

# DIGITAL LABOR

## The Internet as Playground and Factory

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# CONTENTS

<i>Acknowledgments</i>	<i>vii</i>
<b>Introduction: Why Does Digital Labor Matter Now?</b>	<b>1</b>
<i>Trebor Scholz</i>	
<b>PART I</b>	
<b>The Shifting Sites of Labor Markets</b>	<b>11</b>
1 In Search of the Lost Paycheck	13
<i>Andrew Ross</i>	
2 Free Labor	33
<i>Tiziana Terranova</i>	
3 The Political Economy of Cosmopolis	58
<i>Sean Cubitt</i>	
4 Considerations on a Hacker Manifesto	69
<i>McKenzie Wark</i>	
<b>PART II</b>	
<b>Interrogating Modes of Digital Labor</b>	<b>77</b>
5 Return of the Crowds: Mechanical Turk and Neoliberal States of Exception	79
<i>Ayhan Aytes</i>	

vi Contents

6	Fandom as Free Labor <i>Abigail De Kosnik</i>	98
7	The Digital, Labor, and Measure Beyond Biopolitics <i>Patricia Ticineto Clough</i>	112
8	Whatever Blogging <i>Jodi Dean</i>	127
<b>PART III</b>		
<b>The Violence of Participation</b>		<b>147</b>
9	Estranged Free Labor <i>Mark Andrejevic</i>	149
10	Digitality and the Media of Dispossession <i>Jonathan Beller</i>	165
11	Don't Hate the Player, Hate the Game: The Racialization of Labor in World of Warcraft <i>Lisa Nakamura</i>	187
<b>PART IV</b>		
<b>Organized Networks in an Age of Vulnerable Publics</b>		<b>205</b>
12	Thesis on Digital Labor in an Emerging P2P Economy <i>Michel Bauwens</i>	207
13	Class and Exploitation on the Internet <i>Christian Fuchs</i>	211
14	Acts of Translation: Organized Networks as Algorithmic Technologies of the Common <i>Ned Rossiter and Soenke Zehle</i>	225
	<i>Further Reading</i>	241
	<i>Contributors</i>	247
	<i>Index</i>	251

# 5

## RETURN OF THE CROWDS

### Mechanical Turk and Neoliberal States of Exception

*Ayhan Aytes*

One of the most ubiquitous examples of crowdsourcing application is a human authentication tool called *captcha* (von Ahn et al. 2003; see Figure 5.1). It could be described as a reverse Turing test, in that humans convince the machine that they are indeed humans and not a software robot crawling the web and filling out random forms for spam dissemination.

Most of the time, the task required for a captcha authentication consists of reading a garbled text that is provided as an image file and then typing it into a text box. Re-captcha, a particular type of captcha, uses two sets of texts—one for the assessment purpose and the other for transcribing difficult-to-read words that were captured during optical character recognition scans. As a result, re-captcha functions not only as a human authentication tool but also as a cognitive labor platform.<sup>1</sup> The crucial aspect of this process is that no single individual who completes a captcha will ever be able to know the overall meaning of the text that was transcribed because of its fragmentation into single words. In most crowdsourcing platforms, fragmentation of tasks disenfranchises cognitive workers by disconnecting them from the final intellectual work. In addition, most crowdsourcing systems maintain a transient, task-based, and limited-time relationship between the worker and the requester and do not support a direct communication between the parties, further erasing the connection between the cognitive labor and the resultant work. A similar type of disconnect characterizes Amazon.com's digital labor market, Mechanical Turk.

Amazon Web Services established in November 2005 its digital labor market where workers from across the world and around the clock browse, choose, and complete human intelligence tasks (HITs) that are designed by corporate or individual contractors. The kind of labor required for each HIT varies: finding information and images about products and services, translating text from or to English,



**FIGURE 5.1** A typical re-captcha task.

transcribing audio, tagging images with descriptive text, or answering surveys on various topics. The products of this labor might serve many purposes ranging from spam generation to training machine learning algorithms that would eventually assume some of these human roles in the future. The payment amount per HIT ranges from one cent to several U.S. dollars, depending on the required time or difficulty of the task.

Amazon.com's initial motivation to build Amazon Mechanical Turk (AMT) emerged after the failure of its artificial intelligence programs in the task of finding duplicate product pages on its retail website (Pontin 2007). After a series of futile and expensive attempts, the project engineers turned to humans to work behind computers within a streamlined web-based system. Later, AMT made this cognitive labor platform available to private contractors in return for a commission for each completed HIT. AMT's digital workshop emulates artificial intelligence systems by replacing computing with human brainpower. Driven by what AMT calls "artificial artificial intelligence," this sociotechnical system represents a crucial formation on a global scale as it facilitates the supply of cognitive labor needs of mainly Western information and communication technologies industries from a global workforce.<sup>2</sup> AMT explains the value of its labor market for the software industry as follows:

With Amazon Mechanical Turk, it may seem to your customers that your application is somehow using advanced artificial intelligence to accomplish tasks, but in reality it is the "Artificial Artificial Intelligence" of the Mechanical Turk workforce that is helping you effectively achieve your business objectives.<sup>3</sup>

According to Panos Iperiotis, approximately half of the AMT workers—or Turkers, as some of them prefer to call themselves—are from the United States, and the other half are from 66 different countries. Most of the non-U.S. Turkers

are from India, representing 33% of the AMT workforce (Iperiotis, 2010). Ross et al. have demonstrated that the demographics of AMT are becoming increasingly international, highlighted by an expanding group of young, male, Indian workers who make less than US\$10,000 per year. About a third of Indian workers reported that they partly rely on AMT “to make basic ends meet” (Ross et al., 2010).

