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Pre-College Causes of Women's Underrepresentation in Philosophy

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PRE-COLLEGE CAUSES OF WOMEN'S UNDERREPRSENTATION IN PHILOSOPHY

by

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ABSTRACT

Recent work on women's underrepresentation in philosophy has focused on a distinction between "in class" and "pre-university" effects as the primary cause of women's underrepresentation in philosophy. This paper reports from a large dataset (n > 2,000,000) from the Cooperative Institutional Research Program that shows that, of the American students that intended to major in philosophy before they started college, about two-thirds are men. This lends credence to the pre-university effects explanation for women's underrepresentation in philosophy. This paper will discuss this finding in light of Louise Antony's "perfect storm" theory of women's underrepresentation in philosophy. I will argue that a major part of the perfect storm for women in philosophy is a masculine philosopher schema that discourages women from continuing in philosophy even before they enter a college philosophy class. I will also consider two objections to this argument, what I call the "problem of ignorance" and the "transmission problem."

INDEX WORDS: Women in philosophy, Underrepresentation, Gender schema, Perfect storm, Intended majors, Feminism

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DEDICATION

Emily Dobbs moved to Atlanta with me so that I could have this position at Georgia State. She didn't know if she would have a job and she did know that I would not be making very much money. She's an amazing person, and I cannot wait to marry her next Spring. This thesis is dedicated to Emily.

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1   INTRODUCTION

Louise Antony describes the phenomena that cause the underrepresentation of women in philosophy a "perfect storm."[1] The perfect storm is composed of about a dozen familiar discriminatory forces that "converge, interact, and intensify" to keep women out of philosophy. For example, Antony posits that one component of the perfect storm is the schema clash experienced by women participating in philosophy's infamously "pugilistic" argumentative style. Philosophy values "assertiveness, persistence, [and] tenacity," and these qualities are at odds with the gender schema for women, who are expected to be passive, deferential, and cooperative.

Antony frames her perfect storm model in contrast to Buckwalter and Stich's so-called "different voices" model. They argue that women have different philosophical intuitions than mainstream philosophers. Antony and others have mounted convincing arguments against Buckwalter and Stich and in favor of other models, but all of these models share at least one attribute: they both primarily feature forces that have an effect in the philosophy classroom and on the college campus.

Cheshire Calhoun's 2009 essay on the underrepresentation of women in philosophy suggests that something that occurs before women enter college is largely responsible for women's underrepresentation in philosophy.[2] Calhoun speculates that women are more likely to leave philosophy or not consider philosophy as an undergraduate because they are less likely to see studying philosophy as a valuable or a viable career option. She argued that women have a lower attachment to studying philosophy as a result of boys' and girls' socialization process. Young women suspect that the schema for "woman" and the schema for "philosopher" are in tension, so they avoid majoring in philosophy.

Calhoun lends support to the assertion that women are less likely to take philosophy as a serious option from early on in their educational careers by citing statistics from her home institution, Colby College. She found that about two-thirds of first-year students that *intended* to major in philosophy were men. That is, before men and women at Colby started classes, before they could have experienced many

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[1] Louise Antony, "Different Voices or Perfect Storm: Why Are There So Few Women in Philosophy?," *Journal of Social Philosophy* 43.3 (2012): 227.
[2] Cheshire Calhoun, "The Undergraduate Pipeline Problem," *Hypatia* 24.2 (2009): 218.

of the elements of Antony's perfect storm, about two-thirds of the people that said they intended to major in philosophy were men. Men also earn about two-thirds of Colby's philosophy degrees.

My research of American first-year college students has returned similar results. Using a large dataset (n > 2,000,000) from the Cooperative Institutional Research Program's (CIRP) "The American Freshman" survey, I found that significantly more men than women indicated that they intended to major in philosophy. "The American Freshman" survey gathers data from American incoming first-year students at over 220 4-year colleges or universities either the summer before they start their first year at college or within the first month.[3] Between 2004 and 2009, 7,301 students intended to major in philosophy, about 0.4% of all incoming students. 4,838 of those students were male, 2,463 were female. Of the students that intended to major in philosophy before they started college, men outnumbered women about 2 to 1, despite the fact that over 55% of the sample was made up of women.

Before women experience counter-intuitive thought experiments and before they are faced with philosophy's pugilistic argumentative style or any other component of the perfect storm, they are cool on the prospect of pursuing philosophy. It is not that women experience a lack of female role models, departments that are unsympathetic to childcare demands, and philosophy journals that fail to consistently enforce blind review procedures and *then* women decide that they shouldn't continue in philosophy. Instead, it seems that many more women than men have decided not to pursue a philosophy degree before they even get into a philosophy classroom.

My paper will discuss the ramifications of these statistics. Specifically, it will discuss the possible causes of women's lower intention to major in philosophy. I will argue that philosophy departments are the main source of schemas about what it means to be a philosopher, and that these schemas bleed into the non-academic world and influence young women. Future department diversity programs should be aware that their internal policies and culture shape the intentions of future college students.

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[3] Pryor, J. H., Hurtado, S., DeAngelo, L., Palucki Blake, L., & Tran, S. (2009). *The American freshman: National norms fall 2009*. Los Angeles: Higher Education Research Institute, UCLA.

Chapter 2 is a literature review of explanations of women's underrepresentation or non-participation in philosophy. Chapter 2 will describe a historical groundwork for the problem of women's underrepresentation and it will introduce Calhoun and Antony's theories of women's underrepresentation. I will present small objections to their theories in sections 2.4 and 2.5. Chapter 2 is meant to serve as an introduction to explanations of women's underrepresentation in philosophy generally. It is meant to especially target a broad philosophical audience that is not especially familiar with historical and contemporary explanations of women's underrepresentation in philosophy.

In Chapter 3, I will begin my response to one of the two major weaknesses of Calhoun's theory of women's underrepresentation – that is, Calhoun's small Colby College sample – by reporting intention to major data from CIRP and graduation data from the Center for Education Statistics. Chapter 3 will also include an account of parallel recent lines of research that seem to further confirm Calhoun's pre-college theory of women's underrepresentation in philosophy. Finally, in Chapter 4, I will respond to the second weakness in Calhoun's argument. Calhoun speculates that women are aware of a masculine philosopher schema through the "socialization process," but she does not go into detail about the nature of this "socialization process." Chapter 4 will present two problems that complicate the task of pinpointing the origin of young people's awareness of a masculine philosopher schema.

2   WOMEN ARE UNDERREPRSENTED IN PHILOSOPHY

2.1   Two sorts of explanations for women's underrepresentation in philosophy

Not many women study philosophy. Though women earn about 53% of humanities PhDs in the United States, they earn just less than 30% of philosophy PhDs.[4] The representation of women in the American philosophy professorate is even lower: less than 17% of full time philosophy professors are women.[5]

The fact that women are underrepresented in philosophy has not gone unnoticed by contemporary or classical philosophers. It has been a topic of discussion for some time. The multitude of explanations for women's underrepresentation or non-participation in philosophy can be divided into two classes, what I will call the "woman-focused" and the "perceptions-focused" classes of explanations for women's underrepresentation in philosophy.

The woman-focused explanations posits that the reason why women are either not invited or refuse to participate in philosophy is because women lack some quality that is thought to be important or essential to the study of philosophy. These sorts of explanations for women's underrepresentation of philosophy are nearly as old as philosophy itself. Aristotle, for example, held that women "lacked the authority" necessary for participation in political life.[6] Kant argued that women could not act on principles and that women "might as well…wear a beard" if they attempt "deep reflection and long drawn out consideration."[7] Hegel argued that women only "regulate their actions…by arbitrary inclinations and opinions."[8] These qualities – participation in political life, the capacity for deep reflection, acting according to principles – are all qualities important, if not necessary, to the study of philosophy. If

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[4] Antony, "Different Voices?" 227.

[5] Norlock, Kathryn J. *2011 Update on the Women in Philosophy*. Letter. Peterborough, Ontario: Trent University, 2011. http://web.archive.org/web/20150224180203/http://www.apaonlinecsw.org/data-on-women-in-philosophy (accessed February 24, 2015).

[6] Aristotle, *The Politics*, trans. Carnes Lord (Chicago: University of Chicago Press, 1984), 1260a11.

[7] Immanuel Kant, "On the Feeling of the Beautiful and Sublime," in *Observations on the Beautiful and Sublime and Other Writings*, ed. and trans. Patrick Frierson and Paul Guyer (Cambridge: Cambridge University Press, 2011), 2:229; 2:231.

[8] GWF Hegel, *Elements of the Philosophy of Right*, ed. Allen W Wood, trans. HB Nisbet (Cambridge: Cambridge University Press, 1991), §166.

women really lacked the ability for sustained critical reflection, then it seems reasonable to conclude that women should not study philosophy.

The woman-focused class of explanations for women's underrepresentation is not exclusively found among long-dead classical thinkers, however, and it is not necessarily misogynistic. Recently, contemporary philosophers have undertaken explanations that belong to this class. Moral psychologist Carol Gilligan, for example, argues that mainstream conceptions of moral judgment have a male point of view that overlooks women's "different voice," which emphasizes community and cooperation over autonomy and individuality.[9] In the same vein, Buckwalter and Stich have very recently argued that modern mainstream philosophy, especially branches of philosophy that make heavy use of thought experiments like ethics, rely on a set of assumptions that are more likely to be found among men than women.[10] This means that woman philosophy students are more likely than men to face challenging counter-intuitive thinking in class.

These two groups of thinkers above, the traditional ones and the contemporary ones, have both made explanations that belong to the woman-focused class of explanations for women's underrepresentation in philosophy because both groups argue that women lack something important or necessary for philosophy, be it the ability to act according to principles, a man's voice, or a certain set of assumptions. Within the class of women focused thinkers, however, there is at least one major difference: the contemporary thinkers take fundamental gender differences as a reason to change philosophy and the traditional thinkers do not even consider changing philosophy. The contemporary thinkers argue that philosophy arbitrarily favors values or skills primarily found in men, and that philosophy ought to change to favor values or skills that are found among both men and women. Buckwalter and Stich, for example, argue that ethics, especially ethics pedagogy, should utilize thought experiments less often in order to mitigate their unequally stifling effects on women. Gilligan advanced a new "ethics of care" that made use of women's unique voice. While Aristotle, Kant, Hegel, Buckwalter, Stich, and Gilligan all think that

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[9] Carol Gilligan, In a Different Voice: Psychological Theory and Women's Development (New York: Harvard University Press, 1993).

