The Relationships of Workers to Work, Peers, and Others Crowd work's perspective. The relationships of workers with their work, with their peers, and with others are complex and not especially well–understood. Researchers have begun to appreciate the sociality of crowd workers in labor markets [5]. Still, the study of these communities is made more challenging by the limited access to workers on these sites of work inherent to digital spaces made without social affordances [18]. We can break this general body of work into the three groups we named earlier: workers' relationships 1) with requesters, and 2) with other workers. We'll look at workers' relationships with work itself, which we'll discover gives us insight into why people engage in crowd work in the first place.

[al2: some topic sentence that brings together the debate where one side blames Turkers for being bad at Turking and another side blames requesters for not understanding Turkers as a culture of people.] Early on, 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 [9]. Salehi et al. took this critique on information asymmetry and power imbalances a step further, designing *Dynamo* to facilitate Turkers acting collectively to bring about changes to their circumstances — this led to the Academic Requester Guidelines [20]. Gray has since identified the chaos inherent to "Turking", the unbridled power requesters have, and the distress this causes for workers, calling for a solution

some research frames this tension as the turker's problem (see Gadiraju et al.), but some has taken a more even—handed view (McInnis et al.) [9, 20, 3, 16].

Salehi et al. specifically points out the "mega-drama" among workers; Irani and Irani and Silberman discuss the culture of crowd work and the study thereof. Gray et al. quantifies and maps this social network of turkers (this is different from the requesters topic because researchers like Irani, Gray, etc... aren't Turkers, but are as close to "cultural anthropologists doing ethnography" as we see on AMT, maybe online in general) [20, 7, 8, 5].

Piecework's perspective. how do workers relate to work? The primary avenue for workers to interact with requesters or managers has been through laborer advocacy groups, which later became guilds, unions, etc... and through that lens, there's a lot of research on the relationships between workers and requesters [14, 1, 15, 10]. One component of collectively negotiating with managers has been the process of collective action, a topic which has been substantively explored but is not quite yet answered [6, 19]. this is harder; crowd work research doesn't just benefit from digitally mediated technology allowing us to make relationship networks like Gray et al. did; we also benefit from what we consider modern Anthropology and ethnography, something which fundamentally didn't exist or was still in its infancy during piecework's life. Still, we can look at primary sources, like [11] by the president of the American Federation of Labor, to give us some hint of how they related to each other [11, 5].

What's different about crowd work. The differences between crowd workers and pieceworkers seem defined largely by the differences in the places of work. Whereas it arguably became inevitable that workers would have a place to meet, discuss, and collaborate when they began sharing places of work, online spaces make it much harder to do so. Crowd workers can "lurk" and do tasks, or just do the occasional one—off task, without any affiliation with — or even knowledge of — communities of peers [al2: multiple citations that labor unions came out of factories here] [18, 17, 2].

While the historical management of workers had to be done by hiring a foreman, who necessarily had an intuitive — perhaps sympathetic — relationship with workers, the foreman of the 20th century has largely been replaced by the algorithm of the 21st century [13]. The result of this change is that the agents managing work are now cold and logical, if unforgiving. Where a person might recognize that the "attention check" questions proposed by Le et al. ensure that malicious and inattentive are stopped, some implementations of these approaches ([see 3] only seem to antagonize workers [12, 3]

Implications for crowd work research.

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