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## Digital Labor Studies Go Global:

### Toward a Digital Decolonial Turn

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This article elucidates the global dimensions of digital labor. The field of study touching on platform-based activities has scaled up to reflect the increasing reliance of digital economies on supply chains outsourcing tasks to developing and emerging countries. To what extent can an economy predicated on data and value transfer from the Global South to the North be construed as “neocolonial”? Theoretical parallels with slavery, imperialism, and colonization fail to assess the historical uniqueness of new global inequalities. This article claims that the germane notion of “coloniality” (by relating to existing works at the intersection of race, gender, postcolonial, and subaltern studies) better addresses the dynamics of social exclusion and exploitation at play in Western and non-Western countries. I conclude by arguing for a “digital decolonial turn” pursuing the chief goal of digital labor studies: making invisible work visible.

Digital labor designates value-adding activities performed by humans on Internet platforms. As a field of study, it focuses on circumstances where employer–employee relationships and modes of remuneration are superseded. Prominence is given to precarious content providers, online temporary workers, and anonymous website and mobile application users over high-tech professionals, engineers, and hackers. Notable antecedents have argued that value-producing activities take place

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outside the strict framework of workplace and wage labor: invisible labor of women and minorities (Federici, 1975), audience labor in traditional media (Jhally & Livant, 1986), immaterial labor within knowledge-intensive industries (Lazzarato & Negri, 1991), and “prosumption” (Ritzer & Jurgenson, 2010). Building on these approaches, digital labor studies pinpoint the specific influence of pervasive computing and usage of digital/mobile technologies to emphasize unrecognized and often unskilled work.

Initially, digital labor was characterized as unpaid. Tiziana Terranova (2000) qualified it as “free labor on the net . . . building Web sites, modifying software packages, reading and participating in mailing lists, and building virtual spaces” (p. 33). Trebor Scholz (2012) highlighted the emergence of digital labor in a market setting where the commodification of personal data and the harvesting of user-generated contents turn clicking, sharing, and communicating with peers into de facto unpaid labor. Yet the exclusive focus on free labor has progressively given way to new analyses showing that digital labor is a continuum of unpaid, micropaid, and poorly paid human tasks. Some of these new approaches were more directly intended to revamp Marxist notions by aligning them with the social media and digital platforms *Zeitgeist* (Dyer-Witheford, 2015; Fuchs, 2014). Others pointed out the role of digital technologies in the emergence of occupational identities built upon precarity and risk taking (Huws, 2014; Neff, 2012; Standing, 2011).

The current debate on the responsibility of digital technologies and big-data architectures to perpetuate global disparities and dependencies of power, wealth, and knowledge (Munoz, Smith, & Patil, 2016) has highlighted a knowledge gap in the field of digital labor studies. The dynamics of marginalization of work on digital platforms need to be addressed at both domestic and international levels. The present article aims to critically situate the authors engaged in the field of digital labor studies in relation to current debates on the nature and effects of globalization. In the first part, I narrow down the object of digital labor. I draw a typology of platforms for on-demand services, crowd-work, social media, and smart objects, constituting the ecosystems through which value is created, appropriated, and distributed today. Subsequently, I look at recent changes in both empirical and theoretical orientations of digital labor research. Initially construed as a Western-bound field of study, it has diversified its theoretical approaches with its expansion beyond English-speaking countries. In the context of this article, the very use of notions such as colonialism, imperialism, or slavery is to be intended in a critical

and questioning way, helping to appreciate the effort of digital labor scholars to conjure up terms and postures that complexify academic categories.

### **Circumscribing the Object of Digital Labor Studies**

Generally linked to the wider mid-1990s debate about the “end of work” (Rifkin, 1995), digital labor questions the classical theory of the firm (Coase, 1937) by pointing to the emergence of new economic infrastructures, commonly known as digital platforms. Platforms are coordinating mechanisms that match supply and demand by algorithmically arbitrating the interests of multiple constituencies (consumers, producers, suppliers, audiences; Evans, 2011; Gillespie, 2008). They fall halfway between markets and firms. Like markets, they synchronize independent actors; like firms, they rely on a centralized structure to extract value from capital and labor and to limit risk. Thus, productive activities occur in wider ecosystems where formal organizations link up with independent contractors, communities, and hubs of users/consumers. As the platform paradigm gains ground over traditional corporate models, formal employment is progressively eclipsed by the rise of ICT-mediated informal work, often indistinguishable from consumption, interaction, sharing, and socialization.

The scope of digital labor studies can be defined through a descriptive typology. The one that follows outlines four sociotechnical platform ecosystems, ordered by degrees of conflictuality, recognition of labor, and different modes of remunerations.

#### ***On-Demand Platforms***

On-demand platforms connect customers with independent goods or service providers using mobile apps and portals to allocate material and informational resources in real time. Uber is emblematic in the urban transportation industry, whereas others have prevailed in sectors as diverse as food delivery (Deliveroo), handyman work (TaskRabbit), and hospitality (Airbnb). They are extremely reliant on material human labor, whether direct (one category of users actually performing physical tasks: driving, delivering, cleaning, cooking) or indirect (one category of users affording an asset that needs some labor to be put to use: apartments, cars, equipments).

On-demand platforms have experienced a high degree of conflictuality over the implementation of labor standards and rights. Owners force the status of independent contractors, self-entrepreneurs, or freelancers on millions of users providing work. This raises issues of insecure working conditions, lack of guarantees, and income volatility. In several cases, legal actions for worker requalification have been successful. Sometimes, collective action through unions has threatened business models based on denial of wages or employee benefits (Goodley, 2016; Huet, 2015; Levine, 2016).

However, struggles for recognition and fair remuneration concern only one part of the work performed on on-demand platforms today. Another type of productive activity (i.e., the “immaterial” labor performed by all users supplying data and content via online apps) is only recently coming to the fore. Rosenblat and Stark (2016) present several data-intensive tasks required from Uber drivers and riders alike (e.g., updating profile pictures, double-checking GPS routes, tracking schedules on online dashboards, exchanging messages, answering calls, rating rides, curating driver/passenger profiles). This part of the platform experience is crucial, as insufficient online performance results in deterioration/discontinuation of service for both riders and drivers.

### *Microwork Platforms*

Microwork platforms are crowdsourcing services that match recruiters and workers to perform small, repetitive, and often unskilled tasks.<sup>1</sup> Organizing music playlists, tagging images, and transcribing or translating short texts are standardized assignments that fall in the field of human-based computation (i.e., they are needed to train artificial intelligence systems; Irani, 2015). Amazon Mechanical Turk is probably the most well-known example of a microwork platform, even though its half-a-million-strong workforce is small by comparison to its international competitors', whose user base can add up to more than 10 million. Microworkers' remuneration can be as low \$.01 (“penny tasks”), with an estimated median hourly rate of \$1.38 (Horton & Chilton, 2010)—way below minimum wage in the U.S. and other countries. Tensions around remuneration and labor standards emerge as

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<sup>1</sup> Claims that microworkers are independent workers are questioned by a growing body of evidence that highlights the crowd workers' embeddedness in sociotechnical networks of collaboration and dependency with their platform (Gray, Suri, Ali, & Kulkarni, 2016).

microworkers' efforts to organize and ensure protection of their rights originate several initiatives, ranging from grassroots software tools used to review and rate recruiters (Turkopticon, n.d.) to the creation of a quasiunion (Dynamo, n.d.) to the launch of dedicated online services aimed to raise awareness of exploitation of platform workers (e.g., Fair Crowd Work, an online monitoring system designed by Europe's largest trade union, IG Metall).

