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 [4]. 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 [10]. We can break this general body of work into the three groups we named earlier: workers' relationships 1) with relationships to work, 2) with requesters, and 3) 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.

## Relationships to work

A number of ethical questions surrounding the increasing complexity of crowd work have arisen in recent years. Silberman, Irani, and Ross bring some of these issues to light — working for increasing amounts of time on tasks of growing complexity, only to discover that requesters are not willing to pay, for instance — but these and other dangers range an enormous landscape [13]. Kittur et al. list a few of the problems they identified in 2013 — motivation, feedback, reputation, quality control, to name a few — while others discuss challenges such as fostering collective action and the opportunity for learning and career advancement [8, 11, 12].

Some research already looks at research such as investing in workers, and informally, we know that this happens among industry requesters [5, 2]. AMT, meanwhile, offers requesters the ability to create tasks which are not just hidden from unqualified workers by default, but completely. Requesters have taken to using lists of worker IDs which reference workers who have proven their reliability, representing a sort of protoorganization of loosely connected workers.

Piecework's perspective. The rise of labor unions in the 20th century seems to have been precipitated by egregiously unjust conditions imposed on workers in factories and elsewhere [3]. Incidents broadly describing this dynamic can be found in research on AMT [6, 12]. If these are prototypical labor advocacy organizations of contemporary on–demand work, the next question we should look to is if — and indeed how — these institutions might face challenges in the future.

For insight on this, we return to 2009's study of labor unions, and identify that "Scholars who evaluate union governance by procedural criteria generally find that oligarchy tends to arise and persist even when democratic procedures are in place" [9]. Indeed, Levi et al. writes about the general perception that labor unions were either This perception already appears to be emerging in digitally mediated peer—governed organizations, as Keegan and Gergle and others have illustratively documented [1, 7]. If these organizations and others are to avoid the same fate that labor unions faced, they should take care to study this phenomenon and attempt to avoid it.

What's different about crowd work. While online and distributed workers can be harder to find, other features make the study thereof rewarding for the substantively

**different ways that we can approach their study.** The longitudinal analysis of everyday discourse, for instance, is trivial in the study of online communities

Implications for crowd work research.

## References

- [1] Ivan Beschastnikh, Travis Kriplean, and David W Mc-Donald. "Wikipedian Self–Governance in Action: Motivating the Policy Lens." In: *ICWSM*. 2008.
- [2] Steven Dow et al. "Shepherding the Crowd Yields Better Work". In: Proceedings of the ACM 2012 Conference on Computer Supported Cooperative Work. CSCW '12. New York, NY, USA: ACM, 2012, pp. 1013–1022. ISBN: 978–1-4503–1086–4. DOI: 10.1145/2145204.2145355. URL: http://doi.acm.org/10.1145/2145204.2145355.
- [3] Bernhard Ebbinghaus and Jelle Visser. "When institutions matter: Union growth and decline in Western Europe, 1950—1995". In: *European Sociological Review* 15.2 (1999), pp. 135–158.
- [4] Mary L. Gray et al. "The Crowd is a Collaborative Network". In: Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing. CSCW '16. New York, NY, USA: ACM, 2016, pp. 134–147. ISBN: 978–1-4503–3592–8. DOI: 10. 1145/2818048.2819942. URL: http://doi.acm.org/10. 1145/2818048.2819942.
- [5] Infoscout: Using Mechanical Turk to Mine Reciepts 7-23-2013. July 2013. URL: https://www.youtube.com/ watch?v=N3T6FyymsCw.
- [6] Lilly C. Irani and M. Six Silberman. "Turkopticon: Interrupting Worker Invisibility in Amazon Mechanical Turk". In: *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. CHI '13. New York, NY, USA: ACM, 2013, pp. 611–620. ISBN: 978–1-4503–1899–0. DOI: 10.1145/2470654.2470742. URL: http://doi.acm.org/10.1145/2470654.2470742.
- [7] Brian Keegan and Darren Gergle. "Egalitarians at the gate: One–sided gatekeeping practices in social media". In: Proceedings of the 2010 ACM conference on Computer supported cooperative work. ACM. 2010, pp. 131– 134.
- [8] Aniket Kittur et al. "The Future of Crowd Work". In: Proceedings of the 2013 Conference on Computer Supported Cooperative Work. CSCW '13. New York, NY, USA: ACM, 2013, pp. 1301–1318. ISBN: 978–1-4503–1331–5. DOI: 10.1145/2441776.2441923. URL: http://doi.acm.org/10.1145/2441776.2441923.
- [9] Margaret Levi et al. "Union democracy reexamined".In: *Politics & Society* 37.2 (2009), pp. 203–228.
- [10] Vincent Miller. *Understanding digital culture*. Sage Publications, 2011.
- [11] Jeffrey V Nickerson. "Crowd work and collective learning". In: *Technology–Enhanced Professional Learning:* Routledge, Forthcoming (2013).

- [12] Niloufar Salehi et al. "We Are Dynamo: Overcoming Stalling and Friction in Collective Action for Crowd Workers". In: *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems*. CHI '15. New York, NY, USA: ACM, 2015, pp. 1621–1630. ISBN: 978–1-4503–3145–6. DOI: 10.1145/2702123. 2702508. URL: http://doi.acm.org/10.1145/2702123. 2702508.
- [13] M. Six Silberman, Lilly Irani, and Joel Ross. "Ethics and Tactics of Professional Crowdwork". In: XRDS 17.2 (Dec. 2010), pp. 39–43. ISSN: 1528–4972. DOI: 10.1145/1869086.1869100. URL: http://doi.acm.org/10.1145/1869086.1869100.