

Chapter 8

Negotiating Meaning: An ANT Approach to the Building of Innovations

Fernando Abreu Gonçalves
Technical University of Lisbon, Portugal

José Figueiredo
Technical University of Lisbon, Portugal

ABSTRACT

Using an ANT approach based on Programs of Action the authors explore the description of innovation cases to discover internal referents that conveys their meaning. This paper revisits some old and well known histories like the application of ecography to obstetrics and gynaecology and the making and evolution of the computer mouse. Finally, the authors change from these localized cases of innovation to other histories on a more global frame, that is, the cases of two firms, one in the semi conductor industry, and the other in the mould for plastics industry. These descriptions are used as a way to research on the building of an ANT view for engineering innovations and wonder at the ability in which Actor-Network Theory (ANT) adapts and conciliates micro and macro worlds.

INTRODUCTION

Using ANT concepts and travelling along inscriptions and displacements we explore mediation with a semiotic approach into innovation contexts in order to better understand the work of Immutable Mobiles and deploy a method to take advantage of these network actors. We apply this method transversing settings and exploring micro and

macro alignments. Our research paradigm is interpretivist, we use the lens of ANT, the method is our own purpose and the tools we use with our method are Programs of Action (PA) with taxonomical trees of competences (referred by their names). These tools are explored in a very simple and low end approach just to help visualization and understanding of what we mean. The innovation addressed is technological innovation and is mainly taken in the shape of engineering design processes.

DOI: 10.4018/978-1-4666-1559-5.ch008

Positioning ourselves in a middle ground we dismantle mediation taking actor-network assertions (reductions, amplifications, framings) to find transversal referents (Latour, 1993a) that allows the emergence of meaning along the construct of artefacts. We reuse the semiotic Latour concepts of *procession* and *network* to address inscriptions used by Immutable Mobiles (IM) and design a method to take advantage of IMs. Then we explain how this method can address situations of technological innovation using the ecography example. We then present our main tools (programs of action and taxonomical trees of names) and we exercise them in the description of the mouse case-study. Our tools are based on the internetworking of names that negotiate their meanings.

The two first short stories addressed are situated in a micro level analysis. Then, taking advantage of the concept of global value chain we explore two more cases as a way to extend our rationale into a macro level analysis. Finally we end up with some conclusions.

CONCEPTUAL POSITIONING

The Mediation Work

The work of mediation (reductions and amplifications, framing and summing-up) (Latour, 1993b) cannot be done without uncertainties. That is what we intend to show with Figure 1, adapted from Latour (1991), where the different influences onto an actor are manifold – an actor is never alone.

It is an ANT ground that there are no pure natural or social facts, which means that we travel in a middle position of a virtual horizontal axis (natural-social), bound by its margins. In terms of the vertical axis (local-global) we also look for another way of viewing how actors align themselves in a network. Of course an actor-network has no local and no global places, has it also has no natural and social bounds. Going from

natural to social and from local to global is a simplified way to describe the mediation that is always a messy work in the margins, *Le goût des marges* (Latour, 1991).

To be able to follow the paths of mediation, the referents that enable the understanding of events and actor's work, we reinterpret Latour's formulation as depicted in Figure 2.

In our research we approach the description of some cases of innovation with this ANT based view as a method to understand the management of engineering design processes. That is, what we are trying to do is to figure out a practical way to navigate the work of mediation, a way to register the referents that allows the building of innovations.

Figure 1. Ontological regions and the mediation work, adapted from Latour (1991)

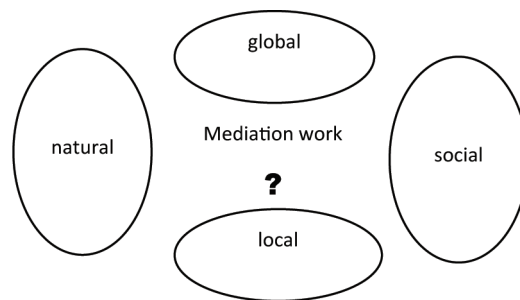
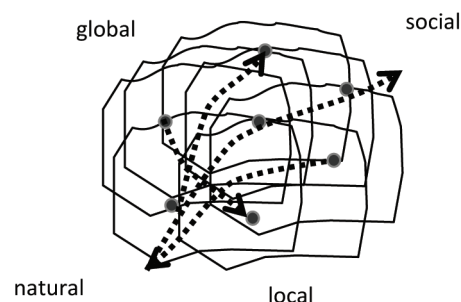


Figure 2. The messy work of the mediation



13 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/negotiating-meaning-ant-approach-building/65889

Related Content

Leaders, Decisions, and the Neuro-Knowledge System

Alex Bennet, Alex Bennet, David Bennetand David Bennet (2010). *Cybernetics and Systems Theory in Management: Tools, Views, and Advancements* (pp. 1-15).

www.irma-international.org/chapter/leaders-decisions-and-the-neuro-knowledge-system/39320

An Image Processing and Machine Learning Approach for Early Detection of Diseased Leaves

Sowmya B.J., Chetan Shetty, S. Seemaand Srinivasa K.G. (2019). *International Journal of Cyber-Physical Systems* (pp. 56-73).

www.irma-international.org/article/an-image-processing-and-machine-learning-approach-for-early-detection-of-diseased-leaves/247483

Institutionalisation of the Enterprise Architecture: The Actor-Network Perspective

Tiko Iyamu (2013). *Social and Professional Applications of Actor-Network Theory for Technology Development* (pp. 144-155).

www.irma-international.org/chapter/institutionalisation-enterprise-architecture/70836

The Sentiment Revealed in Social Networks during the Games of the Brazilian Team in the 2014 World Cup: A Conceptual Approach of Actor-Network Theory

Rita Paulino (2015). *International Journal of Actor-Network Theory and Technological Innovation* (pp. 41-51).

www.irma-international.org/article/the-sentiment-revealed-in-social-networks-during-the-games-of-the-brazilian-team-in-the-2014-world-cup/128339

How to Recognize an Immutable Mobile When You Find One: Translations on Innovation and Design

Fernando Abreu Gonçalvesand José Figueiredo (2010). *International Journal of Actor-Network Theory and Technological Innovation* (pp. 39-53).

www.irma-international.org/article/recognize-immutable-mobile-when-you/43544