Antonio A. Casilli

Schiavi del Clic. Perché Lavoriamo Tutti per il Nuovo Capitalismo? [Slaves of the Click. Why Do We All Work for the New Capitalism?], Milano, Feltrinelli, 2020, pp. 320 [Italian translation of *En Attendant les Robots: Enquête sur le Travail du Clic*, Paris, Seuil, 2019, pp. 400]

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With the purpose to impress the Empress Maria Theresa of Austria, so the story goes, in 1770 the Hungarian inventor Wolfgang von Kempelen built a chess automaton known as "Mechanical Turk". This device was capable of playing chess against a human opponent and it won most of the games played in demonstrations across Europe and the Americas over the course of nearly nine decades. But the Mechanical Turk was an illusion: a chess master was operating the machine by hiding inside of it.

In 2005, Amazon.com marketed its micropayment-based crowdsourcing platform under the same name. According to Ayhan Aytes (2012), Amazon's initial motivation for building its own "Mechanical Turk" arose from the fact that its Artificial Intelligence (AI) programs could not identify duplicate product pages on its site. Following a series of futile and costly attempts, project engineers turned to people to work on computers within an optimized web system. The "Amazon Mechanical Turk" digital laboratory emulates AI systems by checking, evaluating, and correcting machine learning processes thanks to a remote, dispersed, and underpaid workforce of *clickworkers*. They are subjects employed in micro-tasks that can range from translating a three-line text, recognizing and deleting from the internet prohibited contents, composing a playlist, verifying the identity of users of a platform on a sample basis, training an artificial intelligence to distinguish pedestrian crossings from zebras, and so on. Precisely all the activities we now tend to take for granted are automated, as they are made more and more opaque by the pervasiveness of digital platforms, social media, and futuristic rhetoric on digital innovation and AI. This type of invisible and hidden work, outsourced and collectivized, hidden behind interfaces and camouflaged within algorithmic processes is now commonplace, and sometimes entirely unpaid. The case of Google's reCAPTCHA is emblematic: to prove that we are not a robot, we have to train Google's AI image recognition system for free, by checking the boxes containing buses, cars, or mountains.

Far from being at the gates of an era in which robots will "steal" jobs from humans, Antonio Casilli's book aims at opening the black box of digital platforms by showing how contemporary forms of AI are not that much "artificial" after all. Consider for example the hard physical work of the miners and the repetitive work in the factory on the assembly line needed

to produce a smartphone or a tablet; cyber work in distribution centers and cognitive factories exploiting outsourced programmers around the world; the low-cost crowdsourcing work of the workers of the Mechanical Turk, or the intangible unpaid work of various social media and/or platforms users.

Casilli assembles different references and materials: mainly texts and researches from the broad spectrum of social sciences (and therefore not strictly Science and Technology Studies), but also newspaper articles, and reports published on the internet by companies (Google, Amazon, Facebook) or government agencies, as well as video documentaries. In this regard, I highly recommend watching *The moderators* (https://fieldofvision.org/the-moderators), a documentary that in twenty minutes shows in an extremely effective way the training, the job practices, and the working conditions of between fifty and one hundred million workers worldwide, mostly concentrated in India, in Southeast Asia, in Sub-Saharan Africa but also in Brazil, Venezuela, or in Romania. Countries where workers' rights and trade unions are easily ignored, where informal work represents a normal and direct option for a vast portion of the population, and where "micro-benefits can serve as a gateway to the labor market for a great variety of people with different levels of education, language skills and work culture" (p. 105, my translation).

Digital platforms and automation processes, the author argues, are in fact to be read in continuity with the macro phenomena that have characterized the last thirty years: dissemination of information and communication technologies; financialization of economy; globalization of markets, transport and goods; international financial crisis. Casilli shows how each of these phenomena played an "enabling" role in the establishment of platform capitalism, on a par with different forms of "invisible work" or "shadow work" that we have witnessed over the years: domestic and care work, cognitive and intangible work, as well as the work performed by users, consumers, or by an undefined "crowd" in processes of labour gamification (*playbour*) and/or in hybrid combinations of production and usage (*produsage*).

The text convincingly shows how in a scenario marked by the economics of surveillance, reputation, and emotion (as well as by the quantification and the commodification of trust and traces through cryptocurrencies), the horizon is set by the extraction of data and the reorganization of information through AI systems that combine human work with that of machines. And it is equally convincing in depicting how a handful of megacorporations – the (un)famous GAFAM – Google, Apple, Facebook, Amazon, Microsoft – increasingly dominate territories and create new infrastructures and mechanisms for the accumulation of capital and the exploitation of human and planet resources.

Alongside texts such as *The Platform Society* (van Dijck et al. 2018),

Ghost Work (Gray and Suri 2019), *Surveillance Capitalism* (Zuboff 2019), or *Atlas of AI* (Crawford 2021), the book by Antonio Casilli aims at highlighting the various forms of digital labor on which digital platforms, algorithms, machine learning and AI are based. What is then the original contribution of this book and why should it be read by STS scholars?

First, it is extremely well-written and well-supported. Antonio Casilli constantly mixes theories, concepts, numbers and "exemplary cases", calling into question the readers and stimulating them to build their own opinion, not necessarily convergent with that of the author. In this regard, it should be noted that Casilli's book is not intended to be a canonical scientific monograph, but a text capable of dialoguing with different publics, not necessarily academics or social science experts. Not surprisingly, it has been granted in 2019 by the Colbert Foundation and by the École Nationale Supérieure de Sécurité Sociale (*Grand Prix de la Protection Sociale*), and in 2021 by the Association Régionale pour l'Institut de Formation en Travail Social (*Prix de l'Écrit Social*).

