

Book reviews

Dario Minervini

Politica e rifiuti. Connessioni socio-tecniche nella governance dell'ambiente

2010, Liguori editore, 176 pp.

by *Attila Bruni*

João Arriscado Nunes, Ricardo Roque

Objectos Impuros. Experiências em Estudos sobre a Ciência

2008, Edições Afrontamento, 328 pp.

by *Laura Centemeri*

Reiner Keller

Wissenssoziologische Diskursanalyse. Grundlegung eines Forschungsprogramms

2011, VS Verlag, 360 pp.

by *Jan Cherlet*

Philip Vannini

Material Culture and technology in everyday life. Ethnographical approaches

2009, Peter Lang, 254 pp.

by *Paolo Magaudda*

Roberto Verganti

Design Driven Innovation: Changing the Rules of Competition by Radically Innovating What Things Mean

2009, Harvard Business Press, 288 pp.

by *Alvise Mattozzi*

Vadim, Volkov, Oleg Xarxordin

[Kharkhordin]

Теория практик – Theory of practice

2008, EUSP Press, 298 pp.

by *Alessandro Mongili*

Sophie Houdart

La cour des miracles: Ethnologie d'un laboratoire japonais

2008, CNRS Éditions, 352 pp.

by *Assunta Viteritti*

Dario Minervini
**Politica e Rifiuti. Conessioni
 socio-tecniche nella governance
 dell'ambiente**
*(Politics and Waste. Socio-technical
 Connections in Environmental Governance)*
 2010, Liguori Editore, 176 pp.

Attila Bruni
(Università di Trento)

Being a music lover (and partly a musician), I have always thought that Italian singers and bands suffer from two major problems: a kind of 'subsidiary dependency' on Anglo-American music, together with the need to pay homage to the Italian melodic tradition. If this book were a piece of music, it would escape both. If this book were a piece of music, it would be the first release of a young musician. I want to stress the importance of the word 'musician' here. A musician is a person who is able to convey a concept, to communicate an idea, whatever music genre s/he plays; otherwise, s/he is just a player.

This same ability is clearly recognizable in this book: this is not just an ANT-oriented account of the process leading to the construction of the "Fenice" waste incineration plant in Melfi, in the province of Potenza (Italy). This is a book about the possibility of looking at politics, organization and decision making as the products of the relationships that bind together humans, technologies and natural elements.

What I am trying to say is that on many occasions we listen to a song, a piece of music, that immediately re-

minds us of a particular band or music genre. And that's all. But if this book were a piece of music, it would not simply sound like ANT. It would push a little bit forward the borders of a 'genre' that, although sometimes theoretically celebrated and with a lot of followers in the field of STS, still has some difficulties in finding its audience in the field of political sciences and, more in general, politics. Which is quite strange, given that ANT, as Minervini aptly states referring to Latour (1999), is actually a political theory.

Thus, contrary to the common refrain that ANT does not take 'power' seriously into account, here the description (Akrich, 1987) of the ways in which specific environmental issues enter the political debate highlights how political decision-making is fragmented into an action-net (Czarniawska, 2004) involving what I would label 'negotiations-in-practice'. In the Italian literature there is a well-known antecedent of this way of 'playing' ANT, *Tradurre le riforme in pratica* ("Translating reforms into practice"), a book edited by Silvia Gherardi and Andrea Lippi in 2000 (the first ANT-oriented book written in Italian). And the approach of Minervini is clearly informed by having listened to (and having taken seriously) the tunes and the whispers of that text, as well as the ANT 'standards' (Callon, Latour, Law...).

The roots of Minervini's work, by the way, are not in STS. The author clearly comes from the area of policy analysis, particularly from the French line of research (Mény and Thoenig, 1989). This means that policies are seen as the non-linear outcome of decisional processes influenced by public

and institutional actors. In this view, action is always 'strategic', but strategy does not necessarily imply rational choice, if not a posteriori (Crozier and Friedberg, 1977).

Similarities and differences between the French school of strategic/bureaucratic analysis and ANT are well depicted in the first chapters of the book. Although both approaches share a common interest in the study of processes of association, cooperation and betrayal (without imposing any particular structure on actors' relations), they differ in their conception of symmetric action. Minervini refers in particular to Friedberg (1993), when (commenting on Callon's work on the Saint Jacques' mussels) he states that the principle of generalized symmetry does not give enough emphasis to the intentionality of human actors: objects (technologies, texts, laws, and so on) are relevant to social action and power relations as long as they are in the hands of intentional actors. The difference between humans and non-humans is thus grounded in the instrumentality of the latter and in the intentionality of the former.

How to reconcile the two approaches?

From a theoretical perspective, the author argues that the main point is that both approaches converge on a processual theory of action/power: ANT takes into consideration how processes of association translate into 'collectives'; strategic analysis looks at stabilisation, at the ways in which power 'takes place' in processes of association and negotiation. "For this same reason – argues Minervini (p. 33) – in strategic analysis the category of power

acquires a clear and visible dimension, contrary to ANT, where power is always in the making, has its effects, but it refers to a coalition of actors/actants in relation to specific, and constantly changing, spatio-temporal configurations".

I must say that this argument is not very convincing. From my point of view, the principle of generalized symmetry is not a minor point and an instrumental approach to objects and technologies immediately reminds me of a sort of predetermined structure regarding relations and associations. However, it is quite common, in my experience, listening to a music piece and not appreciating all the 'solos', which, in this case, is actually a really minor one.

The main solo is in the research account, where the author describes and interprets the making of an environmental policy, adopting both the ANT model proposed by Callon in 1986 (regarding the moments of a translation process) and the one suggested by Latour in 1991 (regarding the study of programs of actions). Here the author gives voice (by making reference to documents and interviews with different groups of actors) and visibility (through the use of numerous schemata) to the logics, the rhetoric, the strategies, and to the very idea of 'politics' and 'environment' as emerging from and within relations.

It would be meaningless to summarize the whole story in a few words. Thus, I prefer to skip directly to some of the final chords offered by Minervini:

- a participatory process does not automatically imply a democratic atti-

tude in decision making: ‘open-ended’ cannot be confused with ‘democratic’;

- the power to define policies is the result of a relational process, not the origin of the policy at stake: looking at power in objectivist terms, as a resource individual actors can mobilize for their own interests, does not account for who, how and when actors acquire the capacity to mobilize resources, and what constitutes a resource in the actors’ perspective;

- sometimes, ANT looks for missing masses, but in this case social actors are missing: why didn’t the trade unions take part in the whole negotiation process?

If this book were a piece of music, as it often happens nowadays, it could be of interest for different audiences. ANT listeners would probably be its ‘natural’ public, but political scientists and environmental sociologists could maybe enjoy it even more, because of the ‘fresh sound’ this book brings into established canons. And social scientists (in general) could find new sounds and dissonances in it that could help them better frame the relationships between humans, technologies and nature.

References

- Akrich, M. (1987) *Comment décrire les objets techniques?*, “Technique et Culture”, 9, pp. 49-64.
- Crozier, M., Friedberg, E. (1977) *L’acteur e le système*, Paris, Edition du Seuil.
- Czarniawska, B. (2004) *On Time, Space and Action Nets*, “Organization”, 11, pp. 777-795.
- Friedberg, E. (1993) *Le pouvoir et la règle. Dynamiques de l’action organisée*. Paris, Edition du Seuil.

