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## THE TIME POLITICS OF HOME-BASED DIGITAL PIECEWORK

V.B. DUBAL\*

*Abstract: Changes in digital technology have radically transformed labor processes of the past century through the re-ordering of physical and cognitive spaces. But central aspects of technocapital's organization in the 21<sup>st</sup> century borrow from and intensify previously abolished 20<sup>th</sup> century production practices. Automation industrialists, for example, have rediscovered production flexibility, speed, and surplus value in a vestige of garment manufacturing: piecework. Like early 20<sup>th</sup> century U.S. manufacturers who paid women working from home by the piece (Boris 1994), technology industrialists pay dispersed humans along the data supply chain by completion of a task rather than by the hour (Irani 2015). This underregulated work, which machines cannot perform, forms the building blocks of changes in automation and artificial intelligence. How do today's digital homeworkers conceive of and experience time in the context of this piecework? Examining narratives of U.S.-based Amazon Mechanical Turk data processors through a historical frame, I argue that although contemporary digital pieceworkers are ostensibly working "on their 'own' time," a politics emerges in which time, visible and accounted for in wage work, becomes an invisible node of power (Sharma 2014). This disciplinary power both mediates the anxious lives of precarious digital pieceworkers and fuels the frenetic pace of technology capitalism. I consider the implications of potential regulatory interventions in this time politics.*

**Key words:** gig work, piecework, Amazon Mechanical Turk, hourly wage, worker identity, welfare state, time, chronopolitics, technology capitalism, digital capitalism

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## Introduction

The woman did not go on; she stayed right there, hour after hour, day after day, year after year...racing with death. It was piecework, and she was apt to have a family to keep alive; and stern and ruthless economic laws had arranged it that she could only do this by working just as she did, with all her soul upon her work, and with never an instant for a glance at the well-dressed ladies and gentlemen who came to stare at her, as at some wild beast in a menagerie."

-Upton Sinclair, *The Jungle*

In a 1924 Issue of *True Romances* magazine, the Auto Knitter Hosiery Co. of Buffalo, New York ran an advertisement targeted at women in need of additional income (Boris 1994, 155). The ad, entitled "How They Make Money in Their Own Homes," centered the testimony of "Mrs. Unger," who explained that her husband's wages were not enough to support their small family. But Mrs. Unger, who cared for their infant child, did not want to "go" to work (Ibid). Having heard through a friend about an opportunity to earn from the sanctity of her home, she sent off for yarn and instructions. Before long Mrs. Unger said she was knitting for Auto Knitter Hosiery "in real earnest...putting in every minute [she] could spare from [her] housework." Other manufacturers of the era similarly hawked homework as a pathway to "profit" and "dignified labor" for women who needed to earn "extra money . . . in their spare time." (Ibid).

But the reality of this homework belied the commercial narratives on profit and dignity. What was being advertised benignly in women's magazines—industrial homework—was a hotly contested labor practice of garment manufacturers in the early 20<sup>th</sup> century. Homeworkers—most commonly immigrant women laboring in crowded tenements—were paid by the piece, not the hour, and earned roughly one-half of what women factory workers made (Boris 1985, 746; Daniels 1989, 15). They interspersed long, poorly paid hours of needling or knitting with other obligations of family and community life. Through the sustained advocacy of labor and social reformers, homework paid in piece was largely abolished in the U.S. garment industry soon after the New Deal (Boris 1985, 761). It was, by the 1980s, re-sanctioned, but through a highly regulated certification and hourly wage-based system (Boris 1994, 341; Stone 2006, 19).<sup>1</sup>

Homework as a labor practice and source of precarious, underpaid piecework has made a rapid resurgence in the twenty-first century digital economy, and yet, in contrast to the previous century, it has received little to no attention from labor reformers or regulators.<sup>2</sup> In reviving and intensifying it, technology capitalists have leveraged carveouts in existing work laws to grow an informal economy of dispersed data laborers paid to work by the piece.<sup>3</sup> Jeff Bezos, for example, launched Amazon Mechanical Turk in 2005, famously unveiling his plan to provision "humans as a service" through this crowdsourcing labor platform. AMT, like analogous tech temp companies, has a website—[mturk.com](http://mturk.com)—

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<sup>1</sup> The re-emergence of homework and homework debates in the 1980s followed the resurgence of the practice in both the garment industry and in the technology industry, particularly for microcomputer assembly and word processing. (Boris 1994, 341).

<sup>2</sup> In contrast, other forms of digital piecework have received quite a great deal of regulatory attention—particularly in the so-called "gig economy." (Collier et al 2018).

