Sophy Houdart and Olivier Thiery (Eds.)

Humains, non-humains. Comment repeupler les sciences socials [Humans and Non-Humans: How to Repopulate Social Sciences] Paris, La Découverte, 2011, pp. 368

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According to Sophie Houdart and Olivier Thiery, editors of the volume, the aim of the book is to present a handbook of French speaking Human and Social Studies over the last ten years. The book assumes the heterogeneity of the various twenty-nine contributions plus six introductions to the different sections. Beyond the diversity of the presented chapters, the common topic is the interactions between humans and nonhumans, with the assumption that exploring those interactions will lead to a better understanding of human individuals and human communities.

The purpose of the book is not to challenge the importance of interhuman interactions, which remain an important part of social studies; rather it is to explore other relations in a heuristic way, assuming that interactions with non-humans are an essential part of human interactions and human reality. The authors explain the subtitle - How to Repopulate Social Sciences - as studying humans and non-humans and exploring multiple roles of non-humans in human interactions. The several contributions seek to provide a deeper apprehension of human reality using sociological and ethnographical methods, with a minimal ontological approach about the nature of the non-humans. Given the variety of non-humans represented in the book, the concept of non-human is more heuristic and methodological than ontological. In fact, the focus of the book is more on interactions with usually neglected actors who are not human beings, than on non-humans *per se*.

The edited volume is organized around six sections, corresponding to well-identified thematic fields in French speaking contemporary Social Science: Nature, Public policies, Markets, Science, Art, and Gods. Each one is opened by an introduction to present what is at stake when we try to repopulate Social Sciences in that specific field. The perspective is mostly empirical: the idea is to illustrate, through existing studies and fieldwork observations, how studying human and non-human interactions *in situ* can renew research perspectives. The diversity and plurality of the various contributions are one of the objectives of the handbook. In the presented studies, the non-humans may be animals (mollusks, cloned cows, Thai beetles, mammoth), vegetals (sugar beet), molecules (water molecules, virus, yeast cells), technical artifacts (Taser gun, sampler, echography, wheelchair, disposable wipes), supernatural entities (Christ, catholic god, genies), processes (statistics, risk management, web sites), art works (statues, paintings, music), buildings (supermarkets or museums layouts), and so on. Interactions between humans and non-humans are diverse: some are created by humans, others pre-existed to humans, some are human assistants, others are source of trouble, some are visible, others not.

The editors also recommend transversal readings. To study controversies, taking into account interactions with non-humans leads to a better understanding of the materiality of controversies and of the values embedded in the non-humans participating to the debate. To study reconfigurations of human networks, taking into account connections, articulations, adjustments, contacts, interactions with non-humans and so on, is essential to understand the dynamics of mutations. Last example of possible transversal reading is the focus on micro level, ethnography, details, local situations to show how the different levels and scales are articulated.

Because of the rich content and the variety of the contributions, it is interesting to have an overview of all presented sections.

The first section "Nature and natural excesses" (La nature et ses débordements) is introduced by Philippe Descola. Descola claims that focusing on human and non-human interactions dissolves the traditional dualism nature vs culture, and challenges the cosmological anthropocentrism that followed Eurocentrism after the 19th century. He argues that it is urgent to "decolonize" concepts, through the analysis of human and non-human interactions. A first way consists in considering non-humans as a "total social fact": the focus then becomes the system of interactions. A second way consists in studying "quasi humans": when material devices become part of humans through the hybridization of human body and technical artifact, as with wheel chairs or prostheses. The chapters present studies on mineral water (Barbier), beetle fights in Thailand (Rennesson, Grimaud and Césard), an exhibition around a disappeared mammoth (Houdart), echography creating a new frontier of humanity (Champenois-Rousseau), disabled people adapting and adapted to their wheelchairs (Winance), H5N1 circulation and mutations (Keck and Manceron).

Bruno Latour introduces the second section on "Doing Politics" (Faire (de) la politique, which in French means at the same time "doing politics" and "doing policies"). He assumes that policy (or politics) can be object-oriented as a heuristic methodology. How to represent objects and to make them speak if we want to take them as political subjects is the key-issue of the following chapters, which deal with case studies as the Taser gun (Moreau de Bellaing), pandemic risks assessment (November and De Conto), statistical data to represent the nation (Didier), ecology and disposable wipes (Debourdeau) and lobbying at EU level through public demonstrations (Rosental).

