

Paper Title: Body, Soul and God: Philosophy, Theology and the Cognitive Sciences
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Paper Abstract:

The concept of a soul is not theological but rather philosophical. As a consequence, one may leave it out of the theological discourse. Concepts like ‘mind,’ ‘soul,’ ‘self,’ and ‘consciousness’ are not specifically theological concepts. They are rather philosophical concepts. Theology has over the centuries used such concepts to express some religious beliefs, but such beliefs do not have a necessary connection with those concepts and certainly not with the metaphysical meaning they have in some philosophical traditions. Today, however, it is the sciences, especially the cognitive sciences, that wish to clarify such concepts. In this task, they are most of the time against religious beliefs because such beliefs seem to be necessarily connected with those concepts. I want to argue that this is a mistake, and that most authors in the cognitive sciences are basing their analysis on misleading presuppositions. But it is also true that a new theology needs a new anthropology, one that is less dependent on the traditional metaphysics of Thomas Aquinas and more in line with a relational paradigm.

Author Biography:

Alfredo de Oliveira Dinis was born on April 16, 1952. He graduated in Philosophy at the Catholic University of Portugal (1979) and in Theology at the Gregorian University of Rome (1985). He obtained an M.Phil. and a Ph.D. in History and Philosophy of Science at the University of Cambridge, UK (1989). He is a Jesuit priest. He has been lecturing in Philosophy of Science, Logic and Cognitive Science since 1989 at the Faculty of Philosophy of Braga (Portugal), where he is also at present the Faculty Dean. He is also the President of the Portuguese Society for the Cognitive Sciences. Recent publication include: “Censorship and freedom of research among the Jesuits (XVIth-XVIIIth centuries). The paradigmatic case of Giovanni Battista Riccioli (1598-1671),” in Carolino (ed.), (2005); *Jesuítas, Ensino e Ciência. Séculos XVI-XVIII*, Casal de Cambra: Ed. Caleidoscópio; *Consciência e Cognição [Consciousness and Cognition]* (co-ed. J.M. Curado), (2004). Braga: Publicações da Faculdade de Filosofia.

Paper Text:

1. From a metaphysical to a physicalist paradigm

The traditional meanings of fundamental concepts such as ‘soul’, ‘self’ ‘mind’, ‘spirit’, etc., have never been so unclear as today. The traditional, thomist paradigm, allowed the understanding of these concepts in a way that is not acceptable today. The cognitive sciences, especially the neurosciences, have been using such concepts in the context of a new, physicalist paradigm that is incommensurable with the thomist, metaphysical one. Basically, we are thus moving from a metaphysical and dualistic paradigm to a physicalist and monist one.

Thomas Aquinas himself is not always very clear when he deals with concepts such as ‘mind’, ‘soul’ and ‘intellect’, as we can see in the following text:

“It must necessarily be allowed that the principle of intellectual operation which we call the soul, is a principle both incorporeal and subsistent. For it is clear that by means of the intellect man can have knowledge of all corporeal things. Now whatever knows certain things cannot have any of them in its own nature; because that which is in it naturally would impede the knowledge of anything else.... Therefore the intellectual principle which we call the mind or the intellect has an operation per se apart from the body. Now only that which subsists can have an operation per se. ... We must conclude, therefore, that the human soul, which is called the intellect or the mind, is something incorporeal and subsistent.” (*Summa Theologica* I, question 75, article 2).

We notice that Aquinas uses the concepts of ‘soul’, ‘intellect’ and ‘mind’ in the same sense. Both are incorporeal, subsistent, and non-physical entities, and it is such a metaphysics that is in crisis today.

Cognitive sciences are now using these concepts in a totally different way. Following the naturalistic turn, experts in the cognitive sciences have welcomed this appropriation of those philosophical and theological concepts by science, hoping to clarify them.