Assignments on platforms such as Amazon Mechanical Turk mirror what any Alphabet user performs while using Google's services. Each sentence typed in the Google search engine trains the search algorithm. Each suggestion provided to Google Translate helps improve the translation service. Each reCAPTCHA word or image match performs character recognition for Google Books or image annotation for Google Street View. This, too, is human-based computation, obtained via microtasks, which in the long run will bridge the gap between computer processing and human judgment (Irani, 2016). The main difference between the computations performed by Google users and by Amazon microworkers is that the former qualify as unpaid digital labor, whereas the latter are micropaid digital labor.

### *Online Social Platforms*

Social media and networking platforms are the third digital labor ecosystem. They are based on communities of producers and consumers exchanging cultural goods: texts, videos, music as well as advice, support, and knowledge. Here digital labor conventionally manifests itself as unpaid activities performed by users, allowing platforms to extract profits.<sup>2</sup> Similarities between social media and factory workfare (Rey, 2012) are common arguments in support of a wage for users generating online content (Jung, 2014). These claims have fueled debates as to the possibility of qualifying activities whose nature appears voluntary and playful as actual work (Cardon & Casilli, 2015). Social media usage is far from the alienation and burden that characterize other digital labor ecosystems (Fisher, 2012) and relies on a distinctive blend of entertainment and work, thus conjuring up the notion of

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<sup>2</sup> Earlier Luddite critics of the social Web denounced the corporate "sharecropping" of amateur online contributions as a symptom of "digital Maoism" achieved by forced collectivization of individual contributions (Carr, 2006; Lanier, 2011). Digital labor studies distance themselves from these authors by pointing out that the opposite is true: social fragmentation and capitalist accumulation result from the capture of collective value via the enclosure of digital commons and the commodification of lifestyles and creativity generated by the multitudes (Moulier-Boutang, 2010).

“playbor” (*play* and *labor*; Kücklich, 2005). But even if users convey a discourse of creativity and self-realization, content generation is not immune to tensions over ownership, production, and labor standards. Legal battles for the recognition of employment rights or payments for content creators have concerned news websites like *Huffington Post*, image repositories like Flickr, and video services like YouTube.

A major weakness of the “hedonistic argument” against digital labor (“if users feel happy and self-actualized, online participation cannot be considered as work”) is that it only focuses on user-generated contents and overlooks two other sources of profits for social platforms: users’ metadata and click work. These two forms of digital labor go largely unnoticed and hardly contribute to user satisfaction. Metadata such as time stamps, session logs, IP addresses, and unique user IDs are valuable assets that platforms monetize by selling them to advertisers, data brokers, and even governments (Schwab, Marcus, Oyola, Hoffman, & Luzi, 2011; Soghoian, 2012). They add up to all the declarative information that users contribute during their online sessions and create a thriving data economy that has been thoroughly analyzed in recent years (Acquisti, 2010). For its part, click work revolves around invisible tasks of maintenance, selection, and promotion of information on social platforms. It can take the form of selective removal of data and contents by flagging inappropriate posts or by favoring specific content by intensifying exchanges and prompting viral circulation, memes, and buzz.

Although not contributing to users’ self-expression and personal fulfillment, these human activities produce value, as attested by the number of collective actions that have targeted ISPs, discussion forums, and video-game platforms to recognize the value of the click work of moderators, administrators, and translators (Matias, 2016).<sup>3</sup> Beyond their relative success, these litigations have drawn attention to the modalities of remuneration of users of social platforms and challenged the commonplace view that all users operate social services for free. Actually, free content production is limited to certain demographics on hegemonic platforms (Facebook, VK, Sina Weibo) that act in a regime of quasimonopsony and attract users without having to provide monetary incentives. This is not the case for smaller competitors whose business model is often based on offering rewards to inflate their user base (i.e., prizes, discounts, and compensations, sometimes in the form of reliable money flows). When data-based value extraction takes place, low-intensity

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<sup>3</sup> Most recently, class actions have claimed monetary compensation of over 12 million euros for Facebook user data (Schrems, 2014) or requested the qualification of Google’s reCAPTCHA as a transcription business built upon users’ free labor (Basso, 2015).

online behaviors such as signing in, lurking, or clicking can be valuable assets for tech companies, just like content production or active participation.

### *“Smart” Platforms*

The fourth and final sociotechnical ecosystem for digital labor is behavioral data produced by connected objects and smart environments. Still relatively limited, the study of the extraction and monetization of data produced by sensors, home appliances, energy meters, office utilities, stores, and vehicles has been propelled by the ongoing wave of commercial rhetoric surrounding the Internet of Things (IoT). The traditional distinction between ICT-equipped workplace settings and domestic environments where technologies are not readily accommodated (Hindus, 1999) has waned since networked affordances have been infiltrating everyday life and have turned every location into a “personal data factory.” Data emission largely happens by default, on an opt-out basis, and its commercial profitability for tech companies takes in little or no account of individual intentions to put online or share their information. The commercial rhetoric of frictionless data extraction and its characterization as “automatic” production conceal users’ behavioral contribution. Switching on, configuring, wearing, or updating a connected object; inhabiting, programming, and operating a smart house: These are all repeated operations that are required for the production of data.

Like for social platforms, recognition of digital labor embedded in smart systems is still wanting. Both social-platform and smart-platform users face a cliché that their contribution should be described as consumption and not as work, because no reward is being offered. Nevertheless, several examples of smart systems paying their users exist: from apps remunerating geolocation data in bitcoins (e.g., Bitwalking) to connected objects providing monetary incentives for health and fitness data (so-called P4P systems) to company-specific wearable devices entailing benefits, pay raises, and bonuses in relation to performance tracking for productivity or insurance purposes (e.g., Fitbit). In these cases, too, the hedonistic argument has been raised: If users perceive these technologies as driven by self-actualization and conviviality, then how can they be likened to work? While examining self-tracking connected devices, Lupton (2014) defuses this criticism by calling attention to the coexistence of different and often conflicting rationales for using data-emitting devices: Users who have chosen to use these technologies display a high level of agency and self-determination, but this is not the case for those who are nudged, obliged, or coerced into using the same technologies in



relation to managerial and commercial imperatives. Private and communal rationales for self-tracking contend with regimes centered upon obligation and exploitation.