<sup>3</sup> Technology capitalists insist that these digital homeworkers are independent contractors, but the question of their status as either employees or as independent contractors is a legal one that has not yet been definitively decided in the United States, in large part because of lack of public and private enforcement.

in which requesters with data-related microtasks dispatch these tasks to an atomized and dispersed virtual workforce who compete for and complete the tasks or “turk.” Individual workers are paid, not for their time, but by the piece, which, on AMT is called a Human Intelligence Task or HIT (Irani et al 2013, 1). Unlike homeworkers of the previous century, today’s digital homeworkers both have to spend time competing for tasks and to risk completing tasks that they go unpaid. These workers or, on AMT, “turkers” are treated as independent contractors, and neither data processing requestors nor the labor platform companies assume the legal responsibilities of the employer. Thus, digital homeworkers—more than half of whom are based in the U.S.—do not have access to the minimum wage, overtime, or any safety net protections. (Difallah et al 2018).<sup>4</sup> Critically, they also do not have the ability to negotiate pay or the protected right to organize for better working conditions.<sup>5</sup> Since the amount of payment for each task is typically a few cents (sometimes less than one cent), data homeworkers are compelled to work swiftly and quickly through a set of tasks for extraordinarily low and unpredictable wages.

The labor of these precarious data processing workers is critical to the infrastructural monopolies that produce artificial intelligence (AI). Yet, much of the debate around the “future of work” and automation in the United States focuses on the supposedly inevitable displacement of workers by technological shifts. With few notable exceptions, the role of these precarious data homeworkers in the creation of automation and the poor conditions under which they labor has gone under appreciated.<sup>6</sup> Power, in imaginaries of the looming future displacement of workers, is seen to be concentrated entirely in the hands of entrepreneurs and engineers whose algorithms and machines aspire to mimic tasks or services traditionally completed by humans.<sup>7</sup> But central to the infrastructure of AI is the labor of

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<sup>4</sup> Although the demographics shift, an online “m turk tracker” indicates that in June 2020, on any given day, roughly 56-81% of turkers were laboring in the U.S.; 11-33% were in India; and 9-21% were in other countries. This data was accessed at <http://demographics.myturk-tracker.com/#/countries/all> on July 3, 2020. (Difallah et al 2018).

<sup>5</sup> In the United States, the protected right to organize to better working conditions is reserved for employees. Independent contractors who attempt to organize could be liable for violations of anti-trust laws. Turkopticon is a third-party platform created by Lilly Irani and M. Six Silberman that facilitates non-traditional organizing without implicating anti-trust laws. Through Turkopticon, instead of negotiating directly with requestors and AMT to raise and standardize the price of tasks, turkers can recommend superior jobs to each other and alert other workers to bad requestors who refuse to pay. (Lilly et al 2013). Dynamo, another third-party platform, was also created to help workers facilitate and organize letter writing campaigns to better their work environment. Amazon has made it difficult for turkers to enroll in Dynamo. (Salehi et al 2015).

<sup>6</sup> In the academy, Lilly Irani’s work is the most notable exception. Professor Irani has written extensively on “turking” as a labor process that “transforms people into ‘human computation’” (Irani 2015, 227). She argues that through platforms like AMT, technology industrialists have “generated an industry of startups claiming to be the future of data.” But, she notes, “Hiding the labor is key to how these startups are valued...” Rather than advertising themselves as “labor companies,” Irani explains, they hide the labor “rendering it manageable through computing code” and call themselves “technology companies (Ibid, 231). Mary L. Gray and Siddarth Suri have also written on the human labor powering artificial intelligence systems, calling workers like those who labor on AMT “ghost workers” (Gray et al 2019). Sarah T. Roberts’ important book *Behind the Screen*, which focuses on commercial content moderation, also makes visible the labor processes created by “microlabor websites.” (Roberts 2019).

<sup>7</sup> Astra Taylor calls this process “fauxtimation.” Taylor argues that “automation exponentially oversells the shifting workplace dynamic.” She describes how automation does not take away or remove work; instead, it changes the person doing the work and ensures that as much labor as possible goes uncompensated or undercompensated. (Taylor 2018).

dispersed and atomized workers in global supply chains who create, gather, pick, clean, label, and/or otherwise process the data that informs and shapes AI systems. Through a combination of homework and piece pay, these data workers' labor is essential to the pace and growth of AI. They—and other overlooked workers—are (and will continue) to be critical to automation production for decades to come. Meanwhile, homework as a labor practice renders nearly invisible data-processing workers and their working conditions.<sup>8</sup>

The development of autonomous vehicle (AV) technology is an instructional example of this invisibility and the lack of regulation over this labor. For technology industrialists, the development of AV technology is an attempt to create fleets of private vehicles for the transport of goods and bodies that generate profit without the overhead of labor costs—that is, without human workers. Despite early, manic projections that self-driving cars would replace ride-hail and truck drivers by 2019, engineers now prognosticate that fully autonomous vehicles will be unavailable for half a century, if then.<sup>9</sup> Meanwhile, any AV advancements rely upon a long and complicated supply chain of dispersed data workers, many of whom complete individual tasks but have no idea what they are working on (Fussell 2019). These include the Uber drivers who produce and collect data about their labor, cities, speed, and traffic patterns; the temporary and contracted workers who drive lidar sensor-equipped vehicles to acquire data images of driving environments;<sup>10</sup> the workers in the U.S. and globally who label, organize, and manage that data to feed AV AI systems; and the millions of temporary workers from staffing agencies who are hired by technology firms to labor as low-level engineers. At almost every stage of the long and complicated data supply chains that produce basic AI infrastructures, homebased digital pieceworkers labor outside the boundaries of employment protections, conducting time-intensive tasks that are—and will continue to be—integral to the success of the automation technology itself. Though critical, these workers remain unseen, including to those charged with the enforcement of work laws.