On the other hand, since the concept of ‘soul’ has traditionally been associated with religion, criticism of religious views on the nature of human beings, is usually directed towards the traditional meaning of that concept. This is apparent in Francis Crick denial that there is a soul. As he puts it:

“Most religions hold that some kind of spirit exists that persists after one’s bodily death and, to some degree, embodies the essence of that human being. Without its spirit a body cannot function normally, if at all. ... In spite of differences among religions, there is broad agreement on at least one point: People have souls, in the literal sense and not only in the metaphorical sense. These beliefs are held, and in many cases strongly and aggressively, by the majority of human beings alive today ... Yet a minority of people today ... is inclined to a totally different view. Such people believe that the idea of a soul, distinct from the body and not subject to our own scientific laws, is a myth.” (1995, 3-4)

And he adds that “a modern neurobiologist sees no need for the religious concept of a soul to explain the behaviour of humans and other animals.” (1995, 6) Indeed, why would he or she need that concept? As a matter of fact, Crick’s statement amounts to say that ‘a modern neurobiologist sees no need for non-neurological concepts to explain neurologically the behavior of humans and other animal’. Certainly. Neurobiological explanations of animal behaviors need neurobiological categories. This is a truism. On the other hand, most people who believe in a spiritual soul do not think that they need the concept of ‘soul’ in order to explain human behavior.

Traditionally, the concept of a spiritual soul explained also why humans are different from the other animals and also why humans are immortal. But we find today, even in some Christian thinkers, some alternative ways to conceive immortality. Today, Christian theologians conceive the soul as constituting a unity with the body. The person *is* a body-soul unity. However, when the person dies, the soul must survive. So, in the end, the person appears to *be* his or her soul – at least after death and before the resurrection - in a strange dualistic sense. To escape this dualism the only alternative

seems to stress the unity of body and soul. But then, when the body dies, the soul dies as well. A new theology needs therefore a radically new anthropology.

2. Body and soul in recent Catholic Theology

The *Catechism of the Roman Catholic Church*, published in 1992 by Pope John Paul II, does not follow the traditional question-answer form (although a more recent *Compendium of the Catechism of the Catholic Church* is written in this form).

There is in the *Catechism* an attempt to provide updated views of fundamental questions and concepts, such as that of 'soul', without however denying its more traditional meaning:

“Man, though made of body and soul, is a unity” (nr. 233)

"In Sacred Scripture the term 'soul' often refers to human life or the entire human person. But 'soul' also refers to the innermost aspect of man, that which is of greatest value in him, that by which he is most especially in God's image: 'soul' signifies the spiritual principle in man." (nr. 363)

“The human body shares in the dignity of 'the image of God': it is a human body precisely because it is animated by a spiritual soul, and it is the whole human person that is intended to become, in the body of Christ, a temple of the Spirit” (nr. 364).

"The unity of soul and body is so profound that one has to consider the soul to be the 'form' of the body i.e., it is because of its spiritual soul that the body made of matter becomes a living, human body; spirit and matter, in man, are not two natures united, but rather their union forms a single nature." (nr. 365)

The body-soul unity is thus affirmed, but the traditional concept of a spiritual soul is also reaffirmed. The expression “the whole human person” is here intended to weaken the traditional dualism body-soul as if body and soul were two separated entities. However, the soul as the form of the body is meaningful only within the context of a metaphysical, Aristotelian-Thomist paradigm something that is not acceptable today.

So, the weak point of the *Catechism*'s position is a kind of 'weak dualism': that body and soul, although profoundly united and not separated in the living human being, are, nevertheless separable at the moment of his or her death. They are created separately, the soul being generated by God and the body by the parents of the new human being. As stated in the *Catechism*: "The Church teaches that every spiritual soul is created immediately by God - it is not 'produced' by the parents - and also that it is immortal: it does not perish when it separates from the body at death, and it will be reunited with the body at the final Resurrection." (nr. 366) And, again, "'Man, though made of body and soul, is a unity'. The doctrine of the faith affirms that the spiritual and immortal soul is created immediately by God." (nr. 382)

Then, at the moment of death, they separate again, since the body perishes, but the soul doesn't. They will eventually be reunited again in the final resurrection. Therefore, a profound unity is the final and eternal destiny of body and soul. However, the fact that the soul survives without the body raises several questions: what kind of existence is that of a separated soul? What kind of knowledge does he have of itself and of God? How different will it's existence and knowledge be after it is reunited with the body? What kind of body will it be reunited with? For all these questions Aquinas found

what appeared to be the right answers. But they are not acceptable today. Just to give an example: he imagined that he resurrected body would be practically the same that disappeared after death, a point that Catholic theology has abandoned.

3. Religion and the neurosciences. The ‘Godspot’

The traditional dualism body-soul of Catholic theology has been challenged since the nineteenth century, after Darwin’s theory of evolution. Since then, not only the dualism body-soul has been criticized, but the existence of a spiritual soul itself has been denied by many Christians and atheists alike.

