

Enacting Anticipatory Heuristics: Socio-epistemic Robustness as Relational Quality

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Abstract

Anticipation is a valuable heuristic practice for the governance of socio-technical systems. The heuristic potential of this activity does not lie, though, in *its products* (i.e., the representations about the future), but rather in *the processes* by which future scenarios are co-created and negotiated (Selin 2011). In that vein, we characterize anticipation as a *socio-epistemic practice* (Ferrari & Lösch 2017), holding the following characteristics:

- *It assumes an ‘open future’ ontology*: “the future is conceptualized as a negotiable political resource and discourse area that can be written on” (Bauer 2018: 38).
- *It is epistemic and methodologically pluralistic*: Anticipation embraces “a distributed collection of social and epistemological capacities, including collective self-criticism, imagination, etc.” (Barben *et al.* 2008: 992).
- *It is exploratory or conjectural*: Anticipation does not aim to accurately describe what will happen (i.e., to predict), but to explore possibilities for action in the present (Sardar 2010: 178).
- *It is a pragmatic, reflexive and interventive practice*: The objective of collectively imagining and opening up the “space of possibilities” is to enhance the capacity to detect “unknown opportunities and threats, and how to prepare for discontinuities” (Son 2015: 130). This could be achieved by (i) (re)thinking our knowledge, assumptions, and values about what might happen (e.g., identifying futures-in-the-making and present-futures), and (ii) increasing awareness about the contingent character of the future and the heterogeneity of the currently available possible lines of action.
- *It is contingent and situated*: Anticipatory knowledge emerges from the *in situ* interactions of concrete societal actors that are embedded in particular contexts and socio-epistemic domains (Hulme & Dessai 2008: 56).

Although embracing these characteristics, this paper claims that the “anticipativeness” (i.e., the degree of its heuristic force) of anticipatory practices depend on the quality of the relations underlying the production of alternative futures. In other words, assuming that the anticipatory heuristic is based on contingent and situated socio-epistemic practices, its socio-epistemic quality will be the result of the specific relationships and conditions by which it is co-constituted. Certain kind of interactions, such as those tending to inclusiveness (Jasanoff 2003), responsiveness (Nielsen 2016) or epistemic justice (Fricker 2003), could catalyze the constitution of alternative plausible scenarios by virtue of their potential to produce new socio-epistemic arrangements. Understood in this way, anticipation aligns with—and may

be a useful tool for supporting—the most radically constructive version of Responsible Research and Innovation (EC 2013: 4).

Discussion

Anticipation is commonly understood as an activity highly related to “the future.” Anticipation implies considering plausible future scenarios in order to promote a more robust decision-making in the present (Konrad *et al.* 2018). Thus, future scenarios could be understood as the performative and heuristic core of anticipations.

However, the focus on scenarios *as products* has promoted the emergence of some problems and misunderstandings. For example, it is not clear whether the mere presentation of future narratives can develop anticipatory capacities. Furthermore, the fixation on the scenario has led too much emphasis on assessing its robustness in terms of its relationship to the future (e.g., Nordmann 2014).

Understanding anticipation as a situated socio-epistemic practice from a relational point of view (i) overcomes some of the theoretical difficulties posed by substantivist approaches, and (ii) places us in a different—and perhaps richer—methodological and operational dimension. First (i), the relational approach explains why the anticipatory heuristic force depends on the quality of the co-production processes and not on their products (e.g., the mere presentation of science-fiction scenarios does not function as a heuristic source, but performing collective science-fiction prototyping *under certain conditions* and *promoting certain kind of relations* may do so). Second (ii), the relational approach shifts the theoretical and methodological focus from assessing the robustness of the scenarios to assessing the robustness of the socio-epistemic dynamics by which scenarios and their plausibility are fixed. Thus, the relevant issue here is not the representational robustness of future scenarios, but rather the kind of socio-epistemic interactions and arrangements through which scenarios are constituted and their plausibility negotiated.

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