Introduction
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With little fanfare and virtually no notice by the popular press, a milestone was reached for women and higher education at the dawn of the twenty-first century. In 2002, for the first time in history, more American women than American men received doctorates from US universities (Hoffer et al. 2003). This momentous event represents a significant turning point in the struggle of women to develop an authoritative voice in higher education—a struggle that began in the nineteenth century and continues today.

Whereas the last third of the nineteenth century witnessed a significant transformation in the participation of women at the undergraduate level, the last third of the twentieth century saw a profound change in the representation of women at the doctoral level. However, the increase in women doctorates over the past 30 years has not produced a proportional increase in the representation of women as faculty. Moreover, women faculty are not equally represented across institutions, within ranks, or across disciplines (Graham 1978; Jacobs 1996). While women held 41 percent of faculty positions in baccalaureate institutions in 2003–04, they constituted only 26 percent of faculty in the top 20 research institutions (Trower and Bleak 2004, 5). Men still outnumber full-time women faculty at doctoral institutions in the United States by a margin of two to one and women are less than half as likely as men to be full professors (Curtis 2005, 28).

One might be tempted to take solace in the notion that the equal representation of women as faculty is just a matter of time. Yet, as women enter the academic profession, the bridge seems to be collapsing beneath their feet. In 2003–04, over two-thirds of all faculty in the United States are in part-time positions or full-time positions off the tenure track. Essential to the majority of institutions, these faculty are, in modern day parlance, ‘contingent faculty’ (ibid., 25). And while women make up the majority of ‘contingent faculty,’ less than two-fifths of all women faculty are in tenure-track positions (Glazer-Ramos 1999, 50). Most sobering perhaps, the percentage of women with tenure has remained virtually unchanged for the past two decades.¹

While women in the ‘real world’ outside of academe earn around 87 percent of what men earn, in the marketplace of ideas, full-time tenure-track women in academe earn about 80 percent of what men earn—the
same proportion that they have earned since the data was first collected in the 1970s (Curtis 2005, 28). Far worse is the fate of academics with part-time appointments, the majority of whom are women. As Jerry Jacobs points out, they earn on average what amounts to poverty wages. Yes, for women as faculty, higher education today continues to be a sex-segregated workplace in which women disproportionately occupy the lowest ranks, at the least prestigious institutions, with the lowest pay, and work with the least amount of job security. Rather than providing a model for progressive change, the marketplace of ideas reflects considerable institutional rigidity and, in terms of gender, appears largely resistant to change.

Although the paucity of women faculty has now developed enough recognition to merit the industrial metaphor of a ‘leaky pipeline,’ it nonetheless failed to capture the attention of the American public until Lawrence H. Summers, the former President of Harvard University, offered his thoughts on the issue. Speaking before the National Bureau of Economic Research (NBER) conference on Diversifying the Science and Engineering Workforce, Summers offered three possible hypotheses for at least some of these ‘missing women’ in higher education—women faculty in science and engineering in elite universities. According to Summers, choice (‘the high-powered job hypothesis’), biology (‘different availability of aptitude at the high end’), and bias (‘different socialization and patterns of discrimination in a search’) together may account for their absence. Of the three, Summers found the first two explanations most compelling. According to Summers, ‘the combination of the high-powered job hypothesis and the differing variances probably explains a fair amount of this problem’ (Summers 2005).

Of course, for those even slightly familiar with the history of women and higher education, Summers’s comments seemed eerily reminiscent of an earlier Harvard president (from 1869–1909)—Charles W. Eliot. When confronting critics who complained about Harvard’s practice of excluding women as students in the nineteenth century, Eliot also called upon science to offer up an explanation for the absence of women. Eliot readily embraced an argument put forward by a member of the Harvard medical faculty, Dr. Edward H. Clarke, that women would be hurt from too much education (Clarke 1873). Whereas for Dr. Clarke it was a woman’s uterus that was the constraining factor, for Summers it was their frontal cortex. In either case, biology not bigotry was responsible for the ‘patrimony of knowledge,’ as Eliot so aptly called it. The ‘woman question,’ focusing as it did on the suitability of women for higher education, became one of the most contentious debates in the last third of the nineteenth century.

