The Modern Ontological Personalism of Juan Manuel Burgos in the Public Square: Toward a Personalist Neuroethics

El Personalismo Ontológico Moderno de Juan Manuel Burgos en la plaza pública: hacia una neuroética personalista

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Abstract: Neuroethics, which comprises ethical reflection on neuroscience, is a field marked by conceptual and practical fragmentation. Moving from mechanistic and biological paradigms of persons, it fails to provide 1) a groundwork for conceptualizing a robust understanding of personhood and a 2) a coherent ethical methodology to address the many questions that emerge in theoretical and practical/clinical neuroscience. A corrective to this fragmentation is necessary if neuroethics is to function in a theoretically and practically coherent fashion, in the domains of the academy, clinical care and the public square.

Modern Ontological Personalism (MOP) has a well-developed philosophical anthropology and an explicit epistemological/methodological position (Integral Experience) that can serve as correctives for the fragmentary nature of the many issues touched upon by Neuroethics. This paper will consider Modern Ontological Personalism vis a vis the international field of neuroethics, and will argue that this personalist philosophical vision can act as a corrective in two important neuroethical areas that have been problematic from the discipline's foundation, 1) MOP's philosophical anthropology as a vital corrective for the scientism and reductionism that pervades neuroscience and that posits a truncated, materialist/mechanistic vision of persons and 2) MOP's epistemology as a way to broaden and deepen the theoretical foundations of Neuroethics. The article will conclude with a proposal for a new perspective that I will term "Personalist Neuroethics".

Keywords: Juan Manuel Burgos, epistemology, integral experience, modern ontological personalism, neuroethics, neuroscience, personalism.

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Resumen: La neuroética comprende la reflexión ética sobre la neurociencia. Es un campo marcado por la fragmentación conceptual y práctica. Pasando por los paradigmas mecanicistas y biológicos de las personas. Nos proporciona 1) una base para conceptualizar una sólida comprensión de la personalidad y 2) una metodología ética coherente para abordar las muchas preguntas que surgen en la neurociencia teórica y práctica/clínica. La corrección de esta fragmentación es necesaria para que la neuroética funcione de una manera teórica y prácticamente coherente, en los ámbitos de la academia, la atención clínica y la plaza pública. El Personalismo Ontológico Moderno (POM) tiene una antropología filosófica bien desarrollada y una posición epistemológica/metodológica explícita (Experiencia Integral) que puede servir como correctivo de la naturaleza fragmentada de los múltiples temas abordados en la neuroética.

Este artículo considerará el personalismo ontológico moderno frente al campo internacional de la neuroética y argumentará que esta visión filosófica personalista puede actuar como un correctivo en dos áreas neuroéticas importantes que han sido problemáticas desde la fundación de la disciplina: 1) la antropología filosófica del POM como un elemento vital correctivo para el cientificismo y reduccionismo que impregna la neurociencia y que postula una visión truncada, materialista/mecanicista de las personas y 2) la epistemología del POM como una forma de ampliar y profundizar los fundamentos teóricos de la neuroética. El artículo concluirá con una propuesta para una nueva perspectiva que denominaré "Neuroética Personalista".

Palabras clave: Juan Manuel Burgos, epistemología, experiencia integral, personalismo ontológico moderno, neuroética, neurociencia, personalismo.

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1. Introduction

As a distinct and independent discipline, neuroethics is a newcomer to the domains of science and philosophy. It has, to date, operated largely within the canons of neuroscience and thus in the larger western scientific tradition, embracing its theoretical and practical assumptions about the nature of the universe and its methods of investigation, and has striven within this context to develop an ethical framework for dea-

ling with specific ethical issues arising in theoretical and clinical neuroscience[1]. Implicit in neuroethics is a philosophical anthropology and an epistemology in keeping with the scientific world view. In this article, I will argue that these philosophical positions are insufficient to meet the ethical goals neuroethics has set for itself.

An ongoing consequence of the field's conceptual and methodological choices is that it has operated, from the beginning, from a fragmented and inadequate notion of person, moving from material/mechanistic and biological/organic models, attempting to conceptualize persons from these positions, and attempting to develop an ethical vision grounded in these notions as well. This article will argue that historical and contemporary conceptual framework of contemporary ethics is inadequate to the task, consider the reasons for this inadequacy and then will propose a more robust alternative, which I will refer to as "Personalist Neuroethics".

In order to examine the conceptual foundations of neuroethics with the aim of offering a critique and a corrective, this article will proceed as follows: First, consideration will be given to the contemporary field of neuroethics in terms of its historical development, strengths and weaknesses. Then, there will be a brief overview of the personalist tradition known as Modern Ontological Personalism (MOP), focusing on its philosophical anthropology and epistemology and argue that it can serve as a vital corrective for the current shortcomings of both theoretical and practical neuroethics. Lastly, these factors will be integrated into a new personalist proposal for neuroethics.

2. Neuroethics

The field of neuroethics is of relatively recent vintage, developing steadily from the late 1960s, fueled by advances in neuroscience technology and the new questions these raised[2]. One of the first major international conferences on neuroethics was held in 2002, at Stanford University, California, USA, called "Neuroethics: Mapping the Field". The International Neuroethics Society was founded more recently, in 2006.

[1] For an overview of the field, cfr. M. Farah, *Neuroethics: An Introduction with Readings*, Massachusetts Institute of Technology Press, Cambridge 2010, and cfr. S.J. Marcus, *Neuroethics: Mapping the Field*, The Dana Press, New York 2002.

[2] For an overview of the history of neuroscience, cfr. Chapter 1, *A Brief History of Cognitive Neuroscience,* in M. Gazzaniga, R.B. Ivry, G.R. Mangun and M.S. Steven, *Cognitive Neuroscience, the Biology of the Mind* (3rd Ed.), W.W. Norton & Company, New York 2009.

2.1. Definitions of Contemporary Neuroethics

Different but complementary definitions of the field of neuroethics have been formulated. Adina Roskies classic and oft quoted definition of neuroethics is "the ethics of neuroscience" and the "neuroscience of ethics"[3]. Several more recent formulations of the field are presented here in the service of developing a comprehensive contemporary understanding of the field. The website of the International Neuroethics Society defines neuroethics as:

> "A field that studies the implications of neuroscience for human self-understanding, ethics, and policy"[4].

Canadian Neuroethicist Eric Racine provides a more detailed definition, suggesting four domains of Neuroethics scholarship and practice:

1. *Research Neuroethics*, the ethics involved in conducting neuroscience research.
2. *Clinical Neuroethics*, the ethics of healthcare for individuals with neurologic and psychiatric difficulties.
3. *Public and Cultural Neuroethics*, examining and influencing public understandings of neurological and psychiatric illnesses.
4. *Theoretical and Reflective Neuroethics*, the theoretical foundation of neuroethics and "the impact of neuroscience research on biological concepts and principles[5].

