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The human person amidst algorithms: an imminent dialogue between personalism and artificial intelligence

La persona humana entre algoritmos: un diálogo inminente entre el personalismo y la inteligencia artificial

Carlos Ledesma-Alonso*
Universidad Nacional Autónoma de México, Mexico

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Abstract

Personalism is a doctrine whose central tenet is the intrinsic value of the human person; however, the most recent applications and implications of artificial intelligence pose a challenge to personalism. Despite the great success of artificial intelligence in various spheres of human life, three of the identified threats are: depersonalization, intellectual abdication, and the delegation of moral responsibility. The “black box”

* Ph.D. student. Department of Developmental Neurobiology and Neurophysiology, Institute of Neurobiology, Universidad Nacional Autónoma de México (UNAM), Querétaro, Mexico. Email: mvzcharls@comunidad.unam.mx ORCID record:

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represented by *Deep learning*, or the intellectual laziness afflicting new generations as they perform all cognitive tasks with the aid of smart devices, reflects that computer science and its applications —far from being eliminated or suppressed— should be mastered and taught. Likewise, prompt education on this topic for future generations appears to be urgent. Through dialogue, understanding will emerge, and only the human person will be able to present a solution that creates synergy between this doctrine and technology.

Keywords: personalism, artificial intelligence, *deep learning*, depersonalization, black box.

1. Introduction

The technological, philosophical, scientific, and social challenges arising from the applications of computer science and information technology —particularly over the past five decades— are increasing in both number and complexity. In this regard, artificial intelligence has had a profound impact on modern societies. In fact, it can be said that, today, there are no societies without technology, since even the most basic tool is evidence of technology. Human babies born at the same time as the great contributions of scientists and mathematicians such as Claude Shannon, John von Neumann, and Alan Turing grew up in an environment where information was no longer a mystery; it was encoded in bits, and with that, the new world was shaped.

Basic science in those years was making enormous leaps and progressing very rapidly; for example, the development of atomic theory and the discovery of the double helix sought to understand nature at its most fundamental level. In turn, technology did the same: it sought to respond practically and efficiently to human needs in daily or specialized tasks. However, it is worth remembering that science is always neutral, whereas technology is not. While the former deals with addressing and solving cognitive problems, the latter is respon-

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sible for meeting and satisfying needs,[1] especially in health-related matters, as these are a priority.

With the creation and emergence of successful new biomedical technologies such as animal cloning (1952), neuroprostheses (1961), in vitro fertilization (1977), and a decade later, CRISPR gene editing (Clustered Regularly Interspaced Short Palindromic Repeats), bioethical issues came to the fore. These technologies marked a turning point, as it became theoretically and practically possible to clone embryos, replace human tissue with robotic devices, grow embryos in test tubes, or modify our DNA with the aim of curing or correcting genetic diseases. This met with resistance in certain sectors of the population, particularly from people who argued that human cloning or gene editing threaten human identity and dignity, or that fetuses should grow in warm human wombs and not in cold laboratories. In any case, the human person had to be considered within these technological frameworks.

Shortly thereafter, with the emergence of artificial intelligence tools and large language models (LLMs), such as *ChatGPT*, *DeepSeek*, or *Gemini*, to name a few, they began to increasingly shape human thought and, in some cases, even appeared to anthropomorphize. These software programs, using advanced algorithms that employ deep neural networks, Hopfield networks, or convolutional networks, simulate and even enhance cognitive traits of the human brain. For example, in the 1980s, David Cope, a computer engineer, developed music software that created original pieces based on classical and Baroque composers such as Beethoven and Bach, respectively (1). Likewise, in 1997, the IBM team developed another program capable of playing chess called *Deep Blue*, which that same year defeated the reigning world champion Garry Kasparov in New York, ultimately winning by a single point. Two decades later, *Google DeepMind* would develop software capable of playing *Go* —a game with a complexity tree massively greater than that of chess 10123, with 10360 possible

[1] For a more technical, specialized, and in-depth discussion, see Bunge M. Ciencia, técnica y desarrollo. Siglo XXI Editores; 2014.

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moves— which defeated the Korean world champion Lee Sedol 4 to 1 with relative ease.

It was clear that in certain areas once dominated by humans, these ultra-sophisticated software programs far surpassed us. But this interpretation is simplistic, because AI has managed to contribute significantly to the biomedical field, exerting a major and highly effective influence on medical imaging diagnostics, virtual patient care, and research and discovery of new drugs (2). So, we are not talking about simple superiority, but rather a synergy: human/machine.

