



Beginning of human life – highly controversial issue

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One of the most controversial topics in modern bioethics, science, and philosophy is the beginning of individual human life. In the seemingly endless debate, strongly stimulated by recent technologic advances in human reproduction, a synthesis between scientific data and hypothesis, philosophical thought, and issues of humanities has become a necessity to deal with ethical, juridical, and social problems. Furthermore, in this field there is a temptation to ask science to choose between opinions and beliefs, which neutralize one another. The question of when human life begins requires the essential aid of different forms of knowledge. Here we become involved in the juncture between science and religion, which needs to be carefully explored.

A definition of life should include not only life as it is today but also as it might have been in its primordial form and as it will be in the future. All present forms of life are the fruit of an uninterrupted continuity from its inception. No single form of life appears as something completely new. Life, then, is transferred and not conceived in each new generation. Furthermore, the phenomenon of life has existed on Earth for approximately 3.5 billion years. Consequently, although the genome of a new embryo is unique, the make-up of the embryo is not new.

Modern bioethics and science are strongly concerned for the respect of human life at both ends of its existence (birth and death), but other sciences (e.g. philosophy, technology, psychology, sociology, law, and politics) consider the beginning of human life according to different points of view. However, bioethical topics like this one cannot be treated from only one perspective (e.g. biological, philosophical, or religious) because conclusions might be not good enough or reductive. This reality should be regarded in all its richness: An embryo gives a biologist and a geneticist substance for consideration, but because we are talking about the beginning of human life, it requires philosophical-anthropological consideration and confrontation with theology; in its protection we have to include ethics and law. In experiencing and investigating social behavior, other disciplines, such as the history of medicine and sociology, have to be included.

We should reject reductionism of those who, for example, consider only biologic aspects and exclude integrism of those who prefer to think that the whole is comprised in only one perspective (e.g. philosophical), almost as if everything else can be derived from it.

Obviously, the beginning of human life is seen differently by different individuals, groups, cultures, and religions. Fundamental to productive debate and reconciliation between minority and majority groups is an understanding of the ill-defined concept of „the beginning of human life”.

Entering this field scientists have been remiss in failing to translate science into the terms that allow mankind to share their excitement of discovering life before birth. However, regardless of remarkable scientific development, curiosity, and speculations dating back to Hippocrates, life before birth still remains a big secret. Different intellectuals involved themselves in attempts to contribute to the solution of the human life puzzle. Accepting the embryo/fetus as a person opened up a new set of questions about its personality and human rights. Elucidation of the human genetic code and exact molecular definition of various diseases, together with enhanced capabilities for repairing genetic defects have opened possibilities for diagnosis and treatment which, less than a decade ago, could only have been dreamed of.

It is hard to answer the question of when human life should be legally protected. At the time of conception? At the time of implantation? At the time of birth? In all countries (except Ireland and Liechtenstein) juridical considerations are based on Roman law. Roman civil law says that the fetus has a right when it is born or if it is born-nasciturus.

Few countries agree with the definition of the beginning of human personality the time of conception. The majority does not grant legal status to the human embryo *in vitro* (i.e., during the 14 days after fertilization). Thus, even in the absence of legal rights, there is no denying that the embryo constitutes the beginning of human life, a member of the human family. Therefore, whatever the attitude, every country has to examine which practices are compatible with the respect of that dignity and the security of human genetic material.

The question when a human life begins and how to define it, could be answered only through the inner-connecting pathways of history, philosophy, medical science

and religion. It has not been easy to determine where to draw the fine line between the competence of science and metaphysics in this delicate philosophical field. To a large extent the drawing of this line depends on one's fundamental philosophical outlook. The point at which human life begins will always be seen differently by different individuals, groups, cultures, and religious faiths. In democracy there are always at least two sides, and the center holds only when the majority realizes that without a minority democracy itself is lost. The minority in turn must realize its best chance lies in persuasion by reason and thoughtfulness rather than fanaticism.

A few months ago the World Academy of Art and Science, Croatian Academy of Medical Sciences and International Academy of Perinatal Medicine organized a very successful symposium in Zagreb (Croatia). The intention of this conference was to find common ground for multidisciplinary dialogue. Highly thoughtful speakers with varying backgrounds and quite different opinions exchanged ideas with the highest level of mutual respect. Theologians exchanged their views with evolutionary biologists and legal authorities and molecular geneticists exchanged views regarding the tension between scientific imperative and social responsibility and genetic privacy.

It was clear that representatives of dominant religions, jurists, ethicists, scientists, politicians, members of the press, health professionals, and the public conducted a high-level productive discussion pertaining to pressing issues which are becoming a more acute and important part of the public health research agenda throughout the world. It was a great pleasure for me to act as chair person and to edit this issue of the prestigious journal *Periodicum Biologorum*.