2.2. Description of Contemporary Neuroethics

Common to most of these definitions is a sense that neuroethics has both a theoretical and a practical aspect. In theoretical terms, neuroethics has consciously grounded itself in the Western scientific tradition and tends to embrace physicalist and biological conceptions of person arising from the disciplines of physics, chemistry and biology. That is to say, neuroethical conceptions of person tend to be inherently reductionistic, and based on animal models, as are the disciplines on which they are based. There is ample evidence in the neuroethics literature for this

[3] A. Roskies, "Neuroethics for the new millennium", in *Neuron*, 35 (2002), pp. 21-23. This definition is, in my judgement, incomplete, for reasons I will develop below.

[4] This is the definition given by the International Neuroethics Society on their website. http://www.neuroethicssociety.org/what-is-neuroethics. Accessed 8 April, 2016.

[5] E. Racine, *Pragmatic Neuroethics: Improving Treatment and Understanding of the Mind-Brain*, MIT Press, Cambridge 2010, p. 5.

assertion. For example, the first chapter of the authoritative and recently published *Handbook of Neuroethics* asserts commonly held views within neuroscience that undergird neuroethical thinking that are materialist and organic in nature. I have highlighted the words that suggest physical, biological and reductionist presuppositions:

1. Cognitive neuroscience explains cognition and behavior in terms of multilevel "*neural mechanisms* including individual *neurons* and their various *components*, discrete *brain regions*, small-scale and large-scale *neural networks*".
2. Thought is the product of information collection and processing, information that is collected by an organism through its sensory apparatus from its environment, "used to construct internal representations and perform *computations* on such representations in order to control the *organism*".
3. An organism's behavior, including the behavior of human beings, is "the *outcome of computations* over representations performed by *multilevel neural mechanisms*"[6].

In keeping with the *philosophical* tenets of science that developed from the beginning of the Scientific Revolution in general, and in the domain of physics in particular, the universe, including the person, is seen as exclusively material reality (matter and energy), subject to knowable physical laws that can be used for predictive and control purposes. Such a position does not typically attend to anything beyond the physical, or, more concretely, beyond the ability of the instruments of science to measure. In the nineteenth century, this vision was extended into the biological or organic sphere, focused as it was on the functioning of living organisms and grounded in the practice of biology, which, referring back to physics, was also ultimately deterministic in nature, moving from the canonical physics notion of cause and effect to the organic notion of stimulus and response in the context of adaptation to environment and the tenets of evolution developed by Darwin in the 19th century. Like physics, it remains an impersonal vision of the cosmos, and of us[7].

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[6] G. Piccinini, *Foundational Issues in Cognitive Neuroscience: Introduction*, in J. Clausen and N. Levy (Eds.), *Handbook of Neuroethics,* Springer, Dordrecht 2015, pp. 6-7. Italics by author. For similar expositions cfr., e.g. M.J. Farah, (Ed.) *Neuroethics: An Introduction with Readings*, MIT Press, Cambridge 2010; Cfr. S.J. Marcus, (Ed.) *Neuroethics: Mapping the Field*, The Dana Press, New York 2002; Cfr. E.R. Kandel, J.H. Sahwartz, T.M. Jessel, S.A. Siegelbaum, & A.J. Hudspeth. *Principles of Neural Science* (Fifth Ed.), McGraw-Hill, New York 2013.

[7] For an overview of the history of the development of the sciences from a philosophical perspective, cfr. J. Macmurray, *Interpreting the Universe*, Humanity Books, Amherst, New

2.3. The Presuppositions of Science (including neuroscience and neuroethics)

In order to develop a critique of neuroethics, the first essential task is to step outside it, that is, outside the thought-world of the sciences in general, because the foundational methodology of science, the empirical method, is common to the disciplines of physics, chemistry and biology, originally developed in the context of Newtonian physics. Seeing neuroethics "from the outside" as it were, makes it possible to see its underlying presuppositons and to consider a critique of those same beliefs[8]. First, it is helpful to look from within, that is, from within the regional ontology of science, to consider its presuppositions, before taking a broader view[9]. Some of the suppositions include the following:

Metaphysical Assumptions: The entire content of the known universe is physical/material. The immediate human consequence of this view is materialism and a hard determinism that allows no room for free will.

Epistemological Assumptions: The scientific method of observation, hypothesis generation, experimentation and theory building (never finalized but subsequently and perennially open to revision or rejection based on future research findings) is the most valid, if not the only valid, way to generate knowledge. The epistemological assumption of in a physicalist universe is that every aspect of the universe is open to empirical investigation and measurement.

Anthropological: Humans are physical/organic beings, that is, they can be fully and completely defined as biological organisms, specifically, as animals comprised most basically of subatomic particles and energy that are the components of atoms, which combine to form the molecules of life and increasingly complex living systems through a process of evolution (stimulus-response and adaptation to environment, with the survival and procreation of the most successful adaptors). As such, all aspects of human beings are available to investigation by the empirical method of science. Historically, much philosophy has moved within this paradigm, seeking to differentiate human beings *within* the

York 1996, and *Persons in Relation*, Humanities Press International, New Jersey 1991. Of course, one who truly holds to a materialist understanding of reality must argue that no "stepping outside" is possible, since matter alone exists.

[8] For a readable history of modern science that covers both the most prominent figures and the methodologies they developed, cfr. J. Gribbin, *The Scientists*, Random House, New York 2004.

[9] The notion of "regional ontology" is taken from Edmund Husserl (*Ideen I*) and will be expanded upon shortly.

context of biological and animal paradigms, by naming reason as the distinguishing aspect of our particular species: rational animal (Aristotle), or an individual substance of a rational nature (Boethius, and Aquinas following him).

Ethical: In this domain the presuppositions of science, neuroscience, and of a neuroethics that embraces them, them run into enormous, and I would suggest, insurmountable difficulty. If one's anthropology operates in either physical or biological categories, either in a materialist paradigm of physical cause and effect, or in an organic paradigm of stimulus-response, all human behaviors *must* be the results of previous physical/biological events and one is left with a hard determinism. Ethical systems, in contrast, require at least a measure of free will and free action, without which individuals cannot be held accountable or responsible for their actions. One is left with the unenviable task of trying to wring freedom from matter in motion, or from biology in adaptation. In addition, ethical systems that have been developed within the domain of neuroethics have typically been relativistic in nature, subservient to current cultural and societal norms[10].

