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REVIEW ARTICLE



## Legitimation crisis in contemporary technoscientific capitalism

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*Legitimation Crisis*, by Jürgen Habermas, Boston, MA, Beacon Press, 1975 [1973], pp. 166.

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In the summer of 1992, the English translation of Ulrich Beck's *Risikogesellschaft* (*Risk Society*) is published. In their introduction to the book, Scott Lash and Brian Wynne discuss the extraordinary influence of the book in the German-speaking world, and the obvious point of comparison is the towering figure of Jürgen Habermas. Lash and Wynne note that in terms of book sales, Beck's monograph is still trailing Habermas' *Strukturwandel der Öffentlichkeit* (*The Structural Transformation of the Public Sphere*), yet conclude by stating that 'Habermas's benchmark theses [...] were published thirty years ago.' Since critical theory no longer operates 'in that heyday of the Keynesian welfare state' it 'can no longer proceed on those terms' (Lash and Wynne 1992, p. 8).

This critique also includes Habermas' somewhat lesser known 1973 *Legitimationsprobleme im Spätkapitalismus* (*Legitimation Crisis*), which is the subject of this essay. In what follows, we will suggest that this work is worth revisiting in the context of recent work in economic sociology and STS. In particular, we argue that the discussion on technoscientific capitalism – 'the increasing co-production of capitalism and technoscience' (Birch 2017, p. 440) – may benefit from such a re-reading. Before engaging with this recent literature, let us first review Habermas' original argument.

### Habermas' late capitalism

As already noted, the 1975 English translation of Habermas' book is titled simply *Legitimation Crisis*, without the reference to late capitalism. Nevertheless, the argument sets off from a definition of that very term: 'To use the expression "late capitalism" is to put forward the hypothesis that, even in state-regulated capitalism, social developments involve "contradictions" or crises' (Habermas 1975, p. 1). For Habermas, then, late capitalism is characterized by the existence of a Keynesian state that seeks to pacify the politico-economic crisis tendencies outlined by Marx. The establishment of such an intentional, hands-on organization of the economy implies that the capitalist order can no longer be legitimized by the ideology of *laissez-faire*. Instead, it is legitimized by a partial class compromise, in which the state assumes responsibility for the successful governing of the economy. However, the demise of *laissez-faire* also implies a 'suspension of an unpolitical class relationship' (Habermas 1975, p. 57), forcing the state to govern a politically precarious *status quo*. Thus, economic crisis tendencies have not been eliminated – they have merely been displaced to the political sphere. Habermas' point is not that economic crises are no longer possible; rather, he posits that in late capitalism, the analyst can no longer assume that major upheavals will arise from crises in the economic system. They are more likely to express themselves as crises in the administrative and socio-cultural systems.

In this way, *Legitimationsprobleme* presents a set of interlocking forms of crises, in which one form of crisis may trigger another. At the first instance of this crisis complex, there is the fact that the governing of a crisis-prone economy presents substantial challenges for the administrative

system. *Rationality crises* are the result, emerging when ‘the administrative system does not succeed in reconciling and fulfilling the imperatives received from the economic system’ (Habermas 1975, p. 46). Citing previous work on the administration of science (p. 62), he suggests that contradictory steering imperatives may cause imperfect outcomes: ‘Rationality deficits are the unavoidable result of a snare of relations into which the advanced-capitalist state fumbles and in which its contradictory activities must become more and more muddled’ (p. 63).

While rationality crises concern the ‘output’ side of the political system, crises may also arise on the ‘input’ side. *Legitimation crises* emerge when the state ‘does not succeed in maintaining the requisite level of mass loyalty while the steering imperatives taken over from the economic system are carried through’ (p. 46). As hinted above, the threat of such a crisis emerges as the depoliticizing ideology of *laissez-faire* is replaced by the political governing of the economy. The calibrating of democracy thus becomes a key problematic – the administrative system must be seen as legitimate, but democracy always risks exposing ‘the contradiction between administratively socialized production and the continued private appropriation and use of surplus value’ (p. 36). Finally, Habermas goes on to suggest that this challenge can be compounded by developments within the socio-cultural system. *Motivation crises* arise when this system fails to generate ‘the requisite quantity of action-motivating meaning’ (p. 49). Thus, a dearth of motivation may be that which triggers a legitimation crisis.