The third section "Markets" (Passer marchés) is opened by Olivier Favereau, who underlines the gaps of the standard economical theory which ignores non-humans and is based on individuals as rational actors. Studying human and non-human interactions leads to the emergence of new descriptions and new coordination models. Mélard shows how economical relations between humans around the sugar beet are reconfigured by sugar measures through polarimeter. Grandclément describes how the architecture of the layout changed the shopping experience and, in a way, replaced the salespersons, through the example of the first selfservice shops in 1910 in the United States. Mellet's chapter studies the internet job market and the way it has changed job descriptions and created explicit mediations between the actors. Muniesa tries to understand the role of software in the quotation process of stocks and in the agents' strategies at the stock exchange.

In the introduction to the section "Edges of Science" (La science en ses confins) Sophie Houdart deals with human and non-human interactions in science studies, exploring how they contribute to the building of communities of practices and reveal the back side of science in the making. Brives' chapter on yeast cells culture in Petri dishes illustrates how scientists create the yeast cells as well as the culture of the yeast cells creates yeast cells biologists, even though the cells are invisible. Loeve explores the use of metaphors in nanotechnologies. Gramaglia and Sampaio Da Silva describe the collaboration of scientists with mollusks to assess water pollution on the long term with a historical perspective. The lexical study of the description of cloned animals by Rémondet unveils the evolution of the debate around their existence, from ethical issues questioning the nature of human reproduction to the "normality" of cloned animals, later from the legitimacy of cloning experiments to risk assessment and food security. Mialet analyses the complex interactions of Hawking, his statue and his collaborators.

The section "Shaking up works of art" (Le bouleversement en art) is introduced by Antoine Hennion, who tries to show how far we can go when we recognize the agency of the matter in the works of art. Actornetwork theory is here applied to works of art. Hénaut analyses restoration of The 'Wedding of Cana' by Veronese and discusses how a specific setting produces its original character where the experts interact with the public and the matter of the painting. Yaneva describes through the setting of contemporary art installations how art is finally what happens to the participants to the on-going art installation. Vidal's text about Madame Tussaud Museum in London emphasizes that wax figures are successful if they abolish the frontier between human and non-human, and allow heterotopia and heterochronia. The artistic creation is systematically undermined to allow a personal relation between the wax figure and the spectator who travels across time and settings. Fourmentraux presents a robot as virtual actor in theater and circus. The role of sampler in musical creation and how it has changed our perception of music and the role of the music listener in the creation of music is analysed by Heuzé. The section ends with Stoichita's chapter on the interactions of the musical sentences played by professional Gipsy musicians in Romania with the public and the musicians.

The last section "Living with gods" (Vivre avec des dieux), introduced by Elisabeth Claverie, presents very interesting studies about non-humans who are gods or spiritual entities. This gives a new perspective on religious social facts and how humans interact with gods. Albert Piette's contribution on the modes of presence of god in the catholic liturgy is very insightful: god is present and absent at the same time and gives signs of presence through absence. "God is an hybrid, blurred and flexible, present and absent, produced and independent at the same time" (p. 331) writes Piette, quoting Latour. Pons describes the role of Jesus to change social structures through Newborn Christians in the Faeroer Islands, while Grandsard and Nathan explore the role of djinns in a study on Muslim women's world perception.

It is impossible to provide many details on the twenty-nine very different studies presented in the book. All have in common a focus on human and non-human interactions, pay attention to non-humans and demonstrate strongly the interest of such a heuristic approach. Although some studies are less convincing than others, as the methodological option to study human and non-human interactions may seem heavy and not very relevant in some cases, the overall impression is of a rich and inspiring handbook. When the descriptions of interactions are dense and unfold different levels, it may be very stimulating as in studies on mineral water, online job market or contemporary art. This approach renews and reconfigures the different topics and may be very different from traditional sociology. Usual categories such as nature *vs* culture and sciences *vs* politics are dissolved by the human and non-human approach. The agency of non-humans is clearly demonstrated.

A common characteristic of all studies is the attention to singularity, the micro level of analysis and the on-site investigation, which is fascinating. Nonetheless, it would have been helpful to provide more references to be able to go beyond the few pages of each study. Moreover, as each story is short, and the topics are very different, despite the insightful introductions to each chapter, the book lacks sometimes of a critical global perspective. Latour's influence and concepts are very perceptible in the whole book, he has even signed the introduction to one of the sections, but his approach is never questioned or challenged. As a conclusion, the handbook appears as a review of current French sociology but also as a tribute to Latour – there are references to his work in almost all contributions. It illustrates the fecundity of his legacy but some more critical perspectives would have been useful too.

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