2. Personalism

First, to understand how technology affects the human person both negatively and positively, we must address the concept of personalism. Personalism is a philosophical movement (comprising various doctrines) that places the human person at the center and regards it as the supreme value. It recognizes the person's uniqueness (though this is not necessarily explained or elaborated upon), inviolable dignity (aligned with Kantian thought), and relational nature (acknowledging the human capacity to communicate with one's environment and other organisms), constituting the fundamental starting point for all anthropological and philosophical reflection (3). Many bioethicists have declared themselves to be personalists in practice. One of the most prominent among them is the physician Edmund Pellegrino, who developed a personalist approach to medical ethics centered on the doctor-patient relationship and the good of the patient (4). Another is the philosopher Robert Spaemann, whose conception of the person's value is purely theological, asserting that the person is made in the image of God (5).

However, perhaps its greatest promoter and defender is Cardinal Elio Sgreccia. Sgreccia's bioethical personalism holds that the human person is a relational subject, endowed with an intrinsic and

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unique dignity grounded in their spiritual and corporeal being. This dignity —rooted in what he calls "ontologically grounded"— is the absolute principle, as well as the end goal of all reflection in the biomedical field (6). Sgreccia emphasizes the teleology inherent in human nature, defending the inviolability of physical life from conception to natural death.

It must be acknowledged that his model stands in stark opposition to utilitarianism and biological reductionism, asserting that the person, in their substantial unity of body and spirit (a dualistic animistic conception), must always be treated as an end in itself and never as a means.[2] Hence, according to Sgreccia, the human person cannot be reduced to mere algorithms. This implies a defense of freedom and responsibility within the context of relationships of justice and solidarity, where vulnerability demands special protection (3). In this vein, bioethical issues such as abortion, euthanasia, or the death penalty are not only rejected by personalism but are also strongly criticized.

Likewise, personalism has generally emphasized the doctor-patient relationship as a very special interpersonal encounter, where the sick person is the center; their cure and relief represent the core of the dynamic, as well as the motivation to approach it with sound judgment and responsibility. In this regard, formal studies have been conducted to measure physician empathy, patient trust, and the physician-patient relationship, determining that the physician's relationship with the patient —whose pillars are empathy and trust— strongly influences the patient's assessment and subsequent care (7,8), demonstrating that this relationship must be strengthened. Four key elements have been identified in this relationship: mutual understanding, trust, respect, and loyalty, which, although far from perfect, must be strengthened (9). This approach underscores the centrality of responsible conscience and freedom in the face of the technification of medicine.

[2] For further in-depth reading, see Sgreccia E. Manual de Bioética: I. Fundamentos y ética biomédica. BAC; 2012. En particular, el Capítulo 3, "El personalismo ontológico".

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Finally, we have a more current version of this doctrine, namely, contemporary personalism. Burgos argues that the person, by virtue of their intrinsic dignity, freedom, and constitutive relationality, is the foundation of all ethics. In fact, this conception connects directly with moral responsibility, as it arises as the demand to respond to others and to oneself by recognizing the absolute value of each person.[3]

Once this worldview and its contributions are understood, it becomes apparent that, within the technological sphere, as manifested in the major advancements of computer science and informatics, the impact of this technology including its achievements and its shortcomings on people's lives begins to take on meaning.

Once this worldview and its contributions are understood, it becomes clear that, in the technological realm manifested in the great advances of computer science and information technology, the impact of this technology, its achievements, and its shortcomings on people's lives begins to make sense. Increasingly, we find ourselves immersed in technology, to the point where we begin to lose certain skills and abdicate responsibilities, among other things. One of the challenges of the personalist perspective regarding AI is precisely to avoid surrendering our identity and being crudely reduced to a sea of algorithms.

3. Artificial Intelligence (AI)

The term *Artificial Intelligence* is ambiguous, as it refers both to the mental capabilities we typically attribute to computers and to the science and methodology involved in inventing and designing complex machines and software capable of mimicking mental faculties (10). Although the term may be ambiguous, its general implication is widely regarded as the pinnacle of computer science. However, let's

[3] For a more detailed introduction, see Burgos J. Introducción al personalismo. Palabra; 2021.

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first look at a brief history of its development, from the creation of AI to the current state of this technology and its scope.