[10] Wesley Buckwalter and Stephen Stich, "Gender and Philosophical Intuition," *Experimental Philosophy* 2 (2010).

women lack something important for the study of philosophy, only Aristotle, Kant, and Hegel take this as evidence that women should simply leave (or, as they would see it, stay out of) philosophy. Women-focused explanations for women's underrepresentation in philosophy are not necessarily sexist or anti-feminist, but they all posit that there is something about being a woman that makes philosophy (or philosophy as it is practiced) an imperfect fit.[11]

Explanations of women's underrepresentation in philosophy that belong to the perceptions-focused class, on the other hand, do not make claims about the fundamental nature of women. Perceptions-focused explanations usually, instead, focus on broad discriminatory societal forces that, for one reason or another, have an outsized effect on women studying philosophy. Perceptions-focused explanations differ depending on the force or forces identified by theorists as the most likely responsible for pushing women out of philosophy. This is a broader class of explanations than the women-focused class, but, generally speaking, explanations of women's underrepresentation in philosophy that belong to this class are similar to explanations of women's underrepresentation in other professions and academic fields. Instead of describing women, then philosophy, then describing how they fundamentally do not line up, perceptions-focused explanations discuss broad discriminatory forces and their specific effects on women in philosophy. This paper will examine two thinkers that have both written explanations of women's underrepresentation in philosophy that belong to the perceptions-focused class, Antony and Calhoun. These thinkers agree that misguided expectations based on gender schemas are a main cause of women's underrepresentation in philosophy. These thinkers disagree on the specific misguided

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[11] Grouping thinkers like Gilligan, Buckwalter and Stich, and Aristotle in this way is not an especially novel way of approaching the history of women's underrepresentation in philosophy. One common approach to describing women's underrepresentation in philosophy is by positing differences between the sexes. Some of those thinkers take those differences as a reason to change the profession, others do not. In "Different Voices or Perfect Storm," Antony writes:

> The strategy of positing of gender differences to account for the underrepresentation of women is not in itself, and should not be taken to be, a misogynistic or anti-feminist position. At the same time, it must be recognized that even if the model is used to argue for the accommodation rather than the correction of women, even if the blame is to be laid on the discipline, the Different Voices model is still committed to the antecedent existence of *intrinsic* gender differences.

expectations that turn women away from philosophy and they disagree on the timing of these misguided expectations, but I will argue that their approaches are compatible and mutually reinforcing.

This chapter of my thesis will summarize Antony and Calhoun's explanation of women's underrepresentation in philosophy. I'm using this literature review to specifically review Antony and Calhoun's explanations of women's underrepresentation in philosophy for three reasons. First, I think their two explanations, together, produce the most successful and succinct explanations for women's underrepresentation in philosophy and, second, that their two explanations do not initially appear to be compatible. Calhoun, for example, begins her essay by claiming that her explanation constitutes a novel framing of the problem of women's underrepresentation in philosophy, and Antony does not directly address Calhoun's theory in her later essay.[12] Third, I would like to spend some time with these contemporary perceptions-focused approaches to the problem because this thesis is written for a general philosophical audience. In discussion of the underrepresentation problem with colleagues, I have found that most every philosophy student and professor has his or her own personal theory about the cause of the underrepresentation of women in philosophy. Antony's perfect storm model, as we'll see shortly, nicely systematizes these theories into a cohesive whole. The perfect storm has a modular structure. Individual discriminatory forces can be added and subtracted from the perfect storm with minimal damage to other discriminatory forces or the theory as a whole. Without that modular structure in place, I fear that readers of this thesis might acknowledge all of my conclusions as valid, but still argue that some other thing is the *real* force that pushes women out of philosophy. The summaries of Antony and Calhoun are meant in part to head off that criticism. The perfect storm involves many current theories of women's underrepresentation and it provides a structure that allows room for new theories.

2.2   Antony: women are underrepresented because of the perfect storm

Antony calls her perceptions-focused approach to the underrepresentation of women in philosophy the "perfect storm" approach. The perfect storm approach argues that women are

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[12] Calhoun, "Pipeline," 216.

underrepresented in philosophy because familiar forms of sex discrimination "converge, intensify, and interact" in philosophy departments.[13]

The forms of discrimination Antony has in mind should be familiar to most feminist thinkers. They include overconfidence bias, non-blind peer review, and inordinate childcare obligations. The main goal of Antony's paper is not to argue that these phenomena are indeed forms of sex discrimination. Other feminists have already carried out that task. Instead, Antony's main goal is to explain why these common sources of sex discrimination have an amplified effect on women in philosophy. Women in most professions face overconfidence bias, biased review systems, and inordinate childcare obligations. Why should these forces in a philosophy department cause any more harm to women than the same forces in an English department, a law office, or a clinic? Antony considers this the central explanatory task of her perfect storm theory. I will call her work here a response to the "intensity problem." The intensity problem is the problem of explaining the especially bad underrepresentation of women in philosophy using explanans that explain women's underrepresentation generally.

In order to reply to the intensity problem, Antony spends the bulk of her essay explaining how about a dozen familiar forms of sex discrimination are worse for women in philosophy than for women in other professions. She also explains how some of these forms of sex discrimination interact with other forms of sex discrimination to the detriment of women in philosophy. Taken together, Antony thinks these explanations sufficiently explain women's underrepresentation in academic philosophy. In this summary, I will explain three of these "intense" forms of sex discrimination in philosophy.

First, Antony argues that one form of sexual discrimination that is especially intense for women in philosophy is the expectation that women perform "service work." Service work is work that is essential to the function of a philosophy department as a university department, but is not essential to any individual philosopher's writing or research. Service work includes serving on hiring committees, working as an academic advisor, departmental "housework," such as running the coffee collective and arranging social events, and representing the department at inter-departmental events, such as

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[13] Antony, "Different Voices?" 233.

convocations, graduations, and award ceremonies.[14] Antony, first, cites research showing that women across academia tend to take on these service tasks more often than men and, second, argues that this sort of work is both a barrier to publishable work and, more often than not, looked down upon by the rest of the department.[15] These tasks carry a significant opportunity cost and, to add insult to injury, there is a stigma against people that perform these tasks.

The expectation that women perform "service work" around the department is especially detrimental to women in philosophy departments for two reasons.[16] First, there are not that many women in philosophy in the first place, so women might face an inordinate expectation to serve on service committees in order to lend the department the appearance of diversity. Second, Antony argues that the opportunity cost on women performing service work in philosophy is higher than the opportunity cost for women in other professions because philosophy places great emphasis on informal socialization. Philosophy, in other words, puts a premium on things like late night conversations, and if women are busy attending to the "nitty-gritty" details of departmental life, they are less available to climb the informal career ladder.

Antony returns to this "informal career ladder" theme throughout her to reply to the intensity problem. She argues that women are further separated from informal networking opportunities by rigid childcare schedules and by the expectation that women make non-philosophers at social events feel welcome while men are permitted to "talk shop."[17]

The second form of intense sex discrimination for women in philosophy is the gender-schematic belief that women lack logic and reasoning skills.

Gender schemas are central concepts for Antony and Calhoun's explanations of women's underrepresentation in philosophy. Gender schemas are sets of subconscious hypotheses about sex differences. They are a basic means by which we provisionally make sense of the world – they allow us

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[14] Ibid., 235.
[15] Misra, Joya, et. al. *Associate Professors and Gendered Barriers to Advancement.* Joint Administration-Massachusettes Society of Professors Work-Life Committee, report, 2010.
[16] Antony, "Different voices?" 235.
[17] Antony, 238, 240.

to make quick predictions about others' traits and actions. Common gender schematic beliefs include the belief that women are shorter than men, the belief that women are nurturing and emotional while men are autonomous and rational, and the belief that men are more interested in sex than women. Gender schematic beliefs can be strongly supported by evidence (it is true that men are on average taller than women) not amenable to being supported by evidence (it is not exactly clear how we could measure a sex's nurturing-ness or emotional-ness) or not supported by evidence (it does not seem to be the case that men are more interested in sex than women).

The provisional expectations based on gender schemas can occasionally lead to competing expectations. Virginia Valian called cases of such competing expectations "schema clash."[18] Schema clash occurs when two different schemas produce two contradictory expectations. Schema clash is what people talk about when women become business leaders – as leaders, they have to be tough and assertive, but as women they are expected to be passive and deferential. No matter how women leaders act, they'll act against at least one set of expectations. These competing expectations yield the disapproval of peers when their expectations are inevitably unfounded.

Women in philosophy, like women in business, also face a gender schema clash. While women in most technical fields have to work harder to make themselves understood (see, for example, the study that showed that professors are significantly more likely to respond to emails from prospective grad students with white male names, the study that showed that in academic fields that have reached gender parity, men significantly outnumber women in publications' prestigious author slots, usually the first or last, or the study that showed that observers penalize men more than women when job applicants ask their prospective bosses for a high salary)[19] women in philosophy are especially likely to have their ideas misunderstood because women are thought to lack logic and reasoning skills. Antony writes that, "one of

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[18] Virginia Valian, *Why so slow? : The advancement of women*, (Cambridge, Mass: MIT Press, 1999), 15.
[19] Katherine L Milkman, Modupe Akinola, and Dolly Chugh, "What happens before? A field experiment exploring how pay and representation differentially shape bias on the pathway into organizaitons," *Social Science Research Network* (2012). Jevin D West, et al., "The role of gender in scholarly authorship," *PLOS One* 8.7 (2013): 1-6. Hannah Riley Bowles, Linda Babcock, and Lei Lai, "Social incentives for gender differences in the propensity to initial negotiaions: sometimes it does hurt to ask," *Organizational Behavior and Human Decision Processes* 103 (2007): 84-103.

the most marvelous things you can do in philosophy is come up with a novel argument or objection."[20]

Novel arguments or objections, however, usually sound like confused arguments or objections at first. By virtue of their novelty, interlocutors might assume that a woman is making some basic mistake in reasoning rather than creating a valid novel argument. Instead of challenging their own assumptions about the subject of the novel argument, interlocutors may reply to novel arguments by assuming their argument is not as novel as it might appear or by redirecting women more than men to basic arguments in the subject's field. This decreases the chances that this novel idea will have the chance to move out of informal conversations to formal publications or receptive talks. The misperception that women lack reasoning skills can be found across professions, but it leads to especially bad outcomes for women in philosophy because it decreases women's ability to foster and discuss valuable new arguments.

