Chapter 32
Three Models for Ethical Governance of Nanotechnology and Position of EGAIS' Ideas within the Field

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ABSTRACT

Based on an analysis of the current literature on nanoethics, this paper proposes to identify three different models for ethical governance of nanotechnology, respectively called "conservative model," "inquiry model" and "interpretative model." The propositions of the EGAIS[1] Research Project in terms of ethical governance of nanotechnology are related to the latter model.

INTRODUCTION

Abundant literature is nowadays devoted to the ethical governance of nanotechnology. It is an interesting attempt to position EGAIS' ideas and recommendations within the field of the most current theories on nano-ethics.

A particular western tradition turned the *issue* into the preferred place for ethical questioning. In this tradition, ethics begin by an issue or a dilemma which impedes action, and which expresses itself as a "what to do?" or a "how to act?" within a given

situation. Unless we want to remain at the level of a casuistry very prone to turning complex, this kind of essential discomfort leads to a reflection on the principles, values and ethical theories to implement or to follow in the given case, which is this way related to other cases of the same kind. Ethics' last stage lies in the implementation of the rules called forward to the particular given case, and, therefore, lies in the ethical choice which follows from these latter, and lies well in a return to action. Although it seems trivial maybe, this tri-partition seems to be found in most of the attempts at defining an ethical governance for nanotechnology. Nevertheless and since it is a

matter of governance and, besides, for technologies most of which are *yet to come*, the first moment of a governance theory will most of the time be that of the *identification* of the issues to come, which will imply problematic cases requiring an action break and a subsequent adapted reflection.

Concerning ethical governance of nanotechnology, we will thus suggest distinguishing the following questions:

Question Q1: How to identify ethical issues related to the development of nanotechnology?

Question Q2: On which principles, norms, values, ethical theories, etc. shall we found and establish an answer to ethical issues related to the development of nanotechnology?

Question Q3: How to implement the retained solutions to resolving the issues related to the development of nanotechnology?

As we will see, most of the theories dealing with the ethics of nanotechnology place themselves one way or the other within these three questions. In addition, it seems possible to classify the nanotechnology's ethical governance theories in three wide categories or models, which distinguish themselves by the way they suggest answering these three questions. We will therefore distinguish a *conservative model*, an *inquiry model*, and an *interpretative model*. And we will show that EGAIS' theoretical references along with its practical recommendations tend to place themselves in the latter model.

A FIRST MODEL OF ETHICAL GOVERNANCE OF NANOTECHNOLOGY: THE CONSERVATIVE MODEL

A first model we will suggest calling *conservative* seems to sketch itself within all the reflections on the ethical governance of nanotechnology. Although this model does not benefit from a unified

presentation or from a well-established consensus, it lies on certain hypotheses common to numerous authors, and which already find shared incarnations in numerous concrete governance processes. The chief of these hypotheses lies in the premise that ethical issues raised by nanotechnology are not particularly novel and that even if they were novel, the battery of principles, norms, and ethical values already available is largely enough to tackle them. This model is therefore conservative in that it answers question 2 in a conservative manner: the ethical issues related to the development of nanotechnology can and must be resolved by the implementation of principles, norms and values already known and implemented.

Some authors support a very extreme form of this model by disputing any novelty brought to the ethical questions raised by nanotechnology. Allhoff for instance (Allhoff, 2007; Allhoff & Lin, 2006), or even Holm (2005), in spite of a few nuances, both maintain that nanotechnology do is raise and restate recurrent and almost *a priori* identifiable ethical issues in a new form – such as the ones revolving around questions of safety, sustainability, privacy, dignity, equity, right to know or not to know, etc. These issues are viewed as no different from those identified from other technologies, and are also seen as already benefiting from reflections within well-established disciplines such as bio-medical ethics, business ethics, environmental ethics, neuro-ethics, etc. Other authors like Grunwald (2005), even if in overall agreement with the previous ones, admit nonetheless the existence of certain relatively novel issues, such as those related to the enhancement of human beings through technological means, or those deriving from a potential *convergence* (similar to the convergence among scientific disciplines) within ethical issues handled by traditional disciplines of ethics. For instance, as noticed in Swierstra and Rip (2007, p.17), we may think that the prospect of the medical use of nano-devices introduced into the body and capable of autonomously deciding on the attack

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