

Delegating actions: subjectivation and objectivation in the laboratory

Thaís Garcez Capovilla (IC).

Abstract

The present work intended to develop an ethnographic investigation of scientific practices carried out by researchers from the Laboratory of Materials and Low Temperatures (LMBT) at the Institute of Physics Gleb Wataghin (IFGW) at Unicamp. During the course of two years and a half, a specific experiment conducted in the laboratory had its evolution accompanied by ethnographic incursions whose central purpose was to promote an analysis of the relational complex between the researchers involved with this experiment and the experimental apparatus on which they worked.

Key words: ethnography, objectivation, subjectivation.

Introduction

The Implications of objectivation and subjectivation of laboratorial scientific practices extend themselves far beyond the change in the ordering of instruments in the researcher's assistance. In order to study these implications, the present project followed the development of a research at LMBT which purpose was to verify the limitations of a mathematical model from observing the hysteretic behavior of mini-compass needles under the effect of magnetic fields. The development of this experiment took place due to the agency of humans and non-humans, offering the ethnographic observation a rich scenery for the analysis of objectivation and subjectivation crossed processes in scientific work and the participation of technology in the laboratory field.

Results and Discussion

The ethnographic incursions held in this research followed a methodological profile attributed to the *Actor-Network Theory* (ANT) developed by Bruno Latour¹. From the observation and accompaniment of the experiment developed at LMBT, it was possible to identify and comprehend the complexity around the relations between the researchers and their experimental apparatus, thus, highlighting the dimensions of the non-human actors influence in the process of constructing scientific facts. It was possible to discover the extent to which the development of researcher's scientific experience depended upon the objectivation of non-human actors and the laboratorial technology in general. The incursions were assisted by the elaboration of field diaries, audio and video recording and photo record, besides the acquisition of additional material for analysis, like articles, notes, essays, reports and presentations authored by the researchers related to the accompanied experiment.

Conclusions

The understanding of the universe that encompasses the scientific work shows itself as something crucial for the development of a righteous comprehension of Science. Currently this understanding proves to be deeply urgent for the evolution and progress of humanity's knowledge and world organization. Therefore, studies with the task of examining thoroughly the scientific environment represent important agents in the process of demystifying science, as well as scientists. The present research fits in this context, as well as enables the strengthening of the intellectual ties and knowledge exchange between two different areas, as it sought to integrate researchers from Social Sciences and Physics. It can be concluded that projects of this nature have the capacity to provide the academic field and community in general with a rich contribution for the Sociology of Science and Knowledge.

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¹ Latour, B. *Science in Action: How to follow scientists and engineers through society.* 1987;

Latour, B; Woolgar, S. *Laboratory Life: The construction of scientific facts.* 1988