In *Risk Society*, Beck takes issue with this argument. Like Lash and Wynne, he suggests that the demise of the post-war political-economic settlement has made Habermas’ argument obsolete. The ‘potential for politics to exert influence over technological transformation’ has diminished, as there is only a ‘limited capacity for intervention as concerns modernization in industry and research’ (Beck 1992, p. 187). Since Habermas’ argument rests on the proposition that the state plays an organizing role in capitalism, his ‘generalized concept of crisis (economic, legitimation, motivational crises and so on) has lost its theoretical and political acuteness’ (p. 189).

Indeed, when read in the context of late eighties and early nineties observations about the decline of the welfare state, one can see how Habermas’ argument seemed hopelessly anachronistic. However, as we shall see below, his account of late capitalism did not solely concern the status of the welfare state. Moreover, the 1990s did not imply a wholesale withdrawal of the state. In certain policy fields, notably Science and Technology (S&T) policy, the state assumed a new ‘organizing’ role, which – as we shall also see below – may generate new forms of legitimation crises. The next section will explore this development in further detail.

## The state and technoscientific capitalism

Recent interventions in STS describe how the rise of neoliberalism influenced S&T policy in two ways. First, as one would suspect, this literature suggests that during the 1980s and 1990s, the governance of science and technology came to rely on market-based solutions and further reliance on private investment (Lave et.al. 2010). However, during this same period, there is also a tendency towards deeper state involvement. This is due to the fact that technoscience was increasingly construed as a guarantor of economic growth, national competitive advantage, and long-term economic sustainability. Thus, the ‘neoliberal preference for private solutions over public ones and for market mechanisms’ was coupled with ‘an equally prominent interventionist effort to use government to maximize the economic impact of S&T’ (Berman 2014, pp. 421–422).

This literature tends to draw on studies of shifts in American science policy, with the case of nanotechnology standing out as paradigmatic. The extensive US government support for nanotechnology during the 1990s – culminating in the National Nanotechnology Initiative in 2000 (Johnson 2004, p. 217) – represents the first concerted effort to re-construe the purpose and value of technoscience as a matter of governing the object called ‘the economy’ (Mitchell 1998). From then on, a ‘new relationship between science, politics, and economy’ emerged, in which all things nano were construed as ‘a wealth-creating technoscientific motor for the whole economy’ (Johnson

2004, p. 226). In the new science policy that formed around nanotechnology, traditional institutional boundaries were deemed irrelevant – the academy, industry, and government had supposedly converged ‘into an amorphous commercial entity’ (Eisler 2013, p. 226). Thus, nanotechnology’s ‘most tangible result so far has been the profound effect it has had on the organization of science-at-large’ (Gelfert 2012, p. 143).

More recently, this literature on the political economy of research and innovation – and its corresponding acronym PERI – has been described as a sub-discipline of Science and Technology Studies (STS). As Birch (2017, p. 435-436) points out, this discussion runs counter to the predominant STS approaches that study economic issues. As a development that is distinct from both the sociology of technological expectations (Brown and Michael 2003) and the performativity programme instigated by Callon (1998), the PERI approach explores how science and technology is both developed and deployed within the politico-economic configuration called technoscientific capitalism. The latter term is used to signal ‘the increasing co-production of capitalism and technoscience’ (Birch (2017, p. 440), or – alternatively put – the tendency for capitalism to be ‘pursued by other (technoscientific) means’ (Styhre and Sundgren 2011, p. 54-55, cited in Birch 2020, p. 7).