Linguistic: Finally, there are presuppositions made about how language is to be used in the context of research in the sciences. The language of science is the language of discrete, limited, closed definition. The empirical method requires the establishment of such a closed definition of the object of study due to the manner in which it will be measured, captured in the concept of "operationalizing" the object of study. Because of this, the definition of the object under study must be as clear, concise and limited as possible. Paul Ricoeur, following Jean Cohen, has called this use of language as (relative) degree zero rhetoric, language at its most basic, limited and delineated level, divested insofar as possible of connotation, polysemy, vagueness, porosity and open-endedness. The language of metaphor, then, is banished from the method of empirical study. The stands in stark contrast to the metaphorical use of language in conversational speech or discourse, as well as in philo-

[10] On this ethical relativism: E. Racine, *Pragmatic Neuroethics: Improving Treatment and Understanding of the Mind-Brain,* Massachusetts Institute of Technology Press, Cambridge 2010, p. 65. In which he states as an epistemological assumption of his neuroethics, "Ethical norms are not natural laws but are norms and rules proper to human social life. There are no natural moral laws as such, but moral rules can be better understood from a factual point of view that takes into consideration constraints of moral agency". The issue of whether or not a physicalist vision of the cosmos has room for a notion of human agency is not directly dealt with by the author, who adopts a philosophical view he terms "pragmatic naturalism".

sophy, in which words are open-ended, porous, vague, polysemic and cumulative, ever open to new meanings[11].

2.4. Critique: Neuroethics Seen from the Outside

It was my assertion at the outset that neuroethics as it currently exists and is practiced is too limited and fragmented to complete its assigned task[12]. In order to see this, it is necessary to step altogether outside the discipline of science and its heirs, neuroscience and neuroethics, in order to see its limitations more clearly, with the goal of proposing a more comprehensive alternative. I want to suggest there are several intellectual tools available that can facilitate this process: Husserl's concept of regional ontologies, the concept of scientism, contemporary philosophy of language, and the conceptual structure of the history of science proposed by Scottish personalistic John Macmurray. Each of these is considered in turn is a method for analyzing the current status of neuroethics and pointing out some critical limitations.

2.4.a Regional Ontology

For Husserl, a regional ontology encompasses a specific sphere of knowledge and investigation, marked by its own methodology, directed at a specific content domain. Such a region *delimits itself* by its methodology and seeks knowledge within the context of this method. The method is geared to that specific domain, and may not be deployable outside of it. Science as a whole, with its presuppositions about the nature of the universe, its methods and its findings, can be considered a

[11] P. Ricoeur, *The Rule of Metaphor: The Creation of Meaning in Language*, Trans. R. Czerny, K. McLaughlan and J. Costello, Routledge, London 2003, p. 164ff. Of course, the use of metaphor is never fully banished from the domain of science because science is conducted by persons – it is placed in temporary abeyance for the purpose of specific study. Scientists must communicate their findings to others, and return to the level of discourse or conversation to do so. Scientific models are metaphors, theoretical ways of understanding the world around us. On this aspect of science, cfr. M. Black, *Models and Metaphors: Studies in Language and Philosophy*, Cornell University Press, Ithaca, New York 1962, especially Chapter 13, *Models and Archetypes*, pp. 219-243, where he describes three kinds of models - scale, analogue and theoretical - the third being the manner in which metaphor and model interact to communicate scientific findings. Finally, these presuppositions can be seen at work in any contemporary experimental study in the hard sciences and in many of the human sciences in which an object of study is defined and limited, an experimental methodology chosen, results presented and discussed. The double-blind placebo-controlled trials conducted for the purpose of assessing the efficacy of new medications is a classic example of this method.

[12] In this regard see the neuroethics definitions and presuppositions above.

regional ontology[13]. In terms of neuroscience in general and neuroethics in particular, which are contained within this regional ontology, their method is the scientific method, grounded as it is in materialist and biological assumptions, a specific tradition of investigation and a domain of study, namely, the universe physically or materially conceived. This is, for each discipline, both a strength and weakness. It is a strength as long as investigation remains in the context of the regional ontology. It is a weakness when the methodology is transported outside of the ontology to places to which it cannot be applied. Examples exist both within and beyond science. Within science, for example, if I use a thermometer (an instrument to measure heat) to attempt to measure the speed at which my vehicle is traveling, the process fails. Or, I attempt to use a scientific instrument such as a telescope to examine human emotions, the process will likewise fail. To each discipline belongs its methods and its instrumentation. To attempt to take the instrumentation of one methodology, one regional ontology, and apply it to another is to risk failure and misunderstanding. To push the matter further, since the chosen instrument (e.g. the thermometer above) might register nothing about the speed of an automobile, the temptation will exist to claim that the object toward which that instrument was directed does not, in fact, exist. When one single methodology is privileged above others, or to the exclusion of others, driving them from the stage, large swaths of reality go unattended.

2.4.b Scientism

The vision just described can result in the error of scientism, when the knowledge and instrumentation of one specific discipline is expanded or *equated* with *all* possible knowledge, or to argue that a par-

[13] "We can express this as follows: *Any science of matters of fact* (any experiential science) *has essential theoretical foundations in eidetic ontologies.* For (in case the assumption made is correct) it is quite obvious that the abundant stock of cognitions relating in a pure, an *unconditionally* valid manner to all possible objects of the region – in so far as these cognitions belong partly to the empty form of any objectivity whatever and partly to the regional Eidos, which, as it were, exhibits a necessary *material form* of all the objects in the region – cannot lack significance for the exploration of empirical facts". E. Husserl, *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy*, *First Book*. Trans. F. Kersten, Martinus Nijhoff Publishers, The Hague 1983, §9, p. 18. Also, the notion of the boundaries of a specific science was not a creation of the modern scientific area. Aquinas wrote, "Sciences are differentiated according to the various means through which knowledge is obtained. For the astronomer and the physicist both may prove the same conclusion – that the earth, for instance, is round; the astronomer by means of mathematics (*i.e.,* abstracting from matter), but the physicist by means of matter itself". ST I, Q1, a. 1, Reply Obj. 2.

ticular regional ontology's way of knowing is *the only legitimate way* to generate knowledge - in which case other ways of knowing are devalued, discounted or ignored. This creates a critical failure when science attempts to use the knowledge and methods of physics, chemistry and biology to *fully describe* persons. In short, a reduction occurs, the result of which is that a human person cannot be fully conceived. J. Wellmuth characterized scientism as holding three tenets: 1) that empirical science is *coextensive* with the entire field is knowledge; 2) that the scientific method is the *only* reliable route to knowledge and 3); that all other forms of knowledge should be made "scientific", that is that they should operate within the canons of science. Philosophy, for example, should conform to the scientific method, ruling out metaphysics due to the presuppositions of the regional ontology of science in terms of matter and biology[14]. Scientism (never to be confused with science) has a pernicious character in contemporary technological societies, devaluing other ways of knowing, and inevitably limiting our vision of ourselves. It drives us to consider ourselves as material beings, biological organisms, objects devoid of subjectivity, but not as persons. In the specific case of neuroscience, and neuroethics, it results in an attempt to equate persons with the electrochemical *function* of their brains. There is no place for ethical thinking in this domain, and a neuroethics that succumbs to scientism cannot adequately serve the human person.

