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**Reviewing of Neuroethics as an Applied
and Fundamental Ethics**

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Reviewing of Neuroethics as an Applied and Fundamental Ethics

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Abstract

Neuroethics is today a new interdisciplinary perspective whose normative and methodological relevance increases progressively. It seems that neuroimaging techniques allow in depth interpretations of issue that philosophy has studied all along, such as relationships between brain-mind, free will-determinism, emotion-reason or consequentialism-deontologism. This different pathways of study that neuroethics has taken in recent years invite a critical reflection on the philosophical foundations that justified the field as either an applied ethics or as a fundamental ethical theory. Therefore, the aim of this paper is twofold. First, defining the main characteristics of applied ethics in order to compare with neuroethics. Second, assuming a critical argumentation, justify its existing more as fundamental ethics than as applied ethics in order to draw its margins as study and its possibilities to guide human morality.

To achieve these objectives, the point of departure will be discourse ethics in the version of K. O. Apel and reinterpreted by A. Cortina and members of School of Valencia. The conclusions will point out to the need for further philosophical reflection on the neuroethics study, not only in its psychological and biomedical applications, but also in its social communications and the interpretations of its experiments.

Keywords: Neuroethics, Applied Ethics, Discourse Ethics, Neuroscience, Bioethics.

Introduction

The theoretical neuroethics corpus was born with the establishment and recognition of the term by the scientific community. A varied and interdisciplinary scientific community –psychologists, neuroscientists, philosophers, physicians, bioethicists– met in May 2002 in San Francisco, California, to hold a conference –sponsored by the DANA foundation– with a title that named this apparently new discipline: ‘Neuroethics’. Its following caption, ‘mapping the field’, showed a degree of humility when tackling a new field, but with some people had already been working for some time (Marcus, 2002). Members of the first session of Congress had been working for some years in the topics subsequently grouped under the heading of neuroethics¹. These issues included primarily the relationship between science and brain as well as the relationship of human beings with itself.

From its inception in 2002, neuroethics has been considered at least in two ways, either as part of applied ethics and bioethics, or as a new perspective (Safire, 2002: 5). Some of the most studied classifications, such as A. Roskies (2002: 22-23) or A. Cortina (2011a: 209) distinguish between ‘ethics of neuroscience’ and ‘neuroscience of ethics’. Consideration of neuroscience ethical development is an important factor, although aspects relating to the study of morality from the neural parameters seem to have become more relevant, e.g., the relationships: brain-mind, freedom-determinism or the existence of moral intuitions.

With all these issues, some of the most interesting definitions of neuroethics should be considered from its own paradigm. For example, from a philosophical point of view and a precautionary approach to neuroscientific advances (Safire, 2002: 5; Fischbach, 2006: xi), from the attempt to ground the moral brain bases (Gazzaniga, 2005: 14-15) from the ‘illustrated materialism’ (Evers, 2009: 25), from bioethics (Glannon, 2007a: 4), from an interdisciplinary perspective (Levy, 2007: xi; Illes and Bird, 2006: 511), among others.

Even with all of these definitions, it would be possible to establish one more that will actually be used as a reference throughout the text. Personally, I would define neuroethics as a new relational discipline between neuroscience and ethics, and propositional dedicated to the comparative study of the neural bases that set the moral decision-making and human actions and how this is conceptualized from the philosophical thought, the benefit of a dignified existence and coexistence in society.

Anyway all definitions pointed above reference least two meanings of the neuroethics. On the one hand, as applied ethics, with a practical application of the neuroscience contents and the ethical debate about it. On the other hand, as

¹Antonio R. Damasio had worked for more than two decades the relationship between brain lesions and human behavior as well as the neurobiology of emotions and human feelings (Damasio, 1995, 1997). Meanwhile, Patricia S. Churchland had used the term ‘neurophilosophy’ for a decade (Churchland, 1990). Jonathan D. Moreno also had approached the issues from neuroethical bioethics (Moreno, 1995).

a fundamental ethics, with its own field of study that explores the possibilities of founding a universal ethics with a neural basis.

The Philosophical *How* of Neuroethics

Taking into account the neuroethics definition pointed above, applied ethics cannot remain indifferent in front of social demands of their existence. Although it cannot take the moral functions and command human actions, but it can only guide them. Before answering if neuroethics is an applied ethics or a fundamental ethics theory, it is required to answer the following question: where applied ethics would stand? To do this, it will consider the applied ethics studies of the members of the School of Valencia, especially J. Conill, A. Cortina and D. García- Marzá. The procedure will study the characteristics of applied ethics and check neuroethics meet these, and if it does exclusively or, on the contrary, goes further and possesses characteristics that can be identified as a fundamental ethics.