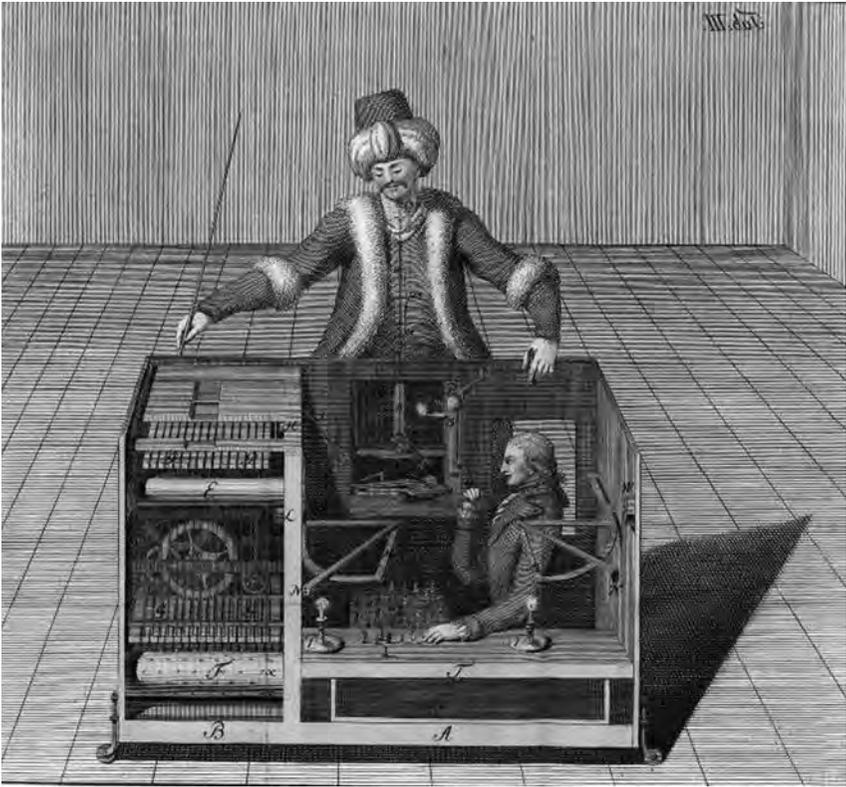
Amazon.com branded its micropayment-based crowdsourcing platform as the Mechanical Turk, borrowing one of the names of the 18th-century Automaton Chess Player as shorthand for the relationship that the system establishes between the cognitive labor force and the seemingly automated complex tasks. In both cases, the performance of the workers who animate the artifice is obscured by the spectacle of the machine.

The idea of the chess-playing machine, which was realized by IBM’s Deep Blue computer in 1997 has been a key conceptual apparatus for imagining the automatization of the operations of the human mind since the Enlightenment era. This metaphor was also central for the idealization of cybernetic discourse as a universal system during the first half of the 20th century, embodied by the postwar symbol processors, which later became the architectural basis of the contemporary computer (Bowker 1993; Shannon 1950). In this chapter, I will study a neoliberal reincarnation of the chess-playing automaton, Amazon’s Mechanical Turk, in the light of its early-modern legacy of configuring the relationship between the division of cognitive labor and the automatic systems of computing and control. Particularly, in both cases, in varying degrees and methods, the labor performance of intellectual workers is an integral element of the disciplinary structure of the corresponding socioeconomic apparatus.

In the current configuration, this cognitive labor apparatus is situated within the neoliberal system of exception facilitated by the digital networks, taking advantage of legislative gray zones in the international labor regulations in order to maximize profits for multinational corporations (Ong 2006). Crowdsourcing is one of the most significant elements of this configuration that expands the reach of the neoliberal economy through cognitive capitalism,<sup>4</sup> in which immaterial labor plays a key, structural role.<sup>5</sup> Not surprisingly, this configuration also embodies some of the conflicts whose seeds are placed during the early modern conceptualizations of the mechanization of industrial labor through division of cognitive labor. One of the most significant examples of this conceptualization was the chess-playing automaton that performed the insurmountable conflicts of the disciplining of the human mind for industrial production.

## Docile Automata

Wolfgang von Kempelen’s Chess Player Automaton was constructed and presented in 1770 at the court of the Empress Maria Theresa of Austria and gave the



**FIGURE 5.2** Engraving of *The Turk* from Joseph Friedrich Freiherr von Racknitz's 1789 pamphlet *Über den Schachspieler des Herrn von Kempelen und dessen Nachbildung*.

impression that the pipe-smoking Turk mannequin, controlled by a sophisticated mechanism under the cabinet, could play serious chess against human opponents (see Figure 5.2). However, the seemingly mechanical mind of the Turk was actually manipulated by Kempelen's chess master assistant, who was hidden beneath the pseudo-mechanism. The Automaton Chess Player was exhibited for 84 years in Europe and the Americas and attracted many notable challengers and spectators, such as Napoleon Bonaparte, Charles Babbage, and Benjamin Franklin (Carroll 1975; Windisch 1784).