2.4.c Philosophy of language

As noted earlier, scientific language is deliberately truncated. It seeks denotation in definition, and thus seeks to divest language of its capacities for metaphor, open-endedness, and the accumulation (as well as loss) of meanings over time. No one could deny that this restriction of language has been a powerful aspect of the methodology of science and has brought astounding advances and benefits to the human condition. Medicine, transportation, communication, technology, all of these

[14] Cfr. J. Wellmuth, *The Nature and Origins of Scientist,* Marquette University Press, Milwaukee 1944. More recently, Robert Spaemann has commented that "Materialism sets out to interpret human beings as but particularly complex features of the objective world, totally subject to its laws. Not only is the non-human world indifferent, then, human beings themselves share in that very indifference. On this view, each attempt human beings make to invent meaning can be explained merely as a function of their recreation and pleasure, while their existence *as such* remains as indifferent as that of anything else". R. Spaemann, *Evolution,* in *Essays in Anthropology: Variations on a Theme*, Trans. G. de Graaf and J. Mumford, Cascade Books, Eugene, Oregon 2010, p. 30.

have advanced through the deliberate restriction of linguistic usage in the service of scientific discovery.

At the same time, to leave language here is to proceed in a world marked by poverty of content. The language of persons is metaphorical, rich, multileveled, filled with image and meaning, all of which facilitate communication between persons as well as the processes and content of art and culture. Our language would be a poor indeed if, for example a word such as "right" referred exclusively to a spatial location, rather than its additional meanings of correctness, valences related to human dignity, and such phrases as "choosing the right path", "the defense of human rights" etc. In the domain of persons, it is the richness of concepts such as "good an evil", "right and wrong", "human action" and "human responsibility" that capture the ethical dimension of our existence. Metaphor also enable us to talk more richly about who we are, through value terms such as "spirit", "psyche", "love", and other universal terms. Such terms are virtually impossible to reduce to relative rhetoric ground zero, nor, in terms of human living, would we desire to. In addition, a scientistic vision that holds to a purely definitional view of language is a scientific view that cannot communicate its own findings – as Max Black has noted, metaphors are to poetry what models are to science. They take us beyond the prosaic and the concrete, they enable us to conceive of new questions and to view the world in hitherto unimagined ways.

2.4.d The History of Science from a Personalist Perspective

Scottish personals philosopher John Macmurray characterized the history of philosophy as progressing through three phases, which he referred to with the metaphorical term "Field". He characterized the histories of both science and philosophy from the dawn of the scientific revolution as progressing through the Field of the Mechanical, the Field of Biological and more recently, the Field of the Personal, paralleling the development of physics, chemistry and biology, and in the 20th century, a turn to persons more fully conceived. The Field of the Material, characteristic of the age of physics at the dawn of the scientific revolution, embraces mathematical and analytic methods, views the world as material and knowable through the science of physics. It is deterministic in nature, grounded in laws of cause and effect, it is capable of speaking of some aspects of the human person, but not all. The Field of the Biological, characteristic of the 19th century, views persons as biological organisms, and thus essentially as animals, still

determined in their functioning, but in this case governed by adaptation to environment through a process of stimulus and response. Both of these Fields have a common denominator: they are both *impersonal*, that is, they enable us to access some aspects of human persons, but not to see the full picture.

Macmurray characterized the 20th century as a move into the Field of the Personal, in which *person*, rather than matter organism, serves as the principal metaphor, where individuals are viewed as agents rather than organisms or matter, a domain in which subjectivity, free will, and human action and intention exist. Macmurray's schema does not deny the Material or the Organic, rather it subsumes them to a higher and more complex level that more accurately represents who we are.

A key feature of Macmurray's thought is his examination of the way the Fields of the Material and Organic are conceptualized from the outset, a process that is comprised of *abstraction* and *subtraction*. This is how the process works: if one begins with the notion of persons fully conceived, as agents, free, relational, both subject and object, and then *subtracts* what is unique to this Field, one is left with the Field of the Organic. Next, to subtract what is unique to the Field of the Organic – life, biological functions, the way organisms live, the process of stimulus-response, one is left with the Field of the Mechanical – nonliving matter subject to the physical laws of nature. The critical notion here is that it is only *as persons* that the Fields of the Organic and the Material can be conceived, for it is only persons who can step outside the material and the organic, abstract from themselves, subtract aspects of themselves, and view what remains. The Field of the Personal then, includes the organic and the material, but it is not limited to them. There is far more to us than biology and matter[15]. There is freedom, agency, self-knowledge, and a body that is personal in its dimensions, integrated with knowledge and affect, to name just a few.

This process of subtraction and abstraction should not be viewed in exclusively negative terms – it has resulted in profound scientific advancements. It is only when we fail to recognize that it is as persons that we conceive of the organic and material aspects of the universe, when we leave out the personal and assume that only the material and

[15] Cfr. J. Macmurray, *The Self as Agent*, Humanities Press, Atlantic Highlands 1978, for a discussion of the unity of persons and the unity of experience, as well as the previously mentioned works, cfr. *Interpreting the Universe*, which depicts the Fields of the Mechanical and the Organic, and *Persons in Relation*, especially Ch. 1, *The Field of the Personal*, cit.

organic exist, forgetting ourselves in the process, that we run into trouble.

An understanding of the progression of history, both in science and philosophy, highlights how this came to be. Science developed from physics to chemistry to biology, and the human sciences as we understand them today (psychology, history, economics, law etc.) are more recent developments[16]. For Macmurray, it is necessary to examine this historical and intellectual process *in reverse* to recognize the Fields of the Mechanical and Organic as limited metaphors for persons, to re cognize that persons can be fully conceived only from the Field of the Personal, the realm of agency and freedom, and that everything we conceive is done from the Field of the Personal. Historically, science historically has taken the chronological, bottom-up approach to viewing persons, first from the physical and then from the organic, preventing it, by the self-imposed limitations and boundaries of its own methodology, from recognizing the unique aspects of persons. It has prevented the scientific disciplines from thinking about persons in categories *univocal to persons*, since the only categories it has to work with are those of matter and organism[17].

Regional ontologies, scientism, the philosophy of language and the history of science: what can these areas, taken together, tell us about there are? First, neuroethics operates within the scientific paradigm, making use of its methodologies, and along with it, its presuppositions about the universe and about the nature of persons. As currently conceived, neuroethics operates in the Fields of the Material and the Organic, taking the very same bottom-up approach persons,

[16] This is not to say that the humanistic disciplines did not exist in the past. The medieval triad of the professions – law, medicine, and clergy - attest to this. What is different today is a more delineated sense of all disciplines, each possessing its own specific methodologies and areas of investigation (i.e. their own regional ontologies), but also allowing for cross-disciplinary fertilization. For example, the field of Educational Neuroscience draws on the disciplines of neuroscience, psychology and education to consider how neuroscientific advances can better help us to understand persons and to integrate this understanding into the educational process. Essential to this process is the foundational understanding that there are multiple methodologies and multiple ways of knowing, all of them different, and all of them valid.