This wide variety of cases and examples highlights the need to identify unifying factors to explain how diverse digital platforms elicit a unique form of a “taskified,” data-intensive mode of value production. In the next section, we will review research approaches based on gender, race, and local/global inequalities that have provided such explanatory factors. In the meantime, they have also expanded the scope of digital labor studies and forced researchers to envision platforms as global supply chains coordinating vast masses of workers. Discussions of what constitutes work on digital platforms give way to the arguments about international power imbalances and the appropriateness of characterizing them as a new digital colonialism.

### **Scaling Up Digital Labor**

In their initial phase, digital labor studies have been embedded in Western-centered academic milieus. Consequently, focus was on what can be perceived as first-world concerns such as play, creativity, fandom, exploration, or participation. Nevertheless, acknowledging the work of “marginal” subjects (women, the urban poor, racial or ethnic minorities) both in the Global North and in the Global South, as well as the Internet’s uneven geographies in the international division of labor (Graham, Hogan, Straumann, & Medhat, 2014) is a central element of research on platform economies. Highlighting the material dimension of the manufacturing of data, services, and content is decisive to establish continuities between the structural elements of “immaterial” digital labor and the everyday working conditions of multitudes of nameless click farmers, content moderators, and offshore gig workers. The occupational opportunities of these subjects moved from traditional factory, agricultural, and extraction work to vulnerable self-employment and Internet-mediated precarious on-demand jobs (Maxwell, 2015).

### ***Marginalization of Workers***

The first challenge for digital labor studies was intersectionality. The Marxist perspective that dominated earlier research in the field, shaped by the Italian postoperaist immaterial labor approach, was in tune with feminist theory and

gender studies. Yet attention to the gendered dimensions of digital labor came relatively late (Duffy, 2015), recognizing that elements of care in service-oriented platform economies and affective skills are important tools to understand digital labor in relation to the “feminization of work” (Arcy, 2016). In the meantime, significant contributions have interconnected gender and critical race theory to examine vernacular user-generated contents in multimedia platforms—such as bedroom dance videos or webcam fashion rants by young black girls—raising issues of commercial media appropriating minors’ content and banking on them with little or no concern for ethical or economic implications (Gaunt, 2015).

The main limitation of these approaches lies in their almost exclusive focus on contents. As far as they limit themselves to social media as hubs of production of expressive and cultural labor—and sites of reproduction of problematic gender relations—only one aspect of digital labor is addressed. Nakamura (2016) has criticized this bias toward content as an obstacle to recognizing other more common forms of digital labor. Moreover, the emphasis on gender cannot be dissociated from that on race, ethnic stereotypes, and colonial history. The tech sector has traditionally drawn on race and gender differentials to naturalize labor and legitimize wage theft. Accounts of workers as “essentially” predisposed toward certain tasks, for whom providing a certain service is “part of the culture,” who “need” to perform a certain type of labor, are social constructs that allow capitalism to operate. It is by tracing the history of the activism of women of color on the Internet that underpaid or unpaid online community administration work, microwork, and personal service work can become the object of academic scrutiny. In particular, Roberts (2016) has initiated an ambitious research program on Internet moderation. Performed by a globally dispersed workforce of relatively low-status workers who almost always operate in secret for low wages, commercial content moderation consists in reviewing digital images, videos, and text that may be problematic, violent, or otherwise inappropriate. These less imaginative, more distressing, repetitive tasks are associated to specific types of workers. However important “playbor” and creativity are on digital platforms, the focus now shifts toward data janitors, click farmers, and gold farmers. To the extent that these occupations tend to be prevalent between women and minorities, the persons who perform them are prone to be figured as disenfranchised or unwanted “guest workers” (Nakamura, 2009). Such workers “on the margins” bear the burden of matching the demand for nonspecialized, unskilled, underpaid/free labor in contemporary economies. This characterization resonates with the Marxist “reserve army of labor” of underemployed/unemployed workers but should be intended as

conceptually linked to specific categories of “disposable” workers, such as women, the homeless, prison inmates, and people of color with a history of unfree labor. However, in the present context of global connectivity, these reserve laborers are spatially hidden and consigned to remote places, as capitalist dynamics conceal the mechanisms through which race and gender operate as key aspects of digital platform production (Nakamura, 2014).

Back-office digital tasks are mainly concentrated in segregated sectors of Western labor markets and in non-Western countries. Recent examples of digital platforms leveraging gender, class, and race disparities to extract unpaid/underpaid digital labor help appreciate the global scale of this “surplus population.” As Western and non-Western countries experience the expulsion of whole sectors of their population from the workforce and the “shift from a people-scarce system to a people-surplus one” (Ferguson, 2013, p. 230) becomes apparent, some microwork marketplaces such, as LeadGenius and Samasource, pride themselves with putting to work underemployed communities in the U.S. and around the world.

Surveys on online outsourcing (Imaizumi, Kuek, Ipeirotis, Paradi-Guilford, & Fayomi, 2015) confirm the overlapping of racialized and gendered marginality and Internet-based labor in the Global South. Even a service like Amazon Mechanical Turk, which stopped accepting new applications from international “Turkers” and is substantially composed of U.S. citizens, still has a sizeable proportion of Indian users, a clear majority of whom identify as women (Ipeirotis, 2010). The political economy and cultural meaning of online microwork change from country to country (Yin, Gray, Suri, & Vaughan, 2016). Inequalities in compensations and job availability are prevalent in these services, where non-U.S.-based crowd workers are affected by differentials in Internet connectivity, time zones, language, security, and pay mechanisms. Conscious of these global asymmetries, digital platform users acknowledge lack of transparency and interiorize concerns about global markets by construing their activity as a “global digital sweatshop,” mirroring other relatively low-status occupations such as sex work, fast-food work, or agricultural and farming jobs (Kingsley, Gray, & Suri, 2015; Martin, O’Neill, Gupta, & Hanrahan, 2016).

### *Precarious Work and Global Asymmetries*

The emphasis on similarities between the sweatshop system and platform labor progressively leads to interpret the latter through the lens of unfree labor. Prison programs in the U.S. now include data entry, proofreading, and document

preparation (Carmel, Lacity, & Rottman, 2014), just like Chinese inmates are now “forced into gold farming” in massive online games (Vincent, 2011, para. 1). Even when users are formally free, platforms mimic the language of penal labor by promising Western companies that their microwork will be performed by “virtual captives” (as candidly claimed by the Philippines-based offshoring platform MicroSourcing; “Virtual Captives,” 2015).

Here, absence of freedom, ethnicization, and internationalization of work intertwine and prove valuable explanatory factors to apprehend digital labor as a global phenomenon. But they falsely suggest that this labor is residual and covert, happening, so to speak, on the sidelines of present-day markets. On the contrary, it stands at the very center of them. Significant work in postcolonial studies has theorized the importance of marginalization as the main vehicle of market integration. The workforce comes to understand itself not only as a “reserve army” but as an “army of the dispossessed” (Sanyal, 2007, p. 57). The relationship between marginality and capitalist enclosure of human communities into networks of market exchange and technologically mediated chains of production does not mean that the population of platform workers, although obstinately characterized as redundant, is numerically negligible.

