A Reflexive Theory for the Study of Socio-Technical Systems

Working Paper

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Abstract

Introduction

The structural misunderstandings between Social Sciences and Humanities on one side, and so-called Exact Sciences on the other side, far from being a generality, seems to have however a significant impact on the structure of scientific knowledge [Hidalgo, 2015]. In particular, the place of theory (and indeed the signification of this term itself) in the elaboration of knowledge has a totally different place, partly because of the different *perceived*[1] *complexities* of studied objects : for example, mathematical constructions and by extent theoretical physics are *simple* in the sense that they are mostly entierely analytically solvable, whereas Social Science subjects such as humans or society (to give a *cliché* exemple) are *complex* in the sense of complex systems[2].

Objectives

Construction of the theory

Application : co-evolution of subsystems

Discussion

Conclusion

References

[Hidalgo, 2015] Hidalgo, C. A. (2015). Disconnected! The parallel streams of network literature in the natural and social sciences. *ArXiv e-prints*.

[Laughlin, 2006] Laughlin, R. B. (2006). *A different universe: Reinventing physics from the bottom down*. Basic Books.

[1] We used the term *perceived* as most of systems studied by physics might be described as simple whereas they are intrinsically complex and indeed not well understood [Laughlin, 2006].

[2] for which no unified definition exists