

Review – Technology and Agency in International Relations

Written by Bruno Maciel Santos

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BRUNO MACIEL SANTOS, OCT 8 2020

Technology and Agency in International Relations

Edited by Marijn Hoijtink and Matthias Leese

Routledge, 2019

Marijn Hoijtink and Matthias Leese's contribution to the Routledge book series, *Emerging Technologies, Ethics and International Affairs*, gathers theoretical and empirical works that bridge New Materialism, Science and Technology Studies (STS) and the field of International Relations (IR), through the analysis and discussion of the "agentic" nature of technology, its constitution and its effects within global society. Along with the papers presented in the book, the authors also include an interview with Claudia Aradau, one of the most respected researchers in the area of Critical Security Studies. This review will discuss the theoretical bases and their empirical application through a variety of themes analyzed in the different chapters of the book, highlighting their most valuable contributions.

Main argument

The starting point for understanding the discussions around technology and its impact on the international political environment is the conceptualization of agency as more than just a human attribute. In this sense, the modern conception of agency related to reflexive thinking capacity, and implying self-consciousness and free will, gives way to a broader idea that is characterized by the ability to act and produce a particular effect without human input. According to this view, non-humans can acquire "agentic capacity" to the extent that machines and algorithms can develop some tasks autonomously, creating some impact on society. As the authors write on the first page of the book, this enlargement of agency comes with some fundamental problems related to moral, economic, legal and political accountability for the actions of these non-human agents and, who should be responsible for their consequences. As it is clear, this broad (or *critical*) conception of agency is problematic in the sense that machines, codes, and technology in general are, foremost, a product of human agency. Because they do only what they are designed to do, the limits of where human agency ends and where non-human agency starts, and its implications in terms of accountability and responsibility can get blurry, to say the least.

To deal with this challenging duality, the authors use Law's (1991: 2) definition of technologies, "as socio-technical systems that are comprised of heterogeneous human and non-human elements." As such, technology is co-constituted by the interaction of both elements of the system, where the role of each is context specific. This actually leads machines and codes to have an impact on how action is constituted and how meanings are produced, since they enable the realization of some tasks otherwise impossible, too expensive, dangerous, monotonous and complex for human beings. In some ways, these technologies also "extend" human cognition in terms of access to information that would be impossible for humans to sense without their aid. As such, agency is understood as a product of human/non-human interaction, not an *a priori* attribute of someone or something. Nonetheless, the agency produced by the interaction of both elements of this socio-technical system is embedded in economic, political and social structures which cannot be separated from technological developments and practices. Georgios Glouftsiou's chapter about the European Visa Information System (VIS) illustrates this point. Technological innovations extend human cognition capabilities through biometric identification devices that enable new forms of border control management

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and actions. This brings new possibilities for migration management policies that have a socioeconomic impact in local and regional structures.

Empirical contributions

Starting with these assumptions and departing from a similar ontological base, the book includes many contributions that analyze the interactions between humans and non-humans forming technological agency and the way they interact, producing effects in the international political realm. The various chapters build their arguments from different theoretical and methodological perspectives, that span the literature on the Social Construction of Technology (SCOT), Actor-Network Theory (ANT), Sheila Jasanoff's (2004) work on "co-production", and Lucy Suchman's (2007) concept of "configuration".

One particularly interesting chapter analyses the ways in which different structures influence the configuration of human-non-human relations as in the case of the degree of human control over Lethal Autonomous Weapons Systems (LAWS) and how it affects the actions and decisions on the battlefield (Leese, chap. 3). The author engages in a broad discussion about the Levels of Automation (LOAs) and how the implementation of these different levels in the execution of the tasks intended by the LAWS form technology configurations that co-produce the use of lethal force in real combat situations. While there is a constructed consensus about the need for "meaningful human control" over LAWS, it can be established in many forms and shapes. But each form of configuration has its own implications for warfare. For example, it is one thing to program the system to autonomously identify an object as being a hostile tank and suggest some action by the human operator; it is another thing to delegate all the responsibility for the system to assess the danger posed by an object and program an immediate response to the threat with no interaction between human and machine. Whether the system is intended to advice the human operator, to request for consent, or to act autonomously (with or without a human veto right) makes it more or less prone to fire a shot and opens a great margin for discussion regarding the term "meaningful human control" over LAWS.