The Statement of Applied Ethics

Applied ethics arise from the own demand of affected people when reality calls to philosophical answers for everyday life in various activities unable to be responded, such as economy, politics, education, etc.. Problems such as violence, international tensions, immigration policies, or unemployment quoted in society. A society where social minorities are ignored despite finding ways to be heard, where technoscientific advances govern and make the world at his mercy in a market whose benefits are in a few hands. These and other problems have resulted in the 'spin applied', as expressed A. Cortina,

Nowadays this is the case has forced philosophy to give, after the so-called 'linguistic' and 'pragmatic turn', a spin applied, especially in the field of practical philosophy, which has always had orienting task, if only immediately, the action¹ (Cortina, 2001: 161) [Own translation].

As is clear from these words, a spin applied is needed to account for situations that policy, institutional law and other social strata cannot manage by lack of resources, time or technical resources. Indeed, after the linguistic paradigm that characterized the philosophy of the last century, the focus of moral philosophy, remained the foundation of moral action. However it began to appear the need for application of principles previously substantiated.

The rotation from linguistic to applied spin is commonly understood as the change in orientation and approach of the philosophy studies, especially in

¹[Original text] Y es este el caso que en nuestros días ha obligado a la filosofía a dar, tras los llamados 'giro lingüístico' y 'pragmático', un 'giro aplicado', sobre todo en el ámbito de la filosofía práctica, que siempre ha tenido por tarea orientar, siquiera sea mediatamente, la acción.

moral philosophy. This shift represents the passage from the analysis of linguistic study in philosophy to the application of moral principles previously founded and the responsibility for the consequences of its application. Largely means the orientation opening action in moral philosophy, ranging from self-reflection on itself to meet the concern for social problems projected in public discourse (Camps and Cortina, 2007: 453-454).

This applied spin take on the problems that had plagued mankind after two world wars and the rise of fascism during the first half of the 20th century. So, far from being characterized as a great ethic realizing a linguistic analysis on itself, it began to encompass issues of justification and application, taking as much as a political conscience, which was then joined by the technological and social consciousness.

Indeed the rise of applied ethics was demanded by the social reality and according to V. A. Camps and A. Cortina (2007: 446) due to four key elements. First, governments were forced to the creation of ethics committees on issues outnumbered them and for those who did not answer in various fields such as biotechnology, business or health. Second, also experts in the above areas of ethical advice needed to guide their practices, thus expressing its dissatisfaction and unconformity with the quality of their scientific practices, and the enormous need for trust in their activities. Third, the citizens who were forced to trust in various public and private spheres claim for their worries in the public sphere eye. Finally, moral philosophers realized the responsibility involving applied ethics, as well as their need for the future. These four elements will involve a form of interdisciplinary work that characterizes the behavior of applied ethics. In addition to determining their methodology, also determine their results, shaping guidelines and codes, e.g. the *Belmont Report* 1978 in Bioethics.

The Procedure of Applied Ethics

Considering the four elements that led the birth of applied ethics, social reality determined the arising method of it. The name of applied ethics would be considered as principles applied from above, but actually is an ethics that is built from below. It is born from the own social imperative and not from any higher institution –rather than institutions and committees will be created as a result of it. Its procedure is, as A. Cortina noted (2001: 165), from the ‘bottom to the top’, as it comes from the need of those affected people and it is necessary when no other practical knowledge can solve those needs. It doesn’t come from deduction and applying of principles to specific cases. Firstly because that would be the methodology of *Causistry* (Cortina, 2001: 167-168; Ferrete, 2010: 36). Secondly because ethics do not apply directly the principles, but rather design the framework: the values, principles and procedures which must be taken into account for those affected. Applied ethics doesn’t have a rhetorical application method, like *Causistry* does. For *Causistry*, the action would be guided not by the application of principles to specific cases, but rather by the agreement of the experts and personalities expressed through maxims of action.