With this invisibility in mind, this essay averts the gaze from anxieties about the “future of work” and automation to the past and present of these data workers whose labor, which cannot be automated, makes automation and AI possible. From the perspective of technology capitalists, the practice of paying people by piece who work in their homes and ostensibly on their own schedules is an innovation: a new kind of labor arrangement to lower overhead and introduce speed and flexibility to production. As AMT advertises to requestors (including technology companies and researchers), it's a “good way to break down a manual, time-consuming project into smaller, more manageable tasks to be completed by distributed workers over the Internet.” (Amazon Mechanical Turk 2020). Technology capitalists in the U.S. who utilize homeworkers through hiring entities like AMT are unburdened with the risks and expenses associated with being an employer. Requesters can “hire” workers with the click of a button and terminate them just as quickly. Unlike with employee layoffs, these terminations are neither

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<sup>8</sup> Lilly Irani writes, “By hiding the labor and rendering it manageable through computing code, human computation platforms like AMT have generated an industry claiming that the future of work resides in the programming powers of master engineers and algorithms and robots they produce.” (Irani 2019, 3).

<sup>9</sup> In 2020, for example, the CEO of Volkswagen, admitted that fully autonomous vehicles might “never happen.” (Chin 2020).

<sup>10</sup> In a single working day, one of these vehicles produces as much data as the Hubble Space Telescope produces in one year. All of this data needs to be sorted and labeled. (Accenture 2018, 3).

reported to state authorities<sup>11</sup> nor do they trigger legal liabilities. Absent a supervisor, the way in which workers are paid—by the piece and without a wage floor—ties remuneration directly to production speed. But the payment per task is so low that a 2018 study found that the average hourly wage of an AMT data homeworker was an astounding \$2 per hour.<sup>12</sup> (Hara et al 2018).

In contrast to an earlier era of homework and despite staggeringly low pay, this digital homework has garnered little to no attention from regulators. The growing informal data economy has been largely understood, even by critics, as a *new* kind of work, rather than as a revived (and reviled) labor process deserving of reform.<sup>13</sup> In Part I, I situate contemporary digital homework historically by returning to the reform efforts and debates surrounding U.S. homework in the early 20<sup>th</sup> century. Drawing on the scholarship of feminist historians Eileen Boris and Cynthia Daniels, I show how these earlier efforts focused not just on the precarities of the work itself, but on the need to protect the time and space of “private family” from “public work” and the “ravages of industrial capitalism” (Daniels 1989, 21). In affirming that homework threatened the gendered division of labor and “sacred motherhood,” homework reformers reified the Fordist family and the cultural ideal of the male breadwinner. This not only reinforced the economic dependence of women on the Fordist family wage, but also obscured the ways in which women’s unpaid labor in the home sustained industry. But in the contemporary post-Fordist economy, temporal and spatial boundaries between gendered work in the family are less demarcated (Cooper 2017, 8), families are economically diversified (O’Brien 2019, 363), and the home is an acceptable site for production. Digital homework no longer represents a threat to the prevailing economic order; instead, it buttresses it. Homework through AMT, for example, is (mis)understood as an opportunity to enhance the economic autonomy of the private family. For single parents, the disabled, and others who cannot labor as part of the fulltime, scheduled workforce—and for those whose regular income is by itself insufficient—this data homework purports to provide flexibility and unlimited earning potential.

How do these claims manifest in the lives of workers, and what should the experiences of data pieceworkers mean for the future of work and work regulation? In Part II, I use the narratives of digital homeworkers to explore their relationship to time in work and non-work life. Although piecework payment ostensibly liberates homeworkers from the rigid discipline of the industrial clock such that the data workers are working “on their ‘own’ time,” I find that workers continue to think about data piecework through the structure of the hourly wage. They bemoan that much of their work time—spent competing for and revising tasks—is unaccounted for and unremunerated. Through the structure of digital piece payment, a politics emerges in which time, visible and accounted for in wage work, becomes an invisible node of power (Sharma 2014, 8). Far from offering true flexibility, this power circumscribes the temporal autonomy of digital homeworkers and reinforces the ideological commitment and economic need to work all the time, even filling “spare” time with industrial

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<sup>11</sup> Under the WARN Act, companies in the U.S. with 100 or more employees must provide employees and state officials 60 day advanced notification before mass layoffs or plant closings.

<sup>12</sup> The federal minimum wage in the United States has been \$7.25 since 2009.