In addition to these replies to the intensity problem, Antony finally argues that the "most important element" of the perfect storm is probably the schema clash women face when it comes to engaging in philosophy's notoriously pugilistic, aggressive style of discourse. Philosophy's style of discourse values "assertiveness, persistence, [and] tenacity."[21] These qualities are at odds with the gender schema for women, who are expected to be deferential, passive, and cooperative. A double bind occurs when women in philosophy attempt to be, at once, women and philosophers. Either they act "feminine," and speak in a style alien to their philosophical context, or they act like a philosopher, and speak in a style alien to their supposed femininity. They are expected to do two contradictory things at once, and, again to add insult to injury, women are sanctioned for working against either expectation.[22] Antony thinks that this element of the perfect storm manifests itself across multiple settings, including one-on-one discussions between colleagues. Citing anecdotal evidence, Antony postulates that male philosophers more so than male non-philosophers in academia are more likely to revert to run-of-the-mill sexist comments (e.g. "You're so cute when you're angry!" or "I didn't know such a pretty girl could be so

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[20] Antony, "Different voices?" 239.
[21] Antony, "Different voices?" 238.
[22] Valian, *Why So Slow?*, 130. Heath et al., "Find your voice."

ferocious") because they perceive philosophical discussion as a "battle" or "debate" to be won.[23] If you think of conversations as fights, then you're more likely to appeal to unfair tactics to win and you may be especially motivated to win in order to avoid the embarrassment of "losing to a girl."

This "pugilistic style" element of the perfect storm, it is important to note, does not necessarily claim that women are essentially or generally opposed to an argumentative discussion style. Antony rarely makes big claims about the essential nature of philosophy or women. Instead, she is simply pointing out that women lose professional ground whenever they try to take up a pugilistic style, whether they like the pugilistic style itself or not.

I have not covered every element of Antony's perfect storm, but they all follow a similar pattern. Throughout her perceptions-focused explanation of women's underrepresentation in philosophy, Antony, first, identifies some persistent sexist force that affects women across academia (or across the professional world) and, second, explains how that sexist force is especially damaging to women in philosophy. That second step, her reply to the "intensity problem," is the main part of her argument and it constitutes a novel explanation for women's underrepresentation in philosophy. Other theories about women's underrepresentation in philosophy that do not postulate the existence of fundamental gender differences must be up to the challenge posed by the intensity problem, otherwise it is not clear how whatever discriminatory force you have in mind is specifically a problem for women in philosophy. If you can respond to the intensity problem, however, it seems that you can insert the discriminatory force against women in philosophy into the perfect storm superstructure. Calhoun, next, will do just that, with a focus on discriminatory forces that have their effect on young women merely considering philosophy.

2.3   Calhoun: women are underrepresented because they drop out early

Calhoun too focuses on schema clash, and argues that, although schema clash is felt by women across philosophy, its effect on young women is the most likely cause of women's underrepresentation in philosophy.

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[23] Antony, 239.

Women drop out of philosophy in a distinctive pattern in the United States. Namely, American women leave philosophy in college between their first philosophy class and the decision to major in philosophy. Women and men drop out of philosophy at roughly the same rate in the jump from undergraduate major to graduate studies and in the jump from graduate studies to faculty member, but women drop out significantly more often than men in the jump from introductory class to major.[24] This pattern is relatively uncommon. Women in STEM fields, for example, tend to earn as many bachelor's degrees as men, but fewer doctorates, and a gender gap in philosophy in the UK does not become pronounced until the graduate level.[25]

Of all the facts that constitute women's underrepresentation in philosophy, Calhoun seems to take the fact that women are significantly less likely to major in philosophy as central. Calhoun argues that if we can explain philosophy's unique dropout rate, then we'll be able to explain women's underrepresentation in philosophy generally, and, hopefully, become better equipped to prescribe solutions that will patch the leakiest section of the "leaky pipeline."

Calhoun thinks that philosophy's unique dropout rate is a result of women being less "attached" to philosophy. She does not think that women are less interested in or less talented at philosophy. She thinks, instead, that women are less likely to see philosophy as a viable or valuable major option. Women are less "attached" to philosophy in that they put less weight on the idea of pursuing philosophy. This is not an uncommon sense of "attachment." Some researchers have speculated that the reason why women with middling grades in medical school are more likely to drop out than men with middling grades is

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[24] Molly Paxton, Carrie Figdor, and Valerie Tiberius, "Quantifying the Gender Gap: An Empirical Study of the Underrepresentation of Women in Philosophy," *Hypatia* 27.4 (2012): 953, fig. 2.
[25] Louise Luckenbill-Edds, "The educational pipeline for women in biology: No longer leaking?" *Bioscience* 52.6 (2002): 515. Helen Beebee and Jenny Saul. "Women in philosophy in the UK: A report for the British Philosophical Association and the Society for Women in Philosophy UK." London, British Philosophical Association, 2011. Accessed September 10, 2015. http://www.bpa.ac.uk/uploads/2011/02/BPA_Report_Women_In_Philosophy.pdf.

because women do not put as much weight on the idea of being a physician.[26] As such, they see

alternative careers, such as nursing, as live options.

Calhoun argues that the reason why women students are less attached to philosophy is because

there is a schema clash between the schema for "philosopher" and the schema for "woman." Young

women in philosophy classes are less attached to the idea of pursuing a career in philosophy because they

sense that the expectations of them as women clash with the expectations of them as philosophers.

Somebody using Calhoun's approach might argue that something similar happens in most other gendered

professions: women are less likely to be soldiers because they sense that the expectations of them as

soldiers (e.g. the expectation that soldiers ought to hurt others) would clash with the expectations of them

as women (e.g. the expectation that women ought to nurture and care for others), and very few people

want to be put in a situation where they are held to competing standards.

Calhoun, further, argues that women become aware of the tension between the schema for

philosopher and the schema for woman through the process of socialization. Young women "imbibe"

these schemas as a part of growing up.[27] Calhoun points to the prevalence of Rodin's *Thinker* and

Raphael's *School of Athens*, which are usually prominently displayed on philosophy department websites

and texts, as evidence of the masculine philosopher schema's prevalence. She writes:

> These are the major cultural icons of the philosopher; they are easily recognizable as
> representing philosophy/philosophers by people who have no familiarity with philosophy
> courses. These are, of course, also icons that convey the gender of both philosophical
> reflection and philosophical dialogue: male.[28]

A trip to Google Image Search can lend some support Calhoun's point here. As of April 9, 2015,

at least, the first 100 results for the term "philosopher" are images of men, all of them white and

nearly all of them bearded. The first 10 images for "engineer," "doctor," and "scientist" include

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[26] Terry D Stratton et al., "Does Students' Exposure to Gender Discrimination and Sexual Harassment in Medical
School Affect Specialty Choice and Residency Program Selection?" *Academic Medicine* 80.4 (2005): 400-9.
Valian, *Why So Slow?*, 208-10.
[27] Calhoun, "Pipeline," 218.
[28] Ibid.

women. The layperson, or the first year college student, may not think of philosophy or

philosophers that often, but when they do they almost certainly first think of a man.

Calhoun supports her hypothesis – that female first-time philosophy students leave philosophy

because they anticipate a schema clash – by citing data from her home institution, Colby College.

Calhoun shows that, of the students over the last several years starting at Colby that said they were

interested in majoring in philosophy, about a third were woman.[29] Women and men first-time philosophy

students, in other words, do not seem to enter Colby's philosophy classrooms with the same plans

regarding philosophy. Male students are much more likely to enter their first philosophy class planning to

continue with philosophy by majoring. These attitudes, moreover, seem to be set before the men and

women even start philosophy classes. It is not that young women experience instances of overt sexism

and a chilly climate, *then* they decide not to continue with philosophy. They instead seem disposed to

decide not to continue with philosophy before they get into their first philosophy classroom.

2.4   Objections to Antony

It is important to emphasize, here, that Calhoun's explanation is not contrary to Antony's. It

seems like young women can anticipate schema clash *and* female philosophy graduate students and

faculty can face a panoply of intense discriminatory forces. The perfect storm's modular structure works

in our favor here, the problem for women in philosophy can be overdetermined. The discriminatory

forces explained by both of these models could all be hurting women's participation in philosophy.

The primary difference between these two explanations is their timing: Calhoun focuses on

forces that effect women that have not advanced very far within philosophy, if at all, and Antony focuses

on forces that effect women that have studied philosophy for some time. This seems to be a sensible way

to divide up the causes of women's underrepresentation in philosophy. The cause of women's

underrepresentation does not happen at any one point in time. Women do not just come across a single

male-dominated classroom, for example, and then decide to leave. Instead, women are pushed out of

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[29] Ibid., 217.

philosophy along many vectors, by a bundle of discriminatory forces. The discriminatory force that Calhoun describes – the effect of schema clash on young women – primarily affects women early on in their educational career, right before they start college. The discriminatory forces that Antony describes – the elements of the perfect storm – primarily affect women that have already advanced in their career. These two sets of forces have an effect on each other, which I will expand on in chapter 4, but, on the whole, the difference between these two explanations is their placement on the timeline. If you take any woman that has succeeded in philosophy, Calhoun's forces probably primarily affected her when she first entered college and Antony's forces probably primarily affected her as she advanced in her philosophy career.

Because these two models seem to be plausible explanations of the cause of women's underrepresentation in philosophy and because these two models do not directly contradict each other, the onus is on us – people interested in increasing the representation of women in society – to determine which model will be the most useful in guiding reform efforts. The rest of this chapter will outline my argument that both of these models can usefully guide reform efforts, but that, because Calhoun's explanation seems to effect the most women (that is, nearly all women that are interested in philosophy, as opposed to Antony's model, which primarily effects women that have advanced somewhat in philosophy), Calhoun's schema clash model will be the most useful in reform efforts.

I have two objections to Antony's model: she does not sufficiently account for philosophy's unique dropout pattern and she does not sufficiently respond to the intensity problem.