The notion of technoscientific capitalism is also the subject of a recent edited volume titled *Asseztization: Turning Things into Assets in Technoscientific Capitalism*. The editors suggest that contemporary capitalism ‘is increasingly defined by its technoscientific aspects’ (Birch 2020, p. 1), and that this constitutes a particular ‘moment,’ or ‘the latest stage’ (p. 2), in the history of capitalism. *Asseztization* explores this stage by way of classic politico-economic concepts. The dominant form of technoscientific capitalism is not the commodity but the asset – an entity that can be owned and traded, which yields a rent that is extracted on the basis of ownership control that serves to limit access to it. A key characteristic of technoscientific capitalism is the extent to which assets are constructed through a host of entangled ‘interests, activities, skills, organizations, and relations’ (p. 3). Here, the state plays a role in enforcing property rights for private actors, but the editors also point to another way in which the role of the state may become an object of enquiry: can new configurations between the public and private be understood ‘in terms of a crisis of political sovereignty’ (p. 21)?

So, while the PERI literature only tangentially addresses the question of legitimacy (Tyfield et al. 2017), the editors’ query is thus a call for an examination of the place of the state in technoscientific capitalism. Indeed, the very term ‘technoscientific capitalism’ can – in a roundabout manner – be traced back to *Legitimationsprobleme*. In using the term, Birch and Muniesa point back to Jean-François Lyotard, who is credited for giving an initial shape to it (Birch 2020, p. 1; Birch 2017, p. 440; Birch 2020, p. 6). Indeed, the term is sourced from his seminal *The Postmodern Condition*, that famously defined ‘the postmodern as incredulity toward metanarratives’ (Lyotard 1984, p. xxiv). Here, the metanarratives in question are myths that have traditionally legitimized the generation of scientific knowledge. In other words, the notion of technoscientific capitalism emerged from an account of a particular crisis of legitimation.

Indeed, in the foreword to Lyotard’s ‘report on knowledge,’ Fredric Jameson describes the book as a ‘thinly veiled polemic against Jürgen Habermas’s concept of “legitimation crisis”’ (Jameson 1984, p. vii). As such, the problem of legitimacy is something that Lyotard inherits from his German ‘philosophical adversary’ (p. xi). Thus, in Jameson’s account, the book should be understood in relation to rivalling French and German traditions of social thought: Lyotard denounces both of them, but nevertheless lets Habermas ‘stand in for the totalizing and dialectical German tradition’ (p. x). At the last instance, Jameson suggests, Lyotard’s and Habermas’ shared problem concerns the description of a new mode of production based on knowledge-production and “‘third-stage’ technologies,’ and the extent to which Marx-inspired political economy is still useful for that purpose (p. xiii).

This takes us back to Habermas’ account of late capitalism in *Legitimation Crisis*. Aside from the emergence of the Keynesian state, Habermas also lists another key characteristic of late capitalism: the increased significance of ‘reflexive labour,’ defined as ‘labour applied to itself with the aim of

increasing the productivity of labour' (Habermas 1975, p. 56). In the liberal capitalism that Marx analysed, such labour 'could be regarded at first as a collective natural commodity'; in advanced capitalism, 'it is internalized in the economic cycle' by the fact that 'the state (or private enterprise) now expends capital to purchase the indirectly productive labour power of scientists, engineers, teachers, etc.' Marx may have been justified in treating 'science' as 'land,' but analysts of late capitalism are not: 'if one holds fast to a dogmatic conceptual strategy and conceives of reflexive labour as unproductive labour (in the Marxian sense), the specific function of this labour for the realization process is overlooked.'

