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Foreword
by Juan Manuel Burgos

Every historical period - centuries, decades – has had a science that has been in fashion, one which progresses brilliantly whether it is physics, chemistry or biology. Today it is neuroscience. The spectacular advances it has achieved in understanding the functioning of the brain have provided an impressive knowledge about our mind. Neurosciences has shown us what areas, systems or processes are activated in certain reactions and decisions; what mechanisms or substances inhibit them; how brain regions and processes connect to each other, etc. And, so, it has also shown us how these processes can be altered, and perhaps controlled.

The sciences generate power. The case of the Hydrogen bomb is a tragic example, but it is not the only one. Something similar is happening with the neurosciences. Knowledge about the human brain generates power, capacity for intervention and for manipulation. But not everything that can be done must be done. So, it is understandable that along with the advance of neuroscience, neuroethics has appeared and is becoming stronger: a new branch of ethics that aims to guide what happens or could happen in the world of neurosciences.

However, while ethics has an important degree of autonomy, it also depends on philosophical anthropology, that is, on a vision of human beings. And it happens that for many neuroethicists, human beings seem to be little more than a complex neuronal mechanism that requires special care and a certain respect, but that are not essentially differentiated from animals. The human being is seen, essentially, as his brain, a very powerful neuronal machine - nothing less but also nothing more. But, what type of ethics can be built on such a reductive vision of the person? Where will the reasons be found for prohibiting investigations that do not respect the dignity of persons? What reasons can be given to limit the indiscriminate use of neurotechnology?

James Beauregard, from his position as an academic and a specialist in clinical neuropsychology, has long observed this difficult and unsatisfactory situation. And he has reached the deep conviction that the only possible solution is to offer an alternative to scientists and
professionals in the world of health who do not share this reductionism. Because, in fact, we are not only more than our brain, we are more than our mind. We are persons. We are not only a “what”, but a unique and unrepeatable “whom”, not replaceable by anything or anyone. A person is a being who needs the marvelous instrument of the brain to live, think and exist, but who is not reduced to, who instead surpasses it in an almost infinite way, as the personal surpasses the organic and material Only by overcoming that materialistic reductionism can we build an authentic neuroethics, one that is worthy of the human person and worthy of the neurosciences.

This book offers just such a neuroethics. Beauregard has made a complex and difficult personal journey. He is a clinical neuropsychologist who, little by little, has been plunging into the world of ethics and philosophy in order to thoroughly analyze the foundations of neuroethics, its successes and its weaknesses. And, in that way, he has made a great discovery: personalism, a contemporary philosophy able to establish the personal character of human beings from an integral perspective. And he is able, therefore, to found an ethics and to provide the adequate basis for a neuroethics worthy of the person, that is to say, a personalist neuroethics.

This volume relates this journey and makes it explicit for all those who feel a similar need: to build a neuroethics that perceives the human being as a corporeal, psychic and spiritual reality, as a free subject capable of self-determination, as a bodily person, that is to say, as a person.

We congratulate the author for this work. We thank him, in addition for his friendship and for choosing to use the vision of personalism that we propose: modern ontological personalism. And finally, we invite the reader to explore this audacious path that leads from a first justification of philosophy, through personalism, to the foundation of a personalist neuroethics. It is a path that, by the clinical training of its author, will be open and accessible to health professionals and neuroscientists. This work has been written mainly for them.

Juan Manuel Burgos
University San Pablo, Spanish Personalist Association
Introduction

This book is written for two distinct but interrelated audiences who share a common interest and, and often a fascination for, neuroscience. First, it is written for neuroethicists and neuroscientists who must confront on a daily basis the ethical issues that arise in neuroscience research, technological development and clinical care. What is so often true of technology, in general, is also true of neuroscience technology: each new technology simultaneously solves problems and creates new questions. These questions arise from the technology itself, and also have implications for our understanding of persons, particularly in the field of healthcare. Second, this book is addressed to a general audience interested in neuroscience and in the fundamental ethical issues it raises.

