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Gendered Organizations in the New Economy

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Abstract

Gender scholars draw on the “theory of gendered organizations” to explain persistent gender inequality in the workplace. This theory argues that gender inequality is built into work organizations in which jobs are characterized by long-term security, standardized career ladders and job descriptions, and management controlled evaluations. Over the past few decades, this basic organizational logic has been transformed. In the so-called new economy, work is increasingly characterized by job insecurity, teamwork, career maps, and networking. Using a case study of geoscientists in the oil and gas industry, we apply a gender lens to this evolving organization of work. This article extends Acker's theory of gendered organizations by identifying the mechanisms that reproduce gender inequality in the twenty-first-century workplace, and by suggesting appropriate policy approaches to remedy these disparities.

Keywords

gendered organizations; oil and gas industry; women scientists; new economy

After making spectacular strides toward gender equality in the twentieth century, women's progress in the workplace shows definite signs of slowing (England 2010). Although women have entered occupations previously closed to them, many jobs remain as gender segregated today as they were in 1950. At both the top and the bottom of the employment pyramid, women continue to lag behind men in terms of pay and authority, despite closing gender gaps in educational attainment and workplace seniority. What accounts for these persistent gender disparities?

To explain gender inequality at work, many sociologists draw on Joan Acker's (1990) theory of gendered organizations. Acker argued that gender inequality is tenacious because it is built into the structure of work organizations. Even the very definition of a “job” contains an implicit preference for male workers (Acker 1990). Employers prefer to hire people with few distractions outside of work who can loyally devote themselves to the organization. This preference excludes many women, given the likelihood that they hold primary care

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responsibilities for family members. Consequently, for many employers the “ideal worker” is a man (see also Williams 2001).

Acker (1990) further identified five processes that reproduce gender in organizations: the division of labor, cultural symbols, workplace interactions, individual identities, and organizational logic. The latter process—organizational logic—was at the center of Acker's original critique of gendered organizations (Acker 1990) and is the focus of this article. The concept of organizational logic draws attention to how hierarchies are rationalized and legitimized in organizations. It encompasses the logical systems of work rules, job descriptions, pay scales, and job evaluations that govern bureaucratic organizations. Acker describes organizational logic as the taken-for-granted policies and principles that managers use to exercise legitimate control over the workplace. Workers comply because they view these policies and principles as “natural” or normal business practices.

While others had previously identified organizational logic as key to the reproduction of class inequality, Acker's breakthrough identified it as a source of gender inequality as well, even though it appears gender neutral on the surface. She writes:

Rational-technical, ostensibly gender neutral, control systems are built upon and conceal a gendered substructure ... in which men's bodies fill abstract jobs. Use of such abstract systems continually reproduces the underlying gender assumptions and the subordinated or excluded place of women. (Acker, 154)

For example, organizations supposedly use logical principles to develop job descriptions and determine pay rates. But Acker argues that managers often draw on gender stereotypes when undertaking these tasks, privileging qualities associated with men and masculinity that then become reified in organizational hierarchies. Through organizational logic, therefore, gender discourses are embedded in organizations, and gender inequality at work results.

A great deal of research supports Acker's theoretical claims (for a review, see Britton and Logan 2008). But in the decades since the article was published, the social organization of work has changed considerably. Starting in the 1970s, organizations began to experience downsizing, restructuring, computerization, and globalization (DiMaggio 2001; Kalleberg 2000; Vallas 2011). Referred to as “work transformation,” this general and vast process of change is affecting the structure of work in the United States and around the world. Whereas in the past, many workers looked forward to a lifetime of loyal service to a single employer, workers in the so-called new economy expect to change employers frequently in search of better opportunities and in response to lay-offs, mergers, and downsizing. Organizational logic is changing, too. Under the former system, workers carried out narrow and specific tasks identified by their job descriptions and were evaluated and compensated by managers who controlled the labor process. Today, as corporations shed layers of management, work is increasingly organized into teams composed of workers with diverse skills who work with considerable discretion on time-bounded projects and are judged on results and outcomes, often by peers. Furthermore, in the new economy, standardized career “ladders”—with clearly demarcated rungs that lead to higher-paying and more responsible positions—are being eliminated or replaced by career maps, or “I-deals,” which are individualized programs of career development. Networking has become a principal means through which

workers identify opportunities for advancement both inside and outside their firms (Babcock and Laschever 2003; DiMaggio 2001; Osnowitz 2010; Powell 2001; Rousseau 2005; Vallas 2011).¹

In this study, we seek to extend Acker's (1990) analysis and critique of gendered organizations by investigating how gender is embedded in the organizational logic of the new economy. Acker's theory explains how gender is embedded in traditional organizations that value and reward worker loyalty and that are characterized by standardized job descriptions, career ladders, and manager-controlled evaluations—features that do not characterize jobs in the new economy. We investigate how organizational logic is gendered when work is precarious, teams instead of managers control the labor process, career maps replace career ladders, and future opportunities are identified primarily through networking.

