

Women's work: gender equality vs hierarchy in the life sciences

Laurel Smith-Doerr

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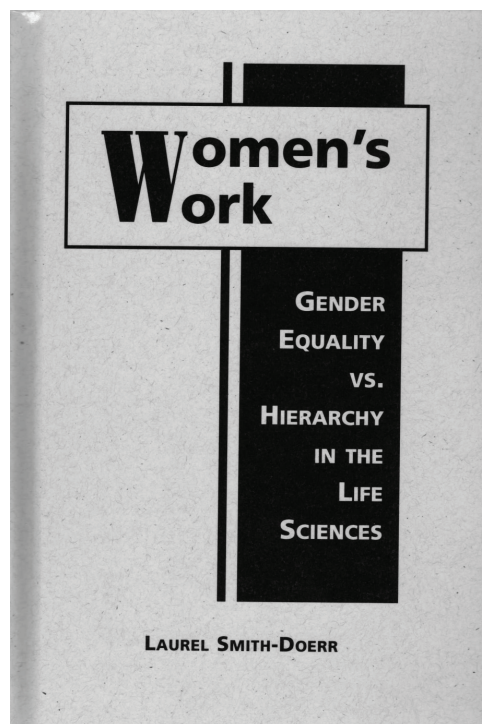
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The presence of women at “doing science” in the contemporary *modernity* is a well known fact recognized by a wide range of studies. As a counterpart, it was not observed an equivalent correspondence in the positions of leadership, prestige and power occupied in the scientific technologic production system (Cole 1987, Zuckerman et al. 1991; Rossiter 1993, Leta 2003, Fox 2005, European Commission 2006, Mello 2006).

The qualification/disqualification of this well known presence has been evaluated based on the intellectual productivity criteria of the contemporaneous scientific main stream. One indicator of emphasis in the evaluation metrics is the number of articles published in international circulation periodicals, which access is restrained by regulative and “objective” filters such as blind peer review and the presence of a referee’s body of recognized academic excellence. As final mensuration, the intellectual production of women presents lower quantitative indicators than men’s.

The usual attempts of explanation aim to establish casual connections between the fact pointed and characteristics such as marital status and maternity. The results revealed weak to dare to establish any affirmative strongly conclusive. But this did not prevent that such uncertainty was appropriate to the rhetoric of apologetic reasoning of the science neutrality and the meritocratic power as a fundament of its structure. This line of argument is questioned by an institutionalist perspective, that recognizes the “doing science” as an activity placed in an institutional context and not a natural human ability. Science belongs to the world of human communication



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and this is an artificial world (i.e., built by codes and produced accessibility conditions).

And this scientific institutional context is growingly complex, collective and subjected to a connection of a collaborator team (acting in asymmetric and specified conditions of task realization) and an investigation program (general rule, possible only in case of availability of access to investigation means of high degree of capitalization. In these conditions, the intellectual productivity is directly conditioned to the access to investigation programs. These conditions are not strictly functional. They depend on relational networks. Then, the key point can be placed in a synthetic way: what is the access condition (specific and placed) to women into the relational networks of the investigation programs of the contemporaneous scientific main stream.

According to Laurel Smith-Doerr the institutional organization outline has direct implications in the construction and development of feminine careers (p.24). The author does this affirmative after undertake a study aiming to examine the impact of gender in building careers in three institutional environments, which are mainly constitute as a professional locus of the 'life sciences' studios: university, pharmaceutical industry and biotechnology companies. During the decades of the 1980's and 1990's, Smith-Doerr noticed that women has eight times more changes to occupied leading positions at biotechnology firms, than at universities and at big, and traditional, pharmaceutical industries.

Laurel Smith-Doerr is a professor at Boston University and built its career interlacing in its researches the approaches of 'economic sociology and organizational theory' as well as 'science and technology sociology' and 'gender studies'. The argumentation axis in which is structured the book *Women's Work: Gender Equality versus Hierarchy in the Life Sciences* is referred at these knowledge areas. The data as well as the conclusions presented result in quantitative information and analysis of interviews which observation universes were delimited to the Life Sciences field – more specifically to the following disciplines that are dedicated to human biology study: molecular biology, biochemical, biomedicine, cellular biology and genetics.

The author draws attention to the fact that the analysis of gender relations in organizational structures is not totally available inside each of these organizations. To reach the objectives of her research, she built a data base with information about 2.000 (approximately) funds request submitted from the universities to the Medical Sciences Division of the National Health Institute of the United States. The qualitative research is a result of an ethnographic observation work in a biotechnology firm and in an university laboratory as well as, interviews with around forty researches (men and women) of the three institutional environments analyzed. An important information to evaluate the scope of the author's analysis is the fact that she considers as an important indicator of a successful career, how long does the professional takes to get a promotion (p.104).