Latour, B. (1999), *Politiques de la nature*, Paris, Editions La Decouverte & Syros.

Mény, Y., Thoenig, J.C. (1989) *Politiques publiques*. Paris, Presse Universitaires de France.

João Arriscado Nunes, Ricardo Roque

Objectos Impuros. Experiências em Estudos sobre a Ciência

(*Impure Objects. Science Studies Experiences*)

2008, Edições Afrontamento, 328 pp.

Laura Centemeri

(CES – Universidade de Coimbra)

Science Studies are today in Portugal a very dynamic field of investigation. Edited by two Portuguese scholars that actively participated in the emergence and development of this research field, the contributions collected in the volume aim at showing how the theoretical and empirical investigation on science practice, objects and institutions in the Portuguese society (a “semi-peripheral society” is the definition given by the authors) “interferes”, through original paths, with the broader international debate.

The interest in studying science and its impact on society is far from being a novelty in Portugal. In fact, the promotion of science and the dissemination of scientific knowledge, as part of a broader process of citizenship-building, have been a crucial component of the movement of opposition to the Estado Novo, the Portuguese authori-

tarian regime that for almost half a century (until 1974) controlled the Country. Starting from the 1970's Portugal has seen as well the emergence of a rich debate on epistemological issues, namely through the works of Boaventura de Sousa Santos and Hermínio Martins.

Rooted in this tradition, the field of Science Studies in Portugal is nevertheless an undoubtedly "young" field. It started to emerge in the 1990's through the creation, by the initiative of Maria Eduarda Gonçalves (currently professor of Law and Public Policy at ISCTE), of a community of researchers, otherwise dispersed in different research institutions (especially ISCTE and ICS in Lisbon, CES in Coimbra). Joint projects of investigation brought to collective publications, edited by Gonçalves, like *Ciência e Democracia* (1996) and *Cultura Científica e Participação Pública* (2000).

This specific history implies that the field of Science Studies in Portugal didn't emerge in opposition to a conventional sociology of science that never really came into existence. As a consequence, some of the main theoretical issues that oriented and structured the epistemological debate at the international level were never at the core of the Portuguese debate. The importance of collaborative projects in structuring the field accounts for its being strongly multi-disciplinary (not only sociologists are involved but historians and anthropologists as well) and for the variety of theoretical approaches that orient the investigation. These different theoretical and epistemological approaches are not the case for structured cleavages. As noted by

Nunes and Roque in their Introduction, the collaborative dimension of the research projects through which the field was built always prevails over these differences. An additional explanation to this lack of clear cleavages is as well the strong "practical" orientation of these projects, which were designed in order to actively participate in the shaping of a Portuguese scientific culture.

In fact, the emergence of the field of Science Studies in Portugal run parallel to the constitution of a national system of scientific production, via the creation of the Ministry of Science and Technology and a large investment in research, supported by European Programs – Portugal having entered in 1986 the European Union. This specific condition brought to a situation in which Portuguese researchers in the field of Science Studies have been able to actually follow the creation of the institutional and human infrastructure of science authority, studying obstacles, controversies and conflicts emerging in the process.

Through collecting contributions based on case-studies, written by young Portuguese researchers, this volume shows, first of all, the variety and dynamism of Science Studies research in Portugal, in terms of objects and approaches. However, the choice of the editors to have a first section of the book with contributions from prominent scholars (Bruno Latour, Annemarie Mol, Alan Irwin among others) is meant to demonstrate how the work of these young Portuguese researchers is oriented by issues currently core in the debate at the international level, like political ontology and

performativity.

The contributions of the second section of the book well illustrate the main themes structuring the research on science, technology and society in Portugal. They can be regrouped in three areas. First, ethnographic studies concerned with science “in the making”. Second, historical trajectories of scientific and technological innovations, oriented towards the understanding of the processes that shape the modern institutions of science and the state. Third, the study of socio-technical controversies, with an emphasis on the confrontation, in the public space, between different forms of knowledge and their expression in social conflicts, especially in the field of environmental and public health problems. They all share an approach to the study of how social and material entities are associated in complex and multiple ways that grants a privilege to what Nunes and Roque define in terms of a “sociology of impurity”, that is, the contamination of different tools and epistemic approaches.

In the subsection “Ethnographies”, Gonçalo Praça shows how the technical production of meteorological knowledge is based on two black-boxes: global models of weather forecasting, and the local experience of scientists working at the Portuguese Meteorological Institute, an experience made of a combination of subjective knowledge, texts, technologies, institutional rules. Tiago Moreira investigates the socio-technical organization of neurosurgery rehabilitation, through an ethnographic work in a neurosurgery clinic in Portugal. In order to reacquire a notion of “self in action”, pa-

tients are helped by technologies and forms of knowledge that exist in the clinic. These technologies and forms of knowledge act as “prostheses” so that patient personal agency is distributed in what can be defined as a “surgical collective”. The way in which these precarious and contingent collective orders function accounts for the rehabilitation path which is observed, in terms of successful recovery or not.

In the subsection “Histories”, João Vasconcelos investigates from an anthropological point of view the emergence of an empiricist discourse in Europe in the period 1850-1920, taking “spiritism” as its object of analysis. The author shows how spiritism challenges the separation between science and religion, thus breaking a fundamental principle of modern sciences. This fact accounts for the epistemic and normative marginalism to which spiritism has been condemned since then. Rui Branco studies the relationship between the construction of the state and the scientific-technical production of cartography in Portugal, using an approach of historical sociology and the analysis of material (and micro) processes of construction of science and the state. Ricardo Roque analyzes the trajectory of the only partially successful “scientific translation” of wild bananas seeds into recognized medical treatment against smallpox in India, at the beginning of the 20th century, crossing the biography of the physician Joaquim Vás, the history of the creation of Health Services, the conflict between medical powers.

In the subsection “Controversies”, Sofia Bento studies the case of the Alqueva dam and the controversy con-

cerning the existence of significant archaeological find in the area to be undated. The mobilization asking for the preservation of this archaeological heritage was not successful, a failure that Bento investigates with a focus on the role of media in the construction of scientific and technical objects. In the final chapter, Marisa Matias examines the controversy about the use of a cement factory in Souselas (a small town close to Coimbra) to incinerate industrial wastes. Matias discusses the dynamics through which the problem arises together with the objects of scientific controversy. She investigates as well how environmental policies and citizens' mobilisation enter the frame. The author suggests that this kind of studies can help in understanding the processes that confer existence (or non-existence) to public problems and collective actors. Far from being just a sample of Science Studies research in Portugal, the volume edited by Nunes and Roque is an important exercise in self-reflexivity that points out the originality of the Portuguese contribution to the study of science and technology in society, thus tracing a clear path for future developments.

References

- Gonçalves, M.E. (ed) (1996) *Ciência e Democracia*, Venda Nova, Bertrand Editora.
 Gonçalves, M.E. (ed) (2000) *Cultura Científica e Participação Pública*, Oeiras, Celta.

Reiner Keller
**Wissenssoziologische
 Diskursanalyse. Grundlegung
 eines Forschungsprogramms**
*(The Sociology of Knowledge Approach to
 Discourse Analysis. Groundwork for a
 Research Programme)*
 2011, VS Verlag, 360 pp.

