

Converging technologies and NBIC as examples for “knowledge politics”

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This presentation will focus on the analysis of the emerging topic “Converging Technologies” (CT) and “NBIC” in order to exemplify forms of *knowledge politics*: attempts to control or steer the knowledge production from outside the scientific context.

The science and technology topics of CT, and its specific form NBIC, have emerged since the end of the 1990s and infused various debates with a broad range of expectations, especially possible enhancements of human organisms, the individual consciousness and societal conditions (Roco/ Bainbridge 2002; Coenen et al. 2004; Coenen 2008; Saage 2007). Those expectations were countered by an own set of ideas on how *converging* is working and on what possible consequences CT could have and should not have (Nordmann 2004). Additionally, different disciplines of the “humanities” have tried to understand those expectations in at least four distinctive ways: Prospective approaches attempt to clarify (1) if convergence of Nano-, Bio-, Cognoscience in combination with Information Technology is a real possibility, i.e. if the promised technologies come into reality; (2) what intended or non-intended consequences could derive if those technologies come into being; (3) how those potential consequences could be judged by ethical standards; and finally (4) if it is possible to influence, control or stop such a technological development. Future-oriented assessments refer to different intellectual heuristics, namely “vision assessment” (Grunwald 2008: 115ff.), “If and Then” debates (Nordmann 2007) or the idea of a “projected time” (Dupuy 2004). Those approaches will be briefly discussed in this presentation, with the goal to offer an additional perspective.

Our take refers to sociological approaches with a retrospective orientation, i.e. the clarification of the notion “knowledge politics” in terms of distinguishing between normative and cognitive expectations (Luhmann 1994) and in terms of describing a process of institutionalization (van Lente 2000 , Bender 2005).

If we understand *knowledge* not as an ontological inventory, but rather as an operation in order to mobilize knowledge in a certain situation which enables us to act or to decide, then we can identify the prospective structure of knowledge: it refers to the future in the form of either cognitive or normative expectations. Both of them relate to contradicting orientations. The cognitive orientation provokes surprises to modify expectations and therefore to learn; the normative orientation avoids surprises to keep orientations stable and therefore to judge and discipline deviations. The first mode is institutionalized as modern science, the latter in politics and law. The notion of knowledge politics intertwines both modes with (possibly) specific consequences: politics and law are both depending on scientifically generated knowledge, which is hypothetical and therefore might erode the normativity of political and lawful decision-making. Politics and law (and also various social groups) try to introduce strong normative orientations into science (Weingart et al. 2007: 319ff.), which might corrupt the ability of generating knowledge. The consequences have to be further elaborated and observed.

For the case of CT and NBIC we can observe how these topics reach distinguished levels of institutionalization (topic, agenda, paradigm). Even if we do not know exactly if the topics of CT and NBIC is already on the scientific agenda, we can find hints indicating a strong bias in political programs towards *convergence* as a solution to speed up technical innovation. Those programs demand the organization of interdisciplinary research in order to receive funding. It is taken for granted that inter- and transdisciplinarity is a necessary requirement for successful knowledge production, without further indication what interdisciplinarity means beyond a “coming together” of different disciplines. Assuming only science can develop “scientific problems” or “common paradigms”, the notion of “from promise to requirement” (van Lente 2000) gets a completely new meaning: an extra-scientific definition of how to produce cognitive objects. CT and NBIC could be revealed as political programs to discipline science.

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