Professional Cultures and Inequality in STEM
Overview

- Question: How do taken-for-granted beliefs in STEM reproduce inequality?
  - Focus: Professional Cultures in STEM
A Starting Place

- Not primarily a “bad apples” problem
- Subtle beliefs and practices matter
- Won’t necessarily improve with time
- Small disadvantages accumulate over time
A Starting Place

Figure 3: Representation of Women among S&E Bachelor’s and PhD Earners, 1949-2011 (Excluding SocSci and Psych)

A Starting Place

- No longer primarily a “bad apples” problem
- Subtle beliefs and practices matter
- Won’t necessarily improve with time
- Small disadvantages accumulate over time
Culture Matters

- Professional cultures of STEM disciplines can help reproduce inequalities

- 3 specific cultural ideologies:
  - Schemas of scientific excellence
  - Depoliticization
  - Meritocracy

- How to undermine these ideologies
What are Professional Cultures?

- Professional cultures = rich and historically-rooted meaning systems built into and around professions’ tasks and knowledge.
  - Give professional work meaning
  - Unite profession members

- Biases can be built into these cultures.
Three Specific Ideologies

Professional Cultures of STEM

- Schemas of Scientific Excellence
- Depoliticization
- Meritocratic Ideology
Characteristics & skills assumed to be markers of professional competence

- **Cultural yardsticks** for measuring “excellence”
- Influence hiring, promotion, and funding decisions

- Not necessarily the characteristics actually required for success

- Can be *gendered, racialized, and heteronormative*

-Cech & Blair-Loy in progress, Cech 2013
E.g., the Technical/Social Dualism

- The ideological separation between “technically-focused” and “socially-focused” activities (Faulkner 2000)
- “Technical” is more highly-valued than the “social”
Gender stereotypes mapped on to this dualism:

Predicted Wages of Engineers

Source: (Cech 2013, Social Forces)
Percent of STEM Faculty who Agree that “Caring about Promoting Diversity” is characteristic of:

Embargoed

(Blair-Loy, Ferrante, Cech & Rogers, in progress)
Also shape what research areas are considered most “prestigious” and “valuable:”

Embargoed
Reflection Question: How is excellence judged in your department? How might social stereotypes get folded into these beliefs about excellence?
Depoliticization

FIELDS ARRANGED BY PURITY

Sociology is just applied psychology.

Psychology is just applied biology.

Biology is just applied chemistry.

Which is just applied physics. It's nice to be on top.

Oh, hey, I didn't see you guys all the way over there.

Sociologists
Psychologists
Biologists
Chemists
Physicists
Mathematicians

Depoliticization

- Depoliticization: the belief that science is a “pure” space that can and should be stripped of political and cultural concerns.

  - ...But what to study, how to define problems, what to fund are cultural & political decisions

-Cech 2013, 2013b; Cech & Sherick 2015; Knorr-Cetina 1999; Latour & Woolgar 1986
Depoliticization can *shut down* conversations about diversity and equality within STEM.

- Impacts
- Students:

Depolarization reinforces existing power structures within STEM:

In my department, [the issue of sexual identity] is sort of invisible. I think most of them are straight dudes who don’t really think about the existence of people who are not like them. I think they have so much privilege that they can’t understand what it’s like for people who don’t have that privilege. (Lesbian computer science graduate student)

(--)Cech and Waidzuans 2011, p. 11).
Reflection Question: How might depoliticization silence conversations about diversity and inequality in your department?
The belief that success is the result of individual talent, training, and motivation

Frames inequalities in STEM as the fault of women and minorities, not the social system.

Embargoed
Meritocratic Ideology

Reflection Question: Who still needs to be convinced that unequal processes actually exist in STEM?
In sum...

- These 3 ideologies are part of the professional cultures of STEM
  - Difficult to see, hard to change

- Professional cultures can reproduce inequalities within STEM

- Do we contribute to these cultural processes?
What can be done?

- Not about “fixing” women or minorities to be more like white men

- **Schemas of Scientific Excellence:** Be wary of discussions about “fit”

- **Depoliticization:** Legitimize topics of diversity and equality

- **Meritocratic Ideology:** First step—explain that there *is* a problem
The Persistence of Male Power and Prestige in the Professions: Report on the Professions of Law, Medicine, and Science & Engineering

Gender and qualifications maintain a visible gap on the American workplace. Regardless, men continue to be more likely than women to hold the top jobs in Power. This holds true even within the professions requiring the most education, where some might imagine the potential for parity would be greatest. The inconsistent representation of women in all three areas, and out of 119 studies from the Center for Research on Gender in the Professions show that, among those on the pinnacle of power, women still lag behind men. Recent claims by journalists and pundits have exaggerated the status of women in many areas. However, we remain within the spectrum of power that the service economy offers. Women can be common in some professions, rare in others. While men continue to dominate the professions, there are many interesting questions about these gaps and no simple solution to the problem. We conclude with practical steps that could help meet our society toward a more equal future.

The Decline Not So Fast!

Despite journalism having been "the end of men" and top lawyer "all the lawyers" have been essentially absent from the decline of male power.

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(25) Cech oxide.gatech.edu | NDEW 2015
Schemas of Scientific Excellence: How is excellence judged in your department? How might social stereotypes get folded into these beliefs about excellence?

Depoliticization: How might depoliticization silence conversations about diversity and inequality in your department?

Meritocratic Ideology: Who still needs to be convinced that unequal processes actually exist in STEM?

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Thank you