Jan Cherlet
(Università di Bologna)

Reiner Keller's work constitutes one of those "exceptions" that prove that the academic scene is not yet as global as we tend to think. Keller has developed a research programme for the sociological analysis of discourses and their effects. Thanks to its concreteness and practical applicability in empirical research, the method has been harnessed by German scholars in a wide range of disciplines – not only in sociology but also in history, pedagogics and educational science, linguistics, political science, studies of religion, criminology... That Keller's manual has reached a third edition in barely six years can be taken as an indicator of its success. Oddly enough, no English translation is available yet, and while he is widely cited in Germany, international publications referring to Keller's work are still rare.

Keller's research programme for discourse analysis – he prefers to call it a programme since it includes both a theoretical framework and methodological tools – is grounded in the sociology of knowledge but incorporates insights from Foucault's work. The proposed research programme originated in his own discourse research on waste politics in Germany and France

in the early 1990s (mentioned in Keller 2010). There are some affinities with Maarten Hajer's work on story-lines in the acid rain controversy (Hajer 1995). Both scholars were interested in the circulation of knowledge and discourses concerning environmental conflicts. This affinity doesn't come as a surprise, since the two collaborated at the University of München. Nonetheless, Keller went much further than Hajer in developing a complete theoretical framework – social theory is presumably his actual area of interest – and published it in the manual under review.

In the brief introductory chapter of the manual, the author elicits that the research programme tries to reconcile two traditions that have drifted apart over the last decades: the sociology of knowledge on the one hand, and Foucauldian discourse analysis on the other hand. For the former tradition Keller takes the work of Peter Berger and Thomas Luckmann (1966) as reference point, while for the latter he departs from Foucault's *Archeology of Knowledge* (1969). Berger and Luckmann undertook an in-depth inquiry into the social legitimisation, social institutionalisation, and subjective internalisation of “whatever passes for ‘knowledge’ in society”. This sociology of knowledge has in Germany evolved into an important interpretative current in the social sciences, known as *Hermeneutische Wissenssoziologie* (hermeneutic sociology of knowledge). Keller believes that this tradition has much to offer for the analysis of discourses, but he contends that it has been focusing too much on the micro level of “language-in-use”. On the con-

trary, the foucauldian tradition of discourse analysis, he maintains, is situated at an all too abstract level of macro analysis, focusing on grand discourses, and is not really suited to empirical research. Keller's programme tries to find a middle way, by up-scaling the hermeneutic sociology of knowledge beyond the language-in-use level, while maintaining the social constructedness of discursive actors, institutions, and discursive practices.

The rest of the manual is organized in four large chapters. The first two describe the history of – respectively – the sociology of knowledge, and discourse analysis. The third chapter, covering one third of the manual, describes Keller's research programme for *Wissenssoziologische Diskursanalyse* (WDA) – or somehow oddly translated in English: the Sociology of Knowledge Approach to Discourse (SKAD). The last chapter of the manual discusses the role that the SKAD research programme can play with respect to wider social questions about risk, social responsibility, science and technology in society, politics of identity, or “life politics” in general.

So, what does the SKAD programme look like? SKAD understands discourses as “structured and structuring structures” that both reproduce and are reproduced by social practices. Discourses socially constitute knowledge systems, orderings of reality, institutional and material devices (Dispositif), and power effects in the network of social actors. Keller emphasises that the nature of discourses is concrete and material, both in construction as in effects. Therefore, he distinguishes three principal dimen-

sions of analysis: (i) the discourse content itself, (ii) the internal structuring of the discourse, (iii) the materiality of the discourse.

The first dimension contains those utterances and pronouncements that constitute instances of the discourse. The researcher might try to distinguish public discourses from specialist discourses, look for discourse formations, as well as minimal and maximal contrasts in the discourses.

The second dimension is the one that structures the internal meaning of the discourses. In order to lay bare the internal structuring, Keller mostly relies on concepts inherited from the hermeneutic sociology of knowledge. He proposes to look for the following elements in the discourse: the meaning-making schemes (*Deutungsmuster*), classifications, the structuring of external phenomena, narrative structures, models of action, and models for the involved actors.

Discourse has also a material dimension – on which Keller insists very much. In fact, the third dimension is constituted of: the actors that reproduce the discourse, the actors that are subjects of the discourse, the addressees of the discourse, the receivers of the discourse, the platform from which the discourse is disseminated, the material devices (*Dispositif*) that incorporate and/or reproduce the discourse, the practices that reproduce the discourse, and the practices that are provoked by it.

Therefore, SKAD is a research programme for the sociological analysis of discourses that maintains the middle ground between the socio-linguistic micro level of analysis and the fou-

cauldian macro level. Nonetheless, the research programme heavily rests upon the foundations of the sociology of knowledge, by assuming the social construction of knowledge orderings, their social legitimisation and institutionalisation. From Foucault's work Keller has retained the key idea that discourses have power effects and the recognition that discourses are materialised in devices.

His programme and concepts, however, are more static than dynamic. They cannot explain how discourses emerge, take over others, or become hegemonic. Nor do they throw light on the dynamics through which hegemonic discourse are challenged. Understandably, Keller admits that his programme does not pretend to be complete.

Moreover, I believe that the research programme is designed for the sociological analysis of political discourses, whereas it has little to say about the data collection. Keller refers to standard data collection methods such as interviews, ethnography, etc., but at various points he also invokes the Grounded Theory Method and the work of Anselm Strauss (Keller 2005, 2010). That he invokes the Grounded Theory Method seems odd since Keller's programme includes various pre-conceived theoretical dimensions, concepts and categories – yet this inevitably conflicts with the central idea in the Grounded Theory Method that the researcher should collect empirical data without any theory in mind.

In conclusion, the manual offers two valuable components. First, Keller rigorously sketches the double theoretical grounds in which his research pro-

gramme is rooted: the sociology of knowledge, and foucauldian discourse analysis. Second, he delivers a number of very user friendly tools and concepts for the analysis of empirical data. The success of his research programme in German academia can be taken as a guarantee for its applicability in a whole spectrum of issues, varying from global environmental controversies, over science and technology in society, to social identity politics.

References

- Berger, P.L. and Luckmann, T. (1966) *The Social Construction of Reality. A Treatise in the Sociology of Knowledge*, London, Penguin Books.
- Hajer, M.A. (1995) *The Politics of Environmental Discourse: Ecological Modernisation and the Policy Process*, Oxford, Clarendon.
- Keller, R. (2005) *Analysing Discourse. An Approach From the Sociology of Knowledge*, in "Forum Qualitative Sozialforschung/ Forum Qualitative Social Research", 6(3), Art. 32, <http://nbn-resolving.de/urn:nbn:de:01-14-fqs0503327>.
- Keller, R. (2010) *WDA/SKAD – An Interpretive Approach to Discourse and Politics of Knowledge*, Proceedings of IPA2010 "Interpretative Policy Analysis conference", 23-25 June 2010, Grenoble.
- Foucault, M. (1969) *L'archéologie du savoir*, Paris, Éditions Gallimard.

Philip Vannini
**Material Culture and Technology
 in Everyday Life. Ethnographical
 Approaches**
 2009, Peter Lang, 254 pp.