Geoscientists in the Oil and Gas Industry

To investigate gendered organizations in the new economy, we draw upon our research on women geoscientists in the oil and gas industry. Women geoscientists have increased their numbers radically in recent decades, currently constituting about 45 percent of graduates with master's degrees in geology, the entry-level credential in the field (AGI 2011). Also, according to anecdotal data, women geoscientists are entering professional careers in industry in almost equal numbers as men. Despite these encouraging advances, there is a strong perception that women stall out in mid-career and eventually leave their jobs at the major companies (AAPG 2009). This pattern is not uncommon among women scientists in general (Preston 2004). The glass ceiling is firmly in place in the oil and gas industry, with very few women represented at the executive levels and on boards of directors (Catalyst 2011).

The oil and gas industry is an ideal setting to study gendered organizations in the new economy for several reasons. First, it is arguably the most powerful, global, essential, and lucrative industry in the world. In 2007, the largest oil and gas companies made roughly two trillion dollars (U.S.) in combined revenue and 150 billion dollars in profit (Pirog 2008). Despite its critical importance, few sociologists have examined the gender dynamics in this industry (see Miller 2004 for an exception). Second, the industry has a high demand for so-called knowledge workers (scientists and engineers), which is a defining feature of the new economy; one solution to the perceived shortage of these workers has been to increase the numbers of women in these fields (National Academy of Sciences 2010). Third, and most importantly for our analysis, the industry has been in the forefront of implementing the new organizational logic (McKee, Mauthner, and Maclean 2000). Throughout the 80s and 90s, the industry experienced numerous mergers, leading to reorganization and downsizing that exacerbated the vulnerability of its workforce. Consistent with the general process of work transformation, the major corporations have altered the career structure for their professional workforce by institutionalizing career maps and teamwork. The expectation of frequent career moves has enhanced the importance of networking for professional success. These

¹These descriptions of “old” and “new” forms of work organizations refer to trends that in actual practice can overlap considerably, so they should be treated as “ideal types” in the Weberian sense.

innovations make the oil and gas industry a paradigmatic case for investigating gendered organizations in the twenty-first century.

Methods

This article is based on in-depth interviews with 30 women geoscientists (geologists and geophysicists), supplemented by observations at three professional meetings and interviews with three male supervisors. Oil and gas companies employ geoscientists to identify potential hydrocarbon deposits by analyzing geological formations and core samples taken from prospective well sites. We interviewed women scientists to gather information on their career trajectories in the oil and gas industry and to understand, from their points of view, the barriers to and the opportunities for their success in the industry. Through our analysis of their observations and experiences, we identify processes of gendering in the organizational logic of the oil and gas industry.

We located respondents with the assistance of the American Association of Petroleum Geologists (AAPG). This 31,000-member professional association includes a standing committee dedicated to the advancement of women geoscientists, called Professional Women in Earth Sciences (PROWESS). The leadership of PROWESS retained our services in 2009 to analyze the results of an informal poll they designed to draw attention to women's attrition from the industry. Their online survey of more than 2000 respondents indicated a strong perception that women geoscientists were leaving the industry in disproportionate numbers (AAPG 2009).

To identify potential respondents for the in-depth interviews, we attended the AAPG meetings in Denver (2009) and New Orleans (2010). There, we obtained the contact information of women interested in participating in the study, whom we subsequently interviewed. Additional interviews with senior women geoscientists were arranged by an executive at a major company. We obtained other contacts by snowballing out from these initial volunteers. In this way we were able to include in the study three women who had left the industry. The snowball sample selection method is useful for gaining access to small and hard-to-identify populations (Lofland et al. 2006).

Our respondents were employed at least five years in the oil and gas industry. The 30 women had combined work experience at 14 companies. Several had worked at more than one company, including a few at more than one "major." The "majors" are the handful of large global corporations (BP, Chevron, Conoco-Phillips, Exxon-Mobil, and Shell) that integrate both "upstream" and "downstream" functions, including exploration, development, refining, and distribution (although all of our respondents specialized in the "upstream" functions, i.e., exploration and development of oil and gas reserves). Some women interviewed had experience working in midsize and service companies, including Marathon, Schlumberger, and JW Operating, for smaller independent producers, or as consultants.

The women we interviewed were between the ages of 30 and 52 (median age of 38). With three exceptions, all respondents were white. All but four respondents were married—the majority to other geoscientists or petroleum engineers—and most had children. Twenty of

the women in our sample lived in Houston; others were located in California, Colorado, Florida, Louisiana, and Oklahoma. All respondents had a master's degree; eight had obtained a Ph.D. The annual income of all respondents was more than \$90,000 per year; eight earned more than \$150,000 per year. Some received bonuses in addition to their salaries.

Interviews lasted at least one hour, some as long as two hours, and were conducted either in person or over the phone. Twenty-three of the interviews were conducted by the first author; seven were conducted jointly by the first and second authors. The in-person interviews took place in Houston, either in offices, coffee shops, or restaurants. Interviews covered the following topics: background questions (early influences), graduate school experiences, employment history, mentoring, current job responsibilities, informal socializing at work, future goals, and general views about women's retention in the industry. The interviews were recorded and transcribed by the first author.