<sup>13</sup> For example, Alana Semuels, in a widely circulated expose on the precarities of turking, describes it as a “*new* kind of poorly paid hell.” (my emphasis) (Semuels 2018).

productivity.<sup>14</sup> In this sense, digital home-based piecework, however poorly paid, reinforces the mythical possibility of self-reliance and stands in conceptual opposition to the welfare state (Cooper 2017, 73). I conclude by considering the implications of hourly wage regulation of this work as a countervailing force to the precarious lives of these digital pieceworkers, to prevailing neoliberal norms around work and time, and to the frenetic pace of AI and automation production more broadly.

#### I. Time & Piece Pay: From Garment Homework to Digital Homework

The struggle over time has been central to capitalist development across the various phases of the industrialism and fundamental to new shifting time-sense related to labor discipline. Historian E.P. Thompson famously contrasted the “irregular labor rhythms” of pre-capitalist life to the time-thrift of industrialism, marking a profound change in how workers thought about and experienced time. Factory life, Thompson argued, brought with it the now familiar landscape of time discipline via timesheets, timekeepers, informers, and the machine (Thompson 1967, 82). Working in tandem with the growing moralization of “the work ethic,” industrial time discipline<sup>15</sup> shaped how many workers thought about the relationship between time and productivity more broadly, marking as immoral the “unpurposive passing” of the clock (Thompson 1967, 96). Nonetheless, despite the ways in which worker subjectivities were influenced by and constituted through industrial time discipline, long working hours were also met with individual and organized resistance. Over many decades, workers, trade unions, and social reformers engaged in protracted labor struggles to reverse the discipline of the factory clock, winning higher wages that corresponded to shorter workdays and weeks for industrial workers (Schorr 1992, 7; Thompson 1967, 85).

While the time discipline endemic to waged work remains ever relevant in the post-industrial digital world, the growing reality of many workers in today’s technology-enabled work economy is less analogous to factory workers and more similar to piece-paid homeworkers of the previous century.<sup>16</sup> The lives of these U.S. homeworkers in the late 19<sup>th</sup> and early 20<sup>th</sup> century existed both inside and outside the temporal domain of the factory. On the one hand, women who performed this homework labored to the rhythm of their families, including a breadwinning husband, his life structured to conform to the factory clock. On the other, their paid work was not directly timed by factory clocks or subject to the immediate time discipline of bosses or machines. Like the work of independent craftworkers, theirs was task-oriented and paid in piece. But their relationship of subordination to industrial capitalists fundamentally changed their relationship to work time. In E.P. Thompson’s terms, this introduction of hierarchy to piecework altered time such that it became “currency:...not passed but spent” (Thompson

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<sup>14</sup> Indeed, the incursion of networked devices and work into all aspects of everyday life was the initial step that enabled digital homework like turking.

<sup>15</sup> I use the term “industrial time discipline” to encompass scientific management theory, but it is much broader than just systems to introduce speed to the production process. In addition to time management techniques, this time discipline extended to self-management techniques, constituting how workers feel about their identities and their lives.

<sup>16</sup> Increasingly, for example, technology companies use independent contractors, temporary workers (hired through staffing agencies), and vendors (who hire their own workers) to core and peripheral aspects of work. This practice displaces the risk and liabilities associated with employment onto other entities, including the workers themselves. Economist David Weil calls this phenomenon the “fissuring” of the workplace.

1967, 61). Homework paid in piece, largely seen as exploitative of both women and children, was vigorously fought by social reformers of the era who demanded and eventually won state intervention (Daniels 1989, 25-29). But unlike labor reforms in other parts of the industrial economy, the successful reform efforts were not rooted in the ideal of leisure, in lower hours, or in higher pay for homeworkers. Rather, in fighting to abolish homework in the early 20<sup>th</sup> century, reformers were motivated by a socially conservative moral conception of the breadwinning father, idealized motherhood, and the family wage (Boris 1994; Daniels 1989).

In this highly gendered and racialized<sup>17</sup> homework economy, women earned almost one-half of what women working in the factory made for a full week's work, and factory women, of course, made far less than factory men.<sup>18</sup> While (mostly men) factory workers operated machines, immigrant homeworkers did the garment finishing at home. According to one Senate investigation, "Italian homeworkers and their children finished 98 percent of all garments" (Daniels 1989, 15). During the seven months of the year when work could be found, homeworkers worked between 8 and 10 hours a day sewing garments. This work took place in between and after care work, including preparing meals, caring for children, and cleaning the home. Industrialists recognized these women as a surplus labor pool that they could readily exploit, both because the workers were mostly immigrant women and because the depressed wages of breadwinners in immigrant families made additional income, however insignificant, a necessity. As one journalist wrote in 1912, homework "'exists because the manufacturer finds it economical to spread his finishing processes through thousands of kitchens...They get their work done for practically nothing.'" (Daniels 1989, 19). Ironically, manufacturers argued against providing higher wages to the women homeworkers by relying on the same ideal of a male breadwinner that reformers leveraged to abolish the practice. The women, in the manufacturers' making, were just working for "pin money" and did not "need to earn a living wage." (Daniels 1989, 17).