Paolo Magaudda
 (Università di Padova)

The book edited by Philip Vannini – one of the more eclectic and prolific emergent scholars in the intersection between culture and technology – is a very useful step to fill a gap in the ongoing process of interconnection between different perspectives on the social studies of technology. This gap consists in the partial lack of dialogue between, on the one side, the science & technology studies and, on the other side, the material culture studies and, more in general, the context of cultural studies intended in their broader sense. Indeed, while these two areas of contemporary social sciences have hardly found explicit convergences, at a closer look they reveal a common feeling on the fact that social relations, technologies and objects are strictly interwoven with each other and, also, that at their junction it is possible to find a crucial dimension for the development of contemporary world. However, in spite of this, it is pretty hard to find scholars that are effectively committed to develop these connections and links. Philip Vannini and some of his colleagues certainly are among these few scholars.

As the editor recognizes in his introduction, the boundaries between these fields – STS and material culture – have remained solid more as the result of accidental scientific practices,

rather than as a consequence of motivations and planning. While we can partially agree with this idea, we could also add other kinds of considerations to this “casual” explanation. The main one is that these two different traditions have sometimes developed as “congregations” with specific “buzzwords” and vocabularies, which have been at the same time good catalysts for grouping scholars and researches, but also obstacles and impediments for the involvement of neophytes and scholars belonging to different debates. Thus, seen from this more intricate perspective, a metaphor for this book could be found not in a bridge connecting two hills separated by nature or casualty, but rather in a bridge between two cities that have developed with different infrastructures, policies and mayors – meaning different languages, perspectives, and major scholars – but that today find themselves on the same side of the barricades: the side that believes in the need to develop an understanding of the role of materiality and artefacts in society. It is to be said that the book is not the first attempt to build this bridge and probably it is neither the more analytically coherent and theoretically sophisticated one. Anyway, I guess that, at this date, it is perhaps the most variegated and inclusive one, and also the one with the clearer tendency to favour the dialogue between different domains and to enable readers to understand some of the coordinates of this dialogue.

As we have said, the book is based on the idea of making two different domains dialogue. The first one is the field of material culture studies, which

is a loose and mostly interdisciplinary sector at the overlapping of anthropology, archaeology and, at a lesser extent, sociology. Explicitly rooted in the heritage of the archaeological attention to ancient objects, material culture studies have decisively developed toward the understanding of the role of objects in the contemporary society, and the book “The social life of things”, edited by Arijun Appadurai in 1986, can be considered a founding text. Other references of this perspective can be found in the works carried out by archeo-anthropologist Chris Tilley and by the socio-anthropologist of consumption Daniel Miller. The second realm the book intends to involve is the social study of technology, which includes scholars who are already known to “Tecnoscienza” readers, such as Wiebe Bijker, Bruno Latour, Trevor Pinch, Donald MacKenzie and so on. As we know, this field presents different articulations of the relation between technology and society, but it can be generally unified by highlighting the relevance accorded to the role of technologies as material artefacts in the social context. The strategy to mix together these different scientific universes is based on the common emphasis given to two specific dimensions. The first one is a common preference for ethnographical methods, intended in their heterogeneous and open sense. The second one is the common attention to the realm of everyday life, which is not regarded as a taken-for-granted domain, but as a dimension of the social world constantly under question.

More concretely, the book is divided into three parts, which present re-

spectively theoretical, methodological and empirical chapters. Part one is devoted to the different theoretical perspectives involved in the two different fields. Vannini and Ian Woodward take it upon themselves to outline the area of material culture from a more anthropological perspective, while Trevor Pinch and Grant Kien are in charge of making sense of the STS side, undertaking the task, respectively, of tracing the legacy of the “Social Construction of Technology” (SCOT) approach and of the Actor-Network Theory (ANT) perspective.

The second part of the book has a more methodological vocation, presenting different ways to articulate ethnography in relation to the material world. These chapters engage not only in common forms of ethnography, but also in more heterodox ones, such as the practice of autoethnography (by C. Noy) and video ethnography (by D. Tutt and J. Hindmarsh), also dedicating a specific chapter to the use of “Grounded Theory” (by A. Hanemaayer). Part three of the book is characterised by the presentation of specific ethnographies of material culture belonging to the everyday world. We can take two of these chapters to exemplify the way to analyse the material technologies of everyday life. The chapter of Chris Tilley considers the practice of gardening and its meaning in contemporary England, discussing eleven reasons why people garden and what that means in their lives. In this case, the analysis of gardens as material culture represents an example of a perspective mainly rooted in the anthropological tradition and in the current trend of the more contemporary mate-

rial culture studies. The second example is the chapter by Bryce Merrill, which considers the practice of home music recordings from a perspective directly based on the SCOT approach. Probably, the different standpoints of these two chapters highlight the fact that while the book represents a good step toward an integration of different perspectives on artefacts and technologies, there is still much work to do in order to fully integrate these standpoints. This last consideration probably helps highlight the major limit of the book, which can be regarded more as a first attempt to combine the work of different scholars, rather than the result of an actual and broader process of integration.

Anyway, even if not always compact and coherent in developing its analysis, this collection has the unquestioned merit of bringing novelty and excitement to the current development of the studies on artefacts and technologies. For STS scholars unused to be involved in social anthropology of things and consumption, the book will open a door to an entire world that is not adequately known in the STS context, and will do that from a useful and understandable perspective. Moreover, methodological and ethnographical chapters definitely offer valuable insights into the ethnographic research in everyday life things and objects.

Roberto Verganti
Design Driven Innovation.
Changing the Rules of
Competition by Radically Innovat-
ing What Things Mean
 2009, Harvard Business Press, 272 pp.
 (*Design Driven Innovation. Cambiare le*
regole della competizione innovando
radicalmente il significato dei prodotti e dei
servizi. 2009, ETAS, 282 pp.)

Alvise Mattozzi
 (Libera Università di Bolzano;
 LISaV, Università luav di Venezia)

This is not a book for you. Unless you are a manager or, better, a top executive. Otherwise, if you are, as I suppose, a scholar in STS or interested in STS, this is not a book addressed to you. As Roberto Verganti, professor of Innovation Management at the Politecnico di Milano and author of the book, explicitly says, “this is a book on management” (p. vii), a book “about the management of innovation and design” (p. 219) where “the process through which executives leverage external and internal resources and creativity to develop breakthrough innovations” (p. 219) is examined.

And yet, this is a book you should read if you are interested in artefacts, design, technology. Anyhow, if you decide to read it you should try not to give too much relevance to the managerial rhetoric that peppers many parts of the book – all the references to “profit margins”, “competitive advantage”, “inspiring leaders”, “your company”, “your customers”, “your competitors”, etc. – which hampers a real engagement with the contents, at least for me, not being a manager either.

You should read it because *Design Driven Innovation* is not just a book about innovation management. By introducing the issue of meaning – and of the management of meaning in relation to artefacts – Verganti deals with issues that are very close to those tackled by STS, – as he himself notices by citing Callon, Bijker, Latour and Law. Indeed, by focusing on meaning, Verganti investigates the sociocultural dimension of artefacts and its relevance for innovation.

You should read it because, by disentangling the sociocultural dimension of innovations, Verganti takes into consideration the mediating role of artefacts and all those other actors – “interpreters” for Verganti – that constitute the network through which innovations take place.

You should read it because by focusing on how innovations rearticulate the relations in which they take part – one of STS concerns – Verganti gives the possibility to talk, within innovation studies, about artefacts as “matter of concern” and not as “matter of fact” (Latour 2008), and about design as an articulation of issues and not as problem-solving.