We analyzed the data by following the inductive coding techniques described by Charmaz (2006). We read each transcript carefully several times and highlighted emergent themes related to the organizational logic of the new economy, including job insecurity, teamwork, career maps, and networking.

Findings

Organizational changes associated with the new economy are reflected in the careers of geoscientists in the oil and gas industry. Gone is the expectation of a lifelong career spent in loyal service to a single employer. Oil and gas companies frequently expand and contract their workforce in response to economic cycles and mergers (Yergin 1993). The ubiquity of layoffs in the industry is described here by a senior geophysicist with nine years of experience:

I definitely walked into the industry with eyes wide open. During 2000, when I had my internship, layoffs hit again. I lost two of my mentors during the whole process. ... The most important thing I learned was that layoffs are part of the industry, you have to accept that. It was very scary. It prepared me for when we had our layoffs around here last year. ... It's cyclical in the industry. It's not if it's going to happen, it's when it's going to happen. ... A couple of years ago, when oil prices were in the hundred-dollar range, that was boom time. They were hiring left and right at that point. [The company] hired three when I was hired, and they were hiring 60 in 2007-08.

Job insecurity is described by this respondent as both a constant and a “very scary” feature of the oil and gas industry.

The constant threat of layoffs no doubt causes high levels of stress and performance pressures for geoscientists. But how is performance measured? In periods of downsizing and merging, how do individuals survive the periodic cuts and even succeed in the industry?

Given the work geoscientists are hired to do, it would seem that whoever finds the most oil and gas would receive the most rewards. Indeed, after a respondent drilled a successful well,

headhunters tried to lure her away from her current company, offering incentives such as stock options. But corporations have good reason to be wary of using this particular metric of productivity, since it may incentivize geologists to overstate their claims, a risky and costly prospect for companies. To protect themselves from this lone wolf phenomenon and insure greater reliability, companies instituted the team structure. This geologist, who experienced both individual- and team-based work, explains the economic stakes:

When I first started in the mid-80s, I was working an exploration play in northern Louisiana, and the engineer who was going to drill a well for me was based in Corpus Christi. I never met him. I would do my maps and put them in the mail because we didn't have electronic submission. We might have a few conference calls before we drilled a million dollar well. That was when it cost \$50,000 a day to drill a well. Now a well in the Gulf of Mexico is a million dollars a day. And so, [changing to the team structure] was part of that. You had to be able to get people face-to-face. There was too much on the line from a risk standpoint, and from a financial standpoint.

In the experience of this geologist, teams produce more reliable results than do individuals working alone. With more people involved, she believes that companies get better advice on where to drill and also where not to drill, lessening their economic risks.

Teams are now a standard organizational form for scientists working in industry (Connelly and Middleton 1996). The Bureau of Labor Statistics (2009) identifies the ability to work on teams as an important feature of geoscientists' careers. The women we talked to worked on teams ranging in size from five to 20. Some teams were interdisciplinary, while others were composed of members with a single specialty, all of whom were investigating a particular “play” or geographical area for potential drilling.

Individuals' team assignments typically last from three to five years, and many require relocation to a different city, oil field, and/or country. Each team is headed by a supervisor, typically a professional peer working alongside the rest of the team. Supervisors also move around to different teams every few years. The result is a work organization in perpetual flux, with teams forming and disbanding, and team members and supervisors constantly circulating around the country and, indeed, all over the globe.

Even though work is team based and essentially collaborative, careers are still individual. Raises, promotions, and opportunities are allocated to individuals, not to teams (although team members can receive additional bonuses if their collective results contribute to a company's profits). Out of this particular context, oil and gas companies replaced career ladders and standardized job descriptions with career maps—individualized programs for career development. A career map establishes goals and sets expectations that are then used to monitor a worker's productivity and evaluate his or her performance. The supervisor plays a central role in crafting workers' career maps and making sure that they have the tools to achieve their goals. As the primary channel to management, the supervisor identifies high performers on the team, recommends raises and bonuses, and determines the quality of future placements. Thus, individual workers must gain the support of their supervisors in order to further their careers in the industry.

A second major pathway to success in the oil and gas industry is through networking. In many of the large corporations, professionals are assigned mentors for their first three to five years, but by mid-career, we were told, they are basically left on their own to find support and encouragement as well as opportunities for career growth. Networking is viewed by respondents as the principal means to this end. Networks can be internal or external, formal or informal. Through these networks professionals gain exposure for lateral moves (after layoffs) and for leadership opportunities.

The new organizational logic appears gender neutral on the surface. Some have argued that because the new system of teams, career maps, and networking is less rigid than the older system of standardized career ladders and job descriptions, it may be more compatible with women's careers (e.g., Hewlett 2007). In fact, the transition to the new economy has taken place at the same time that major corporations have embraced gender and racial/ethnic diversity (Eisenstein 2009). The giant oil and gas companies tout their efforts to recruit women and minority men. Both Chevron and BP, for example, feature women scientists in recent publicity campaigns. Nevertheless, as we explain in the remainder of this article, these new forms may explain persistent patterns of gender inequality. Drawing on our interviews with women scientists in the oil and gas industry, we aim to show how gender inequality is built into organizations in the new economy—updating Acker's argument for a new era.