Rather recently, progresses in the neurosciences have given rise to two rather opposite views of religion in the context of biological evolution.

One is represented by Michael Persinger, who claims that religious experiences are just the result of the stimulation of parts of the left temporal lobe. This happens spontaneously in epileptic seizures, for example. Thus, ultimately, religious experiences are nothing but neural events. After Michael Persinger has published his book *Neuropsychological Basis of Human Belief* in the early 1980’s, a growing number of studies on the neural basis of religious beliefs have been published, and the trend is still alive. Persinger claimed to have established a correlation between the frequency of epileptic seizures in the left temporal lobe and that of religious experiences such as feeling at one with the universe, having visions, etc. It seems that some sort of ‘God module’ has been identified. V.S. Ramachandran liked the idea, and thought that the religious behaviour of his patients affected by epilepsy proved that there is indeed a neural basis for religion. He then asked ironically about a patient to whom part of his temporal lobe might be removed in order to treat his epilepsy: “Would he suddenly stop having mystical experiences and become an atheistic or an agnostic? Would we have performed a ‘Godectomy’?” (1998, 187)

Although both Persinger and Ramachandran have claimed to have empirical evidence to support their views on this matter, others, such as F. Watts (1999, 334) have denied that there is indeed such a sufficient evidence. Daniel Dennett has also recently denied that there is anything like a ‘God gene’ or a ‘God module’:

“having religious convictions is not very much like having either epileptic seizures or blue eyes. We can already be quite sure there isn’t going to be a ‘God gene’, or even a ‘spirituality’ gene, and there isn’t going to be a Catholicism centre in the brain of Catholics, or even a ‘religion experience’ centre. Yes, certainly whenever you think of *Jesus* some parts of your brain are going to be more active than others, but whenever you think of anything this is going to be true. ... In fact, the likelihood that the places that light up *today* when you think about Jesus are the same places that light up next week when you think about Jesus is not very high.” (2006, 315-6)

Dennett believes however that sooner or later we will understand the relation between the brain and every human behaviour, including religious behaviour.

Others claim, however, that evolution itself led to some sort of purposeful development of human beings with a brain structure that allowed them to believe in God and have spiritual experiences. Some see here the unfolding of God’s plans, of an intelligent design. Others see in this development nothing but a survival strategy of a ‘blind evolution’. Somehow, religion favours survival. According to this view, it is precisely because the brain is hardwired to believe, that God won’t go away in the foreseeable future. J. Ashbrook & C.R. Albright (1997), R. Joseph (2001), A. Newberg

(2001) and many others, have dealt with this issue. From an evolutionary point of view they do believe that the brain evolved in such a way that it has been hardwired to believe in God. In this sense, it seems that we need to accept the existence of a 'God gene'.

At this point, it seems that references to a spiritual soul have disappeared. As a consequence, the hypothesis of immortality would appear a hopeless issue. But, surprisingly, this is not the case.

4. Body, soul and immortality in an evolutionary universe. The view from the neurosciences

To the question "Does a biologically based view of consciousness alter our view of immortality?", the Nobel Prize Gerald Edelman answers:

"matter exists prior to mind, and on death individual minds are doomed to extinction, in the sense that the conscious processes and thoughts possessed by those individuals are no longer possible. With the death of each individual, that particular memory and consciousness is lost – if personal identity depends on morphology undergoing a particular history, it cannot persist in a disembodied state. There is, as such, no individual immortality." (1989, 269-70)

Edelman claims that if there is no substantial mind, - that for Aquinas is the soul - then no survival after death seems to be thinkable. He has more recently argued that if no brain, then no-self, then no immortality. Mentioning his own view about a neurobiological explanation for the existence of one's self, he adds: "If this brain-based picture of how the self arises turns out to be correct, there is of course, one dreary consequence: We are mortal. Once the substrate for C [i.e. subjective] states is dissolved, the self, which is a dynamic process, ceases to be." (2004, 137-8).

However, not everybody agrees with Edelman's views. Christoph Koch, another well known biologist, accepts that there is no contradiction between a brain-based view of the self and the belief in an immortal soul, and even in a God. In his book *The Quest for Consciousness* Koch asked himself this question: "What about religion? Most people on the planet believe in some sort of immortal soul that lives on after the body has died. What do you have to say to them?" And his intriguing answer is:

"Well, many of these beliefs can't be reconciled with our current scientific world view. What is clear is that every conscious act or intention has some physical correlate. With the end of life, consciousness ceases, for without brain, there is no mind. Still, these irrevocable facts do not exclude some beliefs about the soul, resurrection, and God" (2005, 327)

So far, Koch has nowhere explained how the two beliefs may be reconciled. We will see later on that they can indeed be reconciled, although that seems apparently impossible.