Besides, you should read it because, should Verganti’s version of “design driven innovation” (DDI) become popular among managers, entrepreneurs and policy makers – as it seems possible considering that the book has been praised by people such as Luca Cordero di Montezemolo – it could allow STS scholars to make STS’s issues understandable for an audience who, at least in Italy, has never been too sensitive to them.

Thus, you should read it, yes, but without swallowing it – and not just

because it is peppered with a managerial rhetoric not always easy to digest.

The book summarizes ten years of studies on innovation (see bibliography) giving them a managerial allure. These studies have been carried out by Verganti himself and other scholars from management and design studies, and are mainly about northern Italy furnishings and housewares companies, even if the book presents many examples and cases from various companies from different parts of the world.

These studies have been inspired by Verganti's specific perspective on DDI. The concept of DDI was introduced by Giorgio De Michelis (2001) in 1997 in order to account for a third kind of innovation that does not fall under the traditional two considered within innovation literature – “technology push” and “market pull”. For De Michelis such a third kind of innovation, which is typical of Italian industrial districts, is characterized by the creation of a new user profile and, at the same time, of the product or service able to meet the expectations, desires, needs, of this new user. De Michelis also notices that such kind of innovation makes it possible to create not only a product or service, but also a corporate vision related to the brand.

Drawing on Klaus Krippendorff's dictum – “design is making sense of things” – on which the “product semantics” approach (Krippendorff 2006) of design studies is based, Verganti reformulates the concept of DDI. By doing so, he broadens, clarifies and specifies it, showing that DDI is not just a blend of the two traditional kinds of innovation in connection with a brand vision, as others, following De

Michelis, assume (see Celaschi and Deserti 2007), but a different kind of innovation that interacts with the other two. In this way Verganti is also able to actually integrate DDI with the other two kinds of innovation, connecting his model to Giovanni Dosi's one (1982) (Dell'Era, Marchesi and Verganti 2008; Verganti 2008).

Verganti's version of DDI is outlined in the first part of the book – “The strategy of Design Driven Innovation”. In order to illustrate it, I can mention one of Verganti's preferred examples (see also Verganti 2003): the *Metamorfosi* light system by Artemide, an Italian lamp manufacturer. *Metamorfosi* is not a lamp like *Tizio* or *Tolomeo*, also produced by Artemide. It is a three-spotlight system producing colored ambient light that can be changed through a remote according to the situation and the user's moods. For Verganti this is a radical innovation “in what people mean by a lamp” (p.27): “it shifts people's attention from the object of the light (...)” and “from white to colored light (...) to psychological well-being”, bypassing the need to illuminate through a focused light as well as to have a nice artefact in the living room or in the studio. Indeed, *Metamorfosi*, with all its technical elements visible through the transparent bowl that constitute its shell, has to be placed on the floor, not necessarily in view.

Thus, for Verganti, innovation is related to people's need in two ways (see also Dell'Era, Marchesi and Verganti 2010):

- through function, i.e. technological innovation – the three-spotlight system of the Artemide lamp – which allows the performance, and

- through messages, i.e. language, which convey a meaning – well-being instead of illumination.

Performance-technology and meaning-language are schematized as the two axes of a matrix where it is possible to distinguish incremental technological improvement from radical technological improvement as well as “adaptation to the evolution of socio-cultural models” from “generation of new meanings” (p. 45). Radical improvement accounts for “technology push” innovation, “generation of new meanings” for DDI, incremental improvement and adaptation for “market pull innovation”. For Verganti the latter is equivalent to user-centred innovation. Indeed *Design Driven Innovation* can also be read as a critique of user-centered design and all the related methods – usability tests as well as focus groups. For Verganti, user-centered design tends to conform to present user needs, whereas radical innovation creates new users, which cannot be tested before the innovation has spread. As Verganti notices: “people seemed to have been waiting for the Swatch, although they did not think to look for it” (p. 73), “[p]eople did not ask for that meaning, but they loved it once they saw [Nintendo Wii’s features]” (p. 5), which allowed a shift from a “passive immersion in a virtual world” to an “active physical entertainment, in the real world, through socialization”.

The second part of the book – “The Process of Design-Driven Innovation” – “shows how companies can realize successful radical innovations of meaning: how they can make unsolicited proposals that turn out to be what people love” (p. 15). It basically focus-

es on how a company can take part in the “design discourse”, i.e. the discourse produced by interpreters of the cultural production and of technology such as, among others, artists, media, cultural organizations, technology suppliers, retail and delivery firms, but also sociologists, anthropologists, semioticians as well as designers who have a specific role as “brokers of language”. In order to develop a radical innovation, a company should listen to, and interpret, the design discourse, which means to develop its own vision by selecting the right information and, finally, influencing it in order to influence in turn the more general public.

The last part of the book – “Building Design Driven Capabilities” – tells how Design-Driven labs can be built and used and what “the vital role of the top executives” (p. 202) is. Thus the latter emerge as the actual protagonists of DDI since their job is to spin the design discourse in their favor.

Verganti’s interest in meaning leads him to take into consideration mediation: the mediation deployed by innovative artefacts, the various mediations deployed by all actors – “interpreters” in Verganti’s words – constituting the networks of innovation and, most importantly for Verganti, the super-mediation carried out by managers. Even if Verganti does not explicitly mention mediation as a foundational concept of his approach, it emerges from the cases and examples he introduces. And it emerges in its radical, Latourian, version: mediation as an instance that does not connect two pre-existing terms, but two instances emerging through the mediating third (Hennion 1993).

Meaning is, indeed, seen as a result of a mediation that rearticulates the network in which the innovation takes part, as the *Metamorfosi's* case shows. This is exactly the way in which Madeleine Akrich (1990) conceived the signification of an artefact.

And yet, Verganti formalizes meaning in another way: as opposed to function, performance, technology. But as Akrich (1990) stated, "What we call function of technical objects is not opposed to signification. Such opposition belongs to a perspective related to technical or, on the contrary, to cultural determinism. From our point of view 'function' is just part of the *program of action* outlined by the *script* of a technical device", as the *Metamorfosi* case shows: the "technical" devices have a central role in the re-articulation of the illumination and hence in its meaning.

Through his formalization, Verganti recovers the quite known – at least since Barthes (1964) – opposition between function and signification, selling it as a new way to look at design. Unfortunately that dichotomy – which recalls other, more general dualisms of the western thought – continues to pester the reflection carried out by the semiotics of objects, notwithstanding the parallel efforts of the Greimassian semiotics of objects (Floch 1995; Mangano 2009) and of Actor-Network Theory in overcoming it – a thing Verganti does not really acknowledge since he considers STS only as a contribution to the technological side of his theory.

Even if Verganti knows that such a dichotomy does not hold (p. 33), probably for the sake of an elegant and alluring formalization that complies

with other theories of innovation, probably for the catchiness of a schematization so entrenched in the always popular western dualisms, he uses it and, through it, introduces other theories of signification that cast a shadow of incoherence on his discourse.

Following Akrich (1990), who recognizes that signification emerges from the passage between "the world inscribed in the object and the world described by its displacement", Verganti could have kept his schematization using a general and relational dichotomy such as "inside/outside", acknowledging, as he implicitly does, that meaning permeates the whole process of innovation, as this journal has showed (see Parolin 2010).