Being “on the margins” does not mean being insubstantial but indicates a general trend in the global workforce toward an accrued vulnerability to predatory value-extraction platforms. Platforms are an actual labor market with large numbers of individuals virtually excluded from formal employment and consigned to flexible and unstable working conditions. High-profile companies like Uber, TaskRabbit, or Amazon Mechanical Turk only account for less than a million workers altogether, but credible estimates (Steinmetz, 2016) indicate that 131.5 million U.S. adult citizens have provided digital labor by offering services or at least using on-demand platforms. R. Smith and Leberstein (2015) report 6.6 million independent workers on Care.com, 8 million freelancers on CrowdSource, and 5 million on CrowdFlower. Microwork and online crowdsourcing services sport equally staggering figures. California-based Upwork hosts a user base of more than 12 million users, while competitors like Freelancer.com have more than 24 million. In the Chinese market, platforms for service- and knowledge-sharing take the name *witkey* (威客), and their recorded users are estimated at more than 7 million for Witmart, 3.2 million for Taskcn, and more than 3 million for Epweike. Even without contemplating the billion-odd users of popular networking and content-sharing platforms, these digital laborers are easily recognizable as the backbone of the data-production and click-

work business that nourishes the Internet economy. The “surplus population” is more likely to provide exploited and underpaid/unpaid contributions. It is the leading edge of the global workforce that formal employment is not willing to absorb.

We cannot understand digital labor without mapping globalized labor markets. Statistics indicate that only half of the world’s labor force is formally employed, a rate that drops to 20% in Southeast Asia and in sub-Saharan Africa. Developing economies (and to a lesser extent, emergent ones) provided most of the 26 million who joined the ranks of the active population in 2015, but they do not enjoy employment protection in terms of remuneration standards, benefits, safeguards against dismissal, or regulation of temporary work (International Labour Organization, 2016). Worldwide, a high unemployment rate and pervasive casualization also go hand in hand with poor job quality. The share of self-employed and unpaid family work contribute to the rise of a vulnerable workforce, typically operating at high levels of precariousness, concerning more than 46% of the active population and mainly located in Central Africa, Southeast Asia, and equatorial South America. Individuals in situations of vulnerable employment are massively exposed to earnings volatility. Social protection represents an issue, especially in developing countries and in transition economies, where it relies heavily on employer contributions. If employers elude regulation, and in cases of self- or family-employment, then access to contributory social protection schemes is limited or nonexistent (International Labour Organization, 2014).

These new global workers thus experience the confusing situation of both being in the workforce and being regarded as the leftovers of the global economy, drifting away from visibility and excluded from the welfare benefits and career security usually associated with dependent work, and reduced to contingent and underpaid jobs to maintain their standards of living. To this vulnerable workforce, platform labor is often presented as a panacea. In countries like the Philippines, Bangladesh, India, Vietnam, Malaysia, Nigeria, and Kenya, technologically mediated labor is presented as the best (and sometimes the only) “future of work.” Optimism surrounds the potential of on-demand services, microwork, and click or content farms to provide new opportunities for them. “Taskified” jobs (Gray, 2016) dispatched by digital websites or apps are accompanied by a rhetoric of liberation from workplace obligations, long hours, and expensive commuting. “Working at one’s own pace,” “having no boss,” and “being entrepreneurial” are long-term ideological mantras, using flexibility as a rhetorical device to conceal the increasing

number of companies eluding minimum wage legislations, developing piecework, and lacking job security for their workforce.

Because Internet-mediated allocation of tasks crosses national boundaries, these global labor dynamics turn traditional geographies upside down (Foster & Graham, 2017). If in the past century a situated, deep-rooted workforce supplying labor was facing an unstable, always-moving capital demanding labor, in a digital platform economy, “[labor] demand is relatively geographically concentrated, but supply is relatively geographically diffuse” (Graham, Hjorth, & Lehdonvirta, 2017, p. 142).

This is best attested by looking at data flows between the Global South and the Global North, which are serviceable proxies of this labor/capital asymmetric relation. By looking at 60,000 anonymized transactions completed on oDesk (now merged in Upwork), researchers at the Oxford Internet Institute have outlined the patterns of an international division of platform labor. Countries where data and tasks are more bought than sold (i.e., where the digital labor demand balance is positive) are situated in North America or Europe. The balance is negative in the Global South, which supplies labor for the North. In this study, international clicks, tasks, content, and data are largely traded from India and the Philippines and selling to the United States, Australia, Canada, and the United Kingdom (Graham et al., 2017).

The landscape of the platform economy is irregular and polarized, with discernable hubs specialized in buying and selling labor. These geographical relationships evoke political and historical patterns of domination, affecting users in different ways depending on their location. In developing and emerging countries, Internet-mediated production falls largely outside regulatory frameworks. This leads to workers’ loss of bargaining power, underbidding, and risky race-to-the-bottom dynamics. The “opportunities” promised by digital platforms result in ever-increasing unpaid/underpaid value extraction from individual users who find themselves exposed to market volatility. Specifically, it is uncertain how direct connection between requesters of tasks and providers of digital labor impacts this global scenario. On the one hand, it can be maintained that one-to-one communication on platforms empowers users in developing countries by putting them on an equal footing with their counterparts in the Global North. But recent evidence points to the persistence of local hierarchies where gatekeepers “reintermediate” the process of matching supply and demand. Network dynamics known as “local lengthening” (when platform “power users” centralize tasks locally

and pass them on to other users, who act as subcontractors) creates long value chains, of which an increasing number of users in developing countries are the final links (Lehdonvirta, Hjorth, Graham, & Barnard, 2015). The loss of bargaining power and job insecurity are thus intensified by the opacity of this global value-extraction chain, where users ignore who they are performing digital tasks for and have no benchmarks to assess their conditions (remuneration, protection, standards, etc.).

### **Discussion: A Conceptual Framework for Global Labor Struggles**

In the previous section, I have shown that gender and race differentials have a relationship to colonial mechanisms of exploitation in the platform economy. As argued by work at the crossroads of feminist, Marxist, and postcolonial studies, platform capitalism operates by leveraging social constructs of race and gender. Racialized and gendered minorities constitute cheap sources of work insofar as they are perceived as easy to recruit and reproduce through discourses of low standards of living and cultural predispositions toward “free” work, or through social dynamics of marginalization and disempowerment. This argument connects the colonial history to dynamics of global outsourcing. But how applicable is this theoretical framework to the array of cases discussed above?