In his book, *Discipline and Punish*, Michel Foucault considers the 18th-century automata as models for human body and social order (Foucault 1977). Consequently, the mechanistic conception of human body needs to be read in two registers: the *anatomico-metaphysical* register as constituted mainly through Cartesian mind/body duality, and the *technico-political* register that was constituted by empirical methods of the state for disciplining the operations of the body through the army, the school, and the hospital. In the context of these two registers, the

18th-century humanoid automata functions as a model, on the one hand, for submission and use and, on the other, for empirical analysis.

Foucault has often been criticized for ignoring the racial others in his historiography.<sup>6</sup> Notably, his concept of docility displaces Orientalist traces by solely focusing on the European subject in a selective genealogy. This absence becomes more critical in the analysis of an automaton that carries significations of Oriental “other,” such as Kempelen’s chess-playing automaton. However, I believe that the trick of the chess-playing automaton involves more than just exchanging the enacted body of the European chess player with the represented body of the Turk, animated through its mechanical artifice. It also includes initial assumptions that were set up in the audience by the automaton’s chess performance that were crucial in influencing the public debates on the mechanized reason that provided the larger context for these performances. These initial assumptions are closely tied to Orientalist undercurrents that were exploited by Enlightenment discourse in order to configure the docile subject on the image of the Turk.<sup>7</sup>

The Orientalist assumptions that were active in Enlightenment automata were also effective in the cultural performance of Kempelen’s automaton. I will focus on the two main aspects of the affordance of the image of the Turk as a significant part of the main interface of the chess-playing automaton.<sup>8</sup> The first critical aspect of the Turk’s performance is its liminal quality. This liminality created a buffer zone against the risk associated with the idea of the man-machine that most Enlightenment humanoid automata performed. That potential risk was often associated with instigations of libertinism, atheism, and insurrection in public due to the heretical understanding of a body without a soul (Vartanian 1960). Relegating this precarious role to an Oriental figure had, in fact, a long tradition with origins in medieval romance literature (Truitt 2004). The Oriental automata, through its association with liminal spaces and experiences in these literary accounts, conveyed surveillance, discipline, and enforcement of limits of morality.

The second aspect of the Turk’s performance is a particular form of docility that conveys the idea of the disciplined productive body, which played a salient role in the formation of the enlightened culture (Schaffer 1999). The association of the Oriental with docility has its roots in medieval theology, where the Muslim subjects were considered as strict followers of religious code. Linking this association with the discourse of Oriental automata, Christian theology configured a particular discourse of Muslim as automaton (Biddick 2011). Furthermore, docility prefigures the hidden chess player’s performance of the intellectual labor on behalf of the Oriental automaton. This dual performance of docility highlights the question of the intellectual labor in the context of the epistemic renovation in 18th-century Europe (Foucault 1977). These two aspects of the Turk’s performance—docility and liminality—are crucial for grasping its function as a model of power for the idealization of a social order in the context of the large-scale processes of mechanization of labor in Europe in the 18th century.

The chess-playing automaton performed its role as a model of power in multiple layers, the first of which was the demonstration of knowledge as a tool of power. The hidden chess player was the open secret of Kempelen's (and later Maelzel's) shows (Carroll 1975). Kempelen admitted that his automaton was just a "happy deception" (Cook 1995). As Schaffer notes, one of the roles of the Enlightenment automata was "to allow the selective entry by th[e] power to the inner workings of art and nature" (Schaffer 1999: 135). In other words, this open secret was also a conceited wink of the guardians of knowledge and power, reminding the general public about their privilege and status.

The element of mystery in Kempelen's performance can be considered within the system of representation of the natural philosophy, which perceived the whole of nature as a divine theater. The effects of this system of representation could be exploited to create a particular moral impression on its audience (Schaffer 1983). Scottish philosopher Thomas Reid expounds this moral effect as follows: "Upon the theatre of nature we see innumerable effects, which requires an agent endowed with active power; but the agent is behind the scene."<sup>9</sup> Kempelen's automaton benefited from the assumptions within this theater as a significant representation of the technomythical idea of the mechanized mind, and was not just a machine but also provided the language that made it possible to explicate that myth (Beaune 1989). As in every technical medium, it carried the inscriptions of discursive traditions and formulations that defined its cultural system of significations. The Automaton Chess Player performed these inscribed notions that were formulated as technical puzzles, which have remained relevant throughout the history of the mechanization of the mind. The puzzle of the mechanical chess player, or the mechanized symbol processing, has been tackled by many notable scholars and practitioners, including Gottfried Leibniz, Edgar Allan Poe, Charles Babbage, Norbert Wiener, and Alan Turing.

In Europe in the second half of the 18th century, automata performed as a secure experimental apparatus for exploring impenetrable ontological liminalities in a more systemic way and most of the time simulated life in order to redefine it (Riskin 2003). Fueled by the mechanistic philosophy, humanoid automata transformed not only the cultural attitude toward living creatures but also machines, as they performed the idea that mechanisms were also living beings. The mutual relationship between the animation of machinery and the mechanization of life was explored through the experimental apparatus of humanoid and animal automata and was popularized through the debates instigated by their public exhibition in Europe.

Wolfgang von Kempelen's Chess Player Automaton formulated the question of the mechanized life with a unique emphasis: Can the mind exist without the body? To this question, it gave two answers simultaneously: yes and not yet. The actual answer was not yet, as the automaton was indeed controlled by a human operator. However, the deceptive yes response was still valuable as a philosophical

game<sup>10</sup> for grappling with the ideas that were later made technically possible and implemented systematically, such as self-regulating mechanisms.