Thus, when Habermas discusses the 'organized' nature of late capitalism (p. 33), he is pointing to the emergence of an order that fuses the technoscientific with the economic. The rise of advanced, late capitalism essentially entails a deliberate structuring of the 'haphazard, accidental and fortuitous relation between science, technology and industry that characterized liberal capitalism' (Dorahy 2021, p. 668). Fittingly, *Legitimation Crisis* was written when Habermas had just moved to Starnberg, Bavaria, and assumed the directorship at a Max Planck Institute focused specifically on the study of the 'Scientific-Technical World.' Early reviewers of the English translation – such as Held and Simon (1976) – skated over what Habermas had to say about this technoscientific world. Nevertheless, in the context of contemporary debates on technoscientific capitalism, it makes the book all the more prescient. Are there particular problems of legitimation that emerge from present-day institutional arrangements of 'organised' technoscientific capitalism? This subject will be broached in the final section of this essay. Before engaging with such potential legitimation crises, let us first review other scholars' recent re-readings of the *Legitimation Crisis* argument.

### Legitimation crisis after the financial crisis

The 2007–2008 financial crisis can be read as a verification of the fact that Habermas' generalised concept of crisis was obsolete: after all, it emerged from a deregulated financial system, surfacing as an *economic* rather than *political* crisis. Nevertheless, in trying to make sense of the financial crisis, Nancy Fraser draws upon the Habermasian idea of legitimation crisis when exploring 'capitalism's political contradiction in its current, financialized phase' (Fraser 2015, p. 159). Indeed, in response to the proverbial 'too big to fail' rhetoric, states were actively interfering in markets, though in a subservient manner that exposed the power relations at stake:

Staring in the face of impending meltdown, central banks and global financial institutions pressed states to bail out investors at citizens' expense. In several cases, compliant governments tumbled straight into sovereign debt crises. In the Eurozone especially, the effects were catastrophic. [...] The effect on the legitimacy of the European Union was dramatic. A 'community' once considered the avatar of postnational democracy was now revealed to be the servant of finance (p. 179).

Fraser suggests that Habermas' original intuition of economic crises begetting political crises remains relevant in this new (post-Keynesian) phase of capitalism. *Legitimation Crisis* is, she writes, a 'towering, yet ultimately flawed' work of social theory (p. 169). Like Beck, Lash and Wynne, Fraser points to elements of the argument that are dated. For instance, she objects to the focus on the Westphalian nation state, as opposed to multi-level and supra-national modes of governance. As suggested in the quote above, contemporary legitimation crises are as likely to involve the EU, or Bretton Woods institutions. Interestingly, the same line of critique was put forward already in Held and Simon's early review of the book: Habermas pays only 'negligible attention to the development of the international market [and] international capitalism' (Held and Simon 1976, p. 142).

In her engagement with *Legitimation Crisis*, Fraser seeks to find a less functionalist account of crises, replacing Habermas' 'displacement' of crises across 'systems' with the 'metastasis' of different crises, including ecological ones (Fraser 2015, p. 187). As a further point of contention, Fraser suggests that Habermas' account of motivational crises relies too much on moral psychology, assuming that citizen demands for normative justification of social arrangements is enough to

trigger a legitimization crisis. This, she suggests, obscures the problem of political mobilisation (p. 172). Taken together, she calls for a ‘reinvention of public power,’ which plays out beyond the nation state, in order to address ‘the ecological, economic, or social dimensions of crisis’ (p. 189).

More recently, and in this journal, Jens Beckert (2020) has also revisited the idea of legitimization crisis in the context of the 2007–2008 financial crisis. His argument is tied to the notion of ‘promissory legitimacy’ – that is, ‘the legitimacy that political authority gains from the credibility of promises with regard to future outcomes that political (or economic) leaders make when justifying decisions’ (Beckert 2020, p. 318). His main object of analysis is neoliberal political reforms, which were originally legitimized by the promise of ‘steady growth, low inflation, and higher company profits’ (p. 321). Neoliberalism ‘developed as a regime with full promissory legitimacy’ during the 1990s, but eventually lost it as its promises ‘did not survive the test of the real world.’ This is where the 2007–2008 financial crisis is crucial, acting as the ‘watershed event’ for the collapse of this promissory regime (p. 323), effectively sparking a legitimacy crisis. Much like Fraser, however, Beckert problematises Habermas’ original account about the link between legitimization crisis and political change. Indeed, the ‘legitimation crisis can be compensated by the power of the forces that are still working – or even thriving’ (p. 325), especially in the absence of credible alternatives.