Global dependencies are increasingly interpreted through theoretical categories that draw parallels with the colonial past. High-profile international controversies, such as Facebook’s unsuccessful lobbying of Indian telecommunication authorities in the mid-2010s, and other tech marketing initiatives targeting emerging and developing countries have been portrayed as examples of neocolonial dominance (LaFrance, 2016). Overinflated promises of strong growth in exchange for economic dependence or the promotion of neoliberal values of flexibility, entrepreneurship, or “labor futurism” implement specific historical narratives that serve Western interests. Economic strategies and efforts of Western platforms to overcome local regulation in developing countries are bald-faced, but the extent to which this is an instance of “colonialism” is debatable. That is because this notion involves not only a change of scale but also a change of theoretical pace, so to speak. If digital labor studies have been so far dominated by approaches that best describe local conflicts (like exploitation and alienation), the notion of colonialism escalates conflictual and critical stances by disrupting the very object of study, dividing it, and reconfiguring it in an all but unproblematic manner.

### *Digital Colonialism (and Germane Notions)*

How has the term *colonialism* come to be deployed in research on digital technologies? First, as a metaphor for the introduction of processes of capitalistic governmentality proper to the platform economy. Casati (2013), for instance, calls digital colonialism the “automatic normativity” introduced by tech companies (i.e., the ideological belief that a networked society requires technological mediation of every aspect of human life). Colonialism in this case describes a set of aggressive policies and discretionary economic decisions rooted in technological determinism (Casati, 2013). While addressing the cultural hegemony of tech companies, Casati does not linger on the specifics of organizational settings, business models, and value chains of digital labor-intensive platforms, but he points out the necessity to escape the rule of data extraction when he calls for the creation of sanctuaries against online tracking and maintains that crucial sectors (such as education and democratic deliberation) should be preserved from the tensions and power asymmetries deriving from economic imperatives. Kleiner (2016) uses “digital colonization” in different fashion, to describe the transition from an “original” decentralized worldwide Internet of independent nodes and communities toward an enclosed and centralized telecommunication network subjugated by oligopolistic corporate entities. The predatory strategies of present-day platforms reintermediate and homogenize not only commodities but also the norms, standards, and usages providing context for the commodities.

Clearly, these analyses leverage the shock value of neocolonial rhetoric, but their effectiveness as tools to address global dependencies is doubtful—especially when germane notions such as imperialism and slavery are used to designate transnational movements of capital, labor, and culture. The revival of the 1980s approach of the new international division of labor (NIDL) has prompted interest in the conceptual toolkit of imperialism to examine how developing countries have become sources of cheap digital labor for multinational corporations (Fuchs, 2016). The proliferation of digital platforms has coincided with the debt and financial crisis of the first decade of the 2000s, in a situation marked by high unemployment, stagnating wages, and fading benefits for workers, with a worldwide trend to higher poverty and inequality. Tech companies and traditional multinationals join forces by adopting a platform paradigm that drives down the global wage share and increases their profits through a “strategy of divide and rule.” Digital labor studies have conventionally emphasized the role of the service sector as the core of the digital economy. Yet, according to Fuchs, it is the continuing exploitation of traditional



manufacturing, agricultural work, and extraction of mineral resources processed into high-tech components, which enables the distribution, circulation, and consumption of diverse types of information. The asymmetrical geographies of these different economic sectors allow the deployment of imperialism's key features via the creation of dependencies and imbalances of wealth and power between the Global North and South. Fuch's main conclusion is that digital labor not only conveys production of online content and data but

is a category that rather encompasses the whole mode of digital production, a network of agricultural, industrial and informational labor that enables the existence and use of digital media. . . . Today most of these digital relations of production are shaped by wage labor, slave labor, unpaid labor, precarious labor, and freelance labor, making the international division of digital labor a vast and complex network of interconnected, global processes of exploitation. (Fuchs, 2016, p. 21)

Jack Linchuan Qiu also adopts an approach focused on the interplay of different sectors of the economy. He describes an "ICT-based class-making process" (Qiu, 2009, p. 5) based on the relative decline of the primary sector, as the majority of the Chinese population has moved from agriculture to industrial and services sectors in recent decades. In this view, digital labor results from the combination of "simplified skilled tasks in the new information industry" (Qiu, 2009, p. 9) through platforms and of traditional factory labor. Both need to be investigated to understand the "working-class network society" in China as well as in other emerging countries. Building on a survey of leading electronics manufacturer Foxconn, Qiu (2016) highlights the span of human rights abuses, pervasive health problems, and annual suicide rates in global factories. Typifying these flows of violence and oppression as "iSlavery," and stressing parallels with the Atlantic slave trade, he denounces the international collusion between corporations and governments to build systems of domination, exploitation, and economic dependency. The network society, he concludes, is built upon slavery: in the global production chain, even high added value activities such as innovation and marketing rely heavily on the participation of platform users as unconscious brand ambassadors or as bottom-up innovators whose creativity is crowdsourced. Costs are further reduced in the middle of the chain, where traditional factory labor is located, thereby propelling unfree and underpaid labor at every level of the global economy. The political project of opening an avenue for emancipation of workers both in Western countries and in

the Global South explains interest in joining the radical “digital abolitionist” agenda that Qiu (2016) advances.

Explaining digital labor by parallels with colonialism, imperialism, and slavery raises several problems. These concepts seem to be at the same time too bold and too tame—too bold because they rely on the shock value of historically charged notions, and too tame because they fail to go beyond loose, abstract equivalences. This exposes the analytical undertakings of these authors to three main pitfalls. I designate them as the “neocolonialism,” “dualism” and “orientalism” pitfalls. To overcome these analytical impasses, I maintain that a serviceable theoretical framework for digital labor is “coloniality” instead of colonialism.

### *The Pitfalls of Interpreting Global Digital Labor as Colonialism*

The neocolonialism pitfall is the idea that any form of international power relation can be conflated with neocolonial dynamics. Using notions such as colonialism, imperialism, and slavery by drawing broad parallels between present and past times risks trivializing and dehistoricizing the experience of colonization, neglecting the specificities of colonial past and geographies. According to the available empirical evidence (Lehdonvirta, Barnard, Graham, & Hjorth, 2014), many of the countries that were colonial empires, such as France or Spain, do not score high among the demanders of cheap digital labor on online platforms. Others, like the United States, have extended their dominance of countries that were traditionally outside their sphere of influence, like Pakistan or Ukraine, but have invested relatively few resources in Latin American countries, despite their histories of military and economic expansionism. A deeper scrutiny of some of the distinctive features of colonialism is necessary to understand whether neocolonial dynamics are in place: creation of Western-fashioned institutions in former colonies; adoption of a colonial language and, more generally, replacement of existing systems of knowledge and organization of labor by Western ones; and the formation of distinctive “hybrid” cultures and identities of the colonized. In these terms, the existing evidence provides little evidence supporting a neocolonialist claim.

