

- Harman, G. (2008) *DeLanda's ontology: Assemblage and realism*, in "Continental Philosophy Review", 41 (3), pp. 367-383.
- Latour, B. (2004) *Why has critique run out of steam? From matters of fact to matters of concern*, in "Critical Inquiry", 30, pp. 225-248.
- Law, J. (2004) *After Method*, London, Routledge.
- Law, J. and Urry, J. (2005) *Enacting the Social*, in "Economy and Society", 33 (3), pp. 390-410.

* * *

Benoît Godin and Dominique Vinck (eds.)

Critical Studies of Innovation. Alternative Approaches to the Pro-Innovation Bias, Cheltenham and Northampton, Edward Elgar, pp. 335

Alessandro Mongili *Università di Padova*

Studying innovation, I found processes addressed as "innovations", which did not change anything, and processes, which had a relevant impact, with many consequences, which were not considered "innovations" (Mongili 2015). What do we make then of the concept of "innovation" and its incongruities?

The book *Critical Studies of Innovation. Alternative Approaches to the Pro-Innovation Bias (CSoI)*, edited by Benoît Godin and Dominique Vinck, is an attempt to remediate the lack of analysis concerning such incongruities and, at the same time, it is a relevant effort to develop a new research program, in order to include innovation within a broader framework, avoiding an ideological use of this concept.

The main issues tackled by *CSoI* are: (a) the reconceptualization of the very notion of innovation, as it appears in scholarship and in public discourse; (b) the analysis of the phenomena, which are excluded from current concepts of innovation; (c) the development of a theoretical proposal, *NOvation*, aimed at a more comprehensive approach to socio-technical phenomena, both included and excluded from the current definition of innovation.

The book is organized in four parts containing a total of seventeen contributions, enclosed within Godin and Vink's "Introduction" and "Conclusion".

In the first part, inconsistencies of the usual ideas of innovation are analyzed. For instance, Godin's opening article reflects about the fact that imitation has no place in current analyses of innovation; whereas Tiago Brandão and Carolina Bagatolli's one analyzes the double bind between technoscience and politics focusing on the innovation policies in

the “peripheral countries”, implemented throughout the use of “best practices”, seen as a-contextual idea of technological – and organizational – transfer from more developed milieus to peripheral ones. The contribution of Sebastian M. Pfotenhauer and Joakim Juhl is similarly focused on the connection between politics and innovation, however looking at the Global North and its state policies, like the National Innovation Systems.

In the second part, what is left out by the “pro-innovation bias” is taken into account by considering, for instance, “withdrawal” as proposed by Frédérick Goulet and Vinck. They brilliantly argue the insufficiency of a way of framing innovation as something, which is added. Indeed, innovation can also take place by subtracting. Through withdrawal complex dynamics “entailing delegitimization, disqualification and dissociation, all of which can lead to controversy” can occur because the elements to be “withdrawn are associated with entities or properties that are criticized or devalued and portrayed as incurring risks” (p. 110).

The third part is dedicated to reactions to innovations and especially to resistance. Within the traditional innovation frameworks, resistance is negatively labelled and it is often connected with backwardness, given that innovation is considered an “always good” process. By introducing a different point of view, for instance, Hernan Thomas, Lucas Becerra and Santiago Garrido analyze innovation not so much as a neutral improvement or stabilization of a socio-technical process, but as a matter of conflict, which involve technology itself. Karl-Heinz Leitner, in turn, in his “‘No’ and ‘slow’ innovation strategies as a response to increased innovation spread”, describes how many companies prefer not to innovate, despite their public claims, thus finding a way to escape or to resist fashionable innovative push.