Feminist historians have highlighted the role that gendered *space* played in this conceptualization (Boris 1994, 2; Daniels 1989, 13) but, I argue, have underemphasized the gendered *time politics* of both the work and subsequent debates about its regulation. A woman's time was highly regulated by the tempo of her family and its demands. She was expected to fit in homework wherever possible, but because it was "in between" and not during designated hours, manufacturers claimed that it was impossible to offer her an hourly wage. Indeed, industry representatives capitalized on this reality, reframing homework as "pleasure" that could be conducted to make productive the time allocated for relaxation and sociality (Boris 1994, 155). They described it as part of the "leisurely routine

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<sup>17</sup> The labor history traced by David Roediger explains how Italian immigrant workers were viewed as "below white" in the construction of racial identity in the early 20<sup>th</sup> century. (Roediger 1991). While Jewish men and single Jewish women predominated in the factory, married Italian women predominated amongst garment homeworkers. (Daniels 1989, 16). Manufacturers explained that the Italian women had "more delicate fingers" than women of other "races." (Boris 1994). One said, "[T]hese green horns...they cannot speak English and they don't know where to go and they just come from the old country and I let them work hard, like the devil, for less wages." (Daniels 1989, 18).

<sup>18</sup> The difference, for some, was as much as \$3.60 versus \$6 per week. This \$3.60 per week represented the labor of many people who assisted the woman—including children (Daniels 1989, 16).



of small town life” where a woman might make supplemental income while talking with friends (Ibid).<sup>19</sup> But labor advocates during the Great Depression who sought to abolish the practice painted a different picture. They argued that industrial homework curtailed the fulltime factory employment of breadwinning men, lowered wages of all factory workers, and undercut wage and health standards. Unions claimed it was difficult to organize these isolated women workers, and that the ability of manufacturers to claim their time and labor undermined striking factory workers. These social reformers also argued that homework “commercialized” the home, disrupting the time a woman could devote to caring for family. As the Labor Department’s Women’s Bureau put it, homework upset the “*normal* demands of home and children upon the housewife and mother.” (my emphasis) (Boris 1985, 745).<sup>20</sup>

In understanding women’s temporal lives through this binary (work or home), advocates drew on ideals of “sacred motherhood” to challenge the social costs of homework which, they argued, forced a woman “to exploit her own children and to neglect her home” to earn a pittance (Boris 1985, 756). This conceptualization obscured the economic importance of women’s unpaid labor and undercut the possibility of “unproductive” leisure. The idea that abolishing homework would protect homelife from the evils of industrialization—including labor exploitation and child labor—ignored the existing realities of unpaid work and the “irregular labor rhythms” of the home for many women. Indeed, it privileged and reinforced traditional models of paid and unpaid work distribution in the home, ignoring how that model “depended upon having one person who was fully dedicated to [the home’s] maintenance.” (Weeks 2011, 157-8). The family, then, was seen as an alternative to work rather than as a site of gendered unpaid work, equally deserving of reform, revision, and reimagining. By the late 1930s, these arguments against industrial homework were ultimately successful in abolishing the practice by law,<sup>21</sup> but in the process, they reified the nuclear family, traditional gender roles, and the invisibility of women’s care work as labor.

In comparison to homework of the previous century and to other realms of the digitally mediated in-person piecework economy<sup>22</sup>, contemporary digital homework paid in piece—like HITs completed by turkers on AMT—is neither decried as illegal exploitation nor the object of reform. In fact,

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<sup>19</sup> In fact, employers frequently had no idea how homeworkers fit the work into their home schedule. Even when time records were required by law, homeworkers used books filled in advance by employers so that it appeared that they were making exactly the minimum wage in a forty-hour work week. (Boris 1994, 155).

<sup>20</sup> A failed attempt to regulate homework through the National Industrial Recovery Act in 1933 reinforced the belief that only legal prohibition could end the exploitative nature of homework. (Boris 1985, 747-61).

<sup>21</sup> The administrator of the Wage and Hour division explained in 1943, “the very factors that make homework seem attractive...the absence of factory discipline, the fact the work can be done on the worker’s own time, and in a casual way, and that she is enabled to attend at the same time to her household responsibilities while supplementing the family income, preclude any possibility of reasonable assurance that...home workers... are...actually receiving the minimum [wage].” (Boris 1994, 299). The Fair Labor Standards Act Between ultimately banned homework in specified industries, forecasting a widescale reduction of the system. 1939 and 1957, at least six congressional amendments attempted to exempt homeworkers from FLSA coverage (Ibid 286). While, in the 1940s, some manufacturers attempted to get out from under these regulations using independent contractor business models, courts stymied these efforts. (Ibid 279).

<sup>22</sup> Much of the work in the digital piecework economy is visible, in-person service work—like ride-hailing and food delivery—conducted outside the home. In jurisdictions all over the world, including the U.S., public and private enforcement actions have been brought against companies that proliferate this kind of piecework, like Foodora, Uber, Instacart, DoorDash, and Ola. They have been charged with misclassifying their workers as independent contractors paid by the piece, instead of as employees paid by the hour.