Teamwork

In some recent studies, the team structure has been found to attenuate gender inequality in organizations (Kalev 2009; Plankey Videla 2006; Reskin 2002; Smith-Doerr 2004). However, we found that women may be disadvantaged on male-dominated teams. By the very nature of teamwork, the individual's contribution to the final product is obscured. Yet because careers are still individual, members of the team must engage in self-promotion to receive credit and rewards for their personal effort. Our study suggests that women encounter difficulties when promoting their accomplishments and gaining the credibility of their supervisors and other team members. This finding is consistent with experimental studies showing that, in general, women are given disproportionately less credit than men for the success they achieve when they work on teams in male-dominated environments (Heilman and Haynes 2005).

Because female workers are not given the benefit of the doubt in assessments of their work efforts by others, it is especially important that they are willing and able to tout their contributions to team accomplishments. Many of the women we interviewed are conscious of the importance of self-promotion, though they are not always secure in their ability to do it effectively. One geoscientist shared her misgivings about her own presentation skills, as well as her hunch that presentation skills may be more important than scientific ability to get ahead in industry:

I don't know especially if you have to be as good, or if you have to be just as loud and belligerent as the other people. You definitely/ the personality here is, to prove your point, you have to bang the table sometimes. I think women are more reluctant to do that. It's not me to do that.

This woman attributes her reluctance to “bang the table” to her personality, which she suggests is a reflection of an essential gender difference. But the following quote, from the only woman geoscientist in her entire division, indicates that women may be regarded negatively when they promote themselves:

It's kind of interesting that I feel that I have to fight more to keep promoting what my expertise is. And it keeps getting kind of pushed back. The other people with less expertise in structural geology, they seem to get a little more recognition. Now, they've been working for the company for years. But still, I'm the one that has the expertise in that area. I just don't know how to do it. You don't want to be the one that yells and screams all the time. It's a delicate balance to keep promoting yourself.

Virtually everyone we interviewed talked about the fine line, or “delicate balance,” between being assertive and being a “bitch.” This perennial dilemma faced by women in the workplace is exacerbated in a team structure that requires workers to engage in assertive self-promotion in order to achieve recognition.

One woman reflected on her experience speaking at a partner meeting, at which she was the only woman, and youngest person, in attendance:

I had to stand up and tell why I thought the well location should be somewhere and I could absolutely tell that no one was taking me seriously. They didn't care what I had to say—it was very obvious. Part of that I'm sure is being young, part of it was being the first time I had to stand up and tell them that. Because now, after eleven years, I can stand up and I can talk [laughs], but you have to get to that point. You have to know your stuff. I know that I have to cross every “t” and dot every “i,” because if I don't, someone is going to pick it apart. There will be some man in the audience that wants to heckle you because he can—and I know that.

As this observation suggests, the difficulties that women encounter with self-promotion may be compounded by age. The following quote also indicates that younger women may face additional hurdles when attempting to bring attention to their accomplishments:

I think automatically that anything I say is questioned. My supervisor, in my first go-round through the performance, told me I had to speak up—I have to believe what I'm saying, and I can't let them railroad me ... which, I think he feels is more of an age thing. You get some credibility with age. I'm sure some people think you get more credibility being a guy. [I've got] kind of the short stick on both of those.

Her supervisor admonished her for not being assertive enough. But she perceived that, even when she did speak up, her views were constantly challenged because she was the only woman and the youngest member of the team.

At the professional meetings we attended, we observed that age is often treated as a status group in the industry. For example, when executives discussed “diversity” goals at their companies, they included age as well as gender and race/ethnicity. Layoffs that occurred in the 1980s and late 1990s were reported to have contributed to a large age gap among industry geoscientists (with a virtual absence of workers aged 35–45). Some of the

geoscientists that we interviewed believed the age gap contributed to tension within teams. Young geoscientists do not always receive the recognition they seek from the older generation nearing retirement.

However, youth tends to operate differently based on gender and race. Youth can convey certain advantages to men, who may become the protégés of senior men (Roper 1994). In contrast, young women struggle to get noticed in positive ways. Some young women described feeling sexualized by men in their work teams. Others told us that they succeeded only because they fell into the “daughter” role with senior male mentors. Both roles are constraining in the quest for professional credibility. As Ollilainen and Calasanti (2007) have argued, family metaphors can disadvantage women who work on teams by encouraging a gendered division of labor and compelling women to engage in uncompensated emotional labor. Furthermore, in white male-dominated teams, metaphorical family roles may be available only to white women (Bell and Nkomo 2001).

Minority women may be disadvantaged compared to white men and women in additional ways, according to one Asian American woman we interviewed:

It's all sorts of behaviors and soft skills that they look at for leadership potential. And a lot of the Asian people don't do well in those because we're culturally expected to be modest and we're culturally expected to not stand out. It's OK for us to be introverted or quiet. You actually get respected for being quiet, a man of few words. But at [my oil and gas company], that is not how you get success.