The second difficulty is the dualism pitfall. Whether colonialism is intended as an evocative theoretical proposition or is an actual reference to imperial power and extraction of servile labor in North–South global dynamics, analyses based on it implicitly assume that digital technologies have created an ontological separation between a “predigital” material transformation of the physical environment and

digital “immaterial” labor based on information treatment. This ontological divide between real and virtual has been falsified by recent research on the socio-anthropological dimensions of technologies (Casilli, 2010). A scientific consensus has emerged in Internet studies, now largely considering dualism as a fallacy perpetuating structural inequalities by essentializing human interaction (Jurgenson, 2011). Moreover, the material/immaterial split omits the growth of information and media markets in emerging and developing countries. The Global South cannot be reduced to the locus of material labor and the only provider of primary and secondary production.

Therefore, the third and final pitfall, orientalism, consists in situating countries with a history of colonization outside change and agency. By relegating the Global South into “the realm of the static,” tradition, and passivity, neo-colonial approaches to digital technologies reveal paternalistic undertones. This view echoes Heideggerian connotations of non-Western countries with *physis*, a material “standing reserve,” waiting to be mined by the *techné*, to produce the immaterial information of which Western countries are depositaries. However, the West does not hold a monopoly over the immaterial end of digital labor, and countries in the developing world do not limit themselves to providing material inputs and semifinished products. Characterizing digital media practices in the Global South as predominantly instrumental and utilitarian fails to recognize that those dwelling at the “bottom of the data pyramid” are just about as involved in creativity, online recreation, and leisure—and just about as subject to mechanisms of data extraction through digital labor (Arora, 2014).

### ***A “Digital Decolonial Turn” to Make Work Visible?***

A change of mind-set is necessary to reclaim an effective critical approach to global inequalities and to avoid the traps of neocolonialism arguments. A way forward comes from the notion of coloniality. While colonialism denotes the political and economic sovereignty of an empire over a colony, according to Maldonado-Torres (2007), coloniality “refers to long-standing patterns of power that emerged as a result of colonialism, but that define culture, labor, intersubjective relations, and knowledge production well beyond the strict limits of colonial administrations” (p. 243). Coloniality is an autonomous process that outlives and manifests itself independently, notably through norms, collective identities of peoples, or individual aspirations. Insofar as modern subjects “breathe coloniality all the time and everyday,” (Maldonado-Torres, 2007, p. 243), they also share specific existential

traits that Maldonado-Torres dubs “coloniality of being.” This puts in place structures of control over globalized labor and resources, not necessarily through slavery and serfdom (as in neocolonial parallels) but by upholding systems of “small independent commodity production and reciprocity, together around and upon the basis of capital and the world market” (Quijano, 2000, p. 534). It is on global digital platforms that today’s coloniality is produced via the unrecognized labor of technology users.

The interplay of gender, race, and labor discussed in this article helps appreciate that, on platforms, coloniality does not operate as an abstract metaphor but as a feature of both Western and non-Western subjectivities. When marginalization becomes a universal dynamic of the workforce, when race and gender differentials play at a global scale to naturalize exploitation of underpaid/unpaid users—when economic structures draw “colonial lines” (Wynter, 2003) between human and nonhuman, elites and subalterns, formal and implicit labor—coloniality proves to be an effective theoretical framework that recounts the assumptions of dominant discourses while seeking emancipation for all marginalized identities at work.

In doing so, it serves the chief goal of digital labor studies: making invisible productive activities visible. Bringing to light computer-mediated hidden work has been a central academic concern as well as a major axis for the development of struggles for recognition since the seminal contribution of Star and Strauss (1999). The political conflicts surrounding invisible and marginalized labor, like the ones concerning today’s global platforms, allow entire “arenas of voice” to emerge and link up with wider social movements. Pathways are already in place between industrial workers and users of digital platforms to recompose activities that today appear fragmented, unskilled, and inconspicuous into a unified entity embedded in global value production. These struggles can suitably adopt coloniality as an analytical tool to enable recognition of these still unrecognized tasks and to implement a “digital decolonial turn.” Again, Maldonado-Torres (2007) maintains that

the Decolonial Turn is about making visible the invisible and about analyzing the mechanisms that produce such invisibility or distorted visibility in light of a large stock of ideas that must necessarily include the critical reflections of the “invisible” people themselves. (p. 262)

This is all the more true for the hidden labor of anonymous users, such as micropaid click farmers, moderators, and content and data producers, who select and circulate commodified information and informationalized commodities every day. Beyond the international division of labor, the key issue of divisions *within* labor—its microfragmentation, its internal competition and discrepancies—must be addressed to organize collective identities through conflict and cooperation, to overcome present forms of economic and political oppression.

The notion of coloniality averts the three pitfalls discussed above. First, its very construction as a “disposition,” separate from the precise historical patterns of the colonial past, avoids trivializing and dehistoricizing the colonial experience, thereby escaping the neocolonialism trap. Second, to the extent that coloniality pushes invisible production toward visibility, it establishes continuities between material and immaterial, and concrete and cognitive, worlds. Therefore, it helps overcome the dualism pitfall, predicated on a sharp separation between material and “virtual” production. Finally, by revealing the social and cultural dynamics at play in countries where processes of colonial subjectivity formation are in place, coloniality avoids the orientalism pitfall that would see subaltern societies as stuck in time: indeed coloniality accounts for the evolution of sensibilities and subjectivities, and even stimulates the “critical reflections of the ‘invisible’ people” (Maldonado-Torres, 2007, p. 262).

## References

- Acquisti, A. (2010). *The economics of personal data and the economics of privacy*. Working Papers WPISP and WPIE. Retrieved from <https://www.oecd.org/sti/ieconomy/46968784.pdf>
- Arcy, J. (2016). Emotion work: Considering gender in digital labor. *Feminist Media Studies*, 16(2), 365–368.
- Arora, P. (2014). *The leisure commons: A spatial history of Web 2.0*. Oxford, UK: Routledge.
- Basso, K. (2015, January 26). Google hit with reCAPTCHA class action lawsuit. *Top Class Actions*. Retrieved from <https://topclassactions.com/lawsuit->

settlements/lawsuit-news/48241-google-hit-recaptcha-class-action-lawsuit/https://topclassactions.com/

Cardon, D., & Casilli, A. A. (2015). *Qu'est-ce que le digital labor?* [What is digital labor?]. Bry-sur-Marne, France: Editions de l'INA.

Carmel, E., Lacity, M., & Rottman, J. W. (2014). Impact sourcing: Employing prison inmates to perform digitally-enabled business services. *Communications of the Association for Information Systems*, 34(1), 913–932.

Carr, N. (2006, December 19). Digital sharecropping. *Rough Type*. Retrieved from <http://www.roughtype.com/?p=634>

Casati, R. (2013). *Contro il colonialismo digitale* [Against digital colonialism]. Bari, Italy: Laterza.

Casilli, A. A. (2010). *Les liaisons numériques: Vers une nouvelle sociabilité?* [Digital relationships: Toward a new sociability?]. Paris, France: Seuil.

Coase, R. H. (1937). The nature of the firm. *Economica, New Series*, 4(16), 386–405.