[17] On the notion of categories univocal to persons, J. M. Burgos, *Repensar la naturaleza humana* (Rethinking Human Nature) Ediciones Internacionales Universitarias, Madrid 2007, p. 63. He writes, "En definitiva, *su [la persona] dinámica es profunda y radicalmente diferente de la de los animales, por eso, no se le puede aplicar sin más una estructura dinámica cuyo origen se basa en la biología. Es necessario reelaborarla con profundidad*". (It is clear that the dynamic structure [of persons] is deeply and radically different from that of animals, and because of this, one cannot apply to persons a dynamic structure whose origin is based in biology. (My translation).

beginning in the physical and then *terminating* in the biological/organic, failing to reach the Personal. Theoretically encased in the Field of the Organic, neuroethics cannot take the next conceptual step, the move into the field of the Personal, turn around and understand the previous two Fields by means of *subtraction* from the Personal. To do so, a top-down approach is necessary, that is, to begin with the Personal and to then consider, by a process of elimination, the organic and the material. Theoretically, then, according to the fundamental presuppositions of neuroscience and neuroethics, neuroethics can speak only of human and nonhuman *animals*, rather than persons. At the same time, this is the great irony of the theoretical trap of scientism – it is only as persons that we can engage in a process in which we fail to notice persons, focusing instead, and exclusively, on the animal world. Only *as persons* can neuroscientists and neuroethicists argue that there is nothing distinctive about persons, nothing more to us than matter and organism. In essence, the practice of Neuroethics so conceived entails an ongoing logical contradiction. Matter and organism cannot talk about persons, and yet it is precisely *as persons* that matter an organism as conceptual fields are discussed. The path to understanding persons is thus closed. There is, however, a way to unlock that same door, the way of *recognition*, of the personal capacity to step outside regional ontologies and recognize them for what they are – enormously useful and at the same time limited and bounded ways of viewing the world.

If one is able to take the conceptual step through that opening, into the Field of the Personal, or perhaps better said, to recognize that one is *operating in* the Field of the Personal to begin with, then discussing the personal can begin to make sense, and neuroethics can recognize what it has been doing all along, namely, *being persons* talking about persons, but doing so previously in a conceptual world that has blinded us to the fullness of being persons. The personalist philosophical tradition stands on the other side of that door, providing both the concepts and the methods neuroethics needs to fulfill its task.

3. Modern Ontological Personalism

Modern Ontological Personalism is a more recent expression of the personalist tradition, developed by Juan Manuel Burgos, and building on some key insights of Karol Wojtyla, including his recourse to both Thomism and Phenomenology, that seeks to integrate the best of the classical philosophical tradition with the key concepts of the modern

philosophical era, including consciousness, subjectivity and the self[18]. This section will present Burgos' thought in outline and the following section will seek to integrate it into a neuroethics more fully conceived[19].

Modern Ontological Personalism (MOP) has several structural/architectural features that ground it in the history of philosophy, drawing on the best of the classical tradition while seeking to incorporate the concepts of modernity. Its key features include:

1. *The structural centrality of the person,* which draws on the long Western tradition of thinking about persons, from *prosopon* and *persona* to contemporary Personalist philosophers[20].
2. The philosophical deployment of *personalist categories,* that is, categories *unique or univocal* to persons, rather than attempting to conceptualize persons literally or analogically in animal categories (e.g. rational animals).
3. A specific *personalist philosophical methodology* which Burgos has termed *Integral Experience*, drawing our work in the modern phenomenological tradition in general and the work Karol Wojtyla in particular[21].
4. *Personalism and Modernity*, that is, the interface of aspects of the classical philosophical tradition with modern philosophical thinkers and concepts such as consciousness, subjectivity and the self.

[18] This article allows for only the briefest overview of Modern Ontological Personalism, and will focus specifically on its anthropology and epistemology. For a more detailed explication cfr. J. M. Burgos, *Introducción al personalismo*, Ediciones Palabra, Madrid 2012, (which will be published in English translation in early 2018 as *Introduction to Personalism* by CUA Press); Cfr. J. M. Burgos, *Antropología: una guía para la existencia* (5th edicion), Ediciones Palabra, Madrid 2013, and cfr. J. M. Burgos, *La experiencia Integral*, Ediciones Palabra, Madrid 2015.

[19] For the influence of Wojtyla on Burgos work, see J. M. Burgos, "El personalismo ontológico moderno I: Arquitectonica", en *Quién*, 1, (2015), pp. 9-27, esp. at p.11. The background to methodological considerations of Modern Ontological Personalism can be found in cfr. K. Wojtyla, *The Acting Person*, Riedel, 1979. (Spanish language edition: K. Wojtyla, *Persona y acción* (3ª ed.), Ediciones Palabra, Madrid 2017, pp. 33-60.

[20] J. M. Burgos, "El personalismo ontológico moderno II. Claves antropológicas", en *Quién*, 2, 2015, pp. 7-32.

[21] For a detailed explication of POM methodology, cfr. J. M. Burgos, *La experiencia integral*, Ediciones Palabra, Madrid 2015. The methodology draws on the phenomenological tradition, with modifications, and builds on the ideas set out in K. Wojtya, *The Acting Person*. Cfr. also J. M. Burgos, "El personalismo ontológico moderno I. Arquitectónica", en *Quién*, 1, 2015, pp. 9-27.

5. Personals and metaphysics, that is personal is him seeking "ultimate, radical and fundamental knowledge" about the way things are[22].
6. *Personalism and transformation of society*. Personalism must engage the contemporary world in which we live rather than remaining reclusive or exclusively in academic settings[23].
7. *Personalism and Christianity*. Modern Ontological Personalism and recognizes that many 20th century and contemporary personalist thinkers are themselves move from the Judeo-Christian tradition and continue to take its intellectual and social justice traditions seriously[24].

3.1. Philosophical Anthropology

This section will present a general outline of the philosophical anthropology of MOP and, because the discipline of neuroethics falls within the larger field of bioethics, it will focus on a specific issue, the body as personal, as a type of case study for considering how MOP might inform a broader neuroethical and scientific vision of persons.