When presenting the motivation for this research, Smith-Doerr highlights its curiosity that the emergence of the biotechnologies industries with a distinct organizational structure in the last quarter of the 20th century arouse upon the scientific careers building. Parallel to her curiosity, she confesses that her initial expectation when referring to the role of women in this new industry was pessimist. She imagined that the 'networks' tended to exclude women out of places and positions of decision inside the organization: "I thought, would be the old story of old boys" (p.xiii).

She argues that according to her sociologic formation, facing the research results, she experience a certain discomfort in finding that the organizational model of the biotechnology industry – characterized by inter and multi-organizational networks, projects based in flexible teamwork, sub-contraction, among others – was an advantage in building feminine careers, comparing to the formal bureaucratic model prevailing at the organizational structure of universities and pharmaceutical industries. In conformity with the studies developed in the fields of gender and sociology of work, she shared the understanding that the transparency of access rule and promotion established in the scope of the formal bureaucracy would minimize the manifestation of prejudice and discrimination, and as a consequence, would promote gender equity.

Her conclusions were very distant from these approaches. In her point of view, it is necessary to have laws and rules aiming at guaranteeing equal opportunities for competition and promotion, however, this is not enough. Smith-Doerr understands that the pyramidal structure of the bureaucratic model of institutional organization favors the construction of relational networks that results in the prevalence of interest contrary of women's. She argues that this happens because this organizational model do not officially recognizes 'relationship networks' as a component of the dynamic of work processes, consequently, this is established in an 'invisible way' and perpetuate the old-boy network (p.101).

At the beginning of the 80's, the appearance of the biotechnology industry represented new possibilities of intervention in the natural evolution course of living beings established by produced knowledge and developed techniques of the life sciences. The innovation set by these industries was also translated by the fact that presents a new organizational model of work process and knowledge production, up until now, new to the scientific activity. A new way of managing knowledge production, articulating their relations with the university in a very narrow way and planning the development of their products from projects that demanded new profiles and interdisciplinary and inter institutional dialogues. Leadership applied in a structure where the protagonist of all team members is a premise, and where it is required diversity in the abilities of scientific activity exercise, implies in the valorization of distinct characteristics to exercise this leadership.

Being smaller and more flexible in its decision making processes, the new biotechnology industries

were transformed in big employers of scientists. Smith-Doerr highlights that, from the group of PhDs working in the field of life sciences in the United States between the decades of 80's and 90's, around 8% had their job contracts with these industries (p.104). According to the author's evaluation, the networked model of biotechnology industries requires more flexibility in setting limits to its action, at team work organization and at product innovation. The flexibility would induce the construction of a more dynamic organizational culture than the typical hierarchy culture from the academic world and the traditional industrial environment. Mainly because of this characteristic, this sector would be way more open and receptive to women and would favor the best performance in building their carriers.

Donald Tomaskovic-Devey¹, a studios of gender and racial inequality at work, agrees with the analysis of Smith-Doerr, but changes the emphasis. What could turn the academic environment in a work place less friendly to women would not be only the absence of flexibility, or the lack of stimulus to product innovation. The difference would be in the flexibility way and the motivations that mobilize projects aiming innovation. To this author, in the formal hierarchy model, the individual careers are valorized. The academic world is a constant competition for reputation. In the academic laboratories, researchers compete against others to monopolize the effect and reach the discovery reputation. According to the logic of these laboratories, innovation has the role of enhance the career of the researcher-author.

Differently, the biotechnology industry adopted the horizontal organizational model and valorized the collective careers, instituting logic of cooperation among the networks. The cooperation inside and through the team works, and outside the organization, is what mobilize the innovation production. The return of the result of work – when talking about reputation and profits – is collective. To Tomaskovic-Devey (2005) what favored gender equity in this new organizational environment would be the synergy produced by the network coordination model, the low level hierarchy correspondent, and the collective, rather than the individual, as a criteria of definition of success.

Even though it could be questioned, the conclusive emphasis of the organizational model of the new biotechnology industries, if generalized, points promising horizons to gender equity, in relation to abilities recogni-

tion and to assumption of responsibilities, given that the study is dated and we do not have information if such tendency in the sector continues to be shown, the book incites questionings to those dedicated to gender and science themes. Maybe the main invitation would be to question the main referential and indicators that have been used. After all, there are empiric conclusions, which explicitness outshines. Statistics evidences could surely be of this nature. The best way to hide the truth can be its explicit presence among mediations and numeric measures that stubbornly cannot see her. Likewise, you cannot use a fork to drink soup, as this instrument is not appropriate to this purpose.

Note

1- Professor at the Department of Sociology at the University of Massachusetts, one of her books is: *Gender and Racial Inequality at Work: The Sources and Consequences of Job Segregation*. Ithaca, NY: ILR Press, 1993

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