In the mid-20th century, mathematician Alan Turing laid the foundations of modern computing with the creation of a machine that replicated abstract mathematical operations; in turn, inspired by this, the genius John von Neumann conceived a self-replicating machine that anticipated the role of DNA as a carrier of genetic information (11). Likewise, during those years, mathematician Claude Shannon laid the foundations of information theory by defining this complex concept mathematically (12). With these contributions, a new science was taking shape, becoming consolidated and fully realized: the field of computer science.[4]

Specifically, the goal was not exactly to replicate the full range of cognitive abilities of a conventional brain (that endeavor is practically impossible), but rather one in particular: learning. The seed of this idea lies in a branch of AI known as *Machine Learning*. As early as 1959, Arthur Samuel programmed a machine to play Chinese checkers which, through a reinforcement learning system (playing over and over against itself), not only learned to play but eventually surpassed its own creator (13). This development was a technical and, above all, conceptual milestone, since, for the first time, software was not limited to executing a series of predetermined instructions to generate a solution but rather optimized its own strategy to achieve a goal, specifically in Chinese checkers.

With these advances, efforts were also made to replicate the physical structure of cognition, that is, the brain as an organ, with greater precision. In 1982, physicist and Nobel Prize in Physics laureate (2024) John Hopfield (considered by many to be one of the fathers of AI) introduced the networks that bear his name; systems that do not process information linearly, but rather act as associative memories, just as a human hippocampus does. A Hopfield network seeks a state of minimum energy to remember a pattern, while also

[4] For a more historical perspective, see Pickover C. Inteligencia artificial: Una historia ilustrada. Librero; 2021.

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demonstrating that certain computational capabilities do not necessarily require sophisticated neurons, but can emerge collectively in very large networks with simple units, provided they possess certain characteristics such as attractors and asynchronous updating (14). This breakthrough of substantial genius laid the foundation for recurrent neural networks and became a seminal work.

At the same time, attempts were made to replicate another interesting function (now perception) rather than the structure. Inspired by the visual cortex, Convolutional Neural Networks (CNNs), formalized by the American computer scientist Yann LeCun and collaborators in 1989, demonstrated an unprecedented capacity for a task preeminently performed by any species in the animal kingdom, namely, the recognition of visual patterns, as well as another human task: handwriting (15). In other words, computers were no longer just learning on their own, as in Chinese checkers or chess; they could also see, in the most technical sense of the word.

Subsequently, and in a parallel manner, the leap toward depersonalization became evident with the advent of deep neural networks or *Deep Learning*, another branch of AI whose structure features multiple layers, analogous to the neocortex described by Cajal, with the aim of performing more complex executive tasks. The seminal work of cognitive psychologist Geoffrey Hinton (another father of AI alongside Hopfield) in 2006 on *deep belief nets* solved the problem of how to train networks with multiple layers of abstraction (16), so that AI could now replicate human thought with greater fidelity. It is worth emphasizing that this technical depth generates a kind of mystery (an unconventional way of describing it, but functional for the situation), that is, the system learns hierarchical representations of the world (following the flow: from pixels to edges, from edges to shapes, from shapes to objects, and so on until the final result) that are effective, but whose internal logic is often inaccessible to the rest of humanity, hence the term *black box*. In fact, the mathematical structure of the algorithm is partially transparent to the specialist (syntax such as formal rules, codes, etc.), yet the semantics (inten-

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tionality) of the decision becomes opaque. This opacity prevents the classical assignment of moral responsibility demanded by personalism and the consequent intellectual abdication.

Finally, a functional dissociation between intelligence and consciousness has been hypothesized, evidenced by models such as LLMs, which operate intelligently but without their own experiences, resembling the unconscious human processing of acquired knowledge; the author argues that distinguishing between conscious and unconscious computation is fundamental to achieving a proper alignment between AI and human cognition (17).

Thus, we have moved from defining the concept of information in terms of bits, to simulating how a computer can play chess, checkers, or *go*, to emulating perception (face recognition), and finally to delegating human judgment (medical diagnoses, logistical decisions, content moderation). This raises a legitimate question: What implications does this have for human life? For when the complexity of the model obscures its causal mechanism —that is, the coherence and structure leading to the result— the delegation of the task inevitably becomes a delegation of moral responsibility for its outcomes, threatening *de facto* and *de jure* the principle of personalism.

4. Uses and Risks of AI

As we can see, the applications of AI are astonishing, vast, and permeate nearly every human activity.[5] In the scientific realm, it has transcended mere assistance to become a driving force for discovery, though it has not replaced specialized experts. A prime example is its ability to solve highly complex problems, such as accurately revealing the basic structure of proteins, as demonstrated by the development of the first computational method called *AlphaFold*, capable of predicting protein structures with atomic precision (18). Likewise, in

[5] For further exploration of the topic, see: Harari, Y. Nexus: una breve historia de las redes de información desde la Edad de Piedra hasta la IA. Debate; 2024.

