Editor's Note

I. Introduction to Artificial Intelligence and Spirituality

The development of machines and automation and their integration into daily life has often led to a deeper examination of human nature. Today technological change is accelerating, not only in artificial intelligence (AI), but also in communications, automation, biology and medicine, raising ever deeper questioning of the human condition. Within this context, many people experience a feeling that transcends the self and evokes less immediate views and scopes. Our thirst for transcendence and introspection remains unwavering, despite technological breakthroughs, or perhaps because of them; despite the speed of these breakthroughs, or because of it; despite their diversity, or precisely because of it. This unwavering aspect is in no way a threat to progress, but a part of it, with these transcendental experiences providing us with support and sustenance in our daily lives.

Since their first steps, computation and AI have been interpreted in various and even opposed ways: as progress, assisting humans in several tasks and helping to save time and energy; and as a danger, a threatening development that would dehumanize and even enslave people. The dystopias described in movies over the past twenty years express the fear that AI would become dominant and challenge human capacities.

In 2005 Ray Kurzweil [1, p.25] famously predicted that within decades artificial intelligence would surpass human capabilities, and that "There will be no distinction, post-Singularity, between human and machine". The rapid development of AI technologies has appeared to support his view. However, his conjecture remains contested in part because of a lack of clarity concerning what "intelligence" consists of, with the field continuing "to be marked by noisy and sometimes vitriolic debates" [2, p.3]. Kurzweil's claim implies that there is a single scale of intelligence, applicable to all individual organisms and machines, but this is placed in doubt by the continuing interest in the theory of multiple intelligences, dating back to Gardner [3]. Similarly, Kurzweil implies that intelligence is a quality that can be abstracted from its substrate, running counter to long-standing schools of thought that see intelligence as embodied, embedded in and extended into the environment, and enacted in interactions with the environment [4].

Recent progress in AI has been substantial, but awareness is also emerging of constraints to its capabilities [5]. At the same time, the social and cultural evolution that accompanies this progress invites us to re-order and redefine several human and social dimensions. This might contribute to reaching a degree of maturity in our knowledge and assessments of AI that allows for more nuanced interpretations. The perplexities, fears, doubts, questions concerning the interactions between AI and the human can become more subtle and less dramatic thanks to a more precise understanding of AI developments., one in which the contributions of AI can be recognised, while the issues arising become more subtle and less dramatic.

It is in that context that the present special issue finds its place. The papers seek to shed light on debates such as these, by linking and contrasting AI and the spiritual dimension. They invite the reader to consider the relationship between AI and an aspect of human experience which is generally seen as the polar opposite of computation, that of spirituality. By carefully weighting the connections and the contrasts of AI and the spiritual dimension, the contributions make the case for a more attentive examination of pressing issues that we can no longer ignore, and which require a highly interdisciplinary approach.

II. Ways to Approach Research on the Topic

Research on the relationship between computing and the meaning of human life flourishes proportionally to the increasing digitalization of our world. More and more, reflections on ethics and politics, spiritual values and religious experiences, beliefs, and practices make use of digital media in order to spread their content or express themselves. If we still consider that there is truth in the well-known dictum that "the medium is the message" [6], then it is worth asking how the content of these reflections and practices are changing today.

Every change is the introduction of something new, and this novelty can be interpreted either as the improvement or the worsening of the current situation. Generally speaking, research on either the positive or negative interactions between the advances in AI and the dimension of spirituality and analogue thinking are based on at least three approaches. The first produces analogies between concepts from human studies and concepts from computer science; for instance, speaking of "modeling" for concepts in human sciences, or considering the universe to be intelligently organized in an algorithmic order [7], [8]. The second approach is the application of research on AI and computer science to develop new insights on the extents, limits, and perfectibility of spiritual topics, discussions, or even practices [9]. Finally, the third approach applies sociological, philosophical, aesthetic, or even theological concepts to assess the changes that digitalization introduces in spiritual practices, beliefs, and cultures [10].

III. Aim of this Special Issue

This special issue analyzes the current state of the art, and it addresses all three models of the research. By doing so, the issue will place the general question of the distinction between human and machine into sharper relief.

In the issue, authors provide diverse insights to the topic. Graves uses general systems theory to organize models of human experience, yielding insight into human morality and spirituality, upon which AI modelling can also draw. Krüger discusses how the concept of singularity is reviewed from a cultural studies perspective, first with regard to the cosmological singularity and then to the technological singularity. Vestrucci et al. analyze and debate current topics of investigation on the relationship between AI and the concept of belief, such as: The modelling of belief, the exploration of belief in automated reasoning environment, with specific emphasis on religious belief. Calderero provides an open, synergetic, harmonious vision of the role of technology and the humanities, especially those most focused on the study of the intangible. He argues that it is necessary for the progress of knowledge and, therefore, for the mutually beneficial care of humanity and nature. Dorobantu demonstrates that the similarity between the midwife proposal and the modern Christian anthropology and cosmology is only superficial. Compared to the midwife hypothesis, Christian theological accounts define the cosmic role of humanity quite differently, and they provide a more satisfactory teleology. Burgos presents a semi-automatic process to assess the degree of ritual identity, reinforcing the hypothesis that rituals follow a similar pattern of structure and preparation according to a predetermined set of common elements, whether linked to religious or secular settings. Finally, Griffiths discusses the degree to which Gregory Bateson's concept of an ecology of mind can shed light on the capacities of AI, and in particular its ability to partake of the realm of the sacred.

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This special issue discusses concepts that might, in principle, appear as two opposite poles or two layers of the same reality, but which can also be seen as two interwoven elements defining a single context or two aspects of a particular viewpoint: mutually dependent and difficult to understand separately. The contributors explore an emerging world in which the prospect of superintelligent systems raises both great hopes and great fears. Within this context, the spiritual life and transcendence acquire new functions and significance, and underlying the discussion here is the aspiration that they can still provide sources of meaning and hope.

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