A person is a unity. This is the central idea that informs this book about the philosophical and theoretical foundations of the discipline of neuroethics. Each chapter in this book is informed by and flows from this unified notion of person. Upon this foundation stands a critical question about the practice of neuroethics: is neuroethics primarily about the discipline of science (neuroscience) or is it primarily about the discipline of ethics. To put it another way, when one is doing neuroethics, is one doing science or philosophy? As we will see, a principal consequence of this view of persons is that neuroethics is a field that is neither first, nor ultimately about science, or about ethics, but rather about persons engaged in a philosophical activity, specifically, philosophical and ethical reflection on the contents of neuroscience. In the view proposed in this book, both neuroscience and the ethics of neuroscience ought to stand in the service of persons. And, if I am right about this, then the discipline of neuroethics must engage in ethics, and also in the other fundamental areas of philosophical activity, metaphysics, epistemology and philosophical anthropology.

Bioethicists typically have a solid background in these philosophical domains. But this is not necessarily true for neuroethicists and neuroscientists, and a substantial portion of the neuroethics literature is, in fact, written by research neuroscientists. For them, and for interested general readers, then, an extensive knowledge of philosophy is not assumed here. Neuroscience raises profound questions about the nature of human beings. As these questions are explored in this book, we will
consider the philosophical background necessary to formulate such questions and to seek answers. And, as every neuroscience researcher knows, the first step in research, and the first step to new knowledge is asking the right question in the first place. This book, then, is concerned with asking the right questions of persons and of neuroscience, and with the often hidden presuppositions that underlie those questions. To engage in the practice of neuroethics means, then, to begin with a clear understanding of what it means to be a person, and to allow that understanding to influence how we conceive of and formulate the profound questions that neuroscience asks about human beings and human nature. To ask the wrong questions at the outset is to consign ourselves to wander down a frustrating and endless garden path that will never yield what we seek. It the reason, for example, that no one has articulated a satisfactory answer to the mind-body problem. For the past four hundred years, we have been asking the wrong question. A person is a unity, not a series of separate parts, substances or experiences that somehow have to be reconnected. This was Descartes’ fundamental error, to separate the unity persons, and we have struggled to find our way ever since, again and again asking the wrong question, again and again facing frustration and failure in trying to understand persons.

With fundamental questions and presuppositions in mind, there are three working hypotheses present in what you are about to read. All three flow from the central notion of the unity of the human person. What does it mean to say that a person is a unity, and what are the implications of such a statement? I will argue that it means a certain way of looking at philosophical anthropology (the nature of persons) and a certain way of doing ethics. Our western scientific tradition typically operates in the mode of analysis – taking things apart and examining them to see how they work, with the goals of prediction and control. Synthesis, seeing the whole, the unity of things is a more difficult task, and it is an essential task for neuroethics. A person is not a brain, or a collection of neurons, or merely the sum of neural activity at any given moment, but a unity – a living, breathing person with an identity, who is born into relationships, develops in the context of relationships, who is not a something, but a someone who has hopes, dreams and goals, who lives and loves, who seeks happiness, who confronts illness and suffering, and who asks life’s deepest questions – among them, “Who am I?” “Why am I here?” “What should I do?” “What can I believe in?” “Why must I die?” These questions often arise in the specific context of healthcare, but they are not questions that can be answered by the science of medicine. Nor can they be answered by neuroscience. By its very nature the scientific process focuses on some of the most minute physical and physiological aspects of the person –
Introduction

proteins, neurons, neuronal physiology, small scale and large scale brain networks. It becomes easy, when this is a long term focus, to lose the forest for the trees. Knowing the structure of the malformed and malignant proteins called prions, for example, can never answer the questions, “Why have I gotten a neurodegenerative disease? Why has this happened to me?” “What happens to me when I die?” Answers to these and questions like it lie beyond the domain of the physical and biological sciences.