This statement suggests that self-promotion may have different meanings for racial/ethnic minority men and women. Furthermore, other research suggests that those who engage in it may be viewed negatively by white colleagues and supervisors (Harvey Wingfield 2010).

Interestingly, we observed that women who worked in gender-balanced teams (absent in some companies) felt like they received greater recognition and respect for their contributions. If correct, this observation would confirm theories of tokenism that predict less bias in numerically balanced work groups (Kanter 1977). But how do teams achieve this numerical balance? Supervisors play a key role in determining the composition of the work group. However, as we suggest in the next section, supervisors' discretionary power is not necessarily exercised in the interest of gender equality.

In sum, in order to achieve recognition and rewards for their contributions, individuals working on teams must be willing and able to stand out from the group and advertise their accomplishments. Our findings suggest that this apparently gender neutral requirement can discriminate against women. As other researchers have found (Babcock and Laschever 2003; Bowles, Babcock, and Lai 2007; Broadbridge 2004), self-promotion can have negative meanings and consequences for women in male-dominated environments. When work is organized on the teamwork model, gender inequality is the likely result.

Career Maps

In many companies, career maps have replaced standardized career ladders for highly valued professionals. The purpose of a career map is to chart an individualized course of

professional development that incorporates both the company's needs and the personal aspirations of the worker. Sometimes called “I-deals” (Rousseau 2005), these idiosyncratic arrangements often include employees' plans for reduced or flexible hours (e.g., to accommodate family needs) in addition to their career ambitions. Career maps are normally negotiated with supervisors, and they evolve over time.

Respondents were mostly positive about career maps because of the perception that they allow workers to manage their own careers. This was preferable to having, in the words of one geologist, “big brother” determine their futures with a one-size-fits-all set of career expectations (see also Hewlett 2007). However, in practice, the geoscientists we interviewed experienced several problems with career maps, stemming from the perceived ineptitude or gender bias of their supervisors. First, difficulties can arise if the criteria drawn are too vague or subjective. A woman with a PhD in geophysics explained that some workers, and especially new employees, struggled to figure out their job responsibilities. Supervisors sometimes assigned work without explaining the steps necessary or directing new employees to the resources needed to complete their assigned tasks. In fact, it wasn't until right before she left the industry that this particular woman felt she understood the “work flow”:

That was a really hard thing for me. It wasn't until the last six months where I got a project that was clearly defined what I needed to do and how I was going to do that and who were my resources to ask for help.

Without standardized job descriptions, workers can experience confusion about their job duties. Developing excellent communication skills becomes mandatory in this new context. One geologist attributed her success in the industry to the fact that she has “effectively communicated my career plan to the right people.” She said, “Not everyone is so fortunate. ... I do know of some people who haven't had as much influence on where they have gone. But when I've spoken with them, I really feel like they have not effectively communicated what they wanted to do.” From her perspective, it is up to individual workers—not the corporation—to ensure that careers stay on the right track.

A second problem with career maps is that decisions about raises, promotions, and other rewards based on this system can appear arbitrary. This woman shared her confusion and frustration that her husband—who had started his job around the same time she did—had been promoted “a lot faster” than she had:

And I've seen that, just on the side, watching. ... I'm like, “OK, what are you doing differently that I need to do to get this going?” He said, “Nothing. I haven't done anything.” He is a quiet guy by nature. So he didn't know why he was getting promoted himself. And I thought that was very interesting.

The lack of common job descriptions and career ladders contributes to uncertainty about why some individuals receive recognition and others do not. Because career maps are tailored to the individual—and because most companies prohibit employees from sharing salary information—it is difficult for workers to compare their career progress with others.²

Third, geoscientists perceive problems with career maps when supervisors do not actively advocate for them. A 35-year-old geologist working at a major described the importance of supervisors in obtaining good project assignments:

They tell us that “you drive your career.” Now, they do try to help you along the way. In the first five years, you do get guidance. They tell you where you're going to go next. But beyond that five-year mark, it's up to the individual more so. A good supervisor should be saying, “Hey, you've been in this job for this much time. Are you interested in something else?” Or, like, our manager might come in and say, “Hey, I hear there's this opening in this other group, are you interested in that?” ... I don't know how you tap into that if you're not getting it.

This worker was grateful when a supervisor several levels above her recommended her for a job opening. Even though she didn't end up receiving that job, she felt “fortunate” to have been considered. She wondered aloud, “How do I get that to happen again?”

When opportunities are experienced as a windfall, workers are unsure how to advance themselves. At the same time, workers felt pressured to take any opportunities presented by a supervisor. Turning down more than one assignment was believed to foreclose them from receiving any in the future.

Without a supportive supervisor, careers can flounder. One geologist found herself in a precarious position when her supervisor left the company and another group subsumed her team. The manager of this group was an engineer rather than a geologist, which this respondent saw as a disadvantage. Not only did the person in charge of assigning and judging her work not understand it, he was already responsible for the careers of a large number of people. Without a supervisor advocating for her, this geologist said she felt “unnerved” and stressed out because she didn't know what her next assignment or career move would be.

