1>returnable<1>1>returnable

- Crowd work: digitally mediated *information work* (for example, work done on Amazon Mechanical Turk, UpWork, or 99designs) [10]

2>returnable<2>

- Crowd work: digitally mediated *information work* (for example, work done on Amazon Mechanical Turk, UpWork, or 99designs) [10]
- Gig work: digitally mediated (but often *physically embodied*) one-off jobs, such as driving, courier services, and administrative support [4, 17]

Tasks

- **Complexity**
  Suzuki et al. [21], Kim and Monroy-Hernández
  [9], Yuan et al. [24], Yu, Kittur, and Kraut [23],
  Nebeling et al. [15], and Hahn et al. [6]

Complexity

Tasks

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Complexity

Tasks

- **Decomposition**
  Celis et al. [2], Lykourentzou et al. [13], Law
  et al. [11], Chang, Kittur, and Hahn [3], and
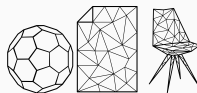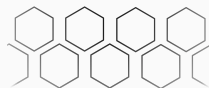 Newell and Ruths [16]

Decomposition

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  Suzuki et al. [21], Kim and Monroy-Hernández [9], Yuan et al. [24], Yu, Kittur, and Kraut [23], Nebeling et al. [15], and Hahn et al. [6]

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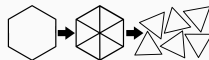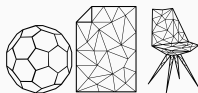
Complexity

- **Decomposition**
  Celis et al. [2], Lykourentzou et al. [13], Law et al. [11], Chang, Kittur, and Hahn [3], and Newell and Ruths [16]

Tasks

Decomposition

- **Relationships**
  Irani and Silberman [8, 7], Gray et al. [5], McInnis et al. [14], Salehi et al. [20], and Lee et al. [12]

What is the future of work?

How will technology affect the complexity of the work that on–demand workers do?

What are the limits of complexity in on–demand work?

How can we reach those limits?

These questions have all been asked before.

History can help us answer them today.

We'll reach into the history of piecework — of human computers, match stick makers, and metalworkers — and show how the history of their work can inform answers to questions about the future of digital work.

3>returnable<3>

- Crowd work: digitally mediated *information work* (for example, work done on Amazon Mechanical Turk, UpWork, or 99designs) [10]
- Gig work: digitally mediated (but often *physically embodied*) one-off jobs, such as driving, courier services, and administrative support [4, 17]
- Piecework: Payment for *output* rather than for *time*

We hope to provide:

- A useful ontological lens for making sense of crowdsourcing and gig work (which we collectively call "on–demand work") as a resurgence of piecework.

- A method for making sense of contemporary phenomena through historical analysis.

- Historical analysis isn't new
    - In general
    Rosenberg [18, 19]
    - In HCI
    Wyche, Sengers, and Grinter [22] and Bødker [1]
- Still, it's an underutilized method
    - Provide some basic framing for ostensibly new phenomena
    - Theoretically ground ourselves
    - Flesh out *differences* and their implications

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