The last part of the book focuses on how to tackle the inconsistencies of the current idea of innovation. Among the various essays composing this part, Vinck’s one shows how failure can be intended as a resource for technological improvement, whereas Lee Vinsel’s one helps to widen the view of other incongruities of the idea of innovation by noticing that most of the technologies around us are relatively old, and most innovations are small and incremental (pp. 261- 271), so that focusing on standards, forms of classification, taxonomies, law enforcement, and other regulatory activities results more relevant than innovation in order to understand technology. Carolina Cañibano, Maria-Isabel Encinar and Félix Fernando Muñoz’s essay, in turn, explores the concept of *NOvation*, understood “not just [as] an outcome of action or an equilibrium state but as a dynamic socio-economic process which is different from innovation as conventionally defined” (pp. 240-241). This concept is thus “concerned with the theoretical treatment of the situation in which the ex post outcome of an action is the absence of innovation, either because the agent did not plan to innovate (...) or because it did not manage to achieve its innovative goals” (p. 243).

Besides other essays by Gérard Gaglio, Johan Söderberg, Karl-Erik Sveiby, Martin W. Bauer, Beata Segercrantz, Karin Berglund and John Langrish, the book is framed by Godin and Vinck's "Introduction" and "Conclusion", where they emphasize the lack of accuracy of the concept of innovation, as well as its ideological distortion. Godin and Vinck discuss also the "pro-innovation bias", which is grounded in the shared belief that "innovation is good, always good", but also in a view of innovation as a planned process, following a rational vision, or state- or companies-oriented strategies. They argue that this frame produces a neglect of a huge amount of phenomena, relative to socio-technical processes. In order to recover these phenomena they propose to give a crucial relevance to imitation, incremental innovation and learning from failure, but also to "that major part of the iceberg composed of user engagement, reshaping, adaptation and translation (not transfer) into situations that are generally specific and unexpected" (p. 322, see also pp. 2-3). Therefore, Godin and Vinck with *CSoI* clearly aim at developing a more comprehensive framework, in order to make room for other aspects of innovation, as well as for aspects that are not less relevant than innovation for understanding technology and for explaining the very innovation (p. 319), even if these aspects can appear mindless or sub-rational (p. 3). They propose to include all these issues into the concept of *NOvation*, thus developing a new field of inquiry, which gives the title to the book. The main justification for this turn toward critical studies of innovation is to free innovation, considered as a process, which does not necessarily produce outcomes, from any ideological framing, thus having the possibility to consider thoroughly conflicts, power and interests.

Because of such approach, *CSoI* pays a great attention to what we could call the "orphans" of the pro-innovation bias, like imitation, standards, maintenance and repair, incrementality, failure and resistance.

As for imitation, Godin (pp. 17-31) shows that it has no place in innovation studies, despite it is a pivotal mechanism of diffusion, which is not necessarily passive, though often determined by uncertainty, as Brandão and Bagattolli remind us (p. 58). Imitation allows introducing a practice gradually in a new context, usually adapting, transforming or re-inventing it, so that while imitating, people torque artifacts and systems. Therefore, imitation as a process of diffusion is very relevant and complex: it presupposes interactions where practices are crucial.

Throughout the book, the idea that relevant technologies for our everyday life are mostly old emerges, and that ascertainment makes maintenance and repair, incremental innovation and standards very crucial research fields.

Since technologies are old, many activities addressed toward them are aimed at maintaining and repairing them, keeping them going, using, re-using, re-cycling, "rather than creating anything truly novel" (p. 261). Therefore, diffusion and "articulation work" are characterized also by widespread and continuous practices of care (p. 262) – a dimension

called “broken World thinking” by Steven Jackson (2014). Through such framework, our World is not viewed as ordered and stabilized thanks to the works of institutions, but as an arena of on-going processes, in which decay, vulnerability, material and organizational fragility of things and systems reign, so that a logic of care or fixing is at the very core of everyone’s socio-technical experience – see, for instance, the *Tecnoscienza* Special Issue on “Maintenance and Repair” (Denis, Mongili and Pontille 2015).