3.1.a Philosophical Anthropology: General

The philosophical anthropology of POM is laid out in Burgos' *Antropología: una guía para la existencia*[25]. In his view, a philosophical anthropology that is comprehensive must contain the following features:

1. *Explanatory:* Philosophical anthropology must do more than *describe* the human condition, they must also seek to *explain and understand* it. It must ask fundamental questions of human existence, such as nature of persons and of society, the meaning of life, and of death.
2. *Metaphysical or ontological:* It must also address fundamental metaphysical questions such as the nature and population of the

[22] J. M. Burgos, *Introducción al personalismo*, cit., p. 259.
[23] *Ibid*., p. 261.
[24] For the details of these concepts, which I can delve into only briefly here, J. M. Burgos, *Introducción al personalismo*, cit., pp. 250-265. The Jewish and Christian thinkers referenced include Martin Buber, Franz Rosenzweig, Jacques Maritain, Edith Stein, Dietrich von Hildebrand, Gabriel Marcel and Karol Wojtyla.
[25] Cfr. J. M. Burgos, *Antropología: una guía para la existencia*, cit.

cosmos, the persistence of identity in the midst of change, and the ultimate grounding of reality.

3. *Integral:* It must offer a vision of the human person that is comprehensive, leaving no aspect unexplored (see below). In doing so, it must avoid any attempts at reductionism, for example reduction to the physical aspects of the person only.
4. *Scientific:* POM's philosophical anthropology is scientific in the sense of rigorous, systematic *investigation* of the human person drawing from all disciplines, empirical and humanistic in its search for understanding[26].
5. *Experiential*, in the sense of investigating human experience in all its dimensions[27].

Within this structure, MOP organizes its anthropology around the features noted earlier – person as the central focus of philosophical thinking, employing the use of philosophical categories univocal to persons which recognizes the radical importance of affectivity, moral and religious values, sexuality and action as manifestation, realization and fulfillment of persons[28].

3.1.b The Tripartite Structure of Persons

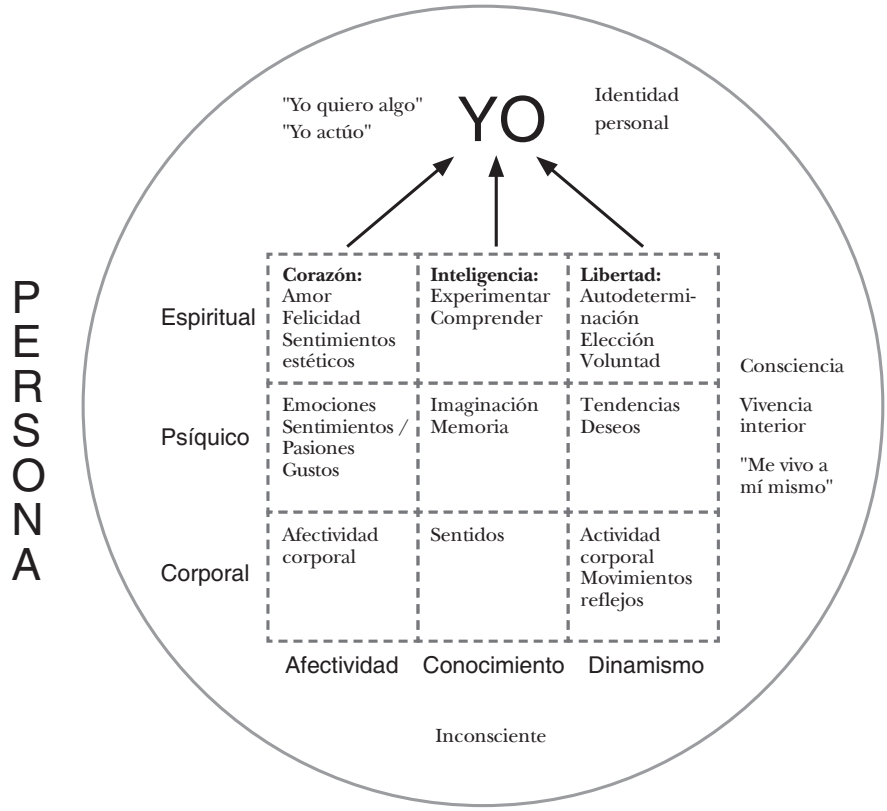
POM presents a tripartite model of person encompassing the corporeal, the psychological and spiritual in a complex interaction of knowledge, affectivity (feelings/emotions) and dynamism. K. Mollenido has depicted this relation and interpenetration of the dimensions or aspects of persons thus[29]:

[26] This is perhaps best captured in the German word *Wissenschatft*, meaning the broad sense of inquiry and investigation that takes places across disciplines scientific and humanistic.

[27] J. M. Burgos, *Antropología: una guía para la existencia*, cit., pp. 17-19.

[28] *Ibid.*, p. 20.

[29] Cfr. K. Mollinedo, *El diagrama de la persona según Burgos y su aplicación en la psicoterapia*, Instituto de Ciencias de la Familia, Universidad Galileo, Guatemala 2008, p. 100. Used by permission, with a special word of thanks to Prof. Mollinedo.



One important structural feature to be noted in the above diagram is that the internal lines are broken rather than solid, an indication that these are not discrete or encapsulated regions of the person, but descriptions of content, action and interaction. Knowledge, for example involves, at the corporeal level, sense knowledge, physical sensations and body consciousness. At the psychological level, knowledge involves our perceptual capacities (e.g. the integration of sensory input into internal representations). At the spiritual level one finds our capacities for abstraction, reasoning, self-reflection and self-knowledge. Affectivity or emotional life, at the level of the body (corporeal) level involves physical/bodily feelings and states, at the psychological level, conscious emotions and feelings as enduring states; at the level of spiritual affectivity we find our highest capacities, including a capacity to love, to value and to engage in aesthetic experience. The dynamism of

personal living is experienced at each level or dimension of person as well: at the corporeal dimension there is physical movement, reflexes and physical impulses, at the psychological level - motivations, desires intentions and tendencies. At the spiritual level we again discover some of our most distinctly human/personal capacities such as the freedom of self-determination, the will as directed toward our ethical life and our self-realization as persons[30].

3.1.c The Body is Personal

Modern Ontological Personalism speaks of operating with categories univocal to persons. What are these categories? Traditionally, they have been identified by such terms as rationality and freedom, though these terms were typically deployed within the context of animal models (rational animals), and in the context of substance metaphysics. Human reason, and human freedom certainly are unique/univocal to us; they do not operate in us in the same way that they do in any other corporeal beings. To stop here, however, is insufficient, and to do so would leave us with a truncated vision of persons. If one looks back at Mollenido's diagram, *one can consider each of the nine aspects contained in it as univocally personal.* For a person to have reason and freedom does not mean the same thing is for an animal to have capacities for sensation, perception and action. To have a body mean something much more extensive and complex for a person than it does for an animal. To have human, personal emotions involves a richness and complexity of both the personal and social nature unknown in the animal kingdom[31].

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[30] These levels/aspects and interactions are addressed throughout Burgos' *Antropología*, cit., but see especially Chapter 7, "El Yo Personal" (The Personal Self), pp. 197-216. It is here that one can see most cleary the concern with developing categories unique/univocal to persons, categories that do not exist in the animal, plant or mineral worlds. When these categories are spoken of in these other contexts, it is important to recognize them as personal, univocal, and used *by analogy* in referencing the biological and physical domains.