Most of the above mentioned authors, base their views on religious experiences upon an internalist paradigm. All these experiences happen inside the brain and the connection they have with the outside world is not very important in order to explain such experiences.

Moreover, they seem to identify the essence of religious experiences with extraordinary events, such as visions, having special insights on how the universe works, etc. But such elements are not essential to religious experiences. Religion is

basically about living one's life loving God and the others in the normal everyday life. Nobody needs to go through some quite unusual experiences to qualify as a believer. As K. Woodworth puts it:

“doing the will of God – or following the darma – involves much more than prayer. To see Christ in the person of an AIDS victim or to really love one's enemy does not necessitate a special alteration in the circuits of the brain. Nor does the efficacy of a eucharistic celebration depend on the collective brain waves of the congregation... Similarly, Buddhist bodhisattvas are distinguished by their compassion, not by their spiritual athleticism.” (2001, 58)

Over the last decade, neurosciences appear to be merging with artificial intelligence, and for some this fact has some interesting consequences for our views on the nature of human beings and of their possible immortality.

5. Body, soul and immortality in an evolutionary universe. The view from artificial intelligence

Both the relation between body and soul, and the very immortality of the soul have until recently been discussed within the biological context of an evolving universe, as we have seen. Now, evolution seems to have created living beings – like human beings - that are merging with machines. Thus some believe that the actual human beings will eventually be replaced by intelligent and maybe immortal machines.

Artificial intelligence has thus captured the creativity and the imagination of many intelligent people. The merging of the neurobiological structures of human beings with artificial devices is already happening in such a way that this merging period is seen by the enthusiasts of artificial intelligence as a transition for the existence of humanlike artificial machines that will be much more intelligent than human beings and that will claim to have feelings and maybe even spiritual and - why not? – religious experiences. Moreover, before human's biological substract disappears, especially the brain, human beings may 'download' the full informational content of their brains in such machines and thus, maybe, become immortal. If in fact we consider that human beings are only bodies and therefore have – or are! - no souls, then they 'are' their brains. And, since a brain is basically a system that processes and stores information, then it is conceivable that we can download that information to a machine that processes information in the same way as the brain does. Nanotechnology will make it possible to build machines very similar to the human body. This is what Ray Kurzweil, a tropical biologist and also a developer of digital evolution software, the inventor of reading machines for the blind, music synthetizers and marketing leading speech-recognition technology, predicts for the twenty-first century. Through nanotechnology, we can build humanlike machines, and we can build them at our own image. This reminds us of the biblical book of Genesis, where we read that man was made at the image of God. As Kurzweil puts it:

“One approach to designing intelligent computers will be to copy the human brain, so these machines will be very human. And through nanotechnology ... they will have humanlike – albeit greatly enhanced – bodies as well. Having human origins, they will claim to be human, and to have human feelings. And being immensely intelligent, they'll be very convincing when they tell us these things.” (2002a, 13)

Although Kurzweil asks himself how real will such machine feelings be, he goes on imagining how the actual and future brain scanning technology will allow biological human beings to survive, maybe forever:

“we scan someone’s brain to map the locations, interconnections, and contents of all the somas, axons, dendrites, presynaptic vesicles, neurotransmitter concentrations, and the other neural components and levels. Its entire organization can then be re-created on a neural computer of sufficient capacity, including the content of its memory.” (2002a, 36)

Due to the exponential acceleration in the progress of information techniques, Kurzweil foresees these developments for the first half of the twenty-first century, when scanning techniques will so much developed that we will be able to scan the human brain in every single detail:

“By the third decade of the twenty-first century, we will be in a position to create highly detailed and complete maps of all relevant features of all neurons, neural connections and synapses in the human brain, all of the neural details that play a role in the behavior and functionality of the brain, and to recreate these designs in suitably advanced neural computers.” (2002a, 38)

But will such neural computers be duplications of personal selves? Will they be persons? Kurzweil believes that they will certainly claim that they are persons. How will we then be able to say whether they are persons or not? As a matter of fact, the whole memory, personality and past history of a human being will have been reinstantiated in a computer. Will there be then any significant distinction between a human being and a humanlike machine? And if there is, what will that difference be? As the authors puts it:

“Objectively, when we scan someone’s brain and reinstantiate their personal mind file into a suitable computing medium, the newly emergent ‘person’ will appear to other observers to have very much the same personality, history, and memory as the person originally scanned. ... Interacting with the newly instantiated person will feel like interacting with the original person. The new person will claim to be the same old person and will have a memory of having been that person. The new person will have all the patterns of knowledge, skill and personality of the original.” (2002a, 40)

However, Kurzweil makes a distinction between the objective and the subjective aspect of a humanlike machine. This has to do with consciousness and, more specifically, of self-consciousness. The core of one’s personal identity is self-consciousness, but ‘person’, ‘identity’ and ‘consciousness’ are concepts that, although fundamental, are not easily made clear. The main point in the study of consciousness, so Kurzweil argues, is not the third-person perspective, that is the scientific view of consciousness, but the first-person perspective, that is the subjective view: “The essence of consciousness is *subjective* experience, not objective correlates of that experience.” (2002a, 44) Thus Kurzweil is aware that we need to have some criterion to identify subjective or self-consciousness in such machines:

“They will claim to be people, and to have the full range of emotional and spiritual experiences that people claim to have. And these will not be idle claims; they will evidence the sort of rich, complex, and subtle behaviour one associates with these

feelings. How do the claims and behaviours - compelling as they will be – relate to the subjective experience of these reinstantiated people?” (2002a, 46)

The whole issue has to do with identity and self-consciousness. And although the author seems to hesitate on the answer to his own questions, it seems that, according to Kurzweil, nothing forbids us to reinstantiate a person in two or more machines since we may make several copies of one’s mind file. We may thus end up with two or more selves with the same identity, living simultaneously. However, even if it becomes possible by the middle of the century to download all the complexity of a human brain and reinstantiate it in a humanlike machine, the two would share, at best, only a past history. The process of interaction between each of the two and their environment would not be the same and would thus generate in every present moment different subjectivities and different identities.

Even though Kurzweil’s views look rather bizarre, they have at least an interesting point: they assume a non-dualist point of view on the nature of reality in general and of human beings or humanlike machines in particular. I will come back to this point later on.

For the moment I will still mention a consequence of the possibility of ‘instantiating people’: immortality. Of course, by the middle of this century, the meaning of concepts such as ‘life’ and ‘death’ will probably change and become different from what they are now. In fact, the life of a reinstantiated person may not come to an end when the hardware of a humanlike machine crashes, because it may be possible, as mentioned before, to make more than one copy of what Kurzweil calls a ‘mind file’. If there is at least one backup, then the reinstantiated person may continue to ‘live’:

“The longevity of one’s mind file will not be dependent, therefore, on the continued viability of any particular hardware medium. Ultimately, software-based humans, albeit vastly extended beyond the severe limitations of humans as we know them today, will live out on the web, projecting bodies when they need or want them, including virtual bodies in diverse realms of virtual reality, holographically projected bodies, and physical bodies comprised of nanobot swarms, and other forms of technology. A software-based human will be free, therefore, from the constraints of any particular thinking medium. Today, we are each confined to a mere hundred trillion connections, but humans at the end of the twenty-first century can grow their thinking and thoughts without limit. We may regard this as a form of immortality, although it is worth pointing out that data and information do not necessarily last forever” (2002a, 51-2)

As we know today, retrieving stored information is not always an easy task, since software systems are changing continuously in such a way that the accessibility to information that was stored by different and older systems is not guaranteed. Kurzweil believes, however, that it is possible to pay attention to the kind of software we will be using when making backups of one’s mind file so that it will always be possible to retrieve it whenever necessary. Can we then talk of a certain form of immortality? Apparently yes. However, Kurzweil asks: “is that person based on my mind file, who migrates across many computational substrates, and who outlives any particular thinking medium, really me?” (2002a, 52). This question brings us back again to the old problem of personal identity and subjectivity. Kurzweil acknowledges this and leaves it wisely as a continuing open question.

We also need to take into account that human memory cannot be stored as a normal file that can be retrieved and reopened exactly as it was stored. For to retrieve

stored memory implies always to recreate or reconstruct the ‘contents’ that have been stored, especially because they are intrinsically linked with our emotional life, which changes continuously due to our two-ways relation with the environment. Kurzweil ‘information immortality’ is therefore highly unlikely.