In contrast to other automata of the 18th century, the Turk's apparatus did not act as mere clockwork; instead, it gave the impression of a self-regulating system that could counter external actions within the symbolic logic of chess.<sup>11</sup> As historian of technology Otto Mayr (1970) suggests, in contrast to the idea of clockwork universe, which was the political universe of autocratic feudalism, the mechanical, political, and economic ideas of self-regulating systems influenced the Enlightenment ideas of liberal subjects and democracy. This association is partly constructed as a result of the rationalization of the socioeconomic life through industrialization, where subjects self-regulate according to their rational economic interests. Philosophical arguments for such conflict-free social systems had already been provided by various scholars, the most famous of whom was Gottfried Leibniz.

The preceding century had seen Leibniz's proposal of a universal symbolic language or algebra of thought. Since the expansion of the commerce in Leibniz's time, there had been a search for a universal language that would allow European traders to establish a sustainable communication with the people in the new colonies. Leibniz's universal language could be manipulated by a logical calculation framework, *calculus ratiocinator* (ca. 1680), which was a precursor model of modern computing (Wiener 1948). Leibniz suggested that the mind is a spiritual automaton that operates involuntarily based on a predetermined set of laws. "The operation of spiritual automata, that is of souls, is not mechanical, but it contains in the highest degree all that is beautiful in mechanism" (Leibniz 2005: 365). However, the automaton/self-moving soul does not eliminate agency for Leibniz, because symbols and the symbolic systems of language play a constitutive role for reasoning. Based on this principle, Leibniz proposed *calculus ratiocinator* as an ultimate solution for all conflicts between the people of the world. This perspective finds its expression in Leibniz's Machiavellian motto *calculemus* (let us calculate!): "if controversies were to arise there would be no more need of disputation between two philosophers than between two accountants. For it would suffice to take their pencils in their hands, and say to each other: *Calculemus*."<sup>12</sup>

Chess is a perfect example for computable symbolic systems; consequently, when the Turk spoke the language of the symbolic via chess, it entered "the world of the machine" (Lacan 1991: 47). But that machine denoted a particular type of subjectivity because of the nature of the actors and their limited set of behaviors that are strictly defined within a set of rules in the game of chess. As Deleuze and Guattari state:

Chess is a game of State, or of the court: the emperor of China played it. Chess pieces are coded; they have an internal nature and intrinsic properties from which their movements, situations, and confrontations derive. They have qualities; a knight remains a knight, a pawn a pawn, a bishop a bishop.

Each is like a subject of the statement endowed with a relative power, and these relative powers combine in a subject of enunciation, that is, the chess player or the game's form of interiority. . . . Within their milieu of interiority, chess pieces entertain biunivocal relations with one another, and with the adversary's pieces: their functioning is structural. . . . Chess is indeed a war, but an institutionalized, regulated, coded war. (Deleuze and Guattari 2004: 352)

Consequently, an automatized chessboard represents the ideal Enlightenment universe, where the subjects and their possible actions are coded according to the regulations informed by the power structure of the society. Each subject is endowed with a relative power, and they cannot go beyond the roles for which they qualify. Particularly, when these intrinsic properties are abstracted into geometric functions and when combined with the functions of other subjects, they have the potential to exhibit numerous but finite possibilities for a final outcome. This is another reason for mechanized chess being a model for imagining a society whose coded subjects articulate a plurality of results. Thus, the chess-playing Turk embodied an integration of the self-regulating liberal subject with the mechanical docility of the Oriental, performed within the coded socioeconomic universe of the game of chess.

In the mid-19th century, during the Turk's tour in the Americas, Edgar Allan Poe took this seemingly conflicting performance for his argument of why an automaton chess player would be impossible. In an editorial published in the Richmond-based *Southern Literary Messenger*, he surmised that “[n]o one move in chess necessarily follows upon any one other. From no particular disposition of the men at one period of a game can we predicate their disposition at a different period” (Poe 2009: 1). This perceived paradox was mainly due to the assumption Poe had for the possible operational principle of the automaton, which was mainly based on the linear mechanism paradigm, where the interaction between the mechanism and the environment is not a relevant factor during its operation. Poe explicitly based his argument on a comparison of the performance of the chess-playing automaton with Charles Babbage's calculating machine and concluded that:

There is then no analogy whatever between the operations of the Chess-Player, and those of the calculating machine of Mr. Babbage, and if we choose to call the former a *pure machine* we must be prepared to admit that it is, beyond all comparison, the most wonderful of the inventions of mankind. (Poe, 1910: 84)

Poe's resistance to the idea of mechanized thinking may also be related to a particular kind of predicament that concerned his intellectual labor. The very possibility of chess automaton as a “pure machine” must have posed an uncanny

prospect for Poe as an intellectual worker. The designer of the actual calculating machine, Babbage, had already implicated the particular kind of skill and labor that Poe uses for his intellectual work as part of the mechanization and division of the cognitive labor system. Charles Babbage specifically used newspapers as an example

of a manufactory in which the division of labor, both mentally and bodily, is admirably illustrated, and in which also the effect of the domestic economy is well exemplified. It is scarcely imagined, by the thousands who read that paper in various quarters of the globe, what a scene of organized activity the factory presents during the whole night, or what a quantity of talent and mechanical skill put in action for their amusement and information (Babbage 1963: 216).

