

Giuseppina Pellegrino and Alessandro Mongili (eds.)
Information Infrastructure(s): Boundaries, Ecologies, Multiplicity, Cambridge, Cambridge Scholars Publishing, 2014, pp. 337

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Based on a thematic track organized in occasion of the EASST conference in Trento (September 2010), this edited volume holds a collection of fourteen chapters on Information Infrastructures and/as Boundary Objects. The book presents itself as a theoretical and empirical contribution on information infrastructures (IIs) and it is aimed at STS-ers, but also organization studies and media studies scholars.

In the very well-written and accessible “Introduction”, an overview is provided of how infrastructures and boundary objects developed conceptually, how they compare to other STS concepts such as immutables, mobiles and what is their place within approaches like ANT and SCOT. It serves as a conceptual framework and reading lens for the book, and it works well in guiding the reader through the sometimes-confusing vocabulary of STS. Some of the main points made in the introduction are the emphasis put on the interpretation of boundary objects (BOs), their different shapes and forms (not necessarily being material things) and the interpretation of information infrastructures themselves as boundary objects. The editors explain very well the types of information infrastructures and the need to research them, and they provide a relevant take on BOs and IIs.

The editors set out three main *foci* for looking at the empirical cases and examples of IIs provided in the volume; namely, boundaries, ecologies and multiplicity. They are, they say, interlinked dimensions of IIs. These dimensions are illustrated by way of how other authors have used these terms, and thus well-explained and referenced. However, they are not very clearly defined in terms of dimensions and, as a result, the promise made to push theoretical insights by using these “dimensions” to analyse empirical material seems difficult and *ill*-structured (to use one of the labels Star used to categorize IIs – either *well*-structured or *ill*-structured). Questions of scaling up or down, of insiders/outside of a particular infrastructure that a (novel) technology or application instigates and of (de)centralization are connected to these dimensions and relevant when studying IIs. To what extent the insights produced in the chapters can be compared, measured and generalized in order to confirm ways of thinking about IIs or to develop novel ones, remains to be seen and does not become entirely apparent in the provided reading lens.

The “Introduction” does not delve into explaining or problematizing key terms in themselves, such as “information” or “infrastructure”: what exactly makes up an information infrastructure and how to delineate an infrastructure from a thing-in-itself? Does it depend on the amount and types of users? On the fact that it is digital and/or electricity-based? Or

on some form of classification model or protocol being present or being “done”? After reading the book, the reader does get a better feel and grip on these questions, yet they are not dealt explicitly. An explication of these issues could have helped in sharpening even further the reading lens for the chapters.

The chapters are divided in four parts that bundle three to four chapters each under a thematic heading. The first theme deals with the design and articulation of information infrastructures (IIs). This first part aims to provide a grip on what IIs can be. The first and third chapters (respectively, by Mongili and by Klein and Schellhammer) show in-depth a well-designed study on the making of IIs, together with the processes of representation and the different types of boundary objects involved in these processes. The second chapter (by Pellegrino) tries to compare three seemingly incomparable “cases” in order to show the contingencies of IIS. Vulnerability, ductility and resilience take the stage, although the advantages of comparing these cases could have been underlined with more strength. In all three chapters, moment of disruption or the influences of external actors or processes in making visible certain problems within IIs are discussed, also by providing insights in how boundary objects “act” or categorize and (de) stabilize.

The chapters in the second part are grouped around the concepts of ecologies, by seeing IIs as ecological tools. The first chapter (by Poderi) deals with a case of open versus formal computer software development and discussed practices of Free & Open Source Software (FOSS). The empirical material is mixed and presents interesting approaches to game studies by looking at different actors and sub-parts of the game to be developed and how these forces interact (or not) during the development process. As such, it can also be seen as an empirical qualitative software studies project. The two following chapters (by Neresini and Viteritti and by Crabu) present more traditional STS-lab work, in which equipment and processes of standardization enter, and alter, the lab workplace. The one by Neresini and Viteritti is focused on the introduction of lab-KITs in order to standardize DNA analysis and on how these shape biomedical research, training, and research habits. Crabu discusses the work of externally defined protocols and the local adjustments to these protocols. The chapters present a truly mixed method approach, and they provide a clear diagrammatical analysis and good (yet sometimes over) use of thick descriptions through field notes or participant notes (just a side-note: if one presents field notes or graphs, they should be readable or at least externally accessible). In these chapters, mostly anecdotal evidence is provided and, although methodologies are often well-explained, they are not always properly backed up (e.g. why this was the appropriate method for the job at hand). On a theoretical level, the role of ecology as a conceptual tool is not always obvious.