Simply put, Fraser and Beckert make their respective cases in the context of financialization and neoliberalism – admittedly valid concerns after 2008 and the Eurozone crisis. However, Beckert’s reconceptualization of legitimization crisis as emerging from failed promises does not concern the promise discussed above, namely, the promise that a new science policy regime focussing on commercially viable research would yield economic growth and national competitive advantage. Notwithstanding, Beckert’s term is highly applicable to that promise. Again, nanotechnology stands out as a paradigmatic case of a ‘promissory undertaking’ (Gelfert 2012, p. 157), with the corresponding science and technology policy becoming geared towards integrating ‘the promissory economy of federal science with the industrial economy at large’ (Eisler 2013, p. 229). In fact, this promissory element emerged as a means to shield science from commercial imperatives: being construed as ‘tomorrow’s engine’ of economic growth conveniently provides ‘protection from immediate demands for productivity’ (Johnson 2004, p. 227). In this way, Beckert’s recent work can inform discussion about the nature of technoscientific capitalism.

## Legitimation crisis today

So, what can we make out of Habermas’ *Legitimationsprobleme* today, in the context of contemporary scholarship on technoscientific capitalism? For one, as hinted above, when adding the ‘promissory enterprise’ of technoscience to Beckert’s schema, Habermas can serve as a bridge to the discussion on technoscientific capitalism. Moreover, in the context of Birch (2020), Habermas’ original argument may serve as one possible framework to interrogate the role of the state – and supranational polities – in technoscientific capitalism.

One straightforward way to approach the question of legitimization in technoscientific capitalism is to focus specifically on legitimating practices within recent science and technology policy, such as those related to ‘Responsible Research and Innovation’ (Flink and Kaldewey 2018). These new practices – aimed at guaranteeing responsible and accountable conduct among scientists and engineers – have emerged in the above-mentioned imbroglio of a new S&T policy and state investments in nanotechnoscience (Shelley-Egan and Bowman 2018; Owen et al. 2021).<sup>1</sup> From a Habermasian perspective, it is tempting to see these legitimization practices as a necessary component given the state’s role in promoting technoscientifically driven economic growth.

This inquiry may be pursued further: Is it possible to make use of Habermas’ triad of legitimization, rationality, and motivation crises today? First, one may assume that technoscientific capitalism may produce legitimization crises in any type of situation in which the tension between the public creation and private appropriation of value becomes all too apparent. Technoscientific capitalism



today is hence vulnerable to crisis in a comparable way to Habermas' late capitalism. Similarly, one may assume that rationality crises in the administrative system may emerge, given the prodigious challenge to translate technoscientific investment into economic and social goals, currently promoted as 'Grand Challenges' in the EU (Kaldewey 2018). Here, again, crisis tendencies stem from the fact that the promised economic gains of technoscience seem to wither away, with recent concerns that the innovation-fuelled growth of the twentieth century seems to be abating in the twenty-first century (Gordon 2017).

Crucially, however, the administrative challenge is compounded by the fact that the object to be governed is a composite of an already crisis-prone economy and an increasingly crisis-ridden natural environment. Indeed, if the rise of the Keynesian state implied a 'suspension of an unpolitical' understanding of the economy, we are currently seeing a similar politicization of the natural environment. Thus, the legitimacy of contemporary technoscientific capitalism – and of any future mutations thereof – rests on the promise to offer 'requisite' economic growth while hitting climate targets at an equally 'requisite' rate. The prospects for meeting these promises are bleak. If we transpose Habermas' original intuitions to this present situation, we may assume that this looming crisis will surface as a political, not economic, collapse.

## Note

1. The turn to RRI is, by the way, not strictly a US affair, as the practices have also been sponsored and promoted within the EU system of funding technoscience under its Horizon 2020 framework programme.

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