Following Adam Smith's analysis in *The Wealth of Nations*, Babbage thought that the process of division of mental labor would serve for the eventual goal of transferring the functions of the human cognitive labor to the operations of a machine. Thus, for Poe, chess-playing automaton, with its allusions to such a "manufactory of information" processing, must have posed an uncanny puzzle also for its implications about the exchange value of his previously irreplaceable intellectual labor. In one of his later speculative narratives, Poe depicted von Kempelen as an alchemist who transforms lead into gold, which results in an enormous reduction of the value of gold and an inflation in the price of lead in international markets.<sup>13</sup> This narrative could be read as an allusion to the expected decline in the exchange value of the intellectual labor as an unavoidable outcome of the mechanization of reason through a division of cognitive labor.

The imminent threat for the privileged labor position of the enlightened subject as a result of the division of cognitive labor was already under way in the 19th century. Industrial capitalism's premise was that any of the roles in the socio-economic chessboard could be played by anyone when these functions are regulated into smaller units through industrial organization.

This social program as an instance of the expansion of the Cartesian mechanistic universe is mainly guided by the flow of human thinking into computational organizations and apparatuses, including the state. In this volume, Jonathan Beller's essay emphasizes this point through a close reading of Villem Flusser's works. Particularly, the scientific discourse of the Enlightenment led the trend toward the encoding of human thought into numerical representations. My historical analysis considers the Chess Playing Automaton as one of the behavioral prototypes of this trend inhabiting the associated tensions of the emergent apparatuses that later realize these initially imaginary encodings into commodified social and cultural programs such as cameras or computers. In fact, Flusser finds similarities between photographers' attempts to find possibilities within the program of the camera and the chess players' pursuit of finding new possibilities in the program of chess (Flusser 2000: 27–30). In both instances, humans and

apparatuses merge into a unity, which explains how human functionaries of apparatuses both control them and are controlled by them. These apparatuses, as a codified set of social relations, are integrated into other socioeconomic apparatuses ranging from industrial production regimes to disciplinary apparatuses of the state. By emphasizing this particular definition of apparatus, Jonathan Beller guides us through a potential and common risk of ignoring the socioeconomic ground of their emergence.

There is an immense similarity between Flusser's use of apparatus and that of Michel Foucault's, which denotes strategic constellations of tangible and intangible tools, institutions, and discourses that are inscribed into politics of knowledge and power. *Apparatus/Dispositif*, according to Foucault, is "a set of strategies of the relations of supporting, and supported by certain types of knowledge."<sup>14</sup> Foucault uses the term *apparatus* in order to move beyond discourses to include material, behavioral, and institutional elements for describing formations of structures of knowledge. The term frequently appears in relation to his studies on governmentality from the mid-1970s.

Foucault uses the prison as an example of an apparatus by emphasizing its optic attributes that are configured based on Bentham's Panopticon architecture. The prison in this view is simultaneously a technical medium designed for seeing without being seen and consequently a tool for subjectification by internalization of surveillance. As Agamben succinctly describes, the apparatus "is first of all a machine that produces subjectifications, and only as such it is also a machine of governance" (Agamben 2009: 20). As a result, the term *apparatus* provides a very useful vantage point for studying mechanization of mind with an integrated focus on its technical, industrial mediations such as the division of cognitive labor as a disciplinary formation and its constitutive socioeconomic conditions.

Consequently, the analysis of the evolution of the industrial cognitive labor apparatus from its imaginary Enlightenment conceptual prototype to large-scale computable social systems in postindustrial capitalism needs to take into account the neoliberal grounds of its emergence.

The transfer of the functionary role of the cognitive labor apparatus from the privileged labor of the Enlightened subject to unqualified crowds of the neoliberal cognitive capitalism is primarily enabled by the digital networks of the 21st century. This transfer further extends the effect of the foreclosure of the semiosis for the cognitive worker by microdivision of cognitive tasks and its distribution across cultural, temporal, and geographical zones.

## Return of the Crowds

Crowdsourcing is a hybrid concept that merges the neoliberal outsourcing paradigm with the crowds on the digital networks. In the June 2006 issue of *Wired* magazine, Jeff Howe evangelized the concept to its technologically savvy neoliberal audience as follows:

Technological advances in everything from product design software to digital video cameras are breaking down the cost barriers that once separated amateurs from professionals. Hobbyists, part-timers, and dabblers suddenly have a market for their efforts, as smart companies in industries as disparate as pharmaceuticals and television discover ways to tap the latent talent of the crowd. The labor isn't always free, but it costs a lot less than paying traditional employees. It's not outsourcing; it's crowdsourcing. (Howe 2006:1)

Crowdsourcing as an alternative to traditional employment methods also signifies an unexpected return of the concept of the crowds to the agenda of the global North. But at this time, its discursive signification is limited within the communities of the global South. As William Mazzarella expounds:

Crowds, supposedly, belong to the past of the neoliberal democracies of the global North. By the same token, they also mark the present of non- or insufficiently liberal polities in the global South... crowds are the dark matter that pull the liberal subject from its past, whereas multitudes occupy the emergent horizon of a postliberal politics. (Mazzarella 2010: 697)

Mazzarella finds the distinction between crowds and multitudes as parallel to the distinction between Foucault's "society of discipline" and Gilles Deleuze's postindustrial "control society." While crowds correspond to industrial discipline, multitudes can only be considered in the context of the postindustrial control society, where command by control is "fractal and aims to integrate conflicts not by imposing a coherent social apparatus but by controlling differences" (Mazzarella 2010: 700). Command by control also characterizes the mode of production in the postindustrial service economy with full integration of computers and digital networks.