U.S. labor advocates and regulators have shown little interest in addressing the time-driven precarities of data-processing piecework by enforcing existing work laws in the industry. Why? The answer lies in the work's invisibility—both physically (in the home) and conceptually (as a hidden part of AI production)—and in how digital homework is conceptualized in relationship to the existing economic order. Almost a century later, in the post-Fordist neoliberal context, where the temporal and spatial boundaries between gendered work in the family are less demarcated (Cooper 8) and families are diversified (O'Brien 2019, 363), homework is no longer understood as a social problem. Instead of being criticized for commercializing the home, digital homework is lauded as a technological innovation that allows people—regardless of their gender—to move quickly and “flexibly” between the institutions of family and work to sustain life.<sup>23</sup> Rather than standing in opposition to the current politics of time in which neoliberal practices merge with networked devices to encourage all workers to be “on” at all times, digital homework reinforces it. Unlike garment homeworkers in the 20<sup>th</sup> century, digital homeworkers do not necessarily rely upon a single breadwinner. For many, it is fulltime work, or at least income upon which they are dependent. Underregulated, it does the political work of re-shaping everyday rhythms of workers to reaffirm the economic function of the private family against the shrinking welfare state. Discursively and affectively, though critically not materially, digital piecework is too often seen as a way for all people to aspire to “economic self-sufficiency,” especially when no other form of economic support or paid work is available, possible, or desirable.<sup>24</sup>

## II. Digital Homeworkers: Temporality, Task Politics, & Perpetual Crises

How do the claims of flexibility and economic autonomy made by technology industrialists compare to the lived experiences of digital homeworkers paid in piece? In examining the narratives of AMT data processors in this section, I argue that although they are ostensibly working “on their ‘own’ time,” a politics emerges in which time, accounted for in wage work, becomes an invisible node of power (Sharma 2014). This power reinforces the neoliberal ideological commitment to work all the time, filling “spare” time, not with leisure, but with poorly paid productivity. People for whom work outside the home is impossible—because of childcare, disability, limited transportation, or lack of work opportunities—can turn, not to the state or to community, but to themselves in attempt to minimally provide. AMT workers, for example, describe moving, frenzied, between care tasks and digital tasks, both of which shift from minute to minute, second to second. They frenetically work to claim higher-paying batches in a competitive, auction-like system that requires constant vigilance<sup>25</sup> and simultaneously label images for artificial intelligence systems, only to remember that it's time to take

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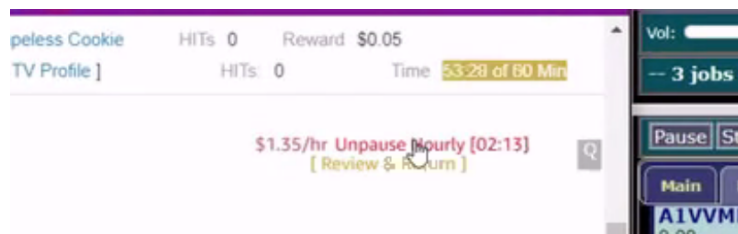
<sup>23</sup> Fascinatingly, men turk more than women. Only one-third to one-half of people turking in the U.S. during the month of June 2020 were women. This data was accessed at <http://demographics.myturk-tracker.com/#/countries/all> on July 3, 2020.

<sup>24</sup> In the shadow of liberation movements that rightfully challenged nuclear family and male-bread winner model of capitalism, we have “witnessed the strategic reinvention of a much older, poor-law tradition of private family responsibility.” (Cooper 2017, 21). As Melinda Cooper has painstakingly detailed in her book *Family Values*, neoliberals have found common cause with social conservatives on the question family.

<sup>25</sup> The very way in which AMT operates, forcing workers to competitively and constantly search for and grab good work in an auction-like system, functionally resembles how online poker produces “addiction by design,” profiting off a system in which the phenomenon of chance is gamified, rather than tamed. (Schull 2014).

their child to the doctor or to get to the store before it closes. Belying narratives of flexibility and independence, the autonomy of digital homeworkers to engage in leisure or to volitionally decide how to spend time is circumscribed.

Although paid by the task, digital homeworkers think of their time through the medium of the hourly wage. While manufacturers in the previous century claimed it was impossible to measure the time that garment homeworkers spent laboring in order to pay them by the hour and not the piece, time laboring online can be meticulously accounted for. Digital homeworkers are even advised to install accessory scripts (Image 1) into their browser to “increase turking efficiency.” (MTurk Guide). Turkers use these accessory scripts to attempt to calculate how much money they will earn per hour if they move through batches of HITs at a particular speed. In turn, the scripts intensify the anxiety of piecework, operating as tools of self-management and time discipline—pushing workers without human supervisors to maintain an exacting speed in order to increase their income. On the one hand, these scripts pressure homeworkers to labor at a dizzying pace, frantically completing tasks that are essential for AI production. On the other, the scripts are the only way that these workers can even attempt to approximate how much—or how little—money they will make on a given day or week.