In light of these considerations, I would like to state the three hypotheses at the outset:

First, the unity of the human person mentioned at the outset is a reality with implications for all aspects of neuroethics. When neuroethics begins with a vision of the person adequately conceived, it becomes possible to derive a comprehensive structure for the discipline of neuroethics, rather than beginning, as is more typically the case, with a focus on specific neurotechnologies, a focus that can unintentionally place the person in a secondary or subsidiary role.

Second, I will operate from the position that neuroethics is primarily a philosophical, rather than a neuroscientific discipline. Neuroethics considers the nature of human persons and issues in ethics and the uses of technology that cannot be addressed by the methods and presuppositions of neuroscience. Consequently, anyone interested in understanding neuroethics needs an adequate foundation in the philosophical views that undergird the discipline, and that operate beyond its boundaries.

The third hypothesis addresses the question of philosophical underpinnings: an adequate philosophical foundation for neuroethics can be developed from the philosophical tradition known as personalism. Personalism is a contemporary philosophical current with roots that reach back into the ancient world, both east and west. It takes the person as the starting point and goal of philosophical thought. In contrast, the western scientific tradition is deeply interconnected with philosophy of empiricism as it developed from the 16th century in the context of the scientific revolution. Empiricist philosopher David Hume is cited in neuroethics accounts as an early and critical figure for the development of neuroethics. Also the philosophy of consequentialism, with utilitarianism as its classic expression, has been promoted as an adequate philosophical grounding for neuroethical theory and practice, leaving aside or deemphasizing the other two longstanding ethical traditions in the west, deontology and virtue.
ethics. This book takes a fundamentally different position, namely, that the empirical philosophical tradition is grossly inadequate to the tasks of neuroethics, and the philosophy of personalism integrated with the philosophical tradition of virtue ethics provides a more comprehensive and more solid foundation for neuroethical thought and practice.

In light of these hypotheses Philosophical Neuroethics has three goals. The word “Philosophical” in the book’s title refers to the need for considering the philosophical and theoretical presuppositions that currently undergird the field of neuroethics and making those presuppositions explicit so that they can be critically examined. These presuppositions are often unstated or hidden, yet they impact all aspects of neuroethics. The second goal is to critically examine these presuppositions and to ask if they are adequate to the task of neuroethics. I will argue that neuroethics, as it has been conceived to date, is not adequate to the tasks it sets for itself, examining the ethical issues that arise across neuroscience and neurotechnology. The third goal of Philosophical Neuroethics follows from the first two - the attempt to develop a comprehensive philosophical vision for neuroethics that is 1) capable of understanding the complexity of human person and that 2) can serve as a base for neuroethical decision making. In light of these goals, this will necessarily be a theoretical and philosophical work, an excavation of foundations in order to better understand the ground neuroscience builds upon. As such, the main focus will not be on specific neuroethical issues such as cognitive enhancement or the ethics of brain-computer interfaces. At the same time, philosophical neuroethics must address the philosophy of technology, the manner in which we consider technology in and of itself, and one chapter will be devoted to this examination. I hope to address the more concrete and specific issues that arise in neuroethics in a companion volume, showing how specific neuroethical considerations flow from these foundations.

1 Virtue ethics also has deep eastern roots, which I will examine later in the book.
2 Historically, ethical thought began in the ancient world with virtue ethics, which held sway through the end of the Middle Ages, with Aristotle and Thomas Aquinas as its best known proponents. The deontological ethics of Immanuel Kant moved to the fore in the early modern era, and utilitarianism took center stage in the 19th century, building on the work of Jeremy Bentham and John Stuart Mill. Virtue ethics has been experiencing a renaissance since the mid-twentieth century, beginning with the work of Mary Anscombe and Philippa Foot. These three ethical traditions will be explored in the course of this book in terms of how they are present in neuroethics, and how they might be appropriate, or not, for neuroethical thought of the 21st century.
In order to achieve these goals, *Philosophical Neuroethics* proceeds as follows:

