Opening the Field of Nanoethics

Editorial Introduction to the Special Issue on Bionanoethics, II

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Ethical aspects lie at the heart of nanotechnology initiatives and they are an integral part of the governance of nanotechnology. Nonetheless, in spite of the high visibility of the field and its legitimacy, the status and the scope of nanoethics are still a matter of debate.[1] In fact, the ethical dimension of nanotechnology covers a wide spectrum of issues including the risks and benefits of nanoparticles, intellectual property and patenting, privacy and individual freedom threatened by invisible surveillance devices, human enhancement allowing new form of eugenics, as well as social questions of justice and sustainability in nanotechnology's development or the public engagement in science and technology.

This catalog of standard issues raises several questions. First, none of these issues is nano-specific. Is it a consequence of the generic character of nanotechnology? Is it because we deal with a set of enabling technologies whose domain cannot be circumscribed to a number of clearly identified issues as was the case with bioethics? Second, with such a heterogeneous catalog of issues, the field of nanoethics expands beyond the border of the philosophical discipline of ethics. At the same time however it takes into account only a small portion of the resources displayed by this discipline: as it is mainly focused on the potential impacts of nanotechnology it draws upon only one moral theory – consequentialism – thus ignoring other options to form moral judgments, such as deontology or virtue ethics.

The three papers below provide some clues to re-open the field of nanoethics. They come from a workshop held in Paris in January 2008, on *Bionanoethics*, where philosophers confronted active nanoscientists.[2]

The first paper, by Sacha Loeve, argues that nanotechnology cannot be reduced to its applications. If it still makes sense to debate the definition of nanotechnology, it is less because it would be important to delineate what is nano and what is not nano. Rather it is important to realize that the concept of technology in nanotechnology does not refer to utilitarian applications. Therefore an ethics of nanotechnology which deals mainly with its futuristic applications misses the problems intrinsic to nanotechnology as a practice of

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design. It opens the way to a less anthropocentric way of addressing ethical issues in nanotechnology.

The second paper by Catherine Larrère discusses recent trends in nanoethics which anchor ethics in metaphysics or theology by emphasizing the emergence of new relations of men to nature and to God. Considering the concept of perfectionism championed by some supporters of the transhumanist project, in response to the playing God argument, she argues that the moral issue raised by the project of enhancing human performances does not really lie in going beyond the boundary of human knowledge and condition. It is more a question of the moral choice underlying this new form of hubris. Her contrast between the Promethean model and the Pelagian model suggests that the issue at stake rather concerns the nature of the political and social bonds between individuals. Thus nanoethics should be more concerned with the construction of a 'collective' including humans and non-humans.

The third paper by Vanessa Nurock questions the standard view of an ethics for nanotechnology. She argues that none of the current trends in the discipline of ethics would qualify for application to nanotechnology. Then considering that neurotechnology – a rapidly growing field at the intersection between nano and biotechnology – can affect moral capacities of the brain, she suggests that ethics itself may be affected by nanotechnology. And she leaves open the question of a co-construction of ethics and bionanotechnology.

Notes

[1] Among recent publications see: F. Jotterand (ed.), *Emerging Conceptual, Ethical and Policy Issues in Bionanotechnology*, Dordrecht: Springer, 2008; F. Allhoff & P. Lin (eds.), *Nanotechnology and Society: Current and Emerging Ethical Issues*, Dordrecht: Springer, 2008. Allhoff and Lin co-founded the Nanoethics Group, 'a non-partisan organization' whose mission is to help people understand the ethical issues arising from nanotechnology.

[2] B. Bensaude-Vincent, R. Larrère & V. Nurock (eds.), 2008, *Bionanoéthique: Perspectives critiques sur les biotechnologies*, Paris: Vuibert.

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