The Relationships of Workers to Work, Peers, and Others

HCI and CSCW have framed themselves around supporting work rather than becoming an infrastructural layer enabling it. While all artifacts have politics, this shift into computational labor systems has directly impacted the lives and livelihood of workers. So, it is important to understand: what will the future look like for the workers who use these systems?

Crowd work's perspective

One of the initial questions that researchers asked was, who are the crowd workers and what draws them to crowd work? Early literature emphasized motivations like fun and spare change, but this narrative soon shifted to emphasize that many workers use platforms such as Amazon Mechanical Turk as a primary source of income [18, 13, 3]. Despite this, Mechanical Turk is a low-wage affair for most workers in the United States [13, 24, 10]. Thus, those who choose to opt out of the traditional labor force and spend significant time on Mechanical Turk are especially motivated by the opportunity for autonomy and skill variety [18]. Due to valuing autonomy, it is tempting to ascribe attitudes of "pity the workers" to Turkers, but this frame is increasingly rejected by workers and designers as patronizing [14].

Workers' relationships with requesters are fraught. Workers are often blamed for any low-quality work, regardless of whether they are responsible [24, 26]. Some research is extremely open about this position, blaming unpredictable work on "malicious" workers [7] or those with "a lack of expertise, dedication [or] interest" [35]. Workers resent this position — for good reason. Irani and Silberman highlighted the information asymmetry between workers and requesters on AMT, leading to the creation of *Turkopticon*, a site which allows Turkers to rate and review requesters [15]. Dynamo then took this critique on information asymmetry and power imbalances a step further, designing a platform to facilitate Turkers acting collectively to bring about changes to their circumstances [34]. This unbridled power that requesters have over workers and the resultant stress and frustration that this generates has been part of the undercurrent of research into the tense relationships between workers and requesters [8, 34].

Researchers have also begun to appreciate the sociality of crowd workers. Because the platforms do not typically include social spaces, workers instead congregate off-platform in forums and mailing lists. There, Turkers exchange advice on high-paying work, talk about their earnings, build social connections, and discuss requesters [24]. Many crowd workers know each other through offline and online connections, coordinating behind-the-scenes despite the platforms encouraging independent work [9, 37]. However, the frustration and mistrust that workers experience with requesters does occasionally boil over on the forums. This behavior has come to be known as "mega–drama" amongst such workers [34]. Still, the study of these communities is made challenging because most of these platforms do not themselves include social affordances for workers [28].

Piecework's perspective

We discussed earlier that observers believed that workers were strongly motivated by the piecework model [5], but the emergent trend contrasted with this early rhetoric, when workers began instituting "The Fix", deliberately slow work to game efficiency experts [33]. Workers, Roy found, formed even more starkly antagonistic relationships with their managers.

As managers became increasingly onerous in their management of pieceworkers, workers began resisting piecework regimes and the methods that came along with it. Soon, many worker organizations were weighing in on (or, more precisely, against) piecework and the myriad oversights it made in valuing workers' time [17, 31]. As mounting attention increasingly revealed problems in piecework's treatment of workers, workers themselves began to speak out about their frustration with this new regime. Organizations representing railway workers, mechanical engineers, and others began to mount advocacy in defense of workers [17, 31]. Pieceworkers' relationships with their employers eventually developed a pattern of using laborer advocacy groups [22, 1, 25, 16]. Collective action grew to become a central component of negotiating with managers [12, 29].

There's a noticeable dearth of information on the inter–personal relationships among pieceworkers beyond the match–girls at the end of the 19th century. Nevertheless, we can offer some observations: primary sources indicate that labor organizations wished for workers to identify as a collective group, "not only as railroad employees but also as members of the larger life of the community" [17]. Doing this, Ostrom and others later argued, would facilitate collective action and perhaps collective governance [30, 12, 29]. Riis also contributed to this sense of shared struggle and endurance by documenting pieceworkers in their home–workplaces, literally bringing to light the grim circumstances in which pieceworkers lived and worked [32].

Comparing the phenomena

While historical pieceworkers could be looked down on, as the match-stick girls were characterized by "brashness, irregularity, low morality, and little education", there was generally less written about quality concerns for historical pieceworkers than there is in modern on–demand work. Why the difference? One possibility is that, through writing web scripts and applying them to many tasks, it is possible for a small number of spammers have an outsized influence. Historically, it was much harder for such workers to move and get new jobs — today, they can simply accept a different task on Mechanical Turk. Another possibility: online anonymity breeds distrust [6], and where pieceworkers could be directly observed by foremen, online workers are known by little more than an account ID.

The relationship between workers and employers has also shifted: while historically the management of workers had to be done through a foreman (who necessarily had an intuitive — perhaps sympathetic — relationship with workers), the foreman of the 20th century has largely been replaced by algorithms of the 21st century [21]. The result of this change is that the agents managing work are now cold, logical, and unforgiving. Where a person might recognize that the "attention check" questions proposed by Le et al. ensure that malicious and inattentive workers are stopped, some implementations of these approaches only seem to antagonize workers. More than

30 years ago, Anderson and Schmittlein wrote: "When performance is difficult to evaluate, imperfect input measures and a manager's subjective judgment are preferable to defective (simple, observable) output measures" [2]. This frustration has only grown as requesters have had to rely on automatic management mechanisms. Only a few use the equivalent of human foremen [11, 19].

Relative to the mature state of collective action for pieceworkers offline, crowd workers have struggled to make their voices heard [34, 14, 15]. Both pieceworkers and on–demand workers have struggled at times to form a collective identity necessary to organize. With workers joining and leaving the crowd labor force continuously, and with many part-time members, it is extremely difficult to corral the group to make a collective decision [34]. However, even when they can: whereas pieceworkers could physically block access to a site of production, online labor markets provide no facilities for workers to change the experience of other workers. This is a key limitation — without it, workers cannot enforce a strike.

Implications for crowd work

The decentralization and anonymization of on–demand work, especially online crowd work, will continue to make many of its social relationships a struggle. While some workers get to know each other well on forums [24, 9], many never engage in these social spaces. Without intervention, worker relationships and collectivism are likely to be inhibited by this decentralized design. One option is to build worker centralizing points into the platform, for example asking workers to vote on each others' reputation or allowing groups of workers to collectively reject a task from the platform [36].

The history of piecework further suggests that relationships between workers and employers might be improved if employers engaged in more human management styles. Instead of delegating as many management tasks as possible to an algorithm, it might be possible to build dashboards and other information tools that empower modern crowd work foremen [19]. If the literature on piecework is to be believed, more considerate *human* management may resolve many of the tensions we've discovered among among crowd workers.

Reciprocally, crowd work may be able to inform piecework research. There exists far less literature about pieceworkers' relationships than there does today about on–demand workers' relationships. Research into on–demand labor benefits from both the accessibility of digital platforms as well as the firmer theoretical basis of Anthropology than existed at the turn of the 20th century, when piecework began to emerge. Malinowski, Boas, Mead and Boas and other luminaries throughout the first half of the 20th century effectively defined Cultural Anthropology as we know it today; *participant–observation*, the *etic* and the *emic* understanding of culture, and *reflexivity* didn't take even a resemblance of their contemporary forms until these works [23, 4, 27]. On–demand labor today may give us an opportunity to revisit open questions in piecework with a more refined lens.