Antony's perfect storm primarily affects women who have already advanced within philosophy, such as grad students and professors. First time philosophy students are not called on to do departmental service work, they are not inordinately kept from publishing by non-blind journals, and recent studies have even shown that they do not notice an especially aggressive or anti-woman tone in introductory

philosophy classes.[30] These discriminatory forces do not seem to directly affect female first time philosophy students, yet female first time philosophy students are the most likely to drop out.

Granted, these discriminatory forces can have an *indirect* effect on first time philosophy students. Perhaps the discriminatory forces that negatively affect the women that have already advanced in philosophy cause these women to leave teaching, and the lack of female philosophy professor role models discourages young women from pursuing philosophy.   Paxton, et al., to this point, found that the early dropout of women from philosophy classes is mitigated by the presence of female professors.[31]

Indirect effects, however, do not seem sufficient to explain every part of philosophy's dropout pattern. These effects, specifically, do not account for first year women students' decreased likelihood to intend to major in philosophy. Studies that record first-year students' intended majors do so during the summer before the students arrive on campus or within the first month of school. In this interval, at least according to Calhoun's Colby College data, men are more likely than women to select philosophy as their intended major, before any of these students experience a real lack of female philosopher role models. It seems like something that occurs somewhere off-campus or sometime before college depresses women's likelihood to intend to major in philosophy.

Next, the evidence that Antony provides for philosophy's intensity problem does not entirely support her thesis. In short, it seems like some of the elements of Antony's perfect storm are equally felt by women in non-philosophy fields. I have two specific elements of the perfect storm in mind here: the onus on women to perform service work and philosophy's "informal career ladder" advancement structure.

The thing that lands women with more service work than men in philosophy is the fact that they are underrepresented and the fact that they are women, not the fact that they study philosophy. Antony gives two reasons why women tend to do more service work in departments: to lend the department the appearance of diversity (e.g., when a token woman is selected to serve on a hiring committee) or because

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[30] Morgan Thompson, Toni Adelberg, Sam Sims, and Eddy Nahmias (unpublished manuscript), "Why do women leave philosophy? Surveying students at an introductory level."
[31] Paxton et al., "Quantifying," 954.

they are expected to, as women, be interested in the "nitty-gritty" details of life, the "housework."[32] These factors likely apply to women in other fields. They, too, are likely selected to lend an appearance of diversity or selected because of their presumed interest in the nitty-gritty. Though Antony recognizes the possibility that women in other fields probably face an expectation to perform more than their share of service work, she only defends the "intensification" claim – the claim that women performing service work in philosophy is worse for women in philosophy than it is for women in women in other fields – by appealing to anecdotal evidence about the difficulty her college has had in getting philosophers to attend school-wide events, like award ceremonies or graduations.

In addition, the expectation that women perform service work seems like it might occasionally work in women's favor. Women in philosophy departments who are inordinately called on to perform tokenistic service work seem to have *increased* access to speakers, for example. If 1 of 2 female students in a department are always called on to go to lunch with a visiting speaker in order to make the department look diverse, then those two female students are probably going to meet with more high profile figures than the department's male students. It is not entirely clear whether or not philosophy professors undervalue service work and it is also not entirely clear that all aspects of an expectation to perform service work against women. The expectation that women do service work does not seem to be an especially intense discriminatory force for women in philosophy.

Another element of Antony's reply to the philosophy-specific problem is her emphasis on philosophy's informal advancement structure. She has argued that, because women are either doing service work "behind the scenes" or tasked with inordinate childcare obligations, women are unable to take part in the informal socialization necessary for career advancement within philosophy. While I think it is true that advancement in philosophy requires willingness to socialize with peers over meals, after talks, and, increasingly, via personal blogs, I do not think philosophy emphasizes "informal networking" more than any other profession or academic field. Business courses actually lecture students on pursuing networking opportunities outside of the workplace, and I do not see any reason why the supposed

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[32] Antony, "Different voices?" 237.

function of these informal networking events – getting to know your peers' specific professional interests and advocating for your own upcoming talk or paper – would be of interest only to philosophers. It is not easy to be a professional academic. You usually have to take on a large amount of student loan debt, you have to move around a lot, and you're not guaranteed a job in your field after spending six or more years specializing in a very specific area. Academics, more so than other professionals, do what they do in large part because they are deeply interested in whatever they study. I do not think professional philosophers are any more likely to stay up late talking about philosophy than professional entomologists or sociologists are likely to stay up late talking about entomology or sociology.

2.5   Objections to Calhoun

Calhoun's paper, too, has a few weaknesses. First, her Colby College data is not a representative sample and, second, she does not fully explain the origin of the masculine "philosopher schema."

Calhoun's sample from Colby is obviously not representative. Colby is a small liberal arts school in New England. If Calhoun wants to make a point about all American college students, she's going to need to survey more college students and different types of college students. Calhoun herself notes her sample's insufficiency by calling it a "sample of one."

Calhoun's second weakness, and this is a larger issue, is her explanation of the origin of the "philosopher schema" in first-year philosophy students. Philosophers, unlike soldiers, doctors, and other paradigmatic gendered professions, are not pop culture figures and philosophy is not widely studied in the US outside of 4-year colleges. Where, then, are young people picking up a masculine schema for "philosopher?" Yes, *Thinker* and *School of Athens* are overrepresented on philosophy department websites and on the covers of philosophy textbooks, but how many young people visit department websites or own philosophy textbooks? If Calhoun's explanation of women's underrepresentation in philosophy is going to be able to recommend solutions to the problem, then it probably needs to identify a source of the masculine philosopher schema that is a little more precise than the "socialization process."

This paper will respond to these two weaknesses in Calhoun's perceptions-focused explanation. We'll find a larger sample size of student intended majors and we'll look more closely at the source of student expectations about philosophy.

3 WOMEN ARE LESS LIKELY TO INTEND TO MAJOR IN PHILOSOPHY

3.1 Calhoun's thesis and sample size

In chapter 2, I argued that, in light of the fact that Calhoun's explanation of the underrepresentation of women in philosophy effects women that are only considering entering philosophy, rather than women that have already advanced in philosophy, Calhoun's explanation should be the focus of thinkers attempting to reform philosophy to make it a more equitable environment for women.

The discriminatory forces that Antony describes largely affect women that have already advanced within philosophy. Antony's explanation is still of interest for us, however, because 1) the perfect storm metaphor is a helpful way to think about the myriad of causes that push women out of philosophy and 2) because, as I will argue in chapter 4, most of the elements of the perfect storm that Antony mentions are responsible for creating a masculine philosopher schema in the first place. Before I address that point, however, I would like to address the first weakness in Calhoun's explanation that I mentioned at the end of chapter 2. I pointed out that Calhoun supports her schema clash hypothesis by appealing to data pulled from her home institution, Colby College. Calhoun, acknowledging that she was working with a "sample of one," found that, of the people that intended to major in philosophy, about one-third were women. Tom Dougherty et al.'s recent survey had similar results.[33] Again working with a small sample, they found that significantly more men than women in an introductory philosophy class intended to major in philosophy. Both of these results would be more useful if they had a larger sample size. This chapter of the thesis will supply a sample with a large sample size.

3.2 CIRP's "The American Freshman" Survey

The American Freshman Survey is administered by the Cooperative Institutional Research Program (CIRP), which is housed at UCLA. CIRP has been collecting information on higher education

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[33] Thomas Dougherty, Samuel Baron, and Kristie Miller (forthcoming), "Why do female students leave philosophy? The story from Sydney," *Hypatia* (Spring, 2015).

since 1966. Over the years, it has collected information from over 15 million students and 19,000 institutions. The American Freshman Survey, which has been one of CIRP's main polling tools since it was founded, is widely acknowledged as a trustworthy source on first-time, first-year, American college student characteristics, such as parental income and education, financial aid, secondary school achievement, and other demographic information.   The survey targets all American institutions of higher learning that admit first time, first year students and award bachelor-level degrees or higher. In order to create a sample representative of this target, the survey samples schools of different types (four year colleges, universities), control structures (public, private, religious, etc), and "selectivity level."[34] Over the past 10 years, the survey has sampled students from over 230 different institutions of higher learning. Between 2004 and 2009, 2,187,173 total students completed the survey's questionnaire either the summer before they started at their new school or within their first month at the school – the survey aims to capture student information and opinions before they have any substantial experience with college life.

Between 2004 and 2009, 7,301 students, or about 0.33% of all surveyed students, reported to The American Freshman survey that they intended to major in philosophy. Of the students that intended to major in philosophy, 4,838 were men and 2,463 were women. Respondents could only report their sex as male or female. About 1 of every 3 students who intended to major in philosophy were women. This ratio is despite the fact that over 55% of the respondents between 2004 and 2009 were women. A chi square analysis shows that this difference is statistically significant ($p < 0.001$).

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[34] Hurtado et al., The American Freshman: National Norms 2009.
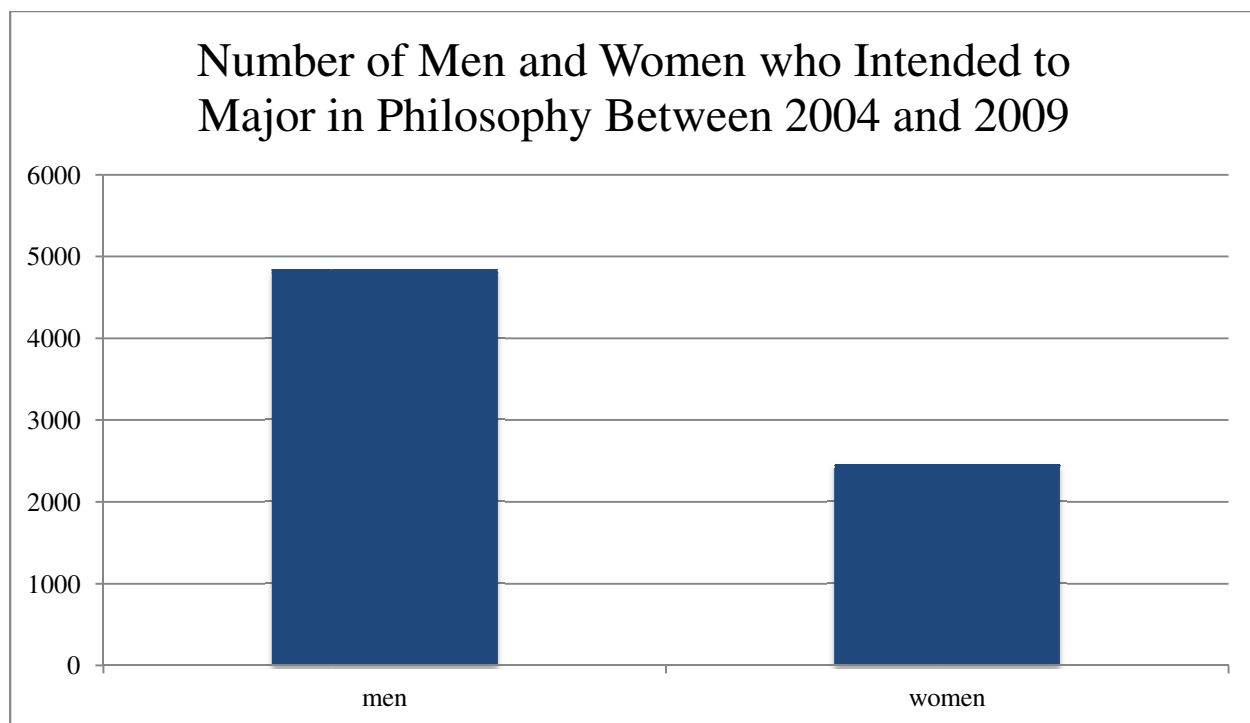
Figure 1. Significantly more men than women intended to major in philosophy the summer before they started college or within their first month at college. About 38% of the respondents that said they intended major in philosophy were women