Duffy, B. E. (2015). Amateur, autonomous, collaborative: Myths of aspiring female cultural producers in Web 2.0. *Critical Studies in Media Communication*, 23(1), 48–64.

Dyer-Witheford, N. (2015). *Cyber-proletariat: Global labour in the digital vortex*, Chicago, IL: University of Chicago Press.

Dynamo. (n.d.). We are Dynamo. Retrieved from [www.wearedynamo.org](http://www.wearedynamo.org)

Evans, D. S. (2011). *Platform economics: Essays on multi-sided businesses*. Retrieved from <https://www.competitionpolicyinternational.com/assets/Hot-Tubs/SSRN-id1974020.pdf>

Federici, S. (1975). *Wages against housework*. Bristol, UK: Power of Women Collective and Falling Wall Press.

- Ferguson, J. (2013). Declarations of dependence: Labour, personhood, and welfare in Southern Africa. *Journal of the Royal Anthropological Institute*, 19(2), 223–242.
- Fisher, E. (2012). How less alienation creates more exploitation? Audience labour on social network sites. *Triple C*, 10(2), 171–183.
- Foster, C., & Graham, M. (2017). Reconsidering the role of the digital in global production networks. *Global Networks*, 17(1), 68–88.
- Fuchs, C. (2014). *Digital labour and Karl Marx*. New York, NY: Routledge.
- Fuchs, C. (2016). Digital labor and imperialism. *Monthly Review*, 67(8), 14–24.
- Gaunt, K. D. (2015). YouTube, bad bitches and an M.I.C. (mom-in-chief): On the digital seduction of Black girls in participatory hip-hop spaces. In T. L. Gosa & E. Nielson (Eds.), *The hip hop & Obama reader* (pp. 207–226). Oxford, UK: Oxford University Press.
- Gillespie, T. (2010). The politics of platforms. *New Media & Society*, 12(3), 347–364.
- Goodley, S. (2016, August 14). Deliveroo told it must pay workers minimum wage. *The Guardian*. Retrieved from <https://www.theguardian.com/society/2016/aug/14/deliveroo-told-it-must-pay-workers-minimum-wage>
- Graham, M., Hjorth, I., & Lehdonvirta, V. (2017). Digital labour and development: Impacts of global digital labour platforms and the gig economy on worker livelihoods. *Transfer: European Review of Labour and Research*, 23(2), 135–162.
- Graham, M., Hogan, B., Straumann, R. K., & Medhat, A. (2014). Uneven geographies of user-generated information: Patterns of increasing informational poverty. *Annals of the Association of American Geographers*, 104(4), 746–764.
- Gray, M. L. (2016, January 8). Your job is about to get “taskified.” *Los Angeles Times*. Retrieved from <http://www.latimes.com/opinion/op-ed/la-oe-0110-digital-turk-work-20160110-story.html>

Gray, M. L., Suri, S., Ali, S. S., & Kulkarni, D. (2016). The crowd is a collaborative network. In D. Gergle & M. Ringel Morris (Eds.), *Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work and Social Computing*. New York, NY: ACM.

Hindus, D. (1999). The importance of homes in technology research. In N. A. Streitz, J. Siegel, V. Hartkopf, & S. Konomi (Eds.), *Proceedings of the Second International Workshop on Cooperative Buildings: Integrating Information, Organization, and Architecture* (pp. 199–207). London, UK: Springer-Verlag.

Horton, J., & Chilton, L. (2010). The labor economics of paid crowdsourcing. In *Proceedings of the 11th ACM conference on electronic commerce* (pp. 209–218). Cambridge, MA: ACM.

Huet, E. (2015, July 17). Homejoy shuts down, citing worker misclassification lawsuits. *Forbes*. Retrieved from <https://www.forbes.com/sites/ellenhuet/2015/07/17/cleaning-startup-homejoy-shuts-down-citing-worker-misclassification-lawsuits/#7b6b5f8078be>

Huws, U. (2014). *Labor in the global digital economy: The cybertariat comes of age*. New York, NY: Monthly Review Press.

Imaizumi, S., Kuek, S. C., Ipeirotis, P., Paradi-Guilford, C. M., & Fayomi, T. (2015). *The global opportunity in online outsourcing* (Working Paper No. ACS14228). Retrieved from <http://documents.worldbank.org/curated/en/138371468000900555/The-global-opportunity-in-online-outsourcing>

International Labour Organization. (2014). *World social protection report 2014–15*. Retrieved from [http://www.ilo.org/global/research/global-reports/world-social-security-report/2014/WCMS\\_245201/lang--en/index.htm](http://www.ilo.org/global/research/global-reports/world-social-security-report/2014/WCMS_245201/lang--en/index.htm)

International Labour Organization. (2016). *World employment and social outlook: Trends 2016*. Retrieved from [http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms\\_443480.pdf](http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_443480.pdf)

Ipeirotis, P. G. (2010). *Demographics of Mechanical Turk*. NYU Working Paper No. CEDER-10-01. Retrieved from <http://www.ipeirotis.com/?publication=demographics-of-mechanical-turk>



Irani, L. (2015). Difference and dependence among digital workers: The case of Amazon Mechanical Turk. *South Atlantic Quarterly*, 114(1), 225–234.

Irani, L. (2016, July 7). *The labor that makes AI “magic”* [Video]. Retrieved from <https://artificialintelligencenow.com/schedule/workshop/presentation/labor-makes-ai-magic>

Jhally, S., & Livant, B. (1986). Watching as working: The valorization of audience consciousness. *Journal of Communication*, 36(3), 124–143.

Jung, E. A. (2014). Wages for Facebook. *Dissent Magazine*, 61(2), 47–50.

Jurgenson, N. (2011, September 13). *Digital dualism and the fallacy of Web objectivity*. Retrieved from <https://thesocietypages.org/cyborgology/2011/09/13/digital-dualism-and-the-fallacy-of-web-objectivity/>

Kingsley, S. C., Gray, M. L., & Suri, S. (2015). Accounting for market frictions and power asymmetries in online labor markets. *Policy & Internet*, 7(4), 383–400.

Kleiner, D. (2016, June). *Mr. Peel goes to cyberspace: Resisting digital colonization*. Paper presented at the Digital Bauhaus Summit 2016: Luxury Communism, Weimer, Germany.

Kücklich, J. (2005). Precarious playbour: Modders and the digital games industry. *Fibreculture Journal*, 5(1). Retrieved from <http://five.fibreculturejournal.org/fcj-025-precarious-playbour-modders-and-the-digital-games-industry/>

LaFrance, A. (2016, February 11). Facebook and the new colonialism. *The Atlantic*. Retrieved from <https://www.theatlantic.com/technology/archive/2016/02/facebook-and-the-new-colonialism/462393/>

Lanier, J. (2011). *You are not a gadget: A manifesto*. New York, NY: Vintage.