The fact that most of our technologies are old entails that most innovations are not radical, but incremental, i.e. a change to certain part of an unchanged technological system or device, as it occurs with the automotive system (pp. 257-258), as already noticed by various scholars, among which John Urry. “Incremental innovation” is actually strictly related to maintenance and repair practices, because it can emerge in relation to these activities, when new solutions may be invented (Graham and Thrift 2007, p. 5). On the other hand, “incremental innovation” is also connected to standards, since, as already noticed by Susan Leigh Star, the stabilization that allows “incremental innovation” is made possible by standards and regulatory activities (pp. 257-258; 267).

As a result, failures have also their role in processes of innovation and change, since they point out limits or mistakes to innovators or other relevant actors. Therefore, failures can play a positive role in socio-technical processes, as shown in the present book by Vinck.

Finally, resistance to innovation is explored in detail by Bauer, by Leitner and by Thomas, Becerra and Garrido, who identify three forms of resistance present in socio-technical processes: an interpretive negotiation regarding technologies, a conflict between different or opposite technologies, and generation of “counter-hegemonic public policies” (p. 183).

CSoI relates with many streams of researches about technologies going on today within and outside STS. It also offers a way to critically look at STS and to integrate them. Indeed, for long time STS used to enact their own “pro-innovation bias”, so that analysis have been quite unbalanced, marginalizing use and articulation work. In SCOT approaches, for instance, the chain artefacts-problems-solutions-new artefact is seen in an evolutionist-like way, as directed towards stabilization, through a conflict of interpretations. As noted by Goulet and Vinck (p. 102), Actor-Network Theory (ANT) translation model, conceptualizing innovation as a “rearrangement of a variety of entities (actors, objects, institutions, norms, meanings), which mutually redefine themselves and their relations”, allows to take into account complex processes, which can also include, for instance “the power dimension” (p. 188). Notwithstanding that, approaches like ANT tend to overlook the role of politics, by privileging local arrangements of actors. However, “the state continues to play a central role in framing contemporary public policy, including innovation policy” (p. 80), as noticed by Pfotenhauer and Juhl.

The opportunity of an integration of STS comes also from the fact that *CSoI* pays attention to pre-STs social researches on innovation, and above all to Everett Rogers' *Diffusion of Innovations* (1962) – from which also the expression “pro-innovation bias” is taken. Godin notices also that Rogers' idea of diffusion is not so different from Tarde's imitation, which is becoming today so relevant for STS.

Through all its contributions and all the issues it tackles, *CSoI* is able to promote a new research program, based on the idea of *NOvation*, articulated in four levels, or avenues. The first aims at clarifying the very concept of innovation; the second aims at developing a deeper inquiry on the mechanics of different forms of resistance and of discourses produced by or being part of these processes; the third aims at studying unintended consequences of mainstream innovation, often disruptive or unexpected; the fourth aims at fully considering the central role that regulations, maintenance and repair and standardization play in innovation processes.

I deem developing such research program very important. However, I think it should, on the one hand, focus less on economic dynamics, which risk to make the interesting contribution it can deliver unripe or not immediately fruitful for other fields of analysis, even if terminologically rich. On the other, more attention should be paid to design and making practices, which are closely related to use and to the care, involving aspects of de-assembling, assembling and re-assembling, in order to produce newly designed networks.

References

- Denis J., A. Mongili and D. Pontille (2015) *Maintenance and Repair in Science and Technology Studies*, in “Tecnoscienza”, 6 (2), pp. 5-15.
- Graham, S. and N. Thrift (2007) *Out of order: Understanding maintenance and repair*, in “Theory, Culture and Society”, 24 (3), pp. 1–25
- Jackson S.J. (2014) *Rethinking repair*, in T. Gillespie, P.J. Boczkowski and K.A. Foot (eds.), *Media technologies: Essays on communication, materiality, and society*, Cambridge, MA, MIT Press, pp. 221–240.
- Mongili. A. (2015) *Topologie postcoloniali. Innovazione e modernizzazione in Sardegna*, Cagliari, Condaghes.
- Rogers E.M. (1962) *Diffusion of Innovations*, New York, The Free Press.