In Part Three the role of users is discussed, as well as their different roles and the difference of these roles in relation to specific IIs. The first

chapter (by Denis and Pontille) deals with online cartography, more specifically with a project of bottom-up and open source bike lane mapping. This very enjoyable chapter shows the negotiation of life-worlds, that of users and programmers, and how they try to “protect” or claim their expertise in the coming to being, and especially in the maintenance and in the improvement of the software. The next chapter (by Lazzar and Giardullo) compares two open-source sharing platforms for books, using an actor-network software to map how this information infrastructure actually looks like and how users and platform “owners” negotiate (again, it would have been nice if the graphs were accessible online, and/or published in higher-resolution). The third chapter (by Mitrea) has a more theoretical nature and makes an analysis of dispositives of intelligent mobility, using – amongst other – scenario methods. The fourth (by Isabella) is about how users are defined by different groups of workers within a relevant Italian telecommunication company and about what is the role played in these definitions by the software infrastructure that mediate the relation with them.

The fourth and last part of the book focuses more on policies and discourses as boundary objects and on their role in shaping potential IIs, where organization, markets and governance issues are of key relevance. The first chapter (by Miele) applies the concept of boundaries object to organization, comparing the work of two spin-off projects. The second chapter (by Turrini) focuses on risk models in medicine. The third one (by Cozza) on the development of science parks and on the interaction between a multiplicity of visions on what a science park should be. The last chapter of the book (by Lugano) evolves around the notion of convergence and divergence in design tools and how this has a shaping effect on how digital infrastructures come into being.

The common ground to be found in all these chapters is the role of IIs in shaping and allowing/disallowing connections and relationships. Thus, the main contributing factor of the book is to show that infrastructures “do” and, therefore, are a site for research. This is not an entirely new finding so that the book should probably be interpreted as a continuation of the research agenda set out by Bowker and Star (1994).

Many chapters show highly relevant case studies that provide an insight in how to apply or “do” infrastructure research. The many chapters vary in terms of level of analysis and type and size of case, presenting a colourful spectrum of different types of STS infrastructure work.

Notwithstanding the excellent work done, some after-reading comments are required. A first one regards the fact that the work on infrastructures and on systems of ordering and classification has usually specific goals. To focus on this aspect could show or reveal a particular hegemony of one type of systems or to show alternative ways or modes of ordering that would have different consequences for how we experience an information system. If, as the book argues, we need to understand and investigate infrastructures conceptually through boundary objects, a key

starting point could have been to argue more clearly how or why the cases discussed are boundary objects and what happens at the boundaries. Such a lack could be a consequence of how authors have framed themselves in the research they have performed. The chapters presented are highly exciting in terms of the types of fieldwork and cases presented; yet most chapters adhere to the adagio of being mostly descriptive in an STS-oriented vein. Duly noting that Law (2008) once stated that the agenda of STS should remain descriptive and case-based, the book could have pushed the field of studying infrastructures from an STS perspective by framing it in a larger critical socio-political agenda. Or, to put it in terms of a later article by Law (2009), via the term “interference”, by which he means that there is a way for STS scholars to “be” political without being prescriptive or without telling what is right or wrong (at least by acknowledging their own role as researchers and the effect they have on the field they are researching). “Politics is about interfering to make a difference” (Law 2009, p. 11). The arguments for what this difference is, or should be, or how studying the myriad of IIs and BOs particularly contribute to unveiling alternatives of differences, would have been an interesting addition to the introductory chapter in order to answer the question of why studying information infrastructures.

A second remark regards the impression that some chapters seem to have reinterpreted afterwards the data collected in terms of boundary objects or information infrastructures, rather than having taken these concepts as starting points of their research. As a result, whereas the book is extremely rich in terms of empirical material, theoretically it remains up to the reader to distil and connect the relevant theoretical points made in the introduction with the individual chapters.

Overall, the range of topics may be not all equally suited to inform or push conceptually on the concepts of IIs and BOs, yet they do provide a wide and attractive spectrum of cases, which are informative and show in-depth fieldwork. The book is accessible and it contributes to an empirical understanding and grounding of the notions of IIs and BOs. As such, the volume sets and fills out the agenda for this important research topic and expands it well beyond a STS scholarship only.

References

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