It is though interesting to note that in his book *Can a Darwin to be a Christian?* Michael Ruse argues that human immortality might be conceived as information survival, not in some human-like machine, but in God’s mind. This is an interesting suggestion, even if we cannot say that God has a mind, at least in the same sense that we talk of the human mind. But it is not absurd to conceive that if we believe that God knows and loves every being in the world, and if we believe that his knowledge and his love last forever, then we may believe that we are eternal as God’s loved subjects, since God is eternal.

6. Kurzweil on anon-dualistic universe

Even if I find Kurzweil views on the hypothesis of ‘reinstating’ people and ‘backuping’ people’s minds rather odd, as I said before, I consider his non-dualistic general perspective rather interesting, a perspective that sees the world we live in as much a material as a spiritual world. He believes that consciousness, at least the subjective, self-consciousness, is an issue that science will never be able to deal with.

Some, such as Thomas Metzinger, Daniel Dennett, Paul Churchland, Steven Pinker and Richard Dawkins, have concluded that self-consciousness or the consciousness of oneself is just an illusion. In fact Metzinger, a philosopher, has recently argued that “no such things as selves exist in the world. Nobody ever *was* or *had* a self... The phenomenal self is not a thing, but a process.” (2004,1). Metzinger, as many others, is centering his attack on the substantive sense of ‘self’, that is, on the traditional concept of the self as a metaphysical entity undergoing no change throughout one’s life. The self has been traditionally thought of as the substance of a person, something that seems to be the core of one’s own identity, ‘some-thing’ that remains the same whereas the accidents of one’s life are just momentary and transient events. It thus seems that the following entailment obtains: If no *real* self, then no *real* person. Kurzweil disagrees. Mentioning self-consciousness he argues:

“A more reasonable conclusion that one can come to, and indeed my own view, is that precisely because these central issues of reality are not fully resolvable by scientific experiment and argument alone, there is a salient role for philosophy and religion. However, this does not require a world outside the physical world we experience.” (2002b, 214).

From this point of view, Kurzweil reacts to some criticism that considers his proposal as a kind of philosophical materialism, a criticism made by people such as George Gilder and Jay Richards, who argue that:

“Kurzweil is an intriguing and subtle advocate of Strong Artificial Intelligence. He believes that with neurological architecture, sufficient complexity, and the right combination of analog and digital processes, computers will become ‘spiritual’ like we are. His reference to spirituality might lead one to suspect that he departs from naturalism. But Kurzweil is careful with his definition. By saying computers will become spiritual, he means that they will become *conscious*. While this differs from the arid materialism of Daniel Dennett, Steven Pinker and Richard Dawkins, who treat consciousness as an illusion, the identification of the spirit with consciousness is a naturalistic stratagem.” (2002, 4)

Kurzweil reacts to such a criticism refining the very meaning of the concept of transcendence:

“what’s the problem with the so-called material world? Is the world of matter and energy not profound enough? Is it truly necessary to look beyond the world we encounter to find transcendence? ... A comment on the word ‘transcendence’ is in order here. To transcend means to ‘go beyond’, but this need not compel us to an ornate dualist view that regards transcendent levels of reality (e.g., the spiritual level) to be not of this world. We can ‘go beyond’ the ‘ordinary’ powers of the material world through the power of patterns. Rather than a materialist, I would rather consider myself a ‘patternist’. It’s through the emergent powers of the pattern that we transcend.” (2002b, 211).

Kurzweil considers that patterns are what makes matter interesting and in some sense meaningful. What makes a living being a human being is not the mere collection of atoms, molecules and cells his body is made of and that change from time to time, but rather the specific pattern that emerges from the way atoms and molecules are arranged:

“I am not merely or even principally the material stuff I am made of because the actual particles that comprise me turn over quickly. Most cells in the body are replaced within a few months. Although neurons persist longer, the actual atoms making up the neurons are also rapidly replaced. ... It is the immense, indeed transcendent, powers of our pattern that persist. The power of pattern to persist goes beyond explicitly self-replicating systems such as organisms and self-replicating technology. It is the persistence and power of patterns that, quite literally, gives life to the Universe. The pattern is far more important than the material stuff that comprises it.” (2002b, 211-2)

At first sight, it looks as though Kurzweil is resurrecting the old Aristotelian concept of a soul as the form of the body, as that which gives human form to simple matter. And he gives the example of a collection of colour traits that become ‘something else’, a pattern, when they become art through the creative and inspired work of an artist. The same happens with sounds. They may be just a collection of sound waves or they may become music. ‘Some-thing’, a pattern, emerges from matter and ‘transcends’ it, but we do not need to leave this world to talk about that ‘some-thing’. Thus he is not resurrecting the Aristotelian soul, since he is not a dualist and does not need to attribute a substantial ontology to patterns.

