

Towards a Pragmatical Bioethics

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SUMMARY

Our paper will focus on bioethics using a pragmatical approach that refers to the singularity of the *in vivo* organism, including its various operations and their respective contexts. In the last half century, there has been extraordinary progress in the field of biology. However, this progress manifests its limits, inasmuch as current biological research has evolved primarily from physical and chemical models, and therefore mainly relates to *in vitro* living. Nevertheless, while conforming to the laws of Nature, the organic processes are always heterogeneous. For this reason, living organisms can never be interchanged, but are ultimately self-referential. The task of contemporary bioethics is to first examine the characteristics of a living organism, and then define to what extent biologists have failed to grasp its individuality, despite their attempts to transform it, especially in the field of molecular genetics. Consequently, it is necessary to determine, from a conceptual standpoint, the legitimacy, as well as the appropriate limits, of *in vitro* research on *in vivo* organism.

KEY-WORDS: bioethics, pragmatics, embryo, molecular genetics

RÉSUMÉ

Notre article vise à définir une approche pragmatique de la bioéthique, susceptible de rendre compte de la singularité de l'organisme *in vivo*, à travers une analyse de ses différentes opérations et de leurs contextes de réalisation. Dans la seconde moitié du XXe siècle, la biologie a progressé de façon remarquable. Cependant, un tel progrès a également dévoilé ses limites dans la mesure où la biologie moderne s'est constituée à partir d'un modèle physico-chimique, décrivant en fait l'organisme *in vitro*. En effet, tout en obéissant aux lois de la nature, les processus biologiques restent foncièrement hétérogènes; ne se référant qu'à lui-même, un organisme n'est jamais substituable à un autre organisme. Il incombe à la bioéthique contemporaine de saisir les modalités exactes des fonctions biologiques, afin d'apprécier le décalage entre le pouvoir réel du biologiste moléculaire et le fait que l'individualité de l'organisme lui échappe. C'est pourquoi il convient de déterminer, d'un point de vue conceptuel, le domaine d'action ainsi que les limites de la recherche *in vitro* sur l'organisme *in vivo*.

MOTS-CLÈS: bioéthique, pragmatique, embryon, biologie moléculaire

What do I mean by pragmatical bioethics?

The current progress in molecular biology and the development of new reproductive technologies has created a need for bioethics. Prior to the development of these fields, the link between ethics and biology was limited to general questions like euthanasia and eugenism, which actually pertain more specifically to medical ethics.

As for pragmatics, one of the founders of this field, Charles Morris, referred to it as the consideration of biological, psychological, and sociological aspects of linguistic exchanges in accordance with their respective contextsⁱⁱ. Now, the notion of pragmatics denotes a general holistic framework for all types of communications and actions.

It is my argument that the notion of pragmatics authenticates the relationships between biology and ethics, and, therefore, the neologism of bioethics. Strictly speaking, bioethics emerged when biologists acquired the ability to transform the genome and to master reproduction. These innovations have manifested a new and crucial relationship between the biologist and the living organism. From a philosophical and epistemological perspective such a relationship implies a fundamental distinction between the organism itself and the scientific means that have enabled its cognizance. That distinction had been conceptually formulated by Aristotle through the double definition of life as the *zoé* and the *bios*. The former denotes the organism as viewed in its own individuality, while the latter designates an objective mode of grasping itⁱⁱⁱ. However, the *bios*, which seeks to comprehend the *zoé*, definitely remains external to it, since biological research has evolved primarily from physical and chemical models, and therefore mainly relates to cognized living through scientific categories, and not to the organism itself.

In modern biology, Aristotle's distinction is expressed through the opposition between the *in vivo* organism and the *in vitro* experience. Contemporary biology, like other microphysical fields, has established a fundamental correlation between the observer and its observed object. Once the biologist has explored a specific organism, through what is termed a dialectic between the cognizing and the cognized, this organism no longer remains in the *in vivo* state it was before, but is transformed into an *in vitro* state. This transformation constitutes the central issue around which bioethics revolves.

The controversial nontherapeutic research on live human embryos is a good illustration of this point. In 1990, the German Embryo Protection Act prohibited such research: conversely, in the same year, in the United Kingdom, the Warnock Committee's recommendation, permitting research on embryos of up to fourteen days old, was legalized, since at this stage the primitive streak, as a precursor of the spinal cord, is not yet apparent^{iv}. This law has generated impassioned debates in every country in the Western world on the ethics of the frozen embryos and embryonic rights. Without entering into this debate, I would suggest that the notions of *bios* and *zoé* are fully operational here. Most of the positions which either assert or deny any form of personhood to pre-embryos are aligned with the theoretical categories of the tenets of each camp, and these categories ultimately belong to the *bios*, meaning they are external to the embryo. In regard to the *zoé*, however, no one is capable of proving that there is any difference between a fourteen day, twenty three hours, and fifty eight minutes old pre-embryo, and the same organism two minutes later. When the biologist or legislator decides that an embryo at a certain stage in its development differs from a human being, this difference is based on their own concerns, and, as important as this may be, it in no way relates to the embryo itself. From the Aristotelian perspective of the *zoé*, such a distinction is meaningless, since, from the time of fecundation, an embryo is a potential person, in a progressive state of

actualization.