There are, however, some opponents of applied ethics. According to A. MacIntyre, the sense of application cannot be separated from its own ethics (MacIntyre, 2003). The sense of ‘application’ referred by A. MacIntyre is radically different from discourse ethics one. For the Scottish philosopher, the application is the union of two separate spheres that act by a deductive principle, which enforces principles to reality (García-Marzá 2004: 117). Following D. García-Marzá, applied ethics was born of the same need for social praxis, and as explained above, is not due to the application of principles to other bodies or organizations want to impose.

Thus the ‘application term’ considered in this text is an inseparable and unavoidable orientation of action in different spheres of social reality dimension. Therefore it does not consist in applying general principles to specific cases, nor to induce such principles from specific decisions, but to discover common principles. This application has a sense of discursive character rooted in Critical Theory, being necessary to refer to discourse ethics.

The Application Criterion from Discourse Ethics Theory

It is essential to refer to K. O. Apel, who starting from the theory of discourse ethics, agrees with J. Habermas with the foundational task of ethics, but beyond him, also believed it has an application role. So K. O. Apel distinguishes two parts in ethics: *part A*, which is responsible for rationally underpin the principles and rules of action correction, and *part B*, which would design a rational framework for the implementation of the principles of the *part A* in everyday life (Apel, 1985: 341). In fact, Apel noticed one of the limits of discourse ethics, and is that practical reason should bet more by prudence and accountability in the application of rules to specific situations (Apel, 1985b).

Indeed *part B* of ethics is governed not only by the criterion of application, but also for the liability (Cortina, 2001: 171; Camps and Cortina, 2007: 150). It is essential to consider the consequences that will follow from the actual application of the principles of human action previously grounded in a rational and argumentative own form of discourse ethics.

Ethics, unlike morality, needs a specific learning and language. For philosophical reflection, knowledge of different traditions about the moral phenomenon and human decision-making are necessary. The fact that there are different ethical theories, such as the Kantian, utilitarian or Aristotelian indicates a moral pluralism. Moreover there is pluralism in the different ways of life of a society to achieve happiness. So, the first problem that this applied ethics –which attempts to answer the demands of trying to apply the principles involved previously founded– is that there is not a rational basis from which to guide and implement commonly encounters. And even if it exists, it does not mean that being rational should be common to all (Cortina, 2001: 165). *Part B* of K. O. Apel addresses turn, not only the principle of application of ethics, but the problem of conjugation between the ‘good’ and ‘right’, i.e. between the universal issues of justice and particular good life ones.

One of the most profound attempts to incorporate the method of critical hermeneutics to applied ethics comes from J. Conill, who gives a circular structure to all them. This structure distinguishes three moments that leave of applied ethics as a social practice. The first is to understand what that social practice, and for this the Aristotelian conception of practice is necessary, as an activity pursued by certain internal goods, for which the discovery of early midrange plus values and virtues is required (Conill, 2006). However the persecution of those internal goods must respect an ethics code, and even more in societies where it is assumed that it has reached a level of mature moral development. This moment is called Kantian moment and forces internal goods to pursue an activity respecting values such as freedom, equality or active respect. In addition to the Aristotelian and Kantian moment in their quest for experiential reason, J. Conill alludes to a moment of responsibility for the consequences, something that K. O. Apel had warned in *part B*. This framework provides accountability and prudence and also respects the legal framework of the activity in question.

By differentiating these three moments in the structure of applied ethics, J. Conill, besides defending his hermeneutic and deliberative nature, makes it clear that the application of previously founded principles is an essential element in the direction of human action because it enhances understanding of the logic of human activity (Conill, 2003: 123). This is the main purpose of applied ethics.

So if an applied ethics is needed for different human activities –enterprise ethics (García-Marzá, 2004), bioethics (Gracia, 1988), law ethics (Laporta, 2000)– could be necessary an ethics about the research and treatment of the human brain? Even if the answer is affirmative, we could not say that neuroethics is an applied ethics. And even more, if we would have answered that neuroethics is an applied ethics, we could not rule out that it was not a fundamental ethics. Their activities throughout this decade have been defined as something different than applied ethics above.

Neuroethics as Applied and Fundamental Ethics

In order to answer properly to the question about what is neuroethics, it would be necessary to check if it accomplish with applied ethics characteristics mentioned above. If neuroethics well exceed these features mean that surpasses the features of applied ethics, and could, in principle, begin to be considered a fundamental ethical its own field of study. A summary of applied ethics characteristics is:

- a) Social demanding. The citizen needs of guiding actions to face new dimensions of social practices and activities themselves.
- b) Interdisciplinary. The convergence of different fields in their study, and at least one of them, moral philosophy.