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the social sphere, specifically in biomedicine, AI optimizes everything from global logistics to medical diagnosis using *Machine Learning* (19), processing volumes of data that exceed human capacity and enabling more efficient and precise decision-making that, in theory, should improve resource allocation. However, this very algorithmic efficiency introduces systemic dangers. The first is uncertainty — that is, the "black box" of deep learning (an issue we have already addressed)— which often prevents us from auditing the reasoning behind a decision, when what is hypothesized to be required is that models be interpretable to avoid these black boxes that could pose a danger (20). The second, and perhaps more immediate, is algorithmic bias. Sociologist Safiya Noble wrote a book titled *Algorithms of Oppression*[6] in which she presented a thesis on the relationship between machines capable of thinking and biases. Noble argues that this software inevitably absorbs, encodes, and amplifies existing social prejudices (e.g., racism), automating discrimination at an unprecedented speed and scale. In this regard, that same year, it was ultimately demonstrated that commercial facial recognition systems from tech giants commit racial biases and further reinforce these types of inequalities; This was audited using a dataset of images of Black and white people of both genders, concluding that the systems had extremely high accuracy (nearly 100%) when classifying the gender of light-skinned men's faces, but the error rate skyrocketed for dark-skinned women, reaching up to 34.7% (21).

In another article, researchers explored the gender bias inherent in the representation of words used by a software's natural language processing. They mathematically demonstrated that models trained on large text corpora capture stereotypical analogies (which they highlight in the article's title) (22), showing once again that software is also vulnerable to the biases we humans suffer from.

While biases such as cyber racism are bad enough on their own, another obvious danger of AI is the threat it poses to the founda-

[6] Noble, S. Algorithms of Oppression: How Search Engines Reinforce Racism. NYU Press; 2018.

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tions of personhood. By delegating moral judgment and critical decision-making (who receives a loan, who poses a security risk) to an entity that is not actually conscious (like any organism), the concept of the person as a rational and autonomous agent —which constitutes a pillar of moral responsibility— is eroded, hence the real danger. AI, in its relentless optimization, tends to treat human beings not as an end in themselves —the center of value, as personalism posits— but as a set of predictable data, just another object in the causal chain that must be managed. It can be deduced that a reification of such magnitude poses a grave threat to the inherent dignity of the human person.

5. Challenges: AI vs. personalism, how to engage in dialogue?

At first glance, it appears that AI, rather than seeking to harm society, aims to facilitate human life —like any other technological field— across various sectors, ranging from medicine to cosmology, and even extending into the arts and humanities. However, the danger does not lie in AI itself, but rather in the control exercised over it, as well as in the loss of control over the system. Bioethical personalism, with its emphasis on the dignity and relational nature of the human person, offers an essential and well-defined critical framework for evaluating advances in medicine and technology. Let us see why.

In the medical field, for example, this school of thought opposes any attempt to reduce the patient to a mere set of data or a simple diagnosis. The clinical relationship, which represents the cornerstone of personalism applied to medicine, is viewed as an interpersonal encounter between the patient's vulnerability and the physician's professional responsibility, where compassion and prudence cannot be automated by software.

However, the intrusion of AI and *big data* technologies into certain sectors of human life represents the most significant contemporary

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challenge to this vision. Let us analyze this as follows: from a purely personalist perspective and understanding how it works and what it is used for AI, the main risks it poses are threefold, namely, *depersonalization, intellectual abdication*, and *the delegation of moral responsibility*. The first is a psychological effect perceived as a disconnection from oneself; the second is a partial or total cessation of thought; and the third represents the act of shifting blame, in this case to the judgment of a computer or software. Consequently, the challenge is not to eliminate AI but to learn to master it, just as the challenge two centuries ago was not to eliminate tractors out of fear they would replace human labor; with mastery came success. On the other hand, education in this field is essential, and beyond learning to use computers, software, and devices, we must learn to regulate their use.

In 2016, Israeli historian Yuval Noah Harari published his book Homo Deus.[7] In addition to being a bestseller, the perspective on data science that the author proposes is intriguing. Harari posits *dataism* as the new hegemonic ideology, a sort of religion-like doctrine that unifies biology and computer science. Its central dogma is that the universe consists of data flows and that the value of any entity (including humans) is measured by its contribution to information processing. For dataism, organisms are nothing more than biochemical algorithms, and human experience (feelings, intuitions) loses its privileged status as a source of authority, being replaced by algorithms. Harari argues that, in this worldview, humanity's ultimate goal is to merge into a single, vast data-processing system, delegating authority and the meaning of life to the efficiency of the information flow. It is worth noting that dataism clashes head-on with personalism, as it crudely reduces the person to mere data.

