

For decades, social scientists and philosophers, citizens and politicians have been engaged with scientific and technological progress, its intended and unintended consequences and cultural implications. This has produced fields of research and reflection that include technology assessment, risk research, the ethics of science and technology, the whole area of STS studies (science, technology & society), ELSI (ethical, legal and social implications) analyses, and EHS (environment, health & safety) research. Many of these areas of concern are currently considered under the heading of “Responsible Research and Innovation”.

The ideal behind many of these endeavors is to anticipate the implications of scientific and technological advances and to outline implications of plausible developments with maximum objectivity and, ideally, in the form of quantitative data. This should provide societal and political orientation, e.g. for decision-making in regard to the promotion or regulation of research. However, this consequentialist and to some degree prognostic approach comes up against limits as to both the extent to which future developments may be anticipated and current developments may be quantified.

A key consequence emerging from this observation is the prevalent move away from prognostic approaches to “thinking in terms of alternative futures”, which is grounded primarily in a scenario-based methodology. It has thus been possible to set aside deterministic concepts and to look instead at ways of shaping the future against the background of a multitude of possible futures. This approach is of course still rooted in a consequentialist strategy, yet instead of the one prognosticated future it is now possible to consider a host of possible futures with the implicit suggestion that the optimum scenario for the future is but a matter of choice.

Beyond the consequentialist paradigm it is the purpose of this paper to systematically examine an aspect of reflections of technology and technology assessment that has hitherto been considered only sporadically: Namely its *hermeneutic side*, which is concerned with a comprehensive *understanding* of the *significance* of new developments in science and technology, particularly as regards ethical, cultural and social implications. Hence established questions are shifted. While the consequentialist idiom deals with assessing statements about possible

futures in terms of their plausibility in order to evaluate their consequences, the hermeneutics of discourse on technological futures focuses on the *meaning* of these debates for contemporary attitudes towards new technologies. The 'hermeneutic turn' to view the lively and controversial debates about new fields of science or technology not as anticipatory, prophetic or quasi-prognostic talks of the future, but as expressions of our present day. The subject of investigation is not what is being said with more or less justification about coming decades, but what is revealed about us by the fact that these debates are happening today.