Probably other STS -minded readers, not so interested in signification as I am, would have focused on other discrepancies with the STS approach, such as the fact that Verganti mainly presents success stories or the fact that he considers users very marginally.

STS tend to be symmetrical and consider innovation failures as much interesting as successes, if not more. It is understandable that in a book that tries to sell a certain approach to innovation to managers, success stories have more relevance than failures. But certainly it would have been interesting to examine not just successful DDIs, such as the Swatch's one, but also the failure of Smart, which, at the beginning, was managed by the same manager of Swatch under the same brand; or not just the process of Barilla's project *Beyond primo piatto*, but also the process that brought to the Alixir line, soon disappeared from our supermarkets.

As for the second point, Verganti pays overwhelming attention to managers and their super-mediations, compared with the almost non-existent attention given to the users. However, the latter do not just constitute the market through the expression of their present needs and desires. Users sometimes innovate too, through more distributed processes than the manager-centered ones privileged by Verganti.

Thus, Verganti's version of DDI can interestingly bridge innovation studies and STS, but, in order for the bridge to be solid, we still have much work to do.

References

- Akrich M. (1990) *De la sociologie des techniques à une sociologie des usages: l'impossible intégration du magnéscope dans le réseaux câblés de première génération*, "Technique et culture", 16, pp. 83-110.
- Barthes R. (1964) *Sémantique de l'objet*, now in "L'aventure sémiologique", Paris, Seuil, 1985, pp. 249-260; Eng. transl. *Semantics of the Object*, in "The Semiotic Challenge", London, Blackwell, 1988, pp. 179-190.
- Celaschi F. and Deserti A. (2007) *Design e innovazione*, Roma, Carocci.
- Dell'Era C., Marchesi, A. e Verganti R. (2008) *Linguistic Networks Configurations: Management of Innovation in Design Intensive Firms*, "International Journal of Innovation Management", 12 (1), pp. 1-9.
- Dell'Era C., Marchesi, A. e Verganti R. (2010) *Mastering Technology in Design-Driven Innovation*, "Research-Technology Management", 53 (2), pp. 12-23.
- De Michelis G. (2001) *La creazione di conoscenza e l'innovazione design-driven nei distretti allargati*, "Studi Organizzativi", 1, pp. 121-136.
- Dosi G. (1982) *Technological Paradigms and Technological Trajectories*, "Research Policy", 11, pp. 147-162.
- Floch J. M. (1995) *L'intelligence au bout de l'Opinel*, in "Identités Visuelles", Paris, PUF, pp. 181-214 (Eng. transl. *Opinel: Intelligence at Knifepoint*, in "Visual Identities", London, Continuum, 2000, pp. 145-171).
- Hennion A. (1993) *La passion musicale. Une sociologie de la médiation*, Paris, Métailié.
- Krippendorff K. (2006) *The Semantic Turn*, Boca Raton, CRC Press.
- Latour B. (2008) *A Cautious Prometheus? A Few Steps toward a Philosophy of Design*, in F. Hackne, J. Glynne and V. Minto (eds.), "Proceedings of the Annual International Conference of the Design History Society", Universal Publishers, pp. 2-10.
- Mangano D. (2009) *Semiotica e design*, Milano, Carocci.
- Parolin L.L. (2010), *Sulla produzione materiale. Qualità sensibili e sapere pratico nel processo di stabilizzazione degli artefatti*, "Tecnoscienza", 1 (1), pp. 39-56.
- Verganti R. (2003) *Desing as Brokering of Languages: Innovation strategies in Italian firms*, "Design Management Journal", 13 (3), pp. 34-42.
- Verganti R. (2008) *Design, Meanings, and Radical Innovation: A Metamodel and a Research Agenda*, "The Journal of Product Innovation Management", 25, pp. 436-456.

Vadim, Volkov, Oleg Xarxordin
[Kharkhordin]
Теория практик - Teorija praktik
[Theory of Practice]
2008, EUSP Press, 298 pp.

Alessandro Mongili
(Università di Padova)

Teorija praktik is a book addressed to the Russian public, which gives an overview of the pragmatic turn taking place in contemporary social sciences. Pragmatic Turn is also the name of a series of books published by the newly founded European University at Saint

Petersburg, where this book was published. In Russian culture, attempts to provide overviews of “western” approaches and theories are an established tradition, sometimes achieving great results. In this case, the authors have chosen to focus on a line of research rooted in the French and German tradition, with few references to symbolic interactionism and ethnomethodology, as well as to workplace studies and learning theories dealing with the concept of community of practice. STS approach is not appreciated for its heterogeneous contribution to this pragmatic turn, with the sole exception of Bruno Latour, who is given credit for his key role in this field. Even if the book does not explicitly adopt a specific approach, it eventually follows a twofold order in the analysis of the theoretical reference framework. First, it traces a sort of genealogy of the main concepts related to practices in contemporary philosophy, with particular reference to Heidegger’s, Wittgenstein’s and Deleuze’s works. Secondly, it analyses the use and different ways of understanding practices, with regard to their origin, their causes and their effects, with an extensive analysis of the works of (among others) Marcel Mauss, Michel Foucault, Pierre Bourdieu, Michel de Certeau, Luc Boltanski and Laurent Thévenot.

The increasing importance of studying practices in social sciences first emerged in the Seventies (following the studies of Clifford Geertz and Pierre Bourdieu), as a both semiological and cultural reaction to structuralism. Starting from that, the authors trace a genealogy of this perspective. Marcel Mauss’ research on gift, focus-

ing on background practices, and Max Weber’s analysis of traditional agency and power of conventions, are juxtaposed with a more established line of research, drawing on the philosophical speculation on this topic, which is here described in a history-of-ideas style. The authors are very detailed in pointing out Ludwig Wittgenstein’s contribution and explaining it to the Russian readership, with particular regard to the different role that ‘discourse’ and ‘word’ (both expressed in Russian by the same word: slovo) play in different situations, and how different linguistic games, or forms of life, can produce different conditions of significance in everyday language. Another important aspect considered is the relationship between rules, habits, and ways of using rules, a perspective that makes it possible to finally overcome any approach considering the regulatory aspect as a cogent factor. A similar importance is attributed to Michael Polanyi’s studies on personal and tacit knowledge, and to his relativization of the commitment to rules.

The authors recommend that practices should be studied following Wittgenstein’s invitation: “Don’t think, but look”. However, they don’t discuss this aspect in further detail, and do not make any reference to the abundance of fieldwork studies on this issue, just limiting their discourse to the need to observe visible practices and examine contrasts and discussions. Following a Russian tradition, they consider literature as an important source for social sciences, at the conceptual level too. As an example of a correct perspective in studying practices, they consider Andrej Platonov’s *evnux duši* and Daniil

Xarms [Kharms]’s idea that knowledge is “seeing” (vidit’) much more than *znat’* (knowing) or *uznat’* (learning). *Evnux duši* (The Eunuch of the Soul) is a character from *Čevengur*, a cult novel written in 1928-1929, but published only in 1988, who observes the overall transformation of society in revolutionary times, without adopting conceptual frames. Daniil Xarms was a prominent surrealist and a children’s book writer, founder of the OBeRIu movement and very close to the trans-sense (*zaum*) perspective expressed by the great poet Velimir Xlebnikov [Khlebnikov] in the avant-garde art movement. Both of them were among the most popular *samizdat* (clandestine) authors in Soviet times. Surprisingly, the authors don’t mention Mixail Baxtin’s [Bakhtin] methodological concept of *outsideness* [*vnenaxodimost’*], while emphasising the same need to abandon *chronotopic* constraints in order to develop *ponimanie*, the understanding of processes.

