We sincerely thank the reviewers for the feedback they offered. Your comments have identified several opportunities for clarification and potential changes in our framing that we think will help strengthen the paper.

RISKS OF HISTORICAL ANALYSIS

1AC and R5 bring up that one of the potential hazards with historical analysis is that it tends to strip away context in pursuit of ahistoric conclusions. This is an excellent point, and the reference to Rosenberg's (1994 and later 1994) work in particular is especially beneficial to us, as his work offers a concise description of the spirit of the method we adopted here, and articulates a use case for this approach.

In our revision, we will clarify that:

1. our contribution offers to fill some of the gaps in crowdwork and suggests potential futures (perhaps specifically offering "to narrow our estimates and thus to concentrate resources in directions that are more likely to have useful payoffs" (Rosenberg 1994)); and
2. our method of connecting history to modern socio-technical phenomena may be a powerful tool for researchers attempting to make sense of (seemingly) new phenomena (for example, arguing "that past history is an indispensable source of information to anyone interested in characterizing technologies" (Rosenberg 1982)).

CASE STUDY FOCUS

R5 also points out that we give attention to Grier's (2013) work and the case study of human computers, perhaps at the expense of the other case studies. Our goal had been to equally highlight the "major" case studies of the match–girls and railroad workers. While we occasionally bring to light other cases (such as the industrial workers during the Second World War), we'll bring more focus on the case studies of the match–girls and the railroad workers to elevate them to Grier's detail of human computers (2013).

To use the match–girls as an example, we'll address the reorientation of payment for work from a time–centric approach to an output–centric one and how this discretization and decomposition of work allowed managers to track workers more fastidiously, evaluate the working styles and resultant performance, and encourage or discourage certain behavior much more granularly via precise disciplinary measures. This analysis will also allow us to make deeper conclusions about the implications of piecework decomposition on crowdwork.

We'll also return to literature on the relationships among match–girls in their nascent labor movement and the notably adversarial relationships they had with their managers, whose above mentioned disciplinary methods later took on punitive, arbitrary qualities. This discussion will expose further parallels between the internal and external relationships of crowdworkers and pieceworkers.

TOPIC SELECTION

R3 and R4 noted our decision to cluster crowdwork research around three questions that consolidated some research — for instance, the "quantity-quality dilemma" (R4), "professional development" (R3) and "incentive structures" (R3) — into other broader topics. This critique is well taken. We will dedicate some space to reflect on the decisions we made with regard to clustering research topics.

RELATED WORK

R4 and R5 offer a number of works (e.g. Williamson 2016) for a more comprehensive discussion of scientific management. We agree that these works will substantively add to a reader's understanding of scientific management. We'll attempt to crystallize the body of work concisely, and point out that there's much more to be said about these topics.

ETHICS

R4 asks whether our analysis can shed any light onto the question of "whether it is ethical, to make use of crowdwork in HCI research". We had two interpretations of this question: 1) whether piecework itself is ethical, or 2) whether research on crowdwork is ethical. We'll engage here with the former.

We will add this topic to the Discussion of our paper, integrating R4's suggested paper (namely, Williamson 2016). Briefly, the literature on the history of labor does not position itself as stating that piecework is inherently ethical or unethical; the question, rather, is what conditions render it exploitative?

This literature argues that the exploitation occurs when conditions put workers in harm's way, such as in sweatshops and agricultural work with pesticides, or where employers systematically underpay or overwork laborers by contemporary standards.

The question then becomes whether the socio–technical infrastructure of Mechanical Turk and other marketplaces are putting workers in harm's way, underpaying, or overworking. Mechanical Turk itself does not directly require any amount of payment or work. However, its design does encourage employers to engage in such behaviors: piecework rates, for example, undervalue workers' task search time, and the task design interfaces explicitly encourage replication across multiple workers of uncertain quality rather than identifying one worker and paying them more.