The sex gap in intention to major in philosophy mirrors the sex gap in philosophy degrees awarded. Within the same timespan, all American institutions of higher learning awarded 34,498 philosophy degrees, according to the National Center for Education Statistics.[35] 10,456 of these degrees went to women. About 1 of every 3 students that graduated with a philosophy BA were women, despite the fact, again, that over 55% of the sample was made up of women. Again, a chi square shows that this difference is statistically significant ($p < 0.001$).

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[35] US Department of Education. National Center for Education Statistics. *Digest of Education Statistics*. By Thomas D Snyder and Sally A Dillow. NCES 2014015. Washington, DC.: US Government Printing Office, 2013.

Number of Men and Women who Graduated with a Bachelor's Degree in Philosophy Between 2004 and 2009

Figure 2. Number of men and women who graduated with a philosophy BA. Men earned over two times as many philosophy degrees as women between 2004 and 2009.

Granted, it takes a special sort of student to intend to major in philosophy before they start taking classes. Most of the people I know who graduated with a philosophy degree did not plan to graduate with a philosophy degree when they started school, and many philosophy majors have a second major.[36] Apart from this anecdotal evidence, however, it is not clear exactly how many of the students that intend to major in philosophy actually major in philosophy. This data, in fact, probably doesn't tell us much about the number or gender ratio of philosophy majors. Young people are generally unsure about their college major and they might be especially unaware of philosophy. This data does probably tell us, however, about enthusiasm for philosophy among high school students. It might be uninformed enthusiasm, and it might be enthusiasm for a field they don't really plan on pursuing, but it seems telling that significantly more men than women are interested enough in philosophy to make the (admittedly weak) claim

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[36] Richard N Pitt and Steven A Tepper, *Double majors: Influences, identities, and impacts* (Nashville: Curb Center, 2012).

"philosophy is my probable major."[37] For the purposes of this thesis, I just need the CIRP survey to measure the frequency of this claim in young men and women.

Moreover, a gender disparity in intention to major is correlated with traditionally feminine or masculine majors.[38] If x is a traditionally masculine major, then the class of extraordinary students that declare an intention to major in x before they start school will have more men than women, and likewise with feminine majors. When we measure a gender disparity in intention to major in nursing or computer science, most people would probably agree that the disparity is the result of a schema clash. That is to say, men probably do not avoid majoring in nursing because they think that they will not be able to take the long hours or the heavy course load. Instead, men probably avoid majoring in nursing because it is simply a thing that "men just do not do." I think the CIRP data indicates that something similar is happening to women considering philosophy.

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[37] The American Freshman Survey provides students with a numbered list of about 100 majors. The question about intended majors on the survey is phrased: "Please mark your probable major."

[38] By "traditionally feminine or masculine majors," here, I am respectively referring to majors that have had an especially low or high representation of women in the past 40 years. Randal Wilson, "Percentage of bachelor's degrees conferred to women, by major (1970-2012)," accessed February 25, 2015, http://web.archive.org/web/20150225160041/http://www.randalolson.com/2014/06/14/percentage-of-bachelors-degrees-conferred-to-women-by-major-1970-2012/ is a good source for representation of women by major.
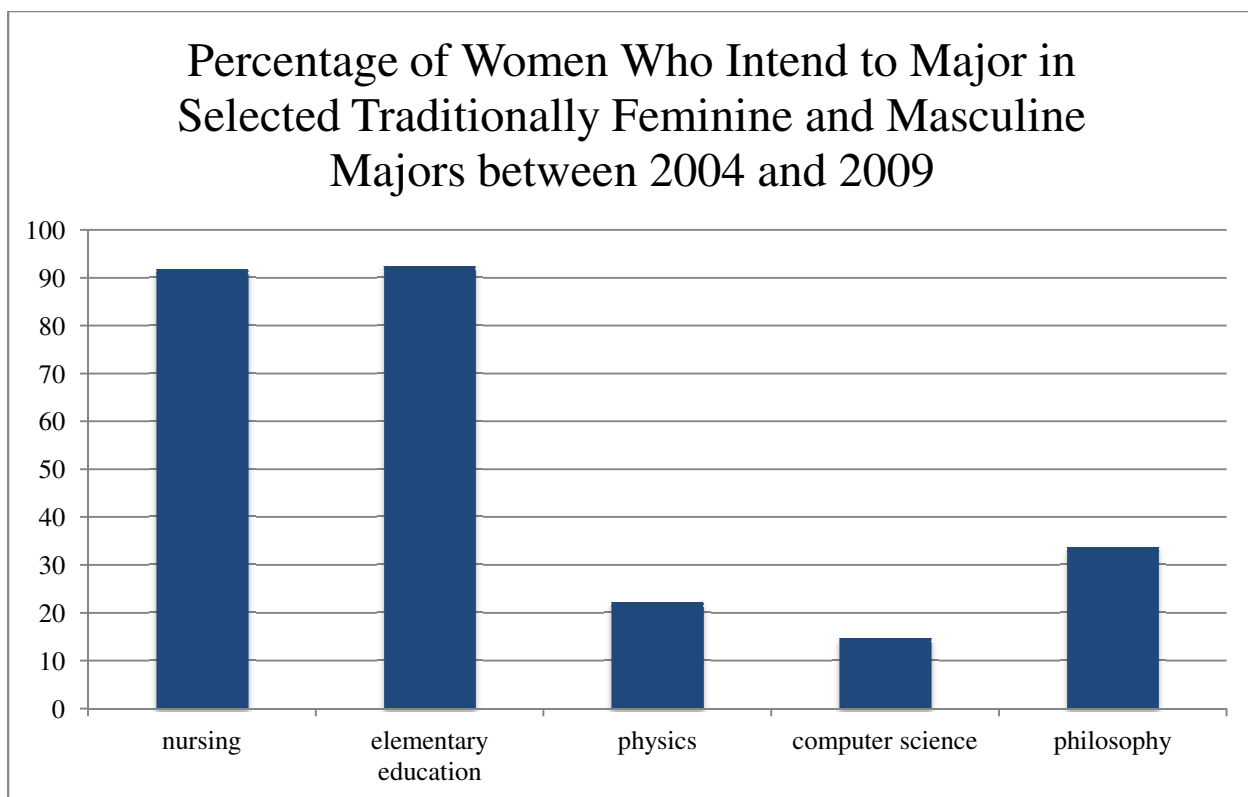
Percentage of Women Who Intend to Major in
Selected Traditionally Feminine and Masculine
Majors between 2004 and 2009

Figure 3. If a major is traditionally feminine or masculine, then the intention to major is respectively dominated by women or men.

3.3   Parallel research that points to pre-college or first-class causes

This replication of Calhoun and Dougherty et al.'s intention to major results supports the gender schema thesis. It is evidence that women are already cool on the prospect of studying philosophy before they have their first philosophy class. The result summarized by figure 2 is especially interesting, given Dougherty et al.'s 2015 article reporting the results of a climate survey in beginning philosophy classes at the University of Sydney.[39] The Sydney study measured student attitudes about philosophy during their first class and during their last class. Dougherty hypothesized that, if in-classroom effects were pushing women out of philosophy, then women would become less enthusiastic about philosophy as their class went on, as they experienced more and more of the class's negative effects.

[39] Dougherty, "The story from Sydney."

Dougherty found that men and women's attitudes about philosophy were relatively stable as the class went on. However, he also found that women were less enthusiastic about philosophy generally, from the first class onwards. In the survey administered on the first day of class, women students were significantly less likely to report that they thought they could do well in philosophy, they were significantly less likely to imagine themselves as philosophers in the future, and they were significantly less likely to report that they felt comfortable speaking in class. These beliefs did not significantly change after a semester in philosophy, indicating that in-classroom phenomena do not seem to have much of a net effect on women's decision to continue in philosophy.

The CIRP data seems to replicate important parts of Dougherty's results. Specifically, the parts of Dougherty's results that found that intention to major in philosophy did not change while the students were in class. Things that happen inside of classrooms do not seem to have much of a net effect on the ratio of men to women interested or majoring in philosophy: 1 to 2.96 women to men intend to major in philosophy, according to the CIRP data, and 1 to 3.33 women to men actually major in philosophy, according to the Center for Education Statistics. Though the raw number of people that intend to major in philosophy is slightly higher than the number of people that eventually major in philosophy,[40] the ratio of men to women either interested in majoring or majoring in philosophy does not change very much between the start and end of undergraduate careers. If women do have beliefs that they will not be happy studying philosophy, they seem to pick up those beliefs before they start school *and* those beliefs do not seem to significantly change as their college career progresses.