The book examines the issue of practices in contemporary social sciences, following four axes: the causes and origin of practices, the role of things in practices, the role of discourses in practices and the centrality of practices in articulating relationships between power and everyday life. Referring to Norbert Elias’s classical research on the western process of civilization, the authors stress two points, the “morality” and the regulatory performance of dominant practices and their embeddedness in bodies, conversations, emotions and spaces. They dwell on Pierre Bourdieu’s extensive elaboration of the concept of practice, regarded as a result of an agent’s posi-

tion in a field and of a *habitus*, which would make it possible to predict the practices of a certain agent. Here they agree with the criticisms recently made by Sloterdijk (2010), pointing out a contradiction between the “conditioned spontaneity” of predispositions and their “authenticity”, both supported in Bourdieu’s works, and conversely emphasize their unpredictability.

They also make a very interesting criticism of Bourdieu’s concept of *illusio*, a pillar of the Bourdieusian theoretical framework, which is based on the assumption that “to play a game, one must believe in it”. The authors argue that the well-known phenomenon of the absolute lack of belief in their system on the part of the Soviet citizens, back in the early Seventies, did not result in a refusal to play that huge game. So, practices are not generated by strategies, but result from processes, and their study has made it possible to bridge conceptual divides such as private/public, micro/macro, and so on. Surprisingly, the authors do not make any reference to the seminal work of Lev Vygotskij and Aleksandr Lurija, and in particular to their concept of *kollektivnaja dejatel’nost’* (collective activity, or practice), so influential in western practice studies (Cole 1998). They prefer to turn only to “Westerners”, who explain the process of assimilation of new habits into a pre-existing, taken for granted, body of practices by virtue of their moral superiority (Wittgenstein) or due to a conflict between opposing forces (Deleuze, Fleck).

This attitude clearly emerges in their analysis of the role of things in practices. Latour’s analysis of the pos-

sibility to develop analogous practices in different contexts and environments thanks to a network and inscription devices, and his idea that the same network develops agency as an infrastructure, as well as his theory on the assemblage of heterogeneous elements, regardless of their humanity or non-humanity, are presented to the Russian readership quite appropriately (considering that Latour is little translated into Russian, contrary to other authors quoted in this book). Vygotskij and his ideas about “acting with tools” are instead ignored, despite their reintroduction in contemporary western debate as “activity system” by Yrjö Engström and Michael Cole.

Analysing the role of discourse in practices, the authors present the most interesting part of their work, comparing the various perspectives of Michel Foucault, Michel De Certeau, Luc Boltanski and Laurent Thévenot. In particular, they underline how Foucault studied “serious” discourses (such as medicine), while Boltanski and Thévenot developed a sociology of criticism focusing on an analysis of regimes of accountability or justification, studying the kinds of regulatory forms used in everyday reasoning in relation to behaviours and practices, and analysing the impact of these types of discursive commitments (engagement) and constraints (régimes of coordination). Similarly, the authors examine Foucault’s idea of power as a “strategy without a strategist”, a configuration of forces operating in everyday life through practices transforming the Self into a Subject, and compare it with De Certeau’s perspective, based on the double register of strategic practices –

the dominant ones, generating order, spatiality, effect of power, hierarchy, production of identity – and tactical practices, i.e. the “weak ones”, mimetic and conformist, aimed at avoiding stigmatisation, generating mobility, despatialisation, networking of small groups, manipulation of identities, slang and multiplicity.

However, the most surprising aspect of this book is its confidence in sticking to a divide between Russian and “western” (in this case) theory of practices, which seems to be taken for granted. This is a great sign of continuity with the Soviet tradition. In the past, in every Institute (Graham 1975) there was a sektor, or department, devoted to the study of “bourgeois” areas of research, which were obligatorily subject to criticism, with a number of scholars conveying the contents of western debates into the Soviet world (Mongili 1998). By doing so, they regarded “western” or “bourgeois” science (during the Soviet period) as a phenomenon apart from the Soviet (now Russian) culture. They often achieved a very high level of analysis, as we can see if we compare Steven Shapin’s (1995) review of SSK with a Soviet analogous work (Kelle *et al.*, 1988). However, the price for this kind of approach was not only the denial of any direct influence of Soviet thinkers (such as Vygotskij) on the western debate, but also of some original intellectual perspectives on practices, such as Baxtin’s. The only justification the authors have for this attitude is a meaningful discussion on the replacement of the Russian word for practice, *dejatel’nost’*, with the more westernizing *praktika*.

References

- Bakhtin M.M. (1990) *Author and hero in aesthetic activity*, in M. Holquist and V. Liapunov (eds), *Art and Answerability: Early Philosophical Works by M.M. Bakhtin*, Austin, University of Texas Press (orig.: *Avtor i geroj v èstetičeskoj dejatel'nosti*, in “Èstetika slovesnogo tvorčestva”, Moskva, Iskustvo, 1979).
- Cole M. (1998) *Cultural Psychology*, Cambridge, Harvard University Press.
- Graham L.R. (1975) *The formation of Soviet Research Institute: A Combination of Revolutionary Innovation and International Borrowing*, “Social Studies of Science”, 3, pp. 303-329.
- Graham L.R. (1990) *Science and the Soviet Social Order*, Cambridge, Harvard University Press.
- Holquist M. (1990) *Dialogism*, London, Routledge.
- Kelle V. Ž., E.Z. Mirskaja and A.A. Ignat'ev (1988) *Sovremennaja zapadnaja sociologija nauki. Kritičeskij analiz*, Moskva: Nauka.
- Mongili A. (1998) *La chute de l'U.R.S.S. et la recherche scientifique*, Paris, L'Harmattan.
- Shapin, S. (1995), *Here and Everywhere – Sociology of Scientific Knowledge*, “Annual Review of Sociology”, 21, pp. 289-321.
- Sloterdijk P. (2010) *Devi cambiare la tua vita. Sull'antropotecnica*, Milano, Raffaello Cortina Editore (orig.: *Du mußt dein Leben ändern. Über Anthropotechnik*, Frankfurt am Main, Suhrkamp Verlag, 2009).
- Todorov T. (1984) *Mikhail Bakhtin. The Dialogical Principle*, Minneapolis, The University of Minnesota Press (orig.: *Mikhail Bakhtine. Le principe dialogique*, Paris, Seuil, 1981).

Sophie Houdart
**La cour des miracles. Ethnologie
 d'un laboratoire Japonais**
*[The Court of Miracles: Ethnology
 of a Japanese Laboratory]*
 2007, CNRS Éditions, 335 pp.

Assunta Viteritti
 (Università di Roma)

In this very absorbing book, Sophie Houdart flits ably from one role to another, becoming in turn an ethnologist, an anthropologist and a sociologist of science. Laboratory life – that of humans both divided and united by culture (national, scientific, professional) and that of other species, in this case the drosophila fly – is enriched through a totally cultural vision of scientific knowledge (Pickering 1992; McCarthy Doyle 1996; Goodwin 1994).