Lazzarato, M., & Negri, T. (1991). Travail immatériel et subjectivité [Immaterial labor and subjectivity]. *Futur Antérieur*, 6(1), 86–89.

Lehdonvirta, V., Barnard, H., Graham, M., & Hjorth, I. (2014, September). *Online labour markets: Levelling the playing field for international service markets?* Paper presented at the IPP2014: Crowdsourcing for Politics and Policy conference, Oxford, UK.

Lehdonvirta, V., Hjorth, I., Graham, M., & Barnard, H. (2015, August). *Online labour markets and the persistence of personal networks: Evidence from workers in Southeast Asia*. Paper presented at the ASA Annual Meeting 2015, Chicago, IL.

Levine, D. (2016, April 22). Uber drivers remain independent contractors as lawsuit settled. *Reuters*. Retrieved from <http://www.reuters.com/article/us-uber-tech-drivers-settlement-idUSKCN0XJ07H>

Lupton, D. (2014, August). *Self-tracking modes: Reflexive self-monitoring and data practices*. Paper presented at the Imminent Citizenships: Personhood and Identity Politics in the Informatic Age workshop, Canberra, Australia.

Maldonado-Torres, N. (2007). On the coloniality of being: Contributions to the development of a concept. *Cultural Studies*, 21(2/3), 240–270.

Martin, D., O'Neill, J., Gupta, N., & Hanrahan, B. V. (2016). Turking in a global labour market. *Computer Supported Cooperative Work (CSCW)*, 25(1), 39–77.

Matias, J. N. (2016, May). Going dark: Social factors in collective action against platform operators in the Reddit blackout. Paper presented at CHI'16, San Jose, CA.

Maxwell, R. (Ed.). (2015). *The Routledge companion to labor and media*. Oxford, UK: Routledge.

Moulier-Boutang, Y. (2010). *L'abeille et l'économiste* [The bee and the economist]. Paris, France: Carnets Nord.

Munoz, C., Smith, M., & Patil, D. (2016). Big data: A report on algorithmic systems, opportunity, and civil rights. *Executive Office of the President. The White House*. Retrieved from [https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/2016\\_0504\\_data\\_discrimination.pdf](https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/2016_0504_data_discrimination.pdf)

Nakamura, L. (2009). Don't hate the player, hate the game: The racialization of labor in World of Warcraft. *Critical Studies in Media Communication*, 2(2), 128–144.

Nakamura, L. (2014). Indigenous circuits: Navajo women and the racialization of early electronic manufacture. *American Quarterly*, 66(4), 919–941.

Nakamura, L. (2016, May). Workers without bodies: Digital labor, race, and gender. Paper presented at the Terms of Media II: Actions conference, Providence, RI.

Neff, G. (2012). *Venture labor: Work and the burden of risk in innovative industries*. Cambridge, MA: MIT Press.

Qiu, J. L. (2009). *Working-class network society: Communication technology and the information have-less in urban China*. Cambridge, MA: MIT Press.

Qiu, J. L. (2016). *Goodbye iSlave: A manifesto for digital abolition*. Urbana, IL: University of Illinois Press.

Quijano, A. (2000). Coloniality of power, Eurocentrism, and Latin America. *Nepantla: Views from South*, 1(3), 533–580.

Rey, P. J. (2012). Alienation, exploitation, and social media. *American Behavioral Scientist*, 56(4), 399–420.

Rifkin, J. (1995). *The end of work: The decline of the global labor force and the dawn of the post-market era*. New York, NY: Tarcher/Putnam.

Ritzer, G., & Jurgenson, N. (2010). Production, consumption, presumption: The nature of capitalism in the age of the digital “prosumer.” *Journal of Consumer Culture*, 10(1), 13–36.

Roberts, S. T. (2016). Commercial content moderation: Digital laborers' dirty work. In S. U. Noble & B. Tynes (Eds.), *The intersectional Internet: Race, sex, class and culture* (pp. 147–160). New York, NY: Peter Lang.

Rosenblat, A., & Stark, L. (2016). Algorithmic labor and information asymmetries: A case study of Uber's drivers. *International Journal of Communication*, 10(1), 3758–3784.

Sanyal, K. (2007). *Rethinking capitalist development: Primitive accumulation, governmentality, and post-colonial capitalism*. New York, NY: Routledge.

Scholz, T. (2012). Introduction: Why does digital labor matter now? In T. Scholz (Ed.), *Digital labor: The Internet as playground and factory* (pp. 1–10). New York, NY: Routledge.

Schrems, M. (2014). *Facebook class action*. Retrieved from <https://www.fbclaim.com/>

Schwab, K., Marcus, A., Oyola, J., Hoffman, W., & Luzi, M. (2011). *Personal data: The emergence of a new asset class*. Retrieved from [https://iapp.org/media/pdf/knowledge\\_center/WEF\\_ITTC\\_PersonalDataNewAsset\\_Report\\_2011.pdf](https://iapp.org/media/pdf/knowledge_center/WEF_ITTC_PersonalDataNewAsset_Report_2011.pdf)

Smith, R., & Leberstein, S. (2015). *Rights on demand: Ensuring workplace standards and worker security in the on-demand economy*. Retrieved from <http://www.nelp.org/content/uploads/Rights-On-Demand-Report.pdf>

Soghoian, C. (2012). *The spies we trust: Third party service providers and law enforcement surveillance* (Doctoral dissertation, Indiana University). Retrieved from <https://eric.ed.gov/?id=ED546305>

Standing, G. (2011). *The precariat: The new dangerous class*. New York, NY: Bloomsbury Academic.

Star, S. L., & Strauss, A. (1999). Layers of silence, arenas of voice: The ecology of visible and invisible work. *Computer Supported Cooperative Work*, 8(1), 9–30.

Steinmetz, K. (2016, January 6). Exclusive: See how big the gig economy really is. *TIME*. Retrieved from <http://time.com/4169532/sharing-economy-poll/>

Terranova, T. (2000). Free labor: Producing culture for the digital economy. *Social Text*, 18(2), 33–58.

Turkopticon. (n.d.). Turkopticon frequently asked questions. Retrieved from <https://turkopticon.ucsd.edu/>

Vincent, D. (2011, May 25). China used prisoners in lucrative Internet gaming work. *The Guardian*. Retrieved from <https://www.theguardian.com/world/2011/may/25/china-prisoners-internet-gaming-scam>

Virtual captives. (2015). Retrieved from <https://www.microsourcing.com/virtual-captives.asp>

Wynter, S. (2003). Unsettling the coloniality of being/power/truth freedom. Towards the human. After man. Its overrepresentation—An argument. *CR: The New Centennial Review*, 3(3), 257–337.

Yin, M., Gray, M. L., Suri, S., & Vaughan, J. W. (2016). The communication network within the crowd. In J. Bourdeau, J. A. Hendler, & R. Nkambou (Eds.), *Proceedings of the 25th International Conference on World Wide Web* (pp. 1293–1303). Geneva, Switzerland: I3WC2.