*Image 1: The mouse is figured upon a script that Dawn uses as she works on tasks. This script tells her how much money she will make per hour, a calculation that is based on the amount that the requester offers per task and the speed at which she is working.*

Still, digital homeworkers are acutely aware of what these scripts cannot and do not account for: in particular, how much time the workers spend looking for work or doing data processing tasks that go unpaid. In this sense, they recognize the extent to which technology industrialists have found ways to gamify piece pay, intensifying uncertainty in their lives. Janey, for example, who lives in a small former mining town in Appalachia and has been a digital pieceworker for almost five years, expressed in one of our conversations how profoundly frustrated she was at the functional logic of AMT, which prevented her from predicting and calculating potential income. She bemoaned that the insecurities and temporal demands of digital homework nagged at her through the day and even into the night. Both her conscious and unconscious time was spent looking for work, and this time, she explained, went uncompensated.

If I work 12-16 hours a day, I'll make maybe \$5/hour. But that's when there is work, but when you're sitting in between jobs and you consider that time, when you're just looking for work, then the hourly wage falls dramatically. There are so many of us now,

and fewer quality jobs. Sometimes I wake up in the middle of the night just to see if I can grab some good requests. Most HITs are gone if you don't click right away.

Janey and her homeworking colleagues—like garment homeworkers of the previous century—work not just long, but also unpredictable hours each day—hours that well exceed the traditional 8-hour shift. This time is spent not just completing tasks, but also competing for them. When I asked Janey how she decided that she had worked enough in one day, she answered that it was only when she met her financial goals that she let herself rest.

If I need to make \$50 to pay the rent, then I'll work sixteen hours straight. Whatever I need to do...But then there are those times when you don't get paid or your work is rejected...so you can't predict the time or the money, really. But you do the best you can.

As Janey eloquently articulated to me, the very logic of AMT obfuscates the possibility of any meaningful wage calculation. She is pit against other turkers as she constantly and anxiously seeks to “claim” work, time that itself goes unremunerated. And simultaneously, the lack of work standards and the reality that completed tasks can be rejected arbitrarily by requestors means that until she is paid, Janey cannot even rely on the income from batches that she completes.

If the experience is so temporally unpredictable and exacting, why do people like Janey turk in the first place? After Janey's husband and father of her 3 children died of an opioid overdose, a friend recommended AMT to her as a way she could make money at home, and not, she told me “just depend on welfare checks.” She explained, “There was nothing else around here, I mean, nothing...and even if there was, I couldn't do it. I have these kids.” Though she eventually met a new partner, Janey continued to work as the breadwinner. She noted that her new boyfriend was “younger and had never worked.” These days, he works retail—the first job he has ever had. But, she says, “The kids are mine. So I provide.” Digital pieceworkers like Janey bear the weight of breadwinning with minimal state support, and they also harbor many frustrations about how much time they spend working and how they are remunerated.

Dawn, another turking homeworker who lives in an economically depressed, post-industrial U.S. Rust Belt town, has been working as a digital pieceworker for four and a half years. “We used to have good union jobs around here,” she told me, “but those days have passed.” Although she had previously worked as an organizer on political campaigns, Dawn, like Janey, told me that she took up digital home-based piecework because she needed to work from home and without a pre-determined schedule, “Starting around the end of 2015, I had these illnesses that hit me over night. No one knew what was wrong with me; I was ending up in the ER constantly. That's why I started turking. I needed the flexibility.”

When Dawn tried to point to the “good days” or to be positive about her work, she found herself discussing how time in between the demands of work and family, time that could be spent recreating or in a state of leisure, was adulterated by the temporal anxieties endemic to digital piecework.

I mean, there are days when you meet your goal by noon, and I can...cook a nice meal, or whatever. But then you wonder if you should spend that time turking, because what if you come up short the next day or the next week. Is it okay to stop? I don't know. And then there are the days when I'm so sick I can't work. When things were really bad, I would push through it, like my heart rate would go up so high, and I needed to go to the ER. And then I'd come back a few hours later and keep working. Sometimes, I'd lay on the floor with feet up and my laptop on my belly and just keep working while I waited for my heart rate to return to normal.

The urgency to compete for and complete tasks—even through emergencies—is itself, I argue, a form of time politics. Many digital pieceworkers—like a growing number of people in the U.S.—live in a feeling of perpetual crisis, they must work quickly, right now, to make rent, to pay for groceries, to care for their children. Through the disciplinary power of time politics, data-processing piece workers internalize the “propaganda of time thrift” (Thompson 1967, 90), often to the detriment of their well-being. For example, in articulating the affective labor that some of the AMT data tasks require of her, Dawn divulged how emotionally overwhelmed she would sometimes be by her work. She framed these emotions not through their effect on her psyche, but through their impact on her time, and consequently, her income. Like other digital homeworkers, slowing down to think, relax, or recreate brought on feelings of guilt and remorse.

The work can be really emotionally taxing. Like this one project...I have to label things as hate speech. The things that you sit there and read are horrendous, and you think, people can't say these things. Or you'll do a survey that says 'tell me the worst thing you've ever experienced'—and I'm like, you want me to drudge up my worst memories and share them, so I can feed my family. *And it makes you feel so bad that you waste time thinking about things or staring into space, and then you can't meet your goals. And then you just feel bad for the rest of the day.* (my emphasis)

For digital homeworkers paid by the piece, time is enforced, not through a didactic supervisor or wage and hour laws, but through a self-management that produces the obligation to cognize all time through the potential for productivity and, accordingly, to work exhaustively.