Secondly, it offers an interesting taxonomy of digital labor. As the author writes in the Introduction, originally the book was intended to have quite a different title (*Théorie générale du digital labor*; in English: "A General Theory of Digital Labor"), which was reframed by the Seuil publishing house (*En attendant les robots. Enquête sur le travail du clic* – in English: "Waiting for the Robots. Investigation into the Clickwork") and further re-signified on the occasion of its Italian translation, with the appearance of the word "slave" in the title (a translation and a word about which the author himself expresses some doubts in the Introduction to the Italian edition). After a first section focused on automation processes, the second of the three sections, in which the book is divided, is dedicated to presenting what Casilli frames as three main forms of digital labor (the third section is then titled "The Horizons of Digital Labor"). The first type of digital labor is characterized by the request for a service (Uber or Deliveroo, for example). In doing so, it composes an economy of odd jobs (the so-called "gig economy") which, beyond the service provided (transport, delivery, personal assistance, etc.), produces a variety of data (on customers and their satisfaction, on the timing of the service, etc.) which in their turn, will be re-exploited by the company/platform at stake. In other words, hidden additional work runs through the service provided contractually. "Microwork" is the second type of digital labor described by the author. It is carried out by a crowd of "microtaskers" who perform what machines cannot do or what would be unprofitable to make them do. The microtasks thus performed, most often consisting of a few simple but essential "clicks", invisibly supports the proper functioning of apps and/or websites, turning clickworkers into the "human-based computation" of digital platforms and AI systems. The third type of digital labor identified in the book relates to "networking", the activity of "produsers" and the

establishment of an "economy of ties". It refers to what we all do when we participate in the production or the correction of contents and/or data via social media (Instagram, Facebook, etc.) or dedicated websites. Again, fragmented contributions (more or less complex, but sometimes very time-consuming) are mobilized to improve platforms' performance. But this time the idea of "work" seems even more evanishing, since many produsers will be satisfied with symbolic, reputational, or even simply narcissistic gratifications. We find here the old debate on the understanding of what we could designate as "free work", which takes to my third point regarding why it is worth reading this book.

Contrary to a deterministic and dichotomic view in which platform workers (and users, at large) are seen as squeezed between proclamations of independence and material conditions that expose them to low or non-existent remuneration and to externally imposed rhythms and purposes, Casilli calls for a reappropriation of work. Unveiling the opaque logic of algorithms and artificial intelligence, digital labor may act as an engine of change, enacting new collective subjects and novel forms of workers' organization. In this call we find the last pillar of the theoretical approach proposed by Casilli, which dates back to the Italian operaist and post-operaist thinking: "a galaxy of authors [such as Sergio Bologna, Silvia Federici, Maurizio Lazzarato, Christian Marazzi, Cristina Morini, Antonio Negri], who have managed to conceptualize the processes of externalization and socialization of work, but also the effects of absorption of life itself in the sphere of work" (p. 31, my translation). In my view, mingling this theoretical tradition with an STS stance represents one of the main theoretical contributions of the book, in that it allows to revise the "excessive faith in the Marxist prophecy on the general intellect, which led to underestimate the material conditions of work in the age of digital technologies" (p. 31, my translation). At the same time, it allows recalling the attention on the inherently political dimension of some concepts commonly used in STS (such as those of "black-box" or "invisible work") and on how a processual stance toward work and digital technologies – that is, a stance oriented to underline the organizational side of digital processes – can enrich the debate on digital labor.

Finally, I particularly appreciated Casilli's ability to re-frame some words while offering a sort of updated vocabulary of some of the dynamics related to digitization processes. For example: "automation" = invisible human work; "gratuity" = pricing logic and incentive architecture of social platforms; "financing" = decline of the corporate paradigm; "platformization" = virtual circulation of labor; "Clickworker" = foreigners at work; "Fragmentation" = prerequisite for automation; "Sharing economy" = work on demand.

Having opened the black box of digital platforms, Casilli concludes with an ambitious proposal, which invites us to recover the meaning and

political dimension of the term "platform", which I will certainly not reveal in this review, hoping in this way to further intrigue readers reading this book and the dynamics related to digital work.

References

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Kate Crawford
Atlas of AI, New Haven and London, Yale University Press, 2021, pp. 327

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Artificial intelligence (AI) is an unknown territory. It is what Renaissance cartographers would have called *terra incognita*: a Latin expression signifying unknown lands that have been barely explored. And what is more mysterious and undocumented these days than AI? The concept of AI evokes a multitude of diverse non-biological intelligences capable of learning independently, thinking in a rudimentary manner and acting without being supervised, in a variety of urban spaces and domains, ranging from cheap restaurants to the highest levels of governance (Cugurullo 2021). Somehow paradoxically AI is everywhere, and yet its geography and politics remain largely uncharted.

It is precisely in this context, rich in cartographic and epistemological challenges, that Kate Crawford's work, researcher at Microsoft Research and chair of AI and Justice at Paris École Normale Supérieure, is situated. Over years of empirical research, she has extensively explored what AI is made of, where AI is coming from, what it is impacting on and how. The results of her studies are now culminating in a fascinating book: an atlas of