While all of these issues with supervisors' discretion over career maps can impact both men and women equally, women may be especially disadvantaged if their supervisors harbor gender biases. As we know from previous research, supervisors who harbor biases against women (or in favor of men) can easily derail women's careers, even in the sciences (DiTomaso et al. 2007). Virtually every woman we interviewed encountered an individual supervisor at some point in her career who stymied her advancement. One geoscientist felt her career at a mid-size company was progressing well until she was assigned a new supervisor. The new supervisor would accept her work only if she had it pre-approved by a male employee on her team. She explained:

I definitely think it was a gender issue. He had men on his team that were my age and he gave them all the responsibility. The problem was he had another woman on his team who had two more years' experience than me. And she wasn't performing at the same level. She was happier doing data management and organizing, like, a team meeting and that sort of thing. And he said he was trying to treat the women

²The proliferation of career maps may also make it difficult for human resource departments to detect patterns (and potential disparities) in men's and women's career development.

employees the same. ... He wasn't a bad person. I felt like he was trying to be fair. But I think he was concerned that if he gave me more responsibility, then it would hurt her.

In the interest of “fairness,” this supervisor apparently felt compelled to discriminate against her! Eventually this woman transferred to another team. This time, she was the only woman. She was excluded from discussions and team meetings, and felt completely ostracized. (Her frustration eventually led her to switch to a new firm.)

Gender bias is also expressed in supervisors' decisions about whom to hire into their teams. Studies suggest that managers favor people who are like themselves, a process known as “homosocial reproduction” (Elliott and Smith 2004; Kanter 1977). Gender differences emerge because women are rarely in a position to make personnel decisions. Even when women are in a supervisory position, their hiring decisions may be scrutinized. One female supervisor hired a woman to her team. When asked if it was controversial to pick a woman, she said that she “got that comment” but was able to defend herself because she had offered the job to a man first. She said, “I wasn't out looking for a female. It turns out we got a female in the group. In this particular case, she is the best fit.” Thus, she was put on the defensive for a practice that is common among male supervisors. When gender bias appears to favor women, it is noticed and controversial (a topic we return to in the next section).

Part of developing a career map involves planning for maternity leave and flexible schedules, including part-time. Supervisors often have a great deal of control over these arrangements. One woman said the human resources (HR) department at the major where she worked “purposefully wrote the rules [regarding flex time] kind of in a gray zone,” leaving them open to the interpretation of supervisors. Smaller companies, which often lack formal HR departments, may give supervisors even more discretion than the larger companies do. However, a number of women working at majors gave examples of how supervisory discretion could impact workers' knowledge and ability to take advantage of flexible working options. One geologist said:

The options that are available for new mothers are not very well advertised or promoted. The way I see it happening is: Somebody gets pregnant, they go talk to the last person who was pregnant, and they find out, “What did you do? What did you ask for? Did they say yes?” It just seems to be passed around word-of-mouth. This person came back three days a week, that person came back at 80 percent time. Who got benefits or benefits cut? Or vacation days cut? It is not really spoken of by HR. If you search for it on the Internet, it's hard to find any sort of information. It just seems to sort of flow around through the young women on how people have made it work. That's frustrating, as someone could maybe be in that situation someday. There doesn't seem to be a consistent, accepted solution. Not that everybody would want the same thing. ... The way it is right now, it's very supervisor dependent.

This situation captures a paradox at the heart of career maps. On the one hand, they enable greater flexibility in career development, which some argue is in women's best interests (Hewlett 2007). As this geologist attests, “everybody” is unlikely to “want the same thing.”

On the other hand, if designing a career map that accommodates motherhood depends on having a sympathetic supervisor, potential gender bias is built into the organization. The lack of a “consistent, accepted solution” is frustrating and anxiety producing for this woman, who is contemplating motherhood. This geologist working for a major experienced similar frustration:

Different departments were very different. You could be in a department that was run by a stodgy old man who had been there fifty years, and you weren't going to get the same treatment. And if you asked for part-time, you were certainly going to be put at the bottom of the list for promotion.

From her point of view, it was “luck of the draw” whether a supervisor would accommodate a worker's family needs.

Both of these quotes are from U.S.-based workers. Those we interviewed who had experience working in European offices experienced standardized maternity leave policies that were part of their host country's social welfare system. However, those who worked for European companies in the U.S. faced similarly limited options as those working in U.S. companies, with only supervisor-approved accommodations for maternity leave and part-time schedules available to them.

Because this study was motivated in part to understand women's attrition from the industry, we asked respondents their opinions about why women leave. Many speculated that it was because women tend to “opt out” of the labor force to bear and raise children, which they considered a deeply personal choice. Interestingly, few could cite specific examples. And the three women we talked to who left the industry did not regard children or family as their primary reason for leaving. Nevertheless, we contend that the institution of career maps, which grants supervisors the ability to negotiate family accommodations on a case-by-case basis, may leave mothers without viable and meaningful alternatives. Furthermore, in an industry characterized by constant mergers and downsizing, we suspect that some women may use the framework of “opting out” as a face-saving way to explain a decision to leave prior to an impending layoff. Unfortunately, this framing reinforces the stereotype that women naturally prioritize family over careers and absolves organizations of the responsibility for structuring the workplace in more equitable ways.