It seems that biological evolution stops in human beings, not because it could not go on further, but because man creates technology that has the capacity to be more intelligent than the *homo sapiens* and also to become self-conscious and go through spiritual and transcendent experiences.

“In other words, technology is a continuation of the evolutionary process that gave rise to the technology creating species in the first place. It is another paradigm shift, a profound one to be sure, changing the focus from DNA-guided evolution to an evolutionary process directed by one its own creations, another level of indirection if you will.” (2002b, 212)

Indeed, it is the whole universe that is in a process of becoming conscious, intelligent and personal through ‘patterning evolution’. As Kurzweil concludes: “we

could say that the universe – ‘all that is’ – is indeed personal, is ‘conscious’ in some way that we cannot fully comprehend” (2002b, 215)

Kurzweil’s views on the universe as an evolutionary process towards intelligence, consciousness and transcendence seems to have some points in common with Teilhard de Chardin’s evolutionary views. It is true that Teilhard saw the universe as evolving not only towards more complexity and consciousness but also, and ultimately, towards the cosmic Christ, a point not made by Kurzweil. But the non-dualistic view that puts aside the ontological distinction between immanence and transcendence, matter and spirit, as if they belonged to two different and separated worlds, is common to the two thinkers.

7. Are we in the midst of a paradigmatic revolution?

I truly believe we are witnessing a paradigmatic revolution both in philosophy and in theology. Such a revolution has been triggered not only by Galileo’s work, but also by Darwinian evolutionism. Teilhard de Chardin was one of the first to notice the extent to which a paradigmatic revolution was taking place since the nineteenth century. He strongly criticized both the traditional metaphysics and the theological views based both upon such a metaphysics and upon a literal interpretation of the first three chapters of the *Genesis*. He realized that Adam and Eve never existed, that there has never been a terrestrial paradise, that therefore Adam and Eve were not created in a state of original justice and therefore that they did not lose that original state since they did not commit the original sin; that therefore sin and pain did not enter the world because of original sin. Rejecting the traditional, metaphysical and static view of God, Teilhard believed that God shares with mankind and indeed with the whole universe a history that has its end in the Cosmic Christ. Teilhard was never allowed to publish these views. Even now, the Catholic Church has not yet officially recognized the value of such views. As we have seen above, the *Catechism of the Catholic Church* continues, to repeat literally everything that, according to Teilhard, should not be maintained anymore, as if Darwin never existed, as if John Paul II had never said that evolutionism is now more than a hypothesis, that it is truly a scientific theory.

The metaphysical mind-body dualism is now being systematically challenged by a growing number of Christian philosophers and theologians (Murphy 1998, Brown 1998, Clayton 1999, Gregersen 2000). Nancy Murphy, for example, argues philosophically in favour of a non-reductive physicalism, which she describes as “the view that the human nervous system, operating in concert with the rest of the body in its environment, is the seat of consciousness (and also of human spiritual and religious capacities).” (1998, 131) These Christian philosophers and theologians believe that we do not need either the concept of a metaphysical self or that of a metaphysical soul. A relational self seems more adequate to understand the nature of human beings than a metaphysical self. Indeed, every traditional metaphysical category appears increasingly to be inadequate and in need to be abandoned in our search for knowledge. A relational view of the person, and indeed of God, needs no immortal soul to assure immortality. Instead, immortality is a relational situation. Human relationships constitute the individuals as persons. For those who believe in God, it is God’s foundational relation with the whole creation that makes human immortality possible.