Two other chapters approach the problems involving the imagery technologies of satellites (Olbrich, chap. 4) and drones (Edney-Browne, chap. 5) and how these technologies were legitimized as reliable means to solve the uncertainty derived by the secrecy of pariah states and ambiguity in combat fields. Despite their practical utility, these technologies reproduce and reinforce the operator's biases, due to its inherently interpretative nature. They show that human perception is affected by the different enabling (and disabling) technical advances in the visual technologies of satellites and drones, leading to different socially constructed visualities and interpretations of (imagined) realities. Also, due to the characteristics of the human mind, satellites and drones facilitate confirmation biases by the operator's and interpreters of the imagens produced, also leading to an omnipotence and omniscience feeling. It thus reinforces the status-quo view of states and individuals as pariahs, with no chance to offer a "valid" counter-narrative to refute the material "evidence" presented by the images. If the neutral notion of technology is already contested for some time (see, for example, the works of Michel Foucault), these chapters show that even imagery production can become "technologies of power".

While there is no doubt from these examples that the relationship between man and machine (or codes) enhance human agency capabilities, influence the production of meaning, images of the world, interpretations of reality and hence practices and behavior by human beings (and even other animals), the agentic nature of technology is still debatable. What we can say is that human agency is modified by the use of technology, and at the same time produces some effects on human machine relationships. Machines and codes perform some tasks, with various degrees of autonomy or human control, and this has some impact on social and political life. But whether it can be called "acting" or merely "functioning" is a greater philosophical discussion, acknowledged by the authors but not deeply engaged in.

From a methodological point of view, one of the main arguments developed is that IR researchers and scholars should learn deeply about the way technology works, its mechanisms, how algorithms function, and what are the technical characteristics of machines and what does a specific code do or what does it enables humans to do? With the specific knowledge of technological systems, the trained eye of the IR researcher can identify relevant research

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topics and political problems derived from them. In looking more closely at these technologies, some chapters trace their evolution through the examination of official documents publicly available and interviews with people with technical knowledge involved in the processes of development of the technology and its implementation, as well as the operators of these technologies, *i.e.* the human element in the technological system itself. They tell the story behind the birth of political tools, showing how the decisions regarding the configuration of relationships between man and machine result in important social and political outcomes. In other chapters, the authors examine the technical specificities of technological systems and its social effects through the analysis of speeches, statements and written texts to reveal the way people think and talk about those systems.

Nonetheless, most of the contributions in the book approach the decision-making process involved in the development of the studied technologies in a shallow way, ignoring the impact of organizational procedures and biases, the role of key individuals and their belief systems, political disputes between interest groups, and the feedback effects in the shaping and molding of such technologies. The focus on the constitution of agency and the effects of technology in the political world leave aside the politics of the bureaucratic processes and individual and collective idiosyncrasies that also have an influence on the outcomes and resulting effects of technological developments. We can think of the organizational design of NASA and the idiosyncratic world views of Elon Musk or Bill Gates as explanatory variables for the technological outcomes of man-machine interaction. But at the same time, one can argue that the social structures co-produced by former technological advances influence even the organizational designs and cultures of such organizations, as well as the personality and world views of key individuals. The debate is still open.

Final remarks

After the theoretical, empirical and methodological discussions, the editors present the readers with an interview with Claudia Aradau. This interview can be seen as an appraisal or an assessment of the discussions about agency in the STS and New Materialism and their dialogue with IR, representing an enormous contribution to the field. With provocative questions (and answers), the editors and Aradau also call our attention to some gaps and possibilities for future investigations, such as a need for greater engagement with feminist and post-colonial approaches in STS and the normative aspects and implications of technology and knowledge production.

In sum, the book presents a great contribution to bridging the gap between STS and New Materialism, on the one hand, and the discipline of IR on the other, as well as the relational or co-constitutive approach of agency, which connects these perspectives. IR has much to gain from the critical perspectives presented in this book. The subjects analyzed in each empirical chapter are of great relevance for society in general, and the conclusions can guide and inform debates about public policies involving the use of specific technologies, normative discussions regarding the implications of developing and implementing specific technical and human-machine configurations, and future paths for research involving agency, technology and international relations.

About the author:

Bruno Maciel Santos is a PhD Candidate at the Graduate Program in International Relations from the *Pontifícia Universidade Católica de Minas Gerais (PUC/Minas), Brazil*. He is currently researching foreign policy decision making, individual learning and technological innovations with funding from *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES), Brazil*.