Thompson et al. have also recently completed a study that indicated that pre-university or first-class effects are a major cause of women's underrepresentation in philosophy.[41] Their study found that

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[40] By multiplying the percentage of students that intended to major in philosophy in the CIRP survey by the number of students entering college between 2004 and 2009, I have calculated that if everybody that claimed to intend to major in philosophy when responding to the CIRP survey actually majored in philosophy, there would have been abut 27,000 philosophy majors between 2004 and 2009. In reality, 34,498 people graduated with a philosophy bachelor's degree in that timespan. Not many of those students that claimed they intended to major in philosophy must have stayed in philosophy for long, though, because, anecdotally, most philosophy majors did not intend to major in philosophy early on in their college careers.

[41] Thompson et al., "Why do women leave?"

the lack of female authors on syllabi, women's lower confidence in class, and some teaching methods were correlated with significantly fewer women than men indicating that they were likely to continue in philosophy. Intriguingly, Thompson et al.'s climate survey found that, though there is no significant difference in beliefs between men and women concerning whether or not philosophy requires a fixed, non-teachable amount of innate talent, insofar as women have "fixed ability beliefs" about philosophy, they are less likely than men to intend to continue with philosophy. That is, both men and women believe at roughly equal rates that philosophy takes a certain amount of innate talent, but that belief in women translates to a significantly lower willingness to continue in philosophy.

Leslie et al.'s 2015 paper on field-specific ability beliefs also recently singled out philosophy for valuing innate "brilliance" to the detriment of women and people of color, who are stereotyped as lacking innate brilliance.[42] Leslie et al. surveyed academics about whether or not their field required an innate, non-teachable amount of talent. They found that, if academics in a field identified their field as requiring an innate amount of talent (i.e. if academics responded positively to questions like "Being a top scholar in [field] requires a social aptitude that just cannot be taught"), then those academics would also likely 1) report that they held the "politically incorrect" opinion that men were better suited than women to do high level work in the field, 2) report that they thought their field was less welcoming to women than men, and 3) have significantly fewer women PhDs. The correlation between high field-specific ability beliefs and these three qualities were statistically significant. Leslie et al. also found that competing explanations of women's underrepresentation in academic fields, such as the hypotheses that women are less represented in fields that require long hours or fields that require especially high aptitudes, are not as successful at explaining women's underrepresentation across all of academia. Of the 30 disciplines Leslie et al. surveyed, philosophy had the highest field-specific ability beliefs. Among the humanities, philosophy was also among the disciplines with the lowest percentage of women PhDs. Though Leslie et al. focused on PhD programs, their results seem to have implications for undergraduate students considering majors.

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[42] Sarah-Jane Leslie et al., "Expectations of brilliance underlie gender distributions across academic disciplines," *Science* 347.6219 (2015).

Professors might be more likely to be implicitly biased towards women students in fields with high field-specific ability beliefs, and groups with lower confidence in their innate talents might be less likely to pursue fields with high field-specific ability beliefs.

To summarize, at least three parallel lines of recent work on the question of women's underrepresentation in philosophy have lent evidence to the hypothesis that pre-university gender schematic forces are an important contributing factor to women's underrepresentation in philosophy. Dougherty and Thompson et al. have found that women are less confident in intro classes. Though they had a small sample size, Dougherty et al. found that women's confidence compared to men did not significantly change as the class went on. Finally, Leslie et al.'s found that 1) philosophy is perceived as requiring the a large amount innate brilliance and 2) that the more fields are thought to require innate brilliance, the, more likely they are to consider themselves unwelcoming to women and the more likely they are to have a smaller percentage of women PhDs.

Before we conclude, we still have to address the second weakness in Calhoun's explanation of the underrepresentation of women in philosophy: where do young women pick up a masculine schema for philosophers? Thompson, Dougherty, and Leslie et al.'s work all seem to further motivate the need for an answer to this question. These groups of thinkers have all produced evidence that something that happens before women start studying philosophy in college is at least partly responsible for women more than men choosing not to continue with philosophy.

It is important that we answer this question because answering this question seems to be the best route for improving the representation of women in philosophy. All of these pre-university effect theories have two moving, clashing parts: a gender schema full of expectations for women, and a professional schema full of expectations for philosophers. The people that actually practice philosophy probably create the latter moving part, and, as such, it is the part that philosophy students, professors, and departments can probably do the most to change. Looking at the second weakness, moreover, should help us best order the phenomena that constitute the perfect storm for women in philosophy. As I mentioned at the beginning of this chapter, I think most of the elements of the perfect storm that Antony mentions

are responsible for creating a masculine philosopher schema. This leaves us with a slightly counter-intuitive claim – things that happen inside the classroom and the department (e.g. a combative tone, an onus on women to do service work, etc.) have their greatest negative effect outside the classroom or department. Chapter 4 will flesh out this claim and consider a few weaknesses in the usefulness of the intended major data, such as the relative ignorance students have about philosophy compared to other majors and the potentially weak correlation between a low intention to major in philosophy and the presence of schema clash.

4   THE ORIGINS OF A MASCULINE PHILOSOPHER SCHEMA, LIMITATIONS ON THE INTENTION TO MAJOR DATA, AND SOLUTIONS

4.1   The origins of the masculine philosopher schema

An unresolved difficulty of the gender schema explanation of women's underrepresentation in philosophy in philosophy is what I will call "the problem of ignorance." Philosophy is a relatively obscure academic field. Unlike paradigmatic gendered fields (e.g. nursing, elementary education, military science, computer science)[43], philosophy does not occupy a large place in the public conscious. There are not many public philosophical figures, there are not many movies or TV shows about philosophers, and, perhaps most importantly, philosophy is rarely studied outside of 4-year colleges and universities. The "problem of ignorance" refers to the layperson's ignorance about the work and general interests of philosophers. Philosophy professors are the most common witnesses of this problem, especially professors that teach an introduction to philosophy course. If beginning students claim to know anything about philosophy, they usually equate it with psychology, religious studies, or math and logic, and sizeable amounts of time in introductory classes are dedicated to simply explaining the general aims and scope of philosophical study.

The problem of ignorance for philosophy is problematic for theorists concerned with the underrepresentation of women in philosophy because it removes common sources of professional schemas, popular culture and pre-college academic settings. Nursing, for example, is usually practiced by women in elementary schools and doctor's offices and portrayed by women in popular culture. While there is a chicken/egg problem over whether or not the practice and portrayal of nurses as women causes women to pursue nursing or the other way around, there is presumably some sort of positive feedback loop at work. Young women see women nurses, women become nurses, more young women see women nurses. There is no such feedback loop for philosophy. If philosophy and philosophers involves a

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[43] Paradigmatic gendered fields are fields that have a history of high gender non-parity (as in Wilson, "Percentage of bachelor's degrees") or they are fields that are identified by students as male or female-dominated (as in Sara J Solnick, "Changes in women's majors from entrance to graduation at women's and coeducational colleges," *Industrial and Labor Relations Review* 48.3 (1995): 505-14.

masculine schema, it is not because young people only ever see male philosophers. Young people barely ever see philosophers. If philosophy involves a masculine schema, it is because of something harder to pin down than gendered pop culture or pre-college impressions.

This leads us to the counter-intuitive claim found at the end of chapter 3 – things that happen inside of the classroom must be having an effect on women outside of the classroom. A masculine schema for philosophy likely emerges from philosophy professors and philosophy students. If philosophy does not have a place in popular culture and if philosophy is not widely, explicitly studied and discussed by non-academics, then philosophy professors and students are one of the only groups of people left in the world in a position to impart any sort of schema onto the profession.

It is true that philosophy professors and students are caught up in a field that has a long history of not only gender non-parity, but outright misogyny and sexism, but this is not a quality that is unique to philosophy professors and students. It is hard to see how philosophy's sexist history is much more intense than most any other field's sexist history. Men have dominated nearly every academic field for most of history, and these fields, like philosophy, usually still venerate men that held explicitly sexist views. For example, Charles Darwin, arguing against John Stuart Mill, asserted that men were more capable of deep thought, reason, imagination, and "merely the use of sense and hands."[44] Thomas Edison argued that women were centuries behind men in their ability to "directly think."[45] A sexist history and sexist figureheads are features common to many academic fields.

Moreover, even if philosophy in fact had an intensely sexist history or if philosophy was only perceived to have an intensely sexist history, philosophy professors and students would still be the main medium by which young people and the wider world would hear about philosophy's sexist history. It would be one thing if philosophy was misrepresented as sexist in popular culture or if young people heard about philosophy's history from high school teachers, but philosophy is not a part of popular culture and

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[44] Wyhe, John van ed., 2002- *The Complete Work of Charles Darwin Online* (http://darwin-online.org.uk/)
[45] Thomas Edison, "The women of the future," *Good Housekeeping*, January 1, 1912, 440.

high school teachers, by and large, do not lecture about philosophy. Philosophy's sexist history, like everything else in philosophy, is brought to people by way of college philosophy professors and students.

The CIRP data is somewhat helpful in confirming that in-class phenomenon influence perceptions of philosophy at pre-college levels. It shows us that there are significantly fewer women than men interested enough in philosophy to declare an interest in majoring in philosophy before they start college. Calhoun and others have argued that there is a masculine philosopher schema, which is why we usually image philosophers as men (e.g. in Google Images results, on department websites, on philosophy textbook covers). I have argued in this section that the masculine philosopher schema is probably, at least in part, a product of philosophy college professors and students because philosophy college professors and students are the only ones that consciously "do philosophy."

4.2   Other pre-university effects hypotheses

Though there are multiple pre-university effects hypotheses, all of which could conceivably be supported by CIRP's data, the gender schema hypothesis seems the best suited to account for the panoply of discriminatory forces documented by Antony. Specifically, the "unpractical subject hypothesis" and the "unfamiliar subject hypothesis," while, if correct, would predict female underrepresentation in intention to major in philosophy, do not seem suitably sound to be included as parts of the perfect storm.[46]

The unpractical subject hypothesis states that men and women have different beliefs about the usefulness of philosophy for getting a job. Women, more than men, might see philosophy as an abstract field that does nothing more than entertain esoteric, impractical questions and, because of that belief, avoid majoring in philosophy. Two pieces of evidence work against this hypothesis. First, Thompson et al.'s recent climate survey does not seem to support this hypothesis. Both men and women strongly agreed that it is important to major in a field that will be useful in getting a job and there was no

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[46] Tom Dougherty, Samuel Baron and Kristie Miller "Female Under-Representation Among Philosophy Majors: A Map of the Hypotheses and a Survey of the Evidence," *Feminist Philosophy Quarterly*, forthcoming is a good source on these competing pre-university hypotheses.

significant difference between men and women's beliefs regarding the perceived usefulness of philosophy for getting a job.

