amazement and of the questioning, revealed by the query: what kind of object is this one that recalls the intentionality of my consciousness?

<sup>30</sup> *Idem, ibid.*

<sup>31</sup> *Idem, ibid.*