The clarification of the biological advances and limitations on the activities of the *bios* on the *zoé* has led me to the investigation of a new theoretical field which I have termed, "biopragmatics."^v This field examines the extent to which pragmatological notions such as context, self-reference, and performativity are relevant to the understanding of the biological processes. I would like to briefly underline the relevance of each of these notions to the sciences of life.

I will begin with the first notion, biological context. Now, each level of a biological exchange, such as that of a biochemical, cellular or hormonal exchange, relates to *the totality of the* parameters which define a specific operation. No biological process can be actualized without relating to the global context in which it takes place^{vi}.

This brings us to the second notion, self-reference. The biological context necessarily involves operations which are *self-referential*, meaning that they are performed by referring to a contextual reality, which, in actuality, is also the end product of these operations. As an example of self-reference, I would like to focus on the biosynthesis of proteins, which appears as a circular causality. On the one hand, nucleic mechanisms enact this synthesis, on the other hand, it cannot be carried out without the aid of enzymes which are proteins produced by the nucleic mechanisms. We therefore confront a phenomenon which Douglas Hofstadter termed a "tangled hierarchy," in which the effects are also the causes of the causes^{vii}.

In relation to the third notion, performativity, these self-referential processes are apparently performative since they induce commands which initiate the appropriate series of actions^{viii}. Here, the term "performative" denotes the fact that the processing of the genetic information constitutes its realization.

This processing can be done in two modes, explicitly or implicitly.

Physiological organic functioning generates what are known as "*implicit* performatives," that is, commands which are realized in a synergic mode with the other processes of the organism. However, pathological functioning can be seen as a consequence of "explicit performatives," meaning that the organism has partly or completely failed to control biosynthesis, which has become mostly self-referential, as can be observed in carcinogenesis^{ix}.

It is precisely this need for a distinction between the physiological and pathological model that has laid the ground work for the field which I have termed "pragmatological bioethics". The pathological model is connected to what is usually called the Promethean temptation of biology, where the *in vitro* research aims to transfigure the *in vivo* organism. This model utilizes "explicit performatives," which realize their goal in an autonomous way. In this model, biological research follows its own specific pace, independent of external concerns. On the other hand, the physiological model lends itself to the assumption of responsibility for the consequences of its research. This relates to the "implicit performatives" that rule genetic processes, by executing its program in accordance with the totality of the organism. Here, the notions of the *end* and the *means*, which are often related to Kantian ethics to prohibit experiences that could cause the instrumentalization of human beings, acquire a wider organic meaning. Therefore, when biological processes, whether they are pathological or experimental, become explicitly performative, the organism under consideration is seen as a *means*. On the other hand, when physiological or experimental processes remain implicitly performative, the organism is viewed as an *end*.

In conclusion, the need for bioethics has arisen from the fact that biological research is necessarily limited to the *in vitro* organism, while simultaneously being able to alter the *in vivo* organism and its genome. The above distinction between the physiological and pathological model has made it possible to suggest a middle road between a blind confidence in an apparently all-powerful biology and the instinctive fear that blocks the advancement of the sciences of life. A focus on the implicit performativity of the *in vivo* processes allows for the determination of the line that may not be overpassed. Then, only experiences or genetic engineering which do not alter the integrative functioning of the organism may be performed.

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ⁱⁱ C.W.Morris, *Foundations of the Theory of Signs*. Chicago, Chicago University Press, 1938.

ⁱⁱⁱ J.J. Rozenberg, *Bio-cognition de l'individualité. Philosophèmes de la vie et du concept..* Paris, PUF, 1992, pp.35-39.

^{iv} cf. M. Lockwood, "Tissue donors and research subjects to order: some Kantian concerns". in *Revue Internationale de Philosophie*, 3 (1995), pp.265-266.

^v J.J. Rozenberg, "Langages et pragmatique du vivant". *Revue Philosophique* 1 (1988), pp.53-66.

^{vi} J.J. Rozenberg, *La bioéthique corps et âme. Préface de Francisco Varela*. Paris, L'Harmattan, 1999, pp.129-130.

^{vii} D.R.Hofstadter, *Gödel, Escher, Bach: an eternal golden braid*. Harmondsworth, Penguin Books. Reprinted 1983, p.537.

^{viii} J.L.Austin, *How to do things with words*. Oxford, Oxford University Press, 1962, p.69.

^{ix} J.J. Rozenberg, *Bio-cognition de l'individualité. Philosophèmes de la vie et du concept..* op.cit. p.199.