- c) Application of principles previously founded in a rational and dialogically way, through a bottom-up implementation.
- d) International organizations and institutions for its study and development.
- e) Experts including moral philosophers, engaged in the study.
- f) Principles and guidelines reflected in codes.

The Applied Form of Neuroethics

Taking into account the first of these characteristics –a–, the main questions could be: is neuroethics born, in part or in whole, of the people’s concern about the need of better guidance of moral action on the treatment and study the human brain? It is born from the own professional demands of better quality of their practices and activities because they cannot demand them to other institutions?

On the one hand, the core encompassing demands a better understanding of neuroscientific advances is starring both by patients as by professionals. Alongside the need for ethical regulation of neuroscientific practices both clinical and pharmaceutical –psychotropic drugs– and those who suffer a brain disease –Huntington's disease, Alzheimer's, agnosias, etc. Brain enhancement through psychoactive drugs –modafinil, ritalin, and provigil– is today a subject of ongoing debate in many schools in the United States (Stein et al., 2011). Ethical regulation of experimental practices involving treatment of such diseases is demanded.

On the other hand, the communication of discoveries and advances in neuroscience also has the possibility of re-examining standardized convictions about the human brain and psycho-biological causes of his behavior. But these are useless re-discoveries without proper public communication and discussion of the ethical scope of their contributions (Racine, 2011: 787-788). Also, the current scientific impact of neuroimaging needs to be analyzed both in terms neuroscientists as ethical, often due to the distance between ‘what they say’ and ‘what the results actually mean’. At the same time there are other issues requiring ethical reflection within the neuroscience. Some of them are the conditions of application of ‘mind reading’ or simulating human consciousness (Evers and Sigman, 2013). Therefore, neuroethics ethics as applied to neuroscience research is needed, and this need is a demand for both citizens and professionals.

Regarding to the interdisciplinary –b– from its birth as a science, neuroethics has had the collaboration of different experts. In fact San Francisco Congress was the first meeting of experts from different fields together trying to give meaning to the new field of study that was opening in front of them. Therefore, the interdisciplinary has characterized neuroethics since birth, so its study encompasses different study areas for which a dialogue between various experts is needed.

In terms of how to apply principles previously substantiated –c–, there are today a number of initiatives and projects that aim to give voice to social demands regarding the treatment of the human brain. These initiatives are

aimed at creating knowledge platforms to fundament the social superstructures in the brain. They are big megaprojects joint interests that aim not only to advance the treatment of mental illness, but also in the moral, economic, social and educational human behavior. Examples include the *Human Brain Project – HBP–* in Europe, or *BRAIN Initiative –Brain Research through Advancing Innovative Neurotechnologies Initiative–* in US (Kandel et al., 2013). These megaprojects meant to be the platform from which to base principles that will apply throughout neuroscientific activity. For this they have a lot of dumping of internationally neuroimaging data. In the case of HBP, its main interest is the simulation of human consciousness in non-organic matter. The success of these projects is yet to be determined.

Regarding to the international organizations and institutions –d– throughout the second half of the s. XX, many institutions were created with respect to neuroscience that later gave way to the study of neuroethics. Among them we can highlight the *International Bioethics Committee –IBC–*, the *Society for Neuroscience –SfN–*, the *International Brain Research Organization –IBRO–*, the *Institute of Neurosciences, Mental Health and Addiction –INMHA–*, or the *International Neuroethics Network –INN–*.

Likewise neuroethics has a core of experts –e– who are dedicated to its study. They have provided definitions and classifications of the term. Many of them are philosophers –E. Racine, K. Evers, A. Roskies, J. Moreno, N. Levy, among others. Although could be the ‘neuroethicist’ –experts– contributions more important than the philosopher ones? Professional and academic neuroethicist contributions would be at first, the responsibility of researchers to select what constitutes an appropriate ‘neuro’ topic. The ‘neuro’ prefix has now become somewhat ambiguous, due to the large number of suffixes have been added –neurotechnology, neuromarketing, neuroeconomics, neurolaw, etc. Are we facing a neuro-imperialism?