At this point, it is useful to look at the concept of immaterial labor and some of the assumptions it conveys, because it is the most prominent activity that gives its characteristics to the multitude. Because of its reliance on the commodification of communication, which inherently forms social relationships, immaterial labor denotes the process through which "social" becomes "economic." According to Maurizio Lazzarato, as an extension of the commodification of social relationships, the subjectivity becomes the "raw material" of immaterial labor (Lazzarato 1996). This is partly because the "production today is directly the production of a social relation" (Mazzarella 2010: 700). Here, the key assumption that needs to be challenged is that the economic expression of the social relationships happens in the same sociocultural environment. However, crowdsourcing unsettles this relationship because of its effect of deterritorialization.

Consequently, we need to consider the production of subjectivity in the context of the global system of cognitive labor practices. Despite its similarity to the industrial commodity consumption/production cycles, the information production cycles

are different in terms of their effects on subjectivity, since their immediate domain of effect is in the information and communication industry that forms the cultural fabric of the society by simultaneously constructing active consumer/communicator subjects. As a result, “[t]he production of subjectivity ceases to be only an instrument of social control (for the reproduction of mercantile relationships) and becomes directly productive” (Lazzarato 1996: 1). But how would this process still be valid when the communicator is no longer a consumer as a result of both the fragmentation of intellectual work and the global income gaps between the producers and the consumers of information commodities, or between the multitude and the crowd?

A similar set of assumptions characterizes Hardt and Negri’s concept of multitude. They expand the characteristics of postindustrial production onto the multitude and claim that “[w]hat the multitude produces is not just goods or services; the multitude also and most importantly produces cooperation, communication, forms of life, and social relationships” (Hardt and Negri 2005: 339). Further, Hardt and Negri ascribe an autonomous character to the subjectivities that are produced through cognitive labor mainly due to its assumed collective nature. “Such new forms of labor . . . present new possibilities for economic self-management, since the mechanisms of cooperation necessary for production are contained in the labor itself” (Hardt and Negri 2004: 336). This characteristic of the immaterial labor is presented in distinct contrast to the industrial notion of the labor power, which is considered “variable capital” in Marxist terms of political economy, since it can be activated and formed as a productive force only by capital.

However, I believe the crowdsourcing apparatus, with its unique configuration, challenges all of these assumptions and essentially negates the essentialist distinction between the industrial and postindustrial configuration of labor. In digital labor markets maintained by crowdsourcing protocols, crowds are subjected to a form of division of labor that is reminiscent of industrial production. But this division of labor differs from the industrial division of labor in terms of its effects in its relation to the global neoliberal socioeconomic formations that constitute a distinct condition for the workers of the global South. These conditions could be described as the gray zones of international laws that are designed by neoliberal policies to take advantage of stark regional differences in labor costs, which Aihwa Ong conceptualizes as “system of exception.”

### **Crowdsourcing as a Neoliberal Exception Apparatus**

Aihwa Ong describes neoliberalism as a global system of exception, borrowing a term from German political theorist Carl Schmitt. The state of exception, in the Schmittian sense, defines a political liminality that is established outside of the juridical order, created by the sovereign rule. Ong, similar to Schmitt’s description, emphasizes inclusive as well as exclusive aspects of neoliberal political formations, because these exceptions primarily work for making decisions outside of a consistent legislative framework. She formulates the neoliberal exception in relation

to “the interplay among technologies of governing and of disciplining, of inclusion and exclusion, of giving value or denying value to human conduct” (Ong 2006: 5). A significant example of these technologies of exclusion is *labor arbitrage*.

According to Ong, labor arbitrage is one of the strategies that informs the conditions of governing and disciplining by way of deterritorializing labor. Labor arbitrage breaks apart the traditional relationship between the national labor legislations and the worker as citizen. Ong describes labor arbitrage as “the latest technique to exploit time-space coordinates in order to accumulate profits, putting into play a new kind of flexibility” (Ong 2006: 174). Cognitive labor is particularly susceptible to labor arbitrage technologies because computerized division of labor enables the fragmentation of tasks into smaller and standardizable units, allowing their completion by an assembly of workers across the globe (Ong 2006: 161). I believe crowdsourcing is an apparatus of a neoliberal system of exception that signifies a novel instance of labor arbitrage, where online cognitive labor markets are established as aggregation platforms that simultaneously act as a techno-immigration system.

The exploitative aspects of cognitive labor arbitrage are clearly exemplified by Amazon.com’s Mechanical Turk crowdsourcing system. The Turker community seems to have varied responses to the claims of exploitation. Some U.S.-based Turkers oppose such claims and state that their interest in Mechanical Turk is solely motivated by the novelty of the experience. This fact could be explained by the seemingly negligible amount of income that can be earned through AMT for a U.S.-based worker.<sup>15</sup>

On the other hand, workers from countries such as India or China appear to be mostly interested in Mechanical Turk as a primary income source, though some of them find that AMT undervalues their labor. For example, Rajesh Mago, a computer freelancer from New Delhi, criticizes Mechanical Turk in his blog as follows:

They call the assignments posted by their requester as HITs (Human Intelligence Tasks). So, is the human intelligence worth cents only? LOL! I know no one is forcing anyone to do these assignments but yet it doesn’t justify the usage word “intelligence”—a mockery of human brain.<sup>16</sup>