Chapter 1, “Why Philosophy?: Foundations” addresses the basic conceptual foundations needed for a consideration of neuroethics through an overview of the four major domains of philosophy (metaphysics, epistemology, philosophical anthropology and ethics). Since philosophical training is not typically an aspect of neuroscience, I am not assuming an extensive philosophical knowledge on the part of the reader, but rather seeking to provide the common ground needed to approach neuroethics as a philosophical discipline. This will include an examination of the differences between neuroscientific and metaphorical language as set forth by the philosopher Paul Ricoeur and subsequent thinkers, and an examination of the history of modern science in terms of its conceptual foundations in physics and biology. We will also look at the work of the personalist philosopher John Macmurray, who provides a conceptual structure for understanding the philosophical presuppositions of the neuroscientific world view through his exploration of three conceptual architectures: the Fields of the Material/Mechanical, Organic and Personal.

Chapter 2, “Neuroethics Today – Theory and Practice” examines the theoretical structure of contemporary neuroethics and brings the philosophical resources of the previous chapter to bear for a critical analysis of the adequacy of the manner in which neuroethics is currently conceived and practiced. The conclusion of this analysis is that neuroethics as it is currently conceived, in terms of its philosophical presuppositions, is inadequate to the overall task of neuroethics, and asks how a more adequate foundation can be constructed.

Chapter 3, “The Beginning of Ethics” is the first of two chapters that delve into the history of ethical theories – theories still current in philosophical and neuroethical thinking today – with the goal of finding a more adequate ethical foundation for neuroethics. This chapter focuses on the long tradition of virtue ethics from the ancient world through the Middle Ages, an ethical vision that has thus far received little attention in neuroethics but that holds promise for developing a firmer foundation for the 21st century.

Chapter 4, “Ethics in the Modern World” continues the journey through ethical theory by examining the two dominant ethical traditions of the modern era that began with the scientific revolution – the deontological ethics of Immanuel Kant and then Consequentialism, whose classical form is the Utilitarianism developed by Jeremy Bentham and John Stuart Mill. We will see that it is Utilitarian thinking that has, to date, had the strongest philosophical influence on neuroethics. Taken as a whole,
chapters three and four provide the raw material for how neuroethics has been and can be thought about today.

Chapter 5, “Personalism,” introduces a philosophical tradition that is both ancient and contemporary, that can trace its conceptual roots back to the ancient world, both east and west, and that is expressed in several contemporary philosophical traditions. It is in this chapter that the argument begins in earnest that this particular philosophical tradition can provide a better foundation for neuroethical thought than any others that have thus far been put forward.

Chapter 6, “Modern Ontological Personalism” focuses on one specific current within the broader personalist tradition as particularly well-suited to the goals and practices of neuroethics in terms of its vision of the human person and its method of approaching ethics. This chapter sets forth the architectural and structural characteristics of Modern Ontological Personalism, with a focus on philosophical anthropology (consideration of the nature of the human person) and seeks to develop an ethical approach for neuroethics that can serve it in all its considerations.

Chapter 7, “Personalist Neuroethics: A New Proposal” brings together the current state of affairs and the analysis of neuroethics presented in the first two chapters with the ethical considerations of chapters three and four, and integrates them with the specifically personalist perspective offered in chapter five, and especially, chapter six for a systematic exposition of a philosophical foundation for the discipline of neuroethics conceived from the perspective of personalism.

Chapter 8, “Personalism and Technology” takes the perspective of chapter seven and applies it to a core domain of neuroscience: the development and use of new technologies. From a theoretical perspective grounded in persons, a philosophy of technology is developed for neuroethics.

Chapter 9, “Practical Neuroethics – A First Look” provides a brief overview of an architecture for neuroethics in the practical domain, with an initial division of neuroethics into its individual and social aspects, and then the structure of neuroethics within this framework. Individual neuroethics is presented as considering neuroethical issues at the beginning life, the end of life and in the context of injured persons. It also addresses the new possibilities and controversies with regard to enhancement. The social domain addresses neuroethics in government and public policy related to neuroscience, neuroethics in forensics and the justice system, and the newly developing and likely to be controversial area of area of neuroethics and religion.
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