[31] It should be noted here that it is, as outlined earlier, from the Field of the Personal that science considers terms such as reason, emotion and freedom analogically with respect to animals, even to our closest genetic cousins, the great apes, though this perspective or grounding of orientation is often unacknowledged. When we speak of these, we are saying that there are observable aspects of animal life that are *like* our experience of ourselves, and that we describe them analogically with reference to personal function and activity. When we say, for example, that animals speak or communicate, or that they have language, it is clear that they do not possess the richness and complexities of human speech; we make reference to aspects of animal behavior that we recognize as being similar to us, though not identical and coextensive. Even animals that have been able to learn the rudiments of sign language fail to demonstrate the complexities of human communication already well within the grasp of three and four-year-old children.

One example of the univocal nature of persons can be captured through the examination of one aspect of Burgos' tripartite model persons: the body, our corporeality. Our bodies are not identical to animal bodies, nor can they be reduced to any form of mind-body dualism. Given the prominence of the body in bioethical thinking, this is worth close attention. Medicine can be thought of, on the one hand, as physicians doing something to bodies, or it can be thought of as one person, a physician, providing treatment to another person, the patient. The difference in these two notions represents a radical difference in the way medicine might be conceptualized, the former more paternalistic, the latter more personal.

In the personalist vision, we clearly share common physical and functional aspects with animals in terms of fundamental physicality and biological function, as well as the possibilities and limitations of that physicality. But to remain at this level of description is to miss what is uniquely human, and personal, about our own body, that is, to miss its personal nature as a dimension of a personal totality. For persons, the body means much more than our physical makeup; it is a dimension of the fullness and integrality of our personhood. Burgos, (following Marías), refers to the person as "someone corporeal"[32]. It is in his discussion of the bodily *aspect* of ourselves that he makes the striking statement, "The body is the *first manifestation* of the person" (El cuerpo es la *primera manifestación* de la persona)[33]. The body is not a distinct, dualistic, separate or somehow disconnected structure that another entity, the mind, must in some mysterious way contact and act upon; rather, person is conceived in a holistic and integrated manner from the outset, and the body is seen as one of many aspects, dimensions or *manifestation*s of person. "The body is above all the physical, organic or material dimension of the person". (*El cuerpo es ante todo la dimensión física, orgánica o material de la persona*)[34]. This vision has marked implications across the lifespan and across the field of bioe-

[32] J. M. Burgos, *Antropología: una guía para la existencia*, cit., p. 67, citing J. Marías, *Persona*, Alianza, Madrid 1997, p. 135.

[33] *Ibid*., p. 67. (Italics are mine for emphasis).

[34] *Ibid*., pp. 67-68. He writes further: "En cualquier acción (externa o interna) está implicada la corporalidad. Un modo de expresar este hecho es afirmar: 'yo soy cuerpo', pero resulta más preciso y menos ambiguo decir: yo soy corporal. Es decir, yo, persona, sujeto spiritual con conciencia de mí mismo, soy, al mimo tiempo e inseparablemente, una realidad corporal. El cuerpo forma parte de mi ser, no es una materia externa que utilice o un instrumento que empleo para los fines que me interesan. El cuerpo soy yo mis manos soy yo, mi cerebro soy yo, aunque yo soy más que mis manos, mi cerebro o mis músculos. El cuerpo es mi dimensión orgánica-material pero, por eso mismo, tiene una dimensión subjectiva y espiritual".

thics, as well as in the domains of politics and public policy, for, if person is *manifested* through the body, that is, *present* when the body is present, then *person* is present from conception to natural death.

This vision stands in stark contrast to the functionalism that is widespread in neuroscience, a functionalism that equates *brain activity* with the person, the logical consequence being that in the *absence* of measurable electrical activity in some or all parts of the brain, no person is present, i.e. the person is dead[35]. In contrast, a philosophical anthropology that recognizes our personhood from beginning to end will yield a fundamentally different bioethics and neuroethics than one that is grounded in a materialist vision and that relies solely on measurement of certain discrete aspects of neural functioning.

3.2. *Epistemology: Knowledge and Method*

Just as Burgos takes great pains to emphasize the unity of the person, he maintains the unity of experience, knowledge and philosophy. It is the whole person who engages in the act of knowing, at deepening levels. From a physicalist perspective, in contrast, knowledge comes exclusively through the senses, and is *limited* to that. In the methodology of Modern Ontological Personalism, *Integral Experience*, however, there is *both* a cognitive/psychological *and* spiritual dimension to our experience of the world and the knowledge we derive from this, all present from the *ab initio*. *Integral Experience,* for Burgos is, like the person, a corporeal/psychological/spiritual process of the *whole* person that stands at the foundation and the summit of human knowledge. As knowledge deepens and becomes more systematic, is it more a question of which tripartite *aspect* of person comes to the fore, rather than the presence or absence of any aspect of the person – body, psyche and

[35] The controversy over the Harvard Criteria for brain death has continued since they were published in the late 1960's. It should be mentioned at this point that the issue of brain death (rather and the earlier cardio-respiratory standard for death, one that of necessity remains in use in many countries lacking neurologica consultation and sophisticated neurotechnology) remains far from settled, no least due to the fact that the capacity to measure brain activity continues to advance, so that more subtle remaining brain function can be detected today than would have been impossible in the past with, e.g. surface electrode EEG alone. Angiography is also employed in ascertaining whether brain death has occurred, and neuroimaging technology has played an increasingly important role in ascertaining brain function and consciousness in individuals where this was previously thought to be lacking, e.g. in minimally conscious states and locked in syndrome. J. Beauregard, M. Aftab and A. Sajid, "Conscoiusness, Neuroimaging and Personhood: Current and Future Neuroethical Challenges", en *Journal of Cognition and Neuroethics*, 4 (1) (2016), pp. 1-11.

spirit, knowledge, affectivity and the dynamism of persons all operate as facets of a unity. Experience is the beginning, but not the end, of our knowing:

The theory of Integral Experience holds that human knowledge has experience as its starting point. Experience is understood as the primary and living process by which persons relate to the world. It is a personal activity that integrates all dimensions of the subject: effective, corporeal, dynamics, the structure of self-determination, etc., and, among these, we can detect a cognitive dimension which becomes the foundation of human knowledge[36].

The *process* of knowing, then, is a *personal* one, and one that is unique to persons, moving from experience to understanding to critical and systematic understanding, in other words, to philosophical knowledge. Corporeality, psyche and spirit are active throughout this process because the whole, integral person is active, with the higher/spiritual aspects of person such as abstraction, reason, judgement, values etc. moving increasingly to the fore as one moves toward philosophical knowledge[37].