In sum, career maps give supervisors a great deal of discretion over individuals' career development. In the absence of accountability or an effective affirmative action program, supervisory discretion can be a breeding ground for gender bias (Reskin and McBrier 2000). Given the difficulty of comparing career progression in this context, patterns of gender and racial disparities may be obscured. Nevertheless, the logic of career maps encourages workers to blame themselves, not the organization, when their careers are stymied.

Networking

Virtually everyone we talked to said that networks are fundamental to achieving professional success. In an industry where lay-offs are common and anticipated, workers must rely on their formal and informal networks to survive periodic cuts and to identify new opportunities. Yet, as we know from numerous research studies, networks are highly

gendered and racialized (Burt 1998; Loscocco et al. 2009; McGuire 2002; Smith 2007). A geophysicist who worked for several large companies and who now owns her own consulting business explained that many people, and women especially, “work hard as opposed to work smart.” Networking, rather than simply doing one's job well, was, she believed, the key to success in the industry. She reflected on the importance of this knowledge to boosting one's career: “If I had known then what I know now, I would be CEO of a company.”

In the male-dominated oil and gas industry, not surprisingly, the most powerful networks are almost exclusively male. Often these are organized around golf or hunting (Morgan and Martin 2006). The women we interviewed provided classic accounts of exclusion from these groups.

The men at upper management were quite comfortable making seat-of-the-pants decisions with each other, and they trusted each other. They had lunch together, they played golf together, they trusted each other. If somebody is going to make a seat-of-the-pants decision, the other guy's going to say “fine.” A woman comes in and tries to make a seat-of-the-pants decision, same process, same gut kind of thing, you're not going to be trusted, you're not going to be believed.

Some women perceive that men's networks, sustained through company-sponsored sports and hunting/fishing trips, are not considered networks at all, even though in these spaces men are likely to develop strong relationships of mutual trust (see also DiTomaso et al. 2007). In one egregious case, a woman described how female strippers were positioned at each putting green at an annual company-sponsored golf tournament. While some women have no interest in attending these networking events, others try to fit in because of their critical importance to success in the industry. One independent producer told us that although she doesn't play golf, she makes it a point to “ride in the cart.” Another woman tried to join her male colleagues' fantasy football league. Although they were resistant to letting a woman join, she was finally allowed when one man agreed to be her partner (to the others' chagrin).

In response to this exclusion, and in acknowledgment of the importance of networking for career development, some corporations have formed official women's networks. However, these networks have dubious status in corporations and joining may not be in women's best interest. For instance, DiTomaso and colleagues argue that “special mentoring programs for women set up by companies may be a disadvantage for those who use them” (DiTomaso et al. 2007, 198). The women we interviewed concurred, viewing women's corporate-sponsored networks as neither powerful nor especially useful.

[The company] recently started this women's network ... to provide some kind of support and for women to meet each other. The couple of events that I've been to, I don't feel like I got a whole lot out of them. I don't know why that was. I don't know if I was looking for something different. I don't relate to all of them, and I don't know why that is.

One problem, she thought, was that the company brought together all women from the company, rather than just geoscientists. While she saw value in allowing women to network

from across the company, she thought the other women came from “a little bit of a different perspective.” Moreover, this type of networking is unlikely to result in future opportunities for a geologist.

At some companies, the women's network is not limited to women, the rationale being that in the interests of “equal opportunity,” women should not receive “special treatment.” Consequently, when women's groups are formed, they rarely address issues concerning discrimination or inequality. Topics like work–family balance are sometimes addressed, but in a way that does not challenge the structure or policies of the organization. For example, a few years after joining the major at which she works, one respondent and her colleagues started an online “family support network” in order to provide employees with children a chance to connect and give them a place to ask questions and receive advice. This “grass-roots network” received immense support from top managers, and has since become institutionalized.

Now, commonly, new people coming in, one of the first things that they hear about is this group—“Hey, I've just joined the company, I have two kids, I'm looking for a pediatrician and a dentist in the Woodlands area”—and people email them back with a list.

Importantly, this network requires no resources from the employer, nor does it challenge the company's limited support for new parents. Yet the existence of the network makes the company appear to be doing something to promote gender equity.

Furthermore, while some women appreciate this focus on work–family balance, others find it alienating because they do not have children, and feel oppressed by the assumption that they do. For example, one woman spoke of receiving an invitation to a “women in science” session at a local seismic conference. She explained that she was originally excited to hear the experiences of “wicked smart” women scientists talking about how to thrive in a male-dominated environment. Instead she was disappointed that the group focus would be on motherhood. She added, “I don't tend to seek out female-dominated groups because you inadvertently end up sitting next to someone talking about their kids—which is fine. I can hear about your kids for a while. But I don't want to have kids.”

On the other hand, some convey more than a hint of cynicism about corporate-sponsored events that highlight the accomplishments of senior women. One woman expressed frustration that corporate diversity events seemed to feature the same senior women retelling their success stories. She explained, “Marilyn is [the company's] poster child. But for every Marilyn there are fifteen women who are not getting what Marilyn gets”—referring to the same opportunities, exposure, and access to powerful networks.

