

New Technologies as Social Experiments: Conditions for Morally Responsible Experimentation

VICI project Ibo van de Poel

Technologies like biotechnology, nanotechnology and nuclear energy technology not only bring large social benefits but also introduce potentially catastrophic hazards. Many of the conventional approaches to risk governance are not directly applicable to these fields due to high levels of uncertainty and ignorance about potential hazards. To overcome this problem, the proposed research conceptualizes technology as a form of social experimentation and investigates the conditions under which such social experiments are morally acceptable. In this perspective, introduction of technology into society is not seen as a one-off decision but rather as an ongoing social experiment. On the basis of a conceptualization of technology as social experimentation, conditions for responsible experimentation are proposed and applied to three technological domains: nanotechnology, biotechnology, and nuclear technology. All these domains are characterized by a combination of large potential benefits, potential catastrophic hazards and high levels of uncertainty. On the basis of an evaluation of these domain applications, the conditions for responsible experimentation will be revised and refined. The conditions will also be compared with proposals in the literature on management under uncertainty and ignorance and on the regulation of new emerging technologies. The resulting conditions for responsible experimentation are relevant for national, European and international policy with respect to new technologies. The proposal will also help to find new ground in the stalemate between proponents and opponents of new technologies who both start from the assumption that the introduction of technology into society is a one-off decision while radically disagreeing on what normative and evidential grounds these decisions should be made. Lastly, by applying the notion of social experimentation the proposed research develops a new paradigm for ethical analyses of new technologies, which recognizes that uncertainty and ignorance cannot be fully reduced before new technologies enter society.