Mago states that he completed more than 10,000 HITs working for a few hours a day for Mechanical Turk through 2008. He earned \$572.62. His HIT approval rate was 98.2%; in other words, the requesters he worked for rejected approximately 2% of his completed tasks, for which he was not compensated at all. According to Mago, requesters do not give any credible reason for their rejection. Moreover, even the payments for accepted works are most of the time delayed, a matter that appears to affect many other Indian Turkers. Rajesh Mago does not work for Mechanical Turk anymore, and, in retrospect, he concludes that:

Mechanical Turking was kind of addictive as I always challenged myself to test and experiment and work for low-paying HITs thinking that I will

be able to make decent money. But, Mechanical Turk requesters are pretty smart; they had done more R&D than me and were sure that they would get the work done at the lowest rates or for free!<sup>17</sup>

Mago's case highlights the unregulated nature of the emerging global cognitive labor market and evokes the *Gastarbeiter* (guest worker) program of the economic wonder years of postwar Germany in terms of the long-term historical interest of Western industries in labor arbitrage. The German *Gastarbeiter* program has been a prominent model for establishing an *immigration without rights* legislative system and it has recently inspired U.S. lawmakers during the fiery political debate on the immigrant worker program (H-1B visa) for the U.S. information technology industry (Jacoby 2009). The German *Gastarbeiter* program initially allowed only male workers from Yugoslavia, Greece, Spain, and Turkey on a temporary immigration status. These men were required to work up to 80 hours a week, supplying the labor needs of the booming postwar German industry at a much lower minimum wage than domestic workers and were exploited in a state of exception outside of the normal legislations, rights, and union protections.

The current neoliberal system of exception advances this early form of labor arbitrage by the help of digital networks. In addition, the peculiar temporality of the digital network with its "timeless time" creates another effect—the *time arbitrage*—which further accentuates the consequences of labor arbitrage. According to Shehzad Nadeem:

Time arbitrage can be defined as the exploitation of time discrepancies between geographical labor markets to make a profit. This operates on two scales. At the geographical scale, many companies exploit time zone differences to achieve a 24-hour business cycle. At the labor process scale, time arbitrage can mean the extension of work hours or the acceleration of the labor process. (Nadeem 2009: 21)

One may consider the acceleration of digital labor processes as an extension of the general acceleration of the pace of life on digital networks. According to Manuel Castells, digital networks replace the clock time of the industrial age with what he calls "timeless time," which is

defined by the use of new information/communication technologies in a relentless effort to annihilate time, to compress years in seconds, seconds in split seconds. Furthermore, the most fundamental aim is to eliminate sequencing of time, including past, present and future in the same hypertext. (Castells 2004: 12)

In addition, Castells characterizes network time as "the time of the dominant functions and powerful social actors in the network society" (Castells 2009: xlii).

In the context of these sociocultural premises of the network society, it is possible to consider time arbitrage as an actualization of the allochronic temporality of the Western anthropological discourse as it casts the “other” within an *always-on* machinic zone of temporality. According to Mazarella, the periodization of crowds to the global South is partly established by its allochronic quality, a term borrowed from Johannes Fabian for the description of a particular discourse built in Western anthropology and intellectual tradition in order to cast the “other” outside of Western historical time. According to Fabian (2002), allochronic discourse is a vehicle for domination and for maintaining global inequalities. In this case, the crowds of the global South are materially configured within the machinic always-on time of the networks through their immaterial labor in order to fuel the linear material progress that characterizes Western temporality. In other words, the Western allochronic discourse has been reified in the form of temporal arbitrage as an apparatus of a neoliberal system of exception.

I argue that the geographical and temporal detachments of the cognitive worker from the immediate cultural products of her labor, which eventually inform social relations on the other side of the globe, creates another state of exception that I call a cultural state of exception. As a result of this detachment, the cultural and the informational content of the produced commodity is consumed outside of the social context of the cognitive worker and thus does not directly alter her sociocultural conditions as a consumer/communicator. It is crucial to remind ourselves that this particular aspect of the cognitive labor apparatus was enabled by the process of disembodiment of information, which was a creation of postwar cybernetics. Corporeal decontextualization of information brought by cybernetics has had significant ideological presumptions—for example, an Anglo-American preference for digital information over context-dependent analog information (Marvin 1987). Carolyn Marvin has suggested that this preference mainly means an “ideological call for born-again unity in a clean and rigidly uniform world, a world more like ours than anyone else’s” (Marvin 1987: 61). Precisely because of such ideological implications, the network *Gastarbeiter* have become much more attractive to the neoliberal agenda within the context of the post-9/11 fear rhetoric.

## Concluding Remarks

If the digital network is the assembly line of cognitive labor, then the Mechanical Turk is its model apparatus. As the network shifts the object of control from the bodies to the collective mind, the Mechanical Turk achieves this objective by foreclosing the mode of collective cultural production to cognitive workers and confining them within the legislative, temporal, and cultural states of exception.

AMT divides cognitive tasks into discrete pieces so that the completion of tasks is not dependent on the cooperation of the workers themselves but is organized

from outside by information and communication technologies industries. By the elimination of the cooperation aspect of the cognitive work, the labor power becomes a variable capital as it creates value only after the activation and organization of the capital.