Given the perceived limitations of official women's networks, some women turn to informal networks instead. Unfortunately, these also occupy a highly dubious space in the corporate world. They may be perceived as mere outlets for complaining, venting, or “bitching.” A woman who organized a weekend retreat for a group of senior executive women was criticized by detractors for arranging a “ladies' boondoggle,” an accusation she felt was “outrageous” because men do equivalent outings all the time.

Not surprisingly, some women are reluctant to disclose their interest in forming or joining a women's group. One woman talked about returning from an AAPG event with the idea of starting a women's mentoring group to mimic those in the larger companies. She and a small group of women had started to organize, but had decided it was in their best interest to keep their intentions secret. This woman expressed palpable fear that if found out, the women involved would suffer negative repercussions since company policy strictly forbids any discussion of salary or contracts among employees. These women knew they were taking a chance by organizing a women's group, so they were planning to hold their meeting 200 miles away in order to avoid detection.

Networking has always been important for professional development. In the new economy, strong networks are needed not only to thrive but to survive periodic downsizing and layoffs. The heightened importance of networking places women geoscientists in a paradoxical position: They are often excluded from powerful men's networks, yet women's formal networks, when they exist, are not powerful and may actually have negative consequences for women's career development. Women's informal networks may be forced to operate under the radar. Because of the centrality of networking, the resulting gender inequality is thus embedded in the organizational logic of the new economy.

Conclusion

The traditional career model, in which a worker spends his or her entire career with one employer, in some cases climbing a defined career ladder, is on the decline (Vallas 2011). Workers today expect to switch jobs and employers frequently throughout their careers. While some moves are in response to better opportunities, in many cases they are the result of corporate practices, common to some industries, that make workers vulnerable to job loss.

The new career model, created by corporations to reduce their economic risk and responsibility for workers, has several defining features. Under this new model, employees are evaluated based on individualized standards developed in conjunction with their direct supervisors, rather than by a standardized assessment tool. Although workers are evaluated on an individual basis, work is typically performed by self-managed teams. As it is difficult to determine individuals' level of effort, supervisors have a great deal of discretionary power in rewarding employees for a job well done (i.e., giving employees good team placements). The proliferation of career maps may obscure inequality in the pace of career progress. Given the level of job insecurity, the ability to maintain large networks to identify job opportunities inside and outside of the organization becomes critically important for successful careers.

We examined the careers of geoscientists in the oil and gas industry—an industry at the forefront of implementing these organizational changes—to explore the gendered consequences of these job features. Our research suggests that teams, career maps, and networking reflect gendered organizational logics. To excel at teamwork, individuals must be able to engage in self-promotion, which can be difficult for women in male-dominated environments—even though they are the ones who may need to do it the most. In contexts

where supervisors have discretion over careers, gender bias can play a significant role in the allocation of rewards. And networking is gendered in ways that disadvantage women.

These features of work organization are not new, and, in fact, previous research has shown that all three of these elements can be problematic for women (Bowles, Babcock, and Lai 2007; Broadbridge 2004; Burt 1998; Loscocco et al. 2009; McGuire 2002; Ollilainen and Calasanti 2007). This article's contribution has been to connect them to work transformation. Previously, gender inequality has been institutionalized (in part) through the mechanisms of career ladders, job descriptions, and formal evaluations (Acker 1990). In the new economy, these elements of organizational logic have been replaced by teams, career maps, and networking. These have become principal mechanisms through which gender inequality is reproduced in the new economy.

Our findings suggest that addressing workplace gender inequality in the twenty-first century will require focused attention on transforming these job features, or altering their consequences for women. For example, standard options for organizing career maps should be made available to workers. In the interest of gender equity, workers should be informed of the I-deals and salaries of their peers. In addition, supervisors should be made accountable to diversity goals, and incentivized to encourage workers to use company flexibility options. While companies should encourage networking activities, all corporate-sponsored events must include women and minority men, and informal male-only social events must somehow be made culturally taboo. These are the sorts of changes that we believe will enhance the careers of women scientists in the new economy.

This article adds to an understanding of how modern careers are organized and connects these changes to women's workplace experiences and the persistence of gender disparities in careers. However, our study is limited because it is based on the experiences of a select and privileged group of women within a specific industry. More research is needed on gender and work transformation in other industries and occupations. Further research should also delve more deeply into the policies and practices that have helped to shape the new organizational logic as well as more precise ways to assess how women's career outcomes are affected by the new economy. A fruitful line of research will be to explore the relationship between work transformation and neoliberalism, which, according to some scholars, is inherently biased against women (Eisenstein 2009).

When Joan Acker (1990) first articulated the organizational logic underlying gendered organizations, she was operating under the assumptions of the traditional career model. Those assumptions no longer apply in many organizations. Organizations are still gendered, but the mechanisms for reproducing gender disparities are different than those in the traditional career path. By exploring women's experiences of work in the new economy, we add an essential but previously missing dimension to the critique of work transformation. By paying close attention to the new organizational logic, we hope that effective policies can be devised to enhance gender equality in the twenty-first century workplace.

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