In some way, it seems that the ‘neuro’ prefix is followed by the attractive surname (Weisberg, et al., 2008) producing a great literary after her appearance. It is not obligated to use the ‘neuro’ prefix anytime we use neuroimaging referring neural areas related with social activities. What it could expect from the new ‘neuro’ terms would be according to R. Fischbach and J. Mindes (2011: 348): ‘Ideally these new neuro-hybrids will indeed become areas of legitimate and rigorous scientific discovery’. Neuroethicist must be the guide for this large amount of new literature, to draw its shape and content, basically to determine ‘what is’ and ‘what is not’ a subject related to their field.

But this assumption does not mean we have to close the tap to new concepts. It does not mean, as some authors claim, keep only neuroethics connected with the problems of clinical treatments (Jones, 2008: 49). The growing audience that includes social issues of the human brain needs to be taken into account, not only as a researcher or creator, but as part of an educational process, thus necessitating a neuro-literature.

Regarding the last characteristic –f–, there are not principles or guidelines reflected in neuroethics codes. This is due to the principles and guidelines that guide practice and experimentation with the human brain are rooted in

bioethics, such as ‘no damage’ or ‘benefit’ (Cortina, 2011: 39). For this reason, many consider neuroethics as part of bioethics. Studies carried out by some of the aforementioned organizations have created codes of good practice and ethical guidelines, almost all of them aimed at the medical practice. A good example is the *Report of the International Bioethics Committee* of UNESCO On Social Responsibility and Health (UNESCO, 2010).

The Fundamental Core of Neuroethics

So far we have seen how neuroethics can indeed be conceived as an applied ethics. However these features only cover some part of the entire scope of neuroethics. In addition to the intention of giving guidelines for the ethical study of neuroscience, another objective of neuroethics is to delve into issues that, throughout history, have wondered philosophy. Indeed, the normative and methodological relevance of neuroethics progressively increases, as it seems that neuroimaging can address, at first sight, relationships such as the brain-mind (Damasio, 2003), freedom-determinism (Evers, 2009 : 73-112), moral intuitions (Hauser, 2006) or emotion- reason (Moll et al 2009). Even from a deterministic view, some authors have treated the alleged primacy of rationality of consequentialism versus deontology (Greene, 2007), the conception of freedom as an illusion (Rubia, 2009) and the attempt to fundament morality in the brain (Gazzaniga, 2005: 14-15; Mora, 2007: 159; Ramachandran, 2003: 94).

While neuroethics exceed the philosophical review of the experimental practice between neuroscience and the study of philosophical issues, taking into account the findings of the brain, neuroethics can be a fundamental ethics. Although having its own field of study does not mean being exclusive. When neuroethics goes beyond the conditions of application of neuroscientific ethical practice, to attempt to substantiate the possibilities of explanation of morality in the human brain, neuroethics is not only an applied ethics.

Regardless of the research success in neuroethics issues that have always worried philosophy, just the fact of incorporated the empirical neuroscientist component –with philosophical reflection–, makes neuroethics a new science with an own field of study. Maybe the issues are the same: how moral behavior is developed? Why we are moral beings? What is the weight of the emotional components in moral judgment? But now we take into account not only philosophical reflection, but the advances and discoveries in the human brain. In turn, this integration will provide new questions that need philosophical reflection, such as: is there a moral innate ability or developed in conjunction with social environment? (Wexler, 2011) Is actually there human freedom in decision-making or is indicated by the brain? (Reiner, 2011).

To sum up, the extension of the circle in the study of ethics means the birth of new issues which can only be answered within the bosom of neuroethics. We must emphasize again that, regardless of how successful these studies have, it is important to note this plot of neuroethics as a new discipline and a field of study itself. Only interdisciplinary dialogue and over time, you can

determine whether the consideration of the human brain in the study of moral philosophy has provided answers or just more questions.

Conclusion

Neuroethics is an interdisciplinary science that shapes their actions every day with a combination of related sciences with a common interest: the study of the neural basis of human moral behavior. Once studied assumptions and characteristics of applied ethics in the discourse ethics analysis, we can conclude that, neuroethics not only meets all of them, but goes beyond. Indeed, from the social need for a critical reflection on the progress of bioethics in the brain and clinical practice, neuroethics is an applied ethics that already has agencies and experts dedicated to it. However, as far it transcends the necessary reflection on neuroscientific actions and intends to translate human morality to a neuroscientific basis at the same philosophical, neuroethics becomes a fundamental ethics. From a philosophical view we must keep working to not only neuroethics as a neuroscience *logos*, but a moral life logos that takes into account human cognition from a broad and integrative perspective, a real *episteme* that does not produce a division between natural and social sciences.

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