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Bioethics: Between STI and NBICs

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A few years ago, the recently deceased Belgian philosopher of technology and bioethicist Gilbert Hottois* demonstrated how the phenomenon of technology has expanded and silently naturalized itself in Western society, to the point of becoming omnipresent and blending with the very air we breathe (1). More recently, the philosopher of technology Bernard Stiegler goes further and postulates that the 'origin of humanity is technical.' For Stiegler, he conceives technology as an epiphylogenetic memory, complementary to the two biological memories, which are the genetic code (phylogenesis) and the memory of the nervous system (epigenesis). Human epiphylogenesis, composed of the 'conservation, accumulation, sedimentation of successive and articulated epigenesis,' thus constitutes a 'break with pure life' in the sense that, in pure life, epigenesis is precisely what is not preserved' (2).

Meanwhile, bioethics, since its inception, has been dedicated to the affirmation, care, and enabling of life (3). The technoscientific advances of recent decades, while providing "quality" of life to humans, have generated "emergent" problems that necessitate a new approach to bioethics (3). Bioethics must also adapt to this technological change. Initially, Information and Communication Technologies (ICTs) resulted from the emergence and development of the internet, GPS, wireless networks, micro robotics, fiber optics, nanotechnology, and micro-electromechanical systems (MEMS), primarily (4). ICTs have become a fundamental tool in strengthening various processes carried out through science and technology by allowing greater access to information, the ability to store and process a greater amount of data, and generating value for the intangibles produced by knowledge, among other benefits (5).

According to Dr. Pardo, there is a worldwide consensus that science, technology, and innovation (STI), which includes information and communication technologies (ICTs), are a key and essential component within public policies to promote development. They contribute as a tool to support different aspects of development and productive growth, bolstering key elements for society such as strengthening the productive sector, generating more knowledge and job opportunities, reducing poverty, increasing equality, promoting export diversification, and the necessity of staying updated in all areas of the economy (5).

The 21st century is no longer the era of ICTs; now we must talk about NBIC technologies – that is, nanotechnologies, biotechnology, information technologies, and technologies applied to cognitive processes, or convergent technologies. To these, we must add the social dimension of technology. According to the complexity theorist Carlos Maldonado, in contrast to ICTs,

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convergent technologies are particularly based on the capacity for information processing and communication. In this way, the focus shifts from mere accumulation and interpretation of data and information to the transformation of information and knowledge by themselves. In this sense, the foundation of these technologies lies in living systems in general, and technology – like science – is not only about understanding the world and nature but, even more so, about creating a new (or second) nature (6).

Those who advocate for the benefits of technological change usually see emerging and convergent technologies as a hope that will bring about the improvement of human conditions. However, some critics of the risks of technological change, and even some transhumanist activists like Nick Bostrom, have warned that some of these technologies could pose a danger, to the extent of threatening the survival of humanity (7).

What is the role of bioethics in the face of this technological advance? Let's go back to the origin; global bioethics deals with life, that is, understanding and explanation to living beings as they are and as they could be. It is asserted that global bioethics is largely on the path of complexity sciences: an understanding of increasingly complex systems and behaviors (8). Global bioethics is being influenced by the current course of research in cutting-edge science and technology, as well as by the most sensitive social, political, and economic processes worldwide. Similarly, the interaction between complexity science and global bioethics is what completely alters the very status of bioethics as purely applied ethics, primarily dealing with clinical or medical case studies. In other words, complexity sciences help expand and enrich bioethics exactly as Van Potter conceived it: as global bioethics (8).

Complexity sciences can be adequately understood as the concern for life as we know it, as well as life as it could be possible. In other terms, it is both an ethical and epistemological duty to have a solid, even if basic, understanding of life, that is, living beings. A series of fields then become imperative, including epigenetics, systems biology, artificial life, and NBIC+S, among others. In general, life is the most convincing, exciting, and fascinating phenomenon that has ever existed. Caring for life, therefore, involves overcoming a purely anthropological concern and opening it even further to a biocentric or ecocentric understanding. There, we assert, is exactly where both bioethics and complexity theory are anchored and intertwined. The result of this interaction leads to a better understanding of life (8).

Notes

*(March 29, 1946 – March 16, 2019). He was a Belgian professor of Philosophy at the Free University of Brussels, specializing in Bioethics. Vice President of the Association of French-Language Philosophy Societies (ASPLF) since 2002. He also served as president of the Belgian Society of Philosophy from 1990 to 1993, was a founding member and vice president since 1990 of the Society for the Philosophy of Technology in Paris, of which he was also president from 1997 to 1999. He was a member of the Royal Academy of Sciences, Letters, and Fine Arts of Belgium since 2003, and a member of the organizing committee of the World Congress of Philosophy in 2008. He has published 25 books and has been a co-author of several others.

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