8. Externalism and the hypothesis of a relational self

I have already suggested earlier that the identity of a living being – whether biological or artificial – cannot be fully understood only from an internalist point of view. Andy Clark has been putting forward an externalist point of view that emphasizes the importance of the environment for our understanding of how the human mind works:

“The old puzzle, the mind-body problem, really involves a hidden third party. It is the mind-body *scaffolding* problem. It is the problem of understanding how human thought and reason is born out of looping interactions between material brains, material bodies and complex cultural and technological environments. We create these supportive environments, but they create us too. We exist, as the thinking things we are, only thanks to a baffling dance of brains, bodies, and cultural and technological scaffolding. Understanding this evolutionary novel arrangement is crucial for our science, our morals, and our self-image both as persons and as a species.” (2003, 11)

Living beings are not closed in their minds and brains. The human brain would collapse if it stopped receiving information from the environment, and the permanent two-ways relation between brain and environment – or rather among human beings – is a constitutive element of their personal identity. Moreover, we may say that these two-ways relations person-environment and person-person are experienced very differently from one person to another due at least to one objective reason: each person – and indeed every object in the universe-, is in a specific space-time position and relational state, and therefore his or her relation to the other persons is unique. This is indeed what makes every person really unique.

From this externalist point of view, it is possible to think about immortality within a non-dualistic framework - within a relational and dialogical framework. In his book *Introduction to Christianity* Joseph Ratzinger, the actual Pope, has put forward a relational view of the soul:

“ ‘having a spiritual soul’ means precisely being willed, known, and loved by God in a special way; it means being a creature called by God to an eternal dialogue and therefore for its own part capable of knowing God and of replying to him. What we call in substantialist language ‘having a soul’ we will describe in a more historical, actual language as ‘being God’s partner in a dialogue’.” (2004, 355)

A dialogical concept of the human soul has for Ratzinger an immediate consequence: an equally dialogical concept of immortality: “man’s immortality is based on his dialogic relationship with and reliance upon God, whose love alone bestows eternity” (2004, 355). A dialogical concept of immortality needs no body-soul scheme, no natural-supernatural dualism. Thus, according to Ratzinger, “it is also perfectly possible to develop the idea [of immortality] out of the body-soul schema” (2004, 355), and so “it becomes evident once again at this point that in the last analysis one cannot make a neat distinction between ‘natural’ and ‘supernatural’,” (2004, 355-6), since it is the dialogue of love between God and the human beings, and among the human beings themselves, that is truly the essence of every religious experience.

9. Conclusion

There is today a naturalization trend in every domain of human knowledge, as opposed to a super-naturalization of metaphysical and religious categories. Naturalization means that something that was not taken as natural but rather as supernatural loses such status. Thus, 'soul' and 'self' need to lose their metaphysical or super-natural roots. It is rather paradoxical that while the naturalization trend aims at denying every dualism, it is only within a dualistic framework that the concept of 'naturalization' acquires meaning. The proposal of a naturalization of human knowledge is meaningful only within a natural-supernatural dualistic scheme of things. However, such dualism is not a necessary context for theology to express religious beliefs. Neither does theology need to base its views on other metaphysical dualisms such as 'immanent-transcendent', 'physical-metaphysical', 'material-spiritual', etc. For centuries, maybe even for millennia, a metaphysical dualism appeared to be the most appropriate conceptual context for the expression of religious beliefs. But the situation has dramatically changed, especially since the twentieth century. Today, the concept of 'soul', even when it is taken in a theological text, may not have a self-subsistent metaphysical meaning, but rather a relational meaning. In several religious traditions, the concept of soul has been considered absolutely necessary to make immortality possible. It appears that only a spiritual entity is eternal, and thus the human beings need a spiritual soul if they believe that they are immortal. But we have seen that this needs not be true. From the one hand, we have seen that Ray Kurzweil conceives a form of informational immortality that does not need the concept of a soul, - although he himself looks sometimes rather unsure about the soundness of such a concept.

On the other hand, the concept of a self in the substantial and unchangeable sense, the one criticized by both Metzinger and many other philosophers of mind in the neuroscientific tradition, is not the one that best accounts for human experience. Rather the 'relational self', a process that is neither an illusion, nor any unchangeable entity, is an acceptable alternative both to the 'no-self' and to the 'substantial self' approaches. The perspective of the relational self - one that I favour - also allows to conceive of immortality, at least in the context of Christian belief, in line with Christian thinkers such as Joseph Ratzinger.

Will humanlike, intelligent machines come to replace mankind, and will they have religious experiences? Will they be able to ask for the ultimate explanation of everything that there is? Will they be able to ask 'why is there something rather than nothing?'? I must say I do not find any problem in admitting that, in the future, new forms of life, such as human like life, may be called to a dialogue of love with God. The new evolved human like beings realize that their identity is not based on a mere brain experience, but rather on a relational existence, I believe they qualify to enter into a dialogue of love with each other and with God.

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