As the controversy over Summers’s comments reveals, the ‘woman question’ maintains its vitality and women’s role in US higher education continues to be contested terrain into the twenty-first century. In fact, the
subject of women and higher education has never been more compelling. Of course it is worth contemplating why women faculty are ‘missing’ in science and engineering programs in elite universities. Even more importantly, it is worth contemplating why it is that despite significant increases in the percentage of doctoral degrees going to women over the past 30 years, women have in many ways failed to prosper as faculty in the male-dominated environment of higher education. However, a serious and thoughtful examination of these important questions requires that we consider the long history of exclusion. How is it that these institutions of higher education have remained so resistant to change? What explains the persistence of theories of white male intellectual superiority and how have those with authority to speak framed the ‘woman question?’ Most importantly perhaps, what do their arguments reveal about higher education as an institution and about American society and how might we alter the structure of higher education in order to promote not only good science, but the good society? Unfortunately, ‘the problem’ of the under-representation of women in science and engineering in elite universities is only a portion of the problem facing women in higher education today.

In this uniquely interdisciplinary volume, leading scholars of women and higher education from the disciplines of history, philosophy, psychology, sociology, and economics, reflect upon these important questions concerning gender and knowledge production. Bringing critical insights from a variety of disciplines, these scholars help us understand the near universal difficulties that women and other marginalized groups encounter as they seek to participate fully in the process of knowledge production.

This is not a book about gender and the science of the brain. Instead, it is an examination of the institution of higher education—an institution that determines whose brain is studied, what questions are asked, how so-called ‘facts’ are interpreted, why certain ‘facts’ are readily accepted while other ‘facts’ remain invisible. It is a book that asks us to consider why it matters who is studying the brain in the first place. There is indeed much at stake in the ivory tower—and not just for those who grace its hallowed halls.

THE CHAPTERS IN THIS BOOK

In Part I of the volume, we examine the history of women’s expansion and exclusion focusing on the arguments against women’s inclusion presented by ‘men with authority to speak.’ As the essays of Helen Lefkowitz Horowitz and Ann Mari May demonstrate, both the experiences of women in higher education and arguments rationalizing women’s limited role in the early twenty-first century have a long and strikingly familiar history.
In Chapter 1, entitled ‘The body in the library,’ Horowitz argues that these are dangerous times for women seeking equity in higher education and that once again the body has returned as a key determinant of women’s destiny. Horowitz details the arguments against women’s co-education put forward by Dr. Edward Clarke—arguments that viewed the body as a closed energy system such that energy diverted from one part of the body might injure another. Though lacking evidence or any sound scientific basis and preoccupied with the declining birth rates of white middle-class women, these arguments nonetheless carried great significance, framing the debate about women’s suitability for higher education. As in the 1870s when biological determinism challenged women’s wisdom in pursuing higher education and professional life, science is again invoked to rationalize women’s exclusion.

In Chapter 2, entitled ‘Gender, biology, and the incontrovertible logic of choice,’ Ann Mari May continues to lay a historical foundation by examining the role of political economy in providing narratives and metaphors rationalizing women’s limited participation in higher education. Focusing on three political economists—Adam Smith, Herbert Spencer, and Lawrence Summers—May discusses the central role that concepts from political economy and political economists themselves have played in rationalizing women’s limited role. Utilizing the language of the market, Smith’s notion of division of labor, Spencer’s popularization of the closed energy theory, and Summers’s emphasis on choice provide powerful metaphors and narratives that serve to rationalize women’s exclusion based upon gender, biology, and the most recent dominant explanation—choice.

The arguments constructed to frame women’s nature and limit their role in higher education certainly created difficulties for women in negotiating their role as faculty. Examining women’s growing acceptance as consumers and continued marginalization as producers, Mary Ann Dzuback looks at women trained in doctoral programs in the social sciences in the 1920s and 1930s. According to Dzuback, these women faculty found themselves restricted by the expectations of large teaching loads, limited resources, and a lack of opportunity to train graduate students as they attempted to become faculty at institutions of higher learning in disciplines not altogether open to their contributions. Although US universities in the early twentieth century offered the promise of meritocratic entry into the academic profession via the graduate training they provided, they did not fulfill that promise for women as faculty. In Chapter 3, entitled ‘Gender, professional knowledge, and institutional power,’ Dzuback explains how certain, often privileged, women in the social sciences were able to carve out meaningful career paths despite a variety of obstacles—often by moving to departments thought to be appropriate for women, obtaining outside
support from women philanthropists, and creating new and somewhat separate units within their fields.