The speed demanded by the piece payment structure of digital piecework melds with neoliberal ideologies to define what it means not just to survive but to feel worthy. Turking makes it possible to move distractedly between family and work, placing the responsibility of predicting one's wages—a near impossibility—on the workers themselves. Simultaneously, it engineers an anti-welfare subjectivity: a sense that if they could do it on their own, and if they failed, well, that was on them. Dawn mentioned on more than one occasion that she preferred turking to relying on state proffered safety net protections, which she perceived to be both inadequate and arbitrary,

The other side of it is, right now, if I were to file for disability which is what my doctor wants me to do, *and I have too much pride to do at the moment...*they [the state] deny every case, and even if I get it, during those two years, you can't work, so you have to

magically support yourself for 2 years. So even though turking is depressing work, it gives me a sense that I am contributing to my household, so I feel good about that. (my emphasis)

Through the ever-availability of data processing work, Janey and Dawn both strive to sustain themselves and their families. And yet, the very structure of digital homework precludes not only sufficient remuneration but also financial security and temporal autonomy.

Attention to the lived experiences and everyday crises of digital homeworkers like Janey and Dawn undermines the individual choice, independence, and flexibility that digital homework purports to provide. Through the bodies of the digital pieceworkers themselves, time politics does the dual work of fueling the pace of digital capitalism and sustaining anti-welfare subjectivities. Pieceworkers, then, are casualties, not agents to the temporal orders of automation production. In so much as digital homework exerts power over workers through and with time, reform efforts, I argue, must also focus on time, re-asserting the discipline of the clock on technology capitalists through demands for time-based wage payments.

### Conclusion: Against Piece Pay

Digital homework is much more central and integral to today's technology economy than industrial homework ever was to the garment industry in the previous century. Hidden behind internet platforms and laboring in their homes, today's data processing pieceworkers conduct time-consuming, poorly paid tasks critical to AI and automation. Nevertheless, in marked contrast to homework of the previous century, their important work remains largely invisible to reformers and regulators, many of whom are otherwise engaged in dynamic policy debates on the potential displacement of U.S. workers by automation.<sup>26</sup> To make sense of the disregard for the enforcement of existing work laws in the data processing economy, this essay historically situates the time politics of piecework in the precarious lives of contemporary digital homeworkers.

Digital homework paid in piece is hyped by technology capitalists as an innovative pathway to economic stability for the people who are unable to support themselves and their families through waged work outside of the home or through one fulltime job alone. In reality, this work builds on and intensifies an abolished labor practice utilized by industrialists in the previous century to profit off the desperation of immigrant women and their families. Like garment manufacturers before them, companies like Amazon Mechanical Turk argue that digital piecework provides "an opportunity" for workers to move quickly and flexibly between the institutions of family and work to provide. But the life experiences of contemporary homeworkers belie this contention. Rather than provide flexibility, the

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<sup>26</sup> For example, in 2020, the Governor of California, Gavin Newsom, created a Future of Work Commission with the purpose, among other things, of considering "automation and the resulting transitions for workers." (California Future of Work Commission 2020). Pointing to the hypocrisy of these conversations, Kevin Roose reports that corporate executives all over the world publicly, "wring their hands over the negative consequences that artificial intelligence and automation could have for workers," and privately, "spend...billions of dollars to transform their businesses into lean, digitized, highly automated operations." (Roose 2019).

time politics embedded in the structure of data piecework circumscribes autonomy, fueling both the drive and the financial need of homeworkers to work all the time, even thru crises. This reinforces the existing neoliberal economic order in which productive, paid work is not seen as an infringement into non-work life, but instead accepted as the subsumption of life as work.

I end this essay by suggesting that rather than abolish this homework, as reformers did in the garment industry, digital piecework can and should be formalized and regulated to account for all time laboring. The enforcement of existing wage and hour laws on the labor processes of today's technology industrialists, for example, has the potential to introduce temporal autonomy and financial predictability into the uncertain, anxious lives of people like Dawn and Janey, who, for reasons different than women homeworkers of the previous century, cannot work outside the home. As a small intervention into the time politics of digital piecework—one that harkens back to minimal standards in most low-wage sectors—such regulation could serve as a countervailing force to the growing acquiescence of life as work in the digital piecework economy. It could also give digital homeworkers the time to reinvent their lives, to create collective spaces and relationships in nonwork, nonfamily time. In this sense, eradicating piece pay in digital capitalism can be linked to the greater struggle to transform temporal politics around productive paid work, enabling workers—of all genders—to imagine new life and formulate new demands, unscripted from the existing binary of work and family. For reformers and regulators concerned about job loss to automation, the hourly wage may also be understood as a force of friction, slowing down the wheels of digital capitalism, creating time to consider—and even control—the future of work.

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