As a result of the fragmentation of cognitive tasks, crowdsourced workers not only produce the desired information for the task algorithm, but they are, in turn, produced by the algorithm, disciplined by its process flows into a particular cognitive mode and problem solving that eventually determines the efficiency of their labor and thus their livelihood. This effect becomes more significant when we consider the fact that the processes that require the fulfilling of tasks by means of the Mechanical Turk system are mostly the culture-producing algorithms that constantly feed the production/consumption cycle of the network economy. This is the source of the innermost paradox of the system: a gradual reduction of the differences that define the economic value of its information as a product by approximating the unpredictable global variety of tastes, expressions, metaphors, and conceptual affinities into a singular ontology of the multitude.

## Notes

- 1 In order to describe the particular type of immaterial labor that characterizes the industrial production of symbolic-analytical services, I prefer to use the term *cognitive labor*. This distinction is helpful to avoid the perceived emphasis on the immateriality of the immaterial labor under consideration, although various authors have carefully pointed out that the term does not denote solely immaterial processes in terms of production or consumption. However, I believe that immaterial labor still has the traces of some of the conventional assumptions about the processes of mind as separate from the body. Cognitive labor marks an epistemological and discursive culmination point in postindustrialism that is apparent in the academic, military, and socioeconomic prominence of the parallel systematization of the concept. As Mateo Pasquinelli describes, “Cognitive labour produces machines of all kinds, not only software: electronic machines, narrative machines, advertising machines, mediatic machines, acting machines, psychic machines, social machines, libidinous machines. In the XIXth century the definition of machine referred to a device transforming energy. In the XXth century Turing’s machine—the foundation of all computing—starts interpreting information in the form of sequences of 0 and 1” (Pasquinelli 2004). Another critical advantage of using the concept of cognitive labor for a critical analysis is that by means of its embodied and distributed characteristics, it is possible to talk about the historical relationship between the particular sociotechnical systems and constitutive subjectivities.
- 2 Non-U.S. workers do not need to pay tax to the U.S. government for their income. Incomes of the U.S.-based workers are taxed if the total annual amount earned from a requester exceeds the tax reporting threshold defined by the Internal Revenue Service.
- 3 “Amazon.com Help: Mechanical Turk,” <http://www.amazon.com/gp/help/customer/display.html?nodeId=16465291>.
- 4 In its various uses by Nick Dyer-Witheford, Paolo Virno, and Yann Moulier Boulang, the term *cognitive capitalism* refers to the accumulation of capital primarily characterized by post-Fordist modes of production and consumption of information in the network society.

- 5 According to Zizek, “Today, immaterial labor is ‘hegemonic’ in the precise sense in which Marx proclaimed that, in the 19th century capitalism, large industrial production is hegemonic, as the specific color giving its tone to the totality—not quantitatively, but playing the key, emblematic structural role.” See Slavoj Zizek, *Objet a as Inherent Limit to Capitalism: On Michael Hardt and Antonio Negri*, Fall 2005, <http://www.lacan.com/zizmultitude.htm>.
- 6 Ann Stoler, in her work *Race and the Education of Desire*, has highlighted the oversight of racial Others in Foucault’s historiography, particularly in Foucault’s “The History of Sexuality,” by focusing on the colonial facts in Dutch archival records (Stoler 1995).
- 7 In Europe until the 19th century, the term *Turk* was used interchangeably with Muslim, referring to the subjects of the Ottoman Empire, while the Ottomans never considered themselves as Turks. Ottoman elites used the term to disparage the nomadic tribes in Anatolia.
- 8 Cognitive scientist Donald Norman uses the term *affordance* to describe the perceived quality of an object in relation to its utility (Norman 1990).
- 9 W. R. Hamilton, ed., *Works of Thomas Reid* (Edinburgh, 1846); quote appears in Schaffer (1983).
- 10 Windisch emphasizes the boldness of the idea that the automaton conveys as one of its intended effects. “He represented it for merely what it is; a machine, which is not without merit as to its mechanism, but the effects of which appear so wonderful, only from the boldness of the idea, and the fortunate choice of means which he employs to carry on the illusion” (Windisch 1874: Letter V).
- 11 Kempelen was aware of the importance of self-regulating mechanisms and patented a steam turbine that was very similar to James Watt’s famous invention. The governor mechanism of Watt’s steam turbine is considered to be the archetype of self-regulating systems.
- 12 Gottfried Leibniz, *Dissertio de Arte Combinatoria* (1666); quoted in Ronald Chrisley and Sander Begeer, *Artificial Intelligence: Critical Concepts* (London: Taylor & Francis, 2000), 14.
- 13 Poe published “Von Kempelen and His Discovery” in 1849.
- 14 Foucault explains this term in his interview published in Michel Foucault, *Power/Knowledge: Selected Interviews and Other Writings, 1972–1977*, ed. C. Gordon ([City: Publisher]), 194–8. Deleuze (1992) prefers the term *social apparatus* in his translation of dispositive.
- 15 However, this assumption may not always reflect the entire reality. Mechanical Turk has recently gained some attention in the U.S. media, particularly after the 2008 economic crisis, through the aired stories by people who work for AMT. Although the kind of income that could be produced in Mechanical Turk may not entirely compensate for an income lost from a traditional full-time job for a worker based in the United States, many Turkers still see it as convenient and flexible work that could pay \$8 to \$15 per day.
- 16 Rajesh Mago, “Review of Mturk after Working with Them as Worker | PC Tips and Tricks,” <http://www.pctipstricks.com/my-review-of-amazon-mturk-after-working-part-time-as-worker-for-few-months/>.
- 17 Ibid.

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