Second, it is not clear why pre-university beliefs about the uselessness of philosophy would bring about the underrepresentation of women in philosophy compared to the underrepresentation of women in other fields. There are a lot of college majors that are perceived as impractical or useless, such as art history, English, and linguistics, yet many of these "impractical" majors seem equally popular to women and men. The impractical subject hypothesis for women's underrepresentation in philosophy, in short, lacks the "intensification" step of Antony's perfect storm. Even if women prefer "practical" majors over "impractical" ones, there is not any evidence that women view philosophy as an especially impractical major compared to other impractical majors that women do seem comfortable pursuing, such as English or art history.

The unfamiliar subject hypothesis, another pre-university hypothesis for women's underrepresentation in philosophy, states that, though men and women are equally unfamiliar with studying philosophy, women more than men are less likely to take classes they are unfamiliar with.

Though this hypothesis has not been closely studied empirically, and it should be the subject of future research, the theory seems to suffer from a few weaknesses. Namely, women seem comfortable with taking classes in fields they are unfamiliar with elsewhere. Psychology, anthropology, and sociology have only recently began to appear in American high schools, but most people that intend to major in these fields are women, according to the CIRP data, and these fields have all had more female BA recipients than male recipients for decades.[47] The hypothesis is also unclear about the extent of "familiarity" required to bring about a difference in gender. Many introduction to philosophy classes are required – students either have to take a philosophy class to graduate or they have the ability to choose between a philosophy class and one or two other classes. Yet, philosophy still suffers from a gender gap. It seems like a semi-mandatory introductory philosophy class should be enough to negate women's supposedly lower willingness to pursue fields they are unfamiliar with.

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[47] Leslie et al., "Expectations of brilliance," 263-4. Wilson, "Percentage of bachelor's degrees."

With all of that said, it is worth repeating that very few of these hypotheses about the underrepresentation of women in philosophy are exclusive of other hypotheses. If it is the case that women really are more uncomfortable with taking classes they are unfamiliar with and that people are generally especially unfamiliar with philosophy, then that would not mean much else for the other elements of the perfect storm. Women could suffer from unfamiliarity with philosophy and, as philosophy graduate students, suffer from unfriendly childcare policies or an onus to do department service work. These two specific pre-university effects, as they stand, do not seem to pass a certain plausibility threshold, and, without more research, they should probably not serve as the central theories behind reform efforts.

4.3   Limitations and strengths of CIRP's data

As I mentioned in chapter three, it is relatively extraordinary to intend to major in philosophy the summer before or within your first month at a university. The CIRP data measures those enthusiastic students' intention to major, but it is blind to the nascent intentions of students that are [perhaps wisely] waiting to declare a major. Moreover, it might be the case that male students are more likely than female students to declare a major early on in their college career. Women might not avoid intending to major in philosophy because they are reacting to an antagonistic schema. Rather, women simply might not intend to major in anything so quickly after enrolling in college.

This hypothesis – that men are more likely to intend to major in something early on in their college career – is somewhat supported by the CIRP data. CIRP also asks respondents to indicate if they are "undecided" on selecting a college major. Between 2004 and 2009, about 6.9% of the respondents reported that they were undecided about their intended major, and about 62% of the students with an undecided intention to major were women. This is a significant difference according to a chi square analysis ($p < 0.001$).
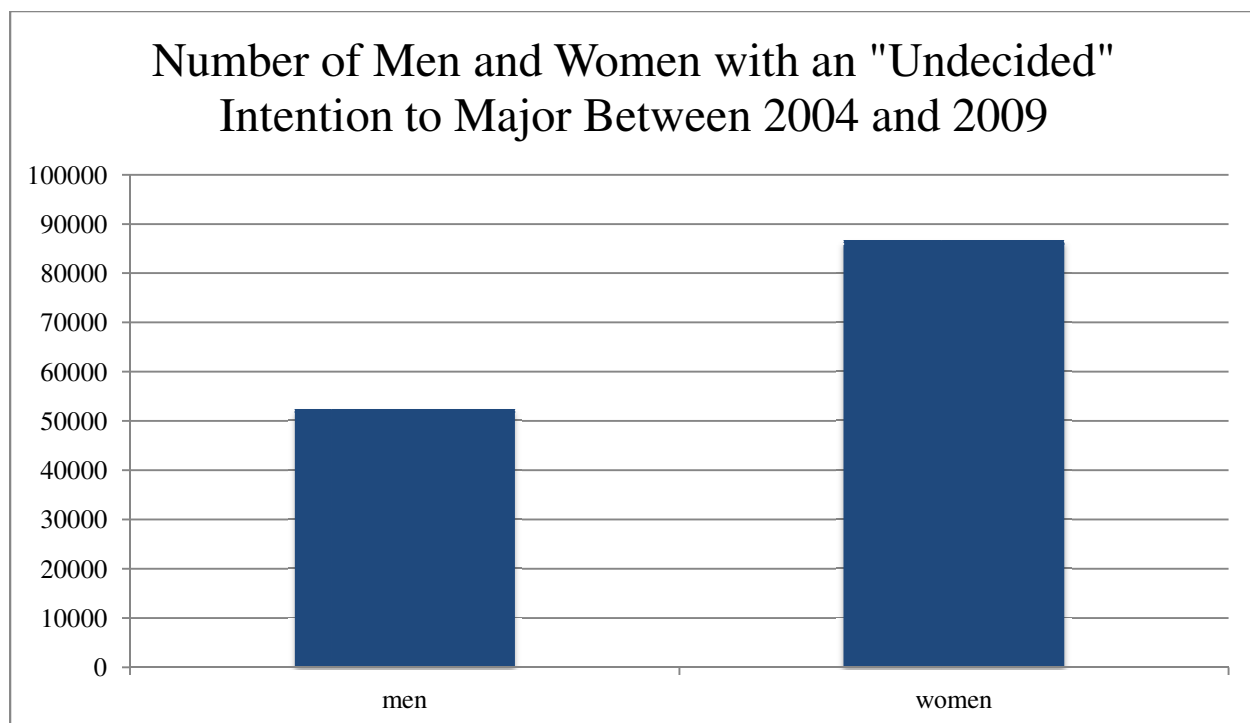
Figure 4. The summer before or within the first few weeks of college, significantly more women than men reported they were undecided about their probable major ($p < 0.001$). 62.3% of the students with an undecided intention to major were women.

Second, the CIRP data is limited for this thesis's purposes in that it does not directly measure the existence or effect of a schema. The CIRP data only measures the existence of a low intention to major in philosophy among women. Moreover, I have argued that philosophy is importantly dissimilar to other traditionally gendered fields because of the "problem of ignorance." Even if there is a masculine philosopher schema, it seems like the problem of ignorance would negate its deleterious effect. There might be a masculine schema for philosophy, but it is hard to see how such a masculine schema could influence young people considering philosophy if they just do not know much about philosophy. This is the "transmission" objection, the objection that, because people are generally ignorant about academic philosophy, any anti-woman discriminatory forces or schema found within philosophy cannot be "transmitted" to women.

A reply to the transmission objection should, perhaps unsurprisingly, start with the CIRP data. I think it is generally the case that most people are ignorant about philosophy, but I do not think that is

necessarily the case for the young people surveyed by CIRP. Students serious enough about philosophy to consider intending to major in it before they start college might be better informed about the content of and social practices that make up philosophy. Young women more than young men might be more likely to drop their interest in philosophy after finding evidence of some of the elements of the perfect storm,[48] resulting in more men declaring an interest in majoring in philosophy than women. If this reply to the transmission objection is right, it provides a handy example of in-classroom discriminatory forces affecting people outside of the classroom. The discriminatory forces faced by women in philosophy harm the women in the classroom and they discourage women outside the classroom, looking in. High school students considering majors might have a unique vantage point from which to consider the discriminatory forces that make up Antony's perfect storm for women in philosophy.

In addition, it seems like the problem of ignorance about philosophy might amplify the effect of any weakly supported beliefs young people might have about philosophy. We know, for example, that stereotypes and gender schemas are especially utilized in situations where there is little information about the person being judged or in high stress situations. Young people might have a few weakly supported beliefs about the gender of philosophers, or they might associate philosophy with a few individuals in their lives more than others. If those weakly supported beliefs and associations tend to be masculine or anti-woman (say, because somebody they came across on the internet was a sexist and he identified himself as a philosopher, or because they read an article about a woman philosopher that mentioned her dealing with the male-dominated profession), then, because young people are ignorant about philosophy generally, those weak beliefs will color their beliefs about the whole field. The weakly supported belief will have more of an effect because there are not many competing beliefs.

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[48] Such as the stories collected at "What Is It like to Be a Woman in Philosophy?" What Is It like to Be a Woman in Philosophy? Accessed April 3, 2015. https://beingawomaninphilosophy.wordpress.com/ or Sally Haslanger, "Women in philosophy? Do the math," *The New York Times*, September 2, 2013, Accessed 3 April 2015, http://opinionator.blogs.nytimes.com/2013/09/02/women-in-philosophy-do-the-math/. These are among the top ten hits on Google when you search for "women in philosophy, "famous women in philosophy," and "philosophy for women."

Calhoun touches on this in her discussion of "representative sexism."[49] She thinks that, if young women enter philosophy departments experiencing schema clash, they're more likely to interpret single sexist incidents as representative of the whole field. Women that aren't experiencing schema clash (say, for example, women entering an English department) might interpret single sexist incidents as only representative of the offending sexist. While I don't think that most young women are aware of a "philosopher schema" – I think, instead, they either know very very little about philosophy or, more rarely, they have a handful of weakly supported beliefs and associations about philosophy – that can clash with a "woman" schema, the concept of "representative sexism" seems helpful here. On account of people's general ignorance about philosophy, it seems like masculine-trending, weakly supported stereotypes about philosophy will be applied to the whole field and that individual sexist encounters might be understood as representative of the whole field.

The transmission problem seems to be a problem that effects gender schematic theories of women's underrepresentation in philosophy generally. Doughterty, et al., for example, found that women felt less comfortable speaking up in class early on in the semester, before they had experienced many of the forces of the perfect storm. If it is true that most people are generally ignorant about philosophy, what caused these women to feel uncomfortable speaking up? It seems like the problem of ignorance, if it exists, has upsides and downsides. Most philosophers would probably agree that more people should study philosophy. That is the downside of the problem of ignorance. The arguable upside of the problem of ignorance is it seems like it could veil the discriminatory forces that plague philosophy.

