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Title:
Talking about technology and innovation: the genres of theories of socio-technical change

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Abstract:
Socio-technical change has been studied in many different ways, both in STS and in innovation studies. In this paper we compare and contrast various theories of technology from the fields of innovation studies and STS. We delineate eight theories of technology from innovation studies and STS, which either relate to economic traditions (neo-Schumpeterian economics, innovations systems and path dependencies), socio-historical traditions (SCOT, large technical systems and the multi-level perspective) or management traditions (diffusion of innovation, technology cycles). First, we analyze the central concepts, the frameworks of argumentation and the strategies of intervention they suggest. Second, we compare the theories in five dimensions: (i) levels of aggregation, (ii) technology as process or as outcome, (iii) technology as knowledge or as material, (iv) descriptive vs prescriptive ambitions (v) theory as perspective or as substantial claim. Third, we investigate whether and how theories draw from particular 'genres'. In general, theories mobilize concepts and offer storylines to convey a message to readers. To distinguished basic categories of storylines, literary studies use the notion of 'genre': the narrative structures of romance, comedy, tragedy and satire. We investigate how the lessons about successes, failure, dynamics and unforeseen consequences are presented in storylines with (human or non-human) protagonists. We conclude that apart from their explicit conclusions, theories of technology also bring implicit lessons and recommendations, due to the format of a genre.