The knowing *person*, experiences both the internal and external world directly and grounded in a sensory-intellectual process (integral experience) which can then be explored reflected on, deepened (understanding) and finally systematized in a critical and radical fashion (philosophy). The affective aspect of persons is not absent from this process, particularly at the spiritual and psychological levels, of philosophical explication.

At this point the unity of philosophical anthropology and epistemology become clearer. A person is a unity, a tridimensional unity of corporeality, psyche and spirit capable of knowing the world in an integral fashion through sensory/intellectual/affective experience, exploring and deepening that experience and finally, systematizing it in a radical and coherent way. in the next section, we will consider the

[36] J. M. Burgos, *A New Proposal on the Beginning of Knowledge,* in J. Beuregard and S. Smith (Eds.), *In the Sphere of the Personal: New Perspectives in the Philosophy of Persons*, Vernon Press, Wilmington 2016, p. 42.

[37] *Ibid*., p. 54. "The first and most fundamental level is (integral) experience. The second is understanding, constituted by its phases of induction and exploration. But understanding (…) is not self-sufficient and requires for its completion a deeper knowledge of a systematic character, *critical and radical*, that can and should review the foundations of spontaneous knowledge consisting of interlocking factors ois experience and understanding". Experience. Understanding and Philosophy are thus the three levels of Burgos' epistemology. For a more extensive treatment of the process, cfr. J. M. Burgos, *Experiencia Integral,* cit.

implications of this anthropological and epistemological vision for the field of neuro-ethics

4. Personalist Neuroethics

4.1. Beginning with Persons

In this final section, we will focus predominantly on the theoretical/structural aspects of a personalist neuroethics, and end with a consideration of how this structure might impact the practical applications of that discipline. At the foundation of a personalist neuroethics is a way of looking at persons, a philosophical anthropology. The development of an ethical vision begins here, and in order for that vision to be comprehensive, it must be grounded in a comprehensive notion of person, one that recognizes and attends to all aspects or dimensions of the person and in this specific case, to the numerous bioethical issues that arise across the lifespan, both individually and in community. I have suggested that the philosophical anthropology and of the epistemology of Modern Ontological Personal is him can provide just such a vision, which can serve as the foundation for the development of a person – centered neuroethics.

4.2. Characteristics/Description of Persons

One of the most important features of Modern Ontological Personalism is that a person is a unity rather than a bundle of psychological faculties, sensations, perceptions, etc. Perhaps the most powerful aspect such a vision coveys is its capacity to stand against all forms of reductionism, including any scientific reductionism that attempts to view persons from that bottom-up perspective of matter, mechanism, biology and organism. It also has the ability to stand against the reduction of persons to particular aspects of personal functioning, such as brain function or the activity of neurons, either individually or as part of large scale neural networks. Unity is the corrective for fragmentation, a unity whose recognition comes in experience broadly conceived as a simultaneously physical/sensory/perceptual/cognitive/affective/spiritual process of the whole person.

To view the person as a tridimensional *unity* with interpenetrating, discernible or recognizable aspects (corporeal, psychological and the spiritual/relational) entails considering the *whole person* in any specific ethical decision, including bioethical decisions and more specifically, neuroethics. In this holistic vision, the process of making specific neuroethical decisions must begin with persons, be governed by persons and

end in persons, preventing them from being reduced to a fragment of their whole nature and preventing them from being reduced to a means to an end[38].

Lastly, a comprehensive and holistic personalism acts against the tendency of science to provide specific, concrete, measurable enclosed definitions. In contrast to the need of the regional ontology of science to operationalize (limit and define) an object of study, persons are, to some degree, open-ended in their structure, ever capable of new possibilities. Persons, in the end, are better described than defined, to leave this realm of possibility alive and open.

4.3. The Structure of Neuroethics

It is typical for contemporary neuroethics publications to focus on specific technologies or specific aspects of medical care, and to attempt to engage in ethical thinking focused around these topics, rather than around the person. A widely-referenced introductory text in neuroethics, while attending to some of the broader questions of personhood such as "self" and "authenticity", focuses on specific technological or medical issues such as cognitive enhancement, memory blunting, neuroimaging, neuroscience evidence in the courtroom, and disorders of consciousness[39].

Rather than begin with a focus on a specific neuroimaging technology or a specific medical issue, a neuroethics that begins with a consideration of persons would allow specific technological, medical etc. issues to be placed in a unified context to allow for a coherence of structure, strategy and conclusion. For example, there is an extensive neuroethics literature on brain death in the context of disorders of consciousness and the available technologies for assessing the cessation of brain function- EEG, neuroimaging data and other specific medical criteria used in ascertaining brain death. The risk here is that the technology becomes the decision-maker in matters of life and death, and that death comes to be defined in terms of one specific organ of the body (the brain), rather than considering the death of the person. A neuroethics grounded first in persons, in contrast, considers the available medical and technological

[38] This issue has arisen in terms of considering the neurologic criteria of death and the issue of organ harvesting. R. Spaemann, *Is Brain Death the Death of a Human Person?*, in R. Spaemann, *Love and the Dignity of Human Rights: On Nature and Natural Law*, Erdmans Publishing, Grand Rapids 2012.

[39] Cfr. the table of contents in M. Farah, *Neuroethics: An Introduction with Readings*, MIT Press, Cambridge 2010, pp. vii-ix.

information in the context of personal life, rather than seeking to define life by the measurement of technology.

4.4. From the Theoretical to the Practical

To be a person is to be moral, that is, it is to engage in ethical action ordered toward the good, both individual and communal. While Modern Ontological Personalism has not yet articulated a full ethical vision, some things can be said about the ethical life from its perspective.

Perhaps the most comprehensive thing that could be said about ethics in the tradition of Modern Ontological Personalism is that any ethical system that develops out of it must begin with and attend to the whole person, including the dynamism of the person in action, in other words, to a philosophical anthropology robustly conceived and formulated. Persons are agents who direct their actions to the good, and personal action is the action *of the whole person*, encompassing our tri-dimensional structure, ordered toward the good, be it individual or communal.

Conclusion: Some Implications for Personalist Neuroethics

A necessary prerequisite to an adequate neuroethics is to begin with persons rather than technology, embracing a more robust and comprehensive notion of persons and eschewing reductionist philosophical visons that do not do justice to the uniqueness of persons. Such a vision of persons can be developed from the personalist tradition, and of neuroethics has several immediate advantages over the current conceptions of the field. It can counter reductionist visions of person, and it can allow for attention to the religious dimension of persons, something typically absent in contemporary neuroethics[40]. Finally, it can provide a solid grounding for a more comprehensive ethical vision.

[40] See for example the work of Emmanuel Mounier, Jacques Maritain, Romano Guardini, Maurice Nedoncelle, and Czeslaw Bartnik, to name only a few.