4.4   Questions for future research

This is a sketch of defenses against the "transmission" objection, and future empirical work should address the objection more precisely. Future empirical work replying to the translation objection ought to sample two groups of young people, young people that have not studied philosophy in the classroom at the high school level (which is the huge majority of young people) and young people that

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[49] Calhoun, "Pipeline Problem," 220.

have studied philosophy in the classroom at the high school level. One could ask the first group of students, for example, whether or not they can name women philosophers or ask them to rate philosophy's masculinity as a major compared to other humanities majors. If there are vague, masculine beliefs and associations about philosophy, it would be helpful to know where and when young people pick up these beliefs and associations if not the philosophy classroom. There are a number of candidate sources of these vague beliefs and associations – the introductions to science textbooks, which usually mention a philosopher, rare appearances by philosophers in pop culture, religious groups – and timing the appearance of these vague beliefs might help us identify some sources as more important than others.

Second, researchers could study students that have taken a high school philosophy class to see if they view philosophy as a masculine major. Researchers responding to these questions could see if students at a high school with a focus on college prep think of philosophy as a more masculine major than students at a high school that does not focus on college prep. If the prep school students rated philosophy as a more masculine major than the non-prep school students, then that would be evidence supporting my "special vantage point" reply to the translation objection. The prep school students would have a better view of the discriminatory forces within philosophy, which would reduce their willingness to pursue philosophy. If the prep school students rated philosophy as a less masculine major, that would support the "representative sexism" reply to the transmission problem. That would be evidence that more information about philosophy dilutes the effect of a masculine philosopher schema. A similar, perhaps easier to implement, study could be performed comparing students that come from a household with highly educated parents and first generation college students. In both of these proposed studies, we're testing whether or not knowledge about philosophy (either from a formal source, like at a prep school with a philosophy course, or an informal source, like from parents who have an amateur interest in and awareness of philosophy) increases or decreases the perception of philosophy as a masculine major.

In addition, though this thesis is primarily discussing American women entering philosophy departments, it seems like we could make headway against the transmission objection by looking at gender ratios in philosophy departments around the globe. Some countries, such as France and Germany,

for example, require students to take philosophy courses in high school. These countries are also much closer to gender parity in philosophy. These facts seem to support the "representative sexism" reply to the transmission objection above. That is, the fact that young people in France and Germany probably know more about philosophy and the fact that much more women graduate with philosophy degrees in France and Germany seems to lend support to the assertion that people's ignorance about philosophy contributes to gender gaps in the field. While this is an interesting finding that merits more consideration and research, future work might be hampered by societal differences between the US, France, and Germany. People in those European countries might value philosophy and "being an intellectual" more highly than Americans. The fact that France and Germany produce nearly as many women philosophy PhDs as men philosophy PhDs might only be an effect of people in France and Germany valuing philosophy as philosophy, not an effect of a milder masculine philosopher schema or a milder "perfect storm."

4.5 Solutions

In light of her schema clash theory and her Colby "sample of one," Calhoun suggests a series of solutions to the problem of women's underrepresentation in philosophy that are meant to promote cognitive dissonance. These solutions are aimed at increasing the representation of women in philosophy by "degendering" philosophy, by breaking up the masculine philosopher schema. She argues that extant diversity measures, such as including more women on syllabi, hiring women professors, and teaching feminist philosophy classes, can have the unintended effect of reinforcing a masculine philosopher schema. Female philosophy writers and professors may be viewed as mere tokens, and feminist philosophy classes can reinforce a distinction between "real" philosophy and supplementary, slightly less "real" feminist philosophy. Instead of these approaches, Calhoun argues, departments should aim at degenderizing philosophy by using women representatives of philosophy on websites and discussion boards, teaching introductory classes only using texts by women (and not calling the class a feminist

introduction to philosophy), calling philosophy club meetings "teas," and arranging philosophy speaker series that only feature one man.[50]

I find these solutions attractive. Calhoun's dissonance solution seems to be a way to call attention to the schemas that are pushing women out of philosophy. Not many people recognize that they have expectations formed from gender schemas, and cognitive dissonance seems to be a strategy aimed at bringing those expectation-forming schemas to light.

However, it seems like there is more that we can say regarding solutions to women's underrepresentation in philosophy, especially considering the fact that, over the last 30-40 years, so many other academic fields have significantly increased their representation of women. Broadly speaking, there are two classes of solutions to the problem of women's underrepresentation in philosophy: solutions that target women before they get to college and solutions that target women after they get to college. This thesis, it might be thought, is an endorsement of solutions that take place before women get to college. The paper, after all, focuses on the intention to major rates of these women, and, recently, there have been a number of examples of philosophy programs targeting students at high-school age.[51] I, of course, support such programs because, like most philosophers, I think that studying philosophy is intrinsically valuable and that philosophy should be a larger part of education in the United States generally. I would also be very interested to see whether or not the female graduates of these high school programs were as likely to intend to major in philosophy in college as the male graduates of these high school programs.

However, assuming that high school philosophy programs will not become a regular part of the high school curriculum nationwide anytime soon, I am still struck by the variety of solutions available to reformers concerned with increasing the representation of women in philosophy. Popular proposed solutions include Calhoun's cognitive dissonance set of solutions, increasing the representation of women on syllabi, increasing the number of women philosophy teachers, requiring that more students take feminist philosophy classes, enacting mentoring programs for women students, eliminating sources of

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[50] Calhoun, "Pipeline Problem," 221-2.
[51] Such as the National High School Ethics Bowl and the work of the Squire Family Foundation.

stereotype threat, such as photos of male philosophers in conference rooms, purposely calling on women more often than men in philosophy classrooms, cracking down on sexual harassment in philosophy departments, promoting awareness of a wide variety of career paths for philosophy majors, and reducing philosophy's emphasis on innate brilliance. Obviously, these solutions are not exclusive of each other, and I think most people that take the problem of the underrepresentation of women in philosophy seriously would support most or all of these solutions. Instead, I think the interesting question for reformers concerned with changing things inside of the philosophy classroom is about these proposed solutions' efficacy. Assuming that resources are limited, which one or set of these solutions would be the most effective at increasing the representation of women?

In order to answer that question, it seems that we would be wise to look at other professions that have recently – within the last half century – greatly increased their representation of women. For example, 4% of bachelor degrees in agriculture went to women in 1970. By 2012, agriculture awarded 50% of its degrees to women.[52] Biology, the social sciences and history, communications, and journalism have all had similar significant increases in the representation of women in the last 40 years. Before we endorse Calhoun's cognitive dissonance plan or any other plan, we should at least investigate these past and parallel reform efforts in non-philosophy fields. Future research needs to investigate ongoing reform efforts in these fields and see if whether or not those reform efforts can be replicated in philosophy. The precise identification of the problem for women in philosophy is a noble goal, but it is, at best, incomplete and, at worst, more of a harm than a benefit if that identification is not followed by a detailed list of reforms.

Finally, I worry that some might understand my paper's findings as a reason to abandon or decelerate department diversity efforts. After all, women are disposed to not continue in philosophy before they even enter philosophy departments, so what can philosophy departments do? Such a response can only follow from a shallow reading of my thesis. In terms of diversity efforts, my thesis largely supports the status quo. The responsibility for reform still largely lies on philosophy departments. We

[52] Wilson, "Percentage of bachelor's degrees."

might not have a clear understanding of how young people learn about the masculine schema in philosophy departments, but, nonetheless, it seems likely that the masculine schema for philosophy must come from philosophy departments because philosophy departments are the only groups around to impart any sort of schema onto philosophy. Philosophers and philosophy departments are the ones emphasizing "brilliance" and creating exclusively male reading lists and expecting women to do service work. Those choices, in light of this paper, now have a broader impact. They affect women currently studying philosophy and women considering philosophy. With Calhoun's warnings about extant diversity programs and my opinion that we should research past and parallel diversity programs in mind, diversity programs are still the purview and responsibility of philosophy departments.

4.6   Conclusion

Before I end, I think it is important to reinforce the continuity of this paper's thesis with the perfect storm thesis for women's underrepresentation in philosophy. The perfect storm is still, I think, the best way to think about the problem of women's underrepresentation in philosophy. The discriminatory forces that Antony details are real and their effects are bad for women in philosophy. My task in this paper was to highlight an element of the perfect storm Antony touched on, gender schemas. Specifically, my task was to defend Calhoun's assertion that gender schemas are an especially damaging part of the perfect storm for women in philosophy because they discourage young women (i.e. women that have just finished secondary school) from pursuing philosophy in the first place. I believe I accomplished that task by, first, finding intention to major data with a larger sample size, and second, by analyzing the origins of a masculine philosopher schema couched in Antony's perfect storm structure.

Schemas, at least as defined by Valian, are bundles of expectations that we use to prepare ourselves for interacting with people. A schema for "philosophy" or "philosopher" includes a bundle of expectations, some strongly supported by evidence, others not, that are both directly antagonistic to women and responsible for establishing expectations that will go on to harm women. The schema's expectations include the expectation that philosophy syllabi only feature male authors, the expectation of

innate, non-teachable brilliance, and the expectation that women will seek out and enjoy departmental service work. An expectation that philosophers are innately brilliant clashes with our schema for women because women are not thought to be innately brilliant, and an expectation that women perform service work just hurts women by distracting them from career-furthering activities.

If this gender schema-centric perfect storm is the right approach to women's underrepresentation in philosophy, then reformers should take note because efforts to increase the representation of women in philosophy will generally be stifled by the presence of the masculine philosopher schema. Like the masculine philosopher schema's damage to woman, the philosopher schema will mediate the benefit of reform efforts to women in philosophy or women considering philosophy. Reform efforts will need to be sustained and long-lasting in order for us to see progress in the representation of women in philosophy. The task is to make today's environment for women in philosophy a more equitable and welcoming place by addressing the forces that make up Antony's perfect storm. That task will be beneficial to women currently in philosophy, yes, but it will have its greatest effect in the gradual breaking-up of the masculine philosopher schema and the subsequent patching-up of the leakiest part of philosophy's academic pipelines.

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