This reduction of the person to an algorithm (or sea of algorithms), which Harari presents as a technological novelty, finds a disturbing philosophical justification in the earlier work of philosopher Derek Parfit. In his seminal work *Reasons and Persons,*[8] through

[7] Harari Y. Homo Deus: Breve historia del mañana. Debate; 2016.
[8] Parfit D. Reasons and Persons. Oxford University Press.

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ingenious thought experiments, Parfit argues that personal identity is nothing more than what he calls the *R-Relation*, that is, a psychological continuity and connection of the person. For Parfit, what matters is not identity (being the same), but survival (the continuity of the psychological self), regardless of the substrate (in this case, algorithms). This type of reduction is crude but let us remember that not all reductionism is bad; especially when it explains the complexity of a system in simpler terms without overlooking the richness across its levels.

By partially understanding the problems posed by the clash between AI and personalism, we must devise a proper approach to the problem. The first step is to avoid extremism, such as categorically asserting that AI is evil in any context. Nor can we *a priori* assign infinite value to the human being, because that thesis, in addition to being deeply anthropocentric and biased, will lead to systematic errors by treating human life as sacred. A functional dialogue, by definition, requires conceptual versatility and the renunciation of doctrinal rigidity, as I believe that it is synergy —and not the defense of absolutes— that enables problem-solving. The second step is to identify the most vulnerable sectors, namely the generations born immersed in electronic devices. The generation of recent decades suffers from an apathy reflected in the excessive use of such devices. At least in the tech-driven world, a young person between the ages of 8 and 30 cannot imagine life without social media, a computer, or a cell phone. After a few years of constant and excessive use, the average person becomes dependent on this type of technology; however, there are studies that even defend its use, arguing that a much more rigorous and robust correlation is needed (23). Consequently, we must accept the use of technology, not eliminate it.

The third step is to propose, structure, and implement an action plan from elementary school through university, regardless of the field of study. Furthermore, schools and educational institutions should strictly regulate the internal use of any electronic device. I believe that the internal policy of any academic institution should

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address both students and faculty members regarding how to interact with AI and LLMs in an educational manner, yet without losing technical rigor; ranging from courses to mandatory certificate programs. In this way, individuals learn that these language models amplify our ideas but never replace them; they are aids to thought but not epistemic guides for it.

Fourth, teaching from a strictly personalist perspective that the human person is not entirely replaceable and that, at the same time, is the epistemic guide for AI, since AI lacks fundamental flaws such as a lack of holism or intrinsic motivation. This relates to similar perspectives previously published and discussed in greater depth (24).

Specialized reviews and debates are currently underway regarding AI and its relationship to privacy, autonomy, biases, and transparency (25), all of which are so important in the life of the human person. Some authors prioritize further research in areas such as education in ethics and basic concepts of AI, transparency and biases in language models, facilitating the human-machine interface or communication based on human values, or developing practices for a greater and better experience with these models and monitoring the ethical principles on which they are based (26). Establishing ethical frameworks, values, and principles, as well as proper management and understanding of AI, enables the implementation of guidelines that prioritize transparency and safety in clinical settings (27).

The bioethical challenge of personalism in the face of the implications of using large language models and other branches of AI, such as *deep learning*, is to prevent the human person from becoming blurred by these technologies, to the point of ceasing to be responsible for our actions and beginning to lose our identity. The challenges ahead will be greater in complexity and number; however, we have the tools to face them. All research must be conducted according to high ethical standards, and we must understand that our actions entail moral responsibility.

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6. Conclusion

We have moved from the theoretical foundations of computability to algorithmic systems that challenge the centrality of the person. Personalism, with its defense of intrinsic dignity, emerges not as a reactionary attack on technology, but as the indispensable bioethical framework for its proper implementation. The threat is not AI *per se* —a tool of undeniable value in science and medicine— but the reductionist ideology that accompanies it, such as dataism, which reduces human beings to mere patterns of processable information. The identified dangers, the mystery of the black box, algorithmic bias, and the triple threat of depersonalization, intellectual abdication, and moral delegation, are not technical failures, but symptoms of an implementation lacking epistemic guidance.

The solution, therefore, is neither Luddism nor uncritical technophilia, but mastery of the tool through deep and universal education. The imminent challenge is to reaffirm that the person is not a biochemical algorithm, but the rational and conscious agent who directs the algorithm. As we have seen, AI lacks holism and intrinsic motivation; the human person must provide both. The dialogue between personalism and computer science is not only possible but urgent, to ensure that algorithmic efficiency serves the human purpose, and not the other way around.

Conflict of Interest

The author declares that he has no conflict of interest.

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