The author tells the fascinating story of how a Japanese research laboratory describes and characterizes the homosexual gene of the drosophila fly in the 1990s. In fact, man is believed to be the ultimate branch on the tree of life. The research hypothesis is that the “forebears” of our sexual behaviour patterns can be found in animals, bacteria or flies. In its behaviour and in its genetic mutations, the fruit fly manifests many intermediate stages between hetero- and homosexuality. Above all, it focuses on the laboratory manager, Yamamoto, who evolves from being a lover of insects (*mushi mushi maniac*) according to the “naturalistic” culture prevalent in Japan, and becomes a laboratory scientist in line with the more “rational” western vision, without ever losing his cultural identity.

The book opens with the film: *Sexual behaviour – Mechanisms and evolution* – which Yamamoto made to allow us to observe both the heterosexual and fluctuating behaviour of the fly. Does nature communicate through the images or is this the story as told by Yamamoto? He tells us about his drosophila fly and we can see it, we watch with him more than 30 scenes narrated by the author: all appears simple, evident. In the visual tale, the story seems like a rosary of natural facts. The actors in the film are the flies, which demonstrate both hetero and homosexual behaviour. Then come the genes which embody these characteristics, then the areas of the flies' brains where these genes act. Then come Yamamoto and his story, the researchers who work with him, the other laboratories, his centre collaborates with. The film, like the book, shows how nature and culture are questioned. The "natural" history of the drosophila becomes the "cultural" history of Yamamoto, his laboratory, his successes and his problems. The author moves ably from one type of culture in practice to another: natural and mutant drosophila flies; types of genes (canoe, tamou, satori, fruitless, etc.); types of laboratory location – Japan, Hawaii, France; types of research practices – more interdependent, more individualistic, more rational, more natural, more polyphonic, etc. In each difference, in each stage of the story, we see how the natural is transformed, and how each distance or nearness between the elements represents a cultural experience.

Houdart's book presents the tradition of laboratory life competently and innovatively, ably adding the cultural

ingredient in its various forms and shades. The book is a play on mirrors, all the characters being observed through the eyes of the other characters: only through comparison and analysis of the reciprocal differences can the characteristics of the various actors emerge. The author goes on to highlight the cultural changes deriving from the fact that in the research field of ethnologists, anthropologists and sociologists of science, we find ourselves in the presence of non-humans – not only in the form of technologies and artifacts (according to the consolidated ANT tradition) but also in the material form of other species, such as scarab beetles and flies, and even cells, molecules and genes which behave like active entities, repopulating the fields of inquiry in social sciences (Houdart and Thiery 2011).

Sophie Houdart begins by telling her personal story, that of a young PhD student in social sciences who arrives in Japan to study in a laboratory which had become a talking-point in the West. The author gives a detailed, very personal account of how she introduced herself into the laboratory environment, how she integrated with daily life in order to relate the group's working modalities, silences, personal pathways, their difficulties with the English language. The author speaks of the professional pathway of the laboratory manager, Yamamoto, a typically Japanese story, yet exemplary in its singularity. As related to the ethnologist, the anthropologist, the sociologist of science with the certain measure of rhetoric which one might expect and forgive in a scientist, Yamamoto is first and foremost Japanese and then a re-

searcher, first a lover of insects and then a scientist. The text guides the reader through the adventurous metamorphosis of this naïf ethnologist who loves the mountains and insects, transforming him into an almost Western scientist capable of producing knowledge for articles in important international science magazines.

She then tells of how Yamamoto put together his team, how he set up other laboratories, how he gradually began to interact with Western colleagues, how he maintained the modalities of “naturalistic” knowledge which derived from his culture of origin. All this took place within the socialization to western scientific culture with which he needed to measure himself in order to export the Japanese cultural systems which through him had evolved into something new.

The insects from his mountain childhood lead him towards science. His love of nature, intrinsic to Japanese culture directs his footsteps towards rational science: from the mountain butterfly to the laboratory drosophila, from natural to artificial adaptation. Yamamoto’s trip to Chicago does the rest, making it necessary for him to acquire a posture, a conduct, a psychic experience, a sense of perseverance, a disciplining of mind and body, as Foucault (1975) would say, thus transforming him from collector into electrophysiologist. In this transformation, Yamamoto also becomes one who has to master other people, genes, flies, colleagues, as well as mastering himself.

The book is divided into three parts. The first narrates the cultural transformations of the actors in the

field: how the foreign ethnologist from a European culture arrives as a guest in Yamamoto’s laboratory, how Yamamoto himself evolves from being a lover of insects to scientist (after his long experience in the USA), and speaks of the differences between the Japanese laboratory and the second Hawaiian laboratory set up by Yamamoto, highlighting the cultural differences between the two working teams. The chapters in Part two introduce the anchoring to nature through the drosophila fly and its transformations in the multiple court of natural mutants: the court of miracles. In this part of the book, other cultural diversities enter the picture. Through a particular modality of comparison, adopting differences rather than similarities, the author tells of the modes of action exerted by humans on the drosophila. Two laboratories, one in France in which Yamamoto develops his project on the drosophila and the Japanese laboratory are compared. The two research experiences, the two teams, act differently when observing the drosophila’s behavior, the diverse types of mutant flies (either more or less heterosexual or more or less homosexual). Also in this case nature is tested by cultures and diversities, with the polyphonics and multiple existences in the behavior patterns of humans and flies under examination: the ethnologist widens his field of observation populated by various subjects and watches the researcher who watches the drosophila, then watches the drosophila itself through the researchers experiments and reports. What is questioned here is the relationship between local and universal, between specific research practices

and how these are represented reciprocally as a part of more universal scientific practices: local is different in the more general sense. In the third part, we are told that scientific practice is above all social practice. Houdart describes how Yamamoto exhibits his charisma, his way of orchestrating the events, his authority over the group and at the same time how order is established within the laboratory, how objects are distributed in practical terms and how the human actors dominate the others (the flies and genes) in the process. Yamamoto has produced his own practical pedagogy (Kaiser 2005).

In conclusion, it may be said that Houdart's work is not a comparison, not a multi-situated ethnography, not a case study but rather all of these in part. It can certainly be said that it is rich in bibliography, rich in literary composition, wide-reaching in its narration of the research field and competent in its use of scientific terminology, accurate in its use of the many citations – from literature, philosophy, science – which open the chapters. It is a very French book in the certain sarcasm and recurring elegance which sustain the narrative. It is a book which certainly continues along a pathway rich in possibilities in terms of the cultural studies of practices and knowledge, and which young academics (of social sciences, but also biologists, physicists, chemists, etc.) from the U.K., Italy, France, Japan, the U.S.A., Spain, etc., ought to read to obtain a close-up of the lives of others (both human and non-), which are also theirs, and ours.

References

- Foucault, M. (1975) *Surveiller et punir. Naissance de la prison*, Editions Gallimard, Paris.
- Goodwin, C. (1994) *Professional Vision*, "American Anthropologist", 96 (3), pp. 606–633.
- Houdart, S. and Thiery, O. (2011) *Humains non humains: comment repeupler le sciences sociales*, Paris, La Découverte.
- Kaiser, D. (2005) *Pedagogy and the practice of science: historical and contemporary perspectives*, London, The MIT Press.
- McCarthy Doyle, E. (1996) *Knowledge as Culture. The New Sociology of Knowledge*, London-New York, Routledge.