In Part II, a series of essays examine the cultural embeddedness of existing relations in higher education, probing the notions of biology, discrimination, and choice as rationales for women's exclusion by questioning the underlying assumptions that inform our choices, frame the environment of choice, and shape our thinking about ability, merit, and talent.

In Chapter 4, ‘The missing women in higher education,’ philosopher Jane Roland Martin examines the influence of gender-tracking as women students are encouraged into so-called ‘soft,’ devalued subject areas and women faculty are encouraged into teaching over research and encouraged into less prestigious institutions. According to Martin, higher education is a culture that reproduces the value hierarchy of the public/private split and reproduces core traits within these gendered fields. While the rhetoric of choice offers to explain the failure of women to move into so-called ‘hard’ fields or advance into prestigious institutions, the consequences for women of such culture-crossings must surely be examined for their disciplinary function—discipline that is even more necessary when women are perceived as permanent participants in higher education rather than interlopers.

Virginia Valian, in Chapter 5, ‘Women in science—and elsewhere,’ identifies the important role that gender schemas and accumulation of advantage play in determining women’s location in higher education. As Valian points out, gender schemas that assign different psychological traits to males and females, represent cognitive shortcuts for processing information that often serve to bias our perception of talent and performance. These seemingly small biases produce, through the accumulation of advantage, large disparities in outcomes for men and women. As Valian concludes, the main answer to the question of why there are not more women at the top is that gender schemas skew our perceptions and evaluations of men and women, causing us to overrate men and underrate women. Gender schemas affect our judgments of people’s competence, ability, and worth.

In Chapter 6, ‘Are smart men smarter than smart women?’ Carla Fehr examines the suggestion that innate differences between men and women may account for the under-representation of women in science. Using the epistemology of ignorance as a theoretical lens, Fehr, a philosopher, examines the resilience of theories of women’s intellectual inferiority and the impact of these theories on diversity in scientific communities. Just as the epistemology of knowledge examines how it is that we know what we know, the epistemology of ignorance examines the ways in which not knowing are sustained and constructed. According to Fehr, a critical account of not knowing is essential in examining the persistence of notions of intellectual inferiority, whether expressed in terms of race or gender.
Part III of the volume asks us to begin to look to the future by considering more fully the ways in which the structure of higher education in the United States has privileged some while making it more difficult for others. Elizabeth Higginbotham in Chapter 7, ‘Re-framing the discussion,’ provides a critical examination of the parameters of discourse surrounding the ‘woman question.’ Higginbotham, a sociologist, explores the ways in which a privileged perspective limits our ability to see beyond issues of choice, biology, and a limited view of discrimination, and explores the multiple realities of bias that women and others face when they are hired into departments as a new group. She highlights the invisible work that women and members of other under-represented groups do to integrate their workplaces. While gender and racial privileges often obscure this work, Higginbotham identifies how faculty who do not look like the majority of their colleagues, are called upon to demonstrate their legitimacy, teach colleagues about themselves, and also develop a supportive community in which to work. Higginbotham’s essay reminds us that, unfortunately, ‘the problem’ of under-representation of women in science and engineering in elite universities is only a portion of the problems facing women and faculty of color in higher education.

The volume concludes with an essay by Jerry Jacobs, Chapter 8, entitled ‘The faculty time divide.’ Jacobs argues that faculty work too hard, typically attributing our sense of not having enough time and being over-committed to our own, you guessed it, bad choices. This pervasive time stress results in lower job satisfaction. Especially acute for women, the time divide makes combining family and work difficult if not impossible and leads to important gender gaps in the professorate, limiting women’s ability to be promoted and obtain more prestigious positions. The solution, he argues, lies in recognizing the value of a diverse professorate and calling for changes in the institution of higher education that will support this diversity. These policy changes might include increasing competition between schools by advertising ‘family-friendly’ policies, strengthening faculty rights through unionization, and rewarding educational leaders for promoting a more diverse faculty and work culture.

As the chapters in this volume demonstrate, the experience of women in higher education today—both as students and as faculty—carries with it the heavy weight of culture and history. Understanding the ‘woman question’ and higher education at the dawn of the twenty-first century requires that we examine this history and analyze the gendered nature of higher education. By doing so, we gain insight into the reasons for women’s limited inclusion and marginalization but also the hope of developing better strategies for promoting a more equitable higher learning.
NOTE

1. In 1981, 49.7 percent of women faculty had tenure, while in 2000 only 50.9 percent of women faculty have tenure. National Center for Educational Statistics (2002, Table 242).