CHAPTER 13

Academic Time

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Many who work or study in the university feel certain temporal pressures—to graduate as soon as possible, to finish that experiment today rather than tomorrow, or to publish as much as possible. At the same time, academics also feel that certain processes, such as writing a good essay or waiting for useful experimental results, simply require a certain amount of time or require a certain rhythm. Time in the academy is thus a much larger phenomenon than simply being at a lecture or meeting on time. As British sociologist Barbara Adam suggests, we must "look beyond the time of the clock to discover what tends to remain in the shadows and explicate some of the implicit temporalities in educational practice. The amount of time spent on activities and interactions in the class-room is not solely dependent on bells, buzzers, calendars and clocks" (1995, 66).

Considering a range of feminist, sociological, and anthropological studies on academic work and the learning environment, this chapter examines how gender and time in the academy—from individuals in classrooms to groups in large laboratories—has been researched. It traces the ways in which so-called linear time and clock time are historically tied to the workings of capitalism and to the stereotype of the ultimate scientist-philosopher as white and male. Experiences and understandings of time in the academy emerge as a structural issue that results from widespread neoliberalization, that is, a recent instantiation of capitalism that emphasizes increasing individual responsibility and productivity. Yet, individual experiences of time vary widely, depending on the relative position of power and the background of the faculty member or student in the classroom, laboratory, or institution. This chapter discusses how gender, like ethnicity and class, is an important factor in the ways that power and difference in the academy are organized around conceptions and technologies of time.

CARICATURES OF THE ACADEMIC

In *No Place to Learn: Why Universities Aren't Working* (2002), Canadian political theorists Tom Pocklington and Allan Tupper describe how "the caricature of the professor as a kindly, befuddled person with too much time on his hands bears about the same relationship to

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current reality as that of the newspaper reporter who, press badge in his fedora, exposes the wrongdoings of bad guys" (51). As Pocklington and Tupper discuss, this character is extinct in the contemporary university but remembered in myth and the most reductionist pop culture representations of academics. Fifteen years since the publication of *No Place to Learn*, another caricature has emerged. Now, "the academic" is represented as a constantly busy archetype. The academic is a coffee-fueled, screen-lit figure shambling out of the office in the evening or perhaps a hot-desking, Dropboxing, contract-juggling researcher with inconsistent ties to any institution. This figure is constantly juggling tasks, split between research, teaching, writing, consulting, and promoting, often for different parties with different time commitments and performance expectations.

This new caricature, while somewhat closer to the truth, is far more insidious than the befuddled professor. The first danger is the normalization of academics as a "time-poor" population. To be constantly "on the ropes" is seen as the new standard; periods of exhausting, unsustainable performance may help one meet a deadline, but it also means that academics are increasingly called upon to perform instantly as future deadlines begin to close in. This phenomenon is described by theorists as acceleration (Rosa 2013), a cycle in which the achievement of temporal expectations of labor (meeting a deadline, for example) precipitates even tighter time frames. Acceleration in the academy is increasingly well documented in books such as Canadian literary theorists Maggie Berg and Barbara K. Seeber's *The Slow Professor: Challenging the Culture of Speed in the Academy* (2016) and Australian gender and cultural theorist Ruth Barcan's *Academic Life and Labour in the New University: Hope and Other Choices* (2013), which question the constant escalation of labor in higher education. This literature identifies a temporal fragmentation within universities that typifies Western society's experience of time as a fundamentally capitalist system in which time is commodified to comply with capitalist modes of exchange. This is most evident in colloquialisms of "buying," "saving," and "wasting" time, culminating in the immortal corporate axiom "time is money." What is more, whereas the old caricature of the befuddled professor was typically white and male, the new caricature seems less gender specific, though multitasking is more often a lived reality of untenured and female faculty.

The relation of capitalism to a gendered fallout for university faculty has become an important feminist topic of discussion in the recent indictments of the accelerated neoliberalization of academia. In the context of European and Southeast Asian universities, for instance, Dutch feminist critical theorist Ingrid Hoofd illustrates in *Higher Education and Technological Acceleration* (2016) that the increasing push for overproduction through neoliberal techniques leads to aggravated tensions that are felt especially by nontenured faculty, who are disproportionately female. Hoofd notes that this gendered burden of overproduction is hardly new to academia, but recent neoliberal efforts around measuring and quantifying research and teaching output, whereby the focus lies on efficiencies and numbers of publications or successful graduations, tend to obscure such inequalities by making false claims around the objectivity or neutrality of metrics and data visualizations (2016, 17). British sociologist of education Heather Mendick also shows in "Social Class, Gender and the Pace of Academic Life" that the valorization of what counts as "real work" (publishing, lecturing) instead of "wasted time" (reading, mentoring) through quantification is indeed gendered, as the "academic housework of pastoral care" tends to fall mainly to women. This means that the aggravated tensions caused by neoliberal acceleration cannot be countered by simply "slowing down," as such a strategy would also adversely affect female adjunct faculty and casual workers more than tenured faculty (2014, 11).

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Social theorists such as British geographers Nigel Thrift and Paul Glennie trace this commercialization of time back to the invention of clock time, which gives rise to "trading hours" (Glennie and Thrift 2009, 104) and separates social understandings of nature and culture (Adam 2003). For Adam, a philosophical division between culture (human practices and values) and nature (as nonhuman forces) can be best exemplified by clock time, which lays its system of days, hours, minutes, and seconds over natural rhythms and forces that previously had no unitized system of time. These attitudes perpetuate the notion that clock time is a universal and hegemonic force, but clock time was only cemented at the close of the nineteenth century as a global system to facilitate the cultural inventions of international trade, correspondence, and transportation. Adam, along with Thrift and Glennie, acknowledge that such widespread homogenization of time carries with it imperial and colonial tendencies (Adam 2002, 4; Glennie and Thrift 2009, 49). Prior to the global adoption of clock time, different societies and communities had their own temporal systems. This globalized, industrial model of time has within it gendered practices that Adam attributes to labor or the situations in which the time is spent: mechanistic, industrial labor that can be reduced to clock-time units (hours, days, etc.) is associated with masculinity, whereas domestic or care activities that occur not by the clock but when needed are seen as feminine. Adam writes that "work that is not easily fitted into the clock-time structuring is considered 'women's work,' irrespective of whether or not it is carried out by women" (2002, 16).

Challenges to clock time, which finds its predecessor in the Western conception of linear and progressive time, in fact started from debates in feminist phenomenology (Schües, Olkowski, and Fielding 2011) and feminist critiques of capitalism (Felski 2000). German philosopher Christina Schües's "Introduction: Toward a Feminist Phenomenology of Time" (2011), for instance, outlines the ways in which feminist phenomenologists, inspired by the work of philosophers Edmund Husserl (1859–1938) and Maurice Merleau-Ponty (1908–1961), started to critique how traditional Western science and philosophy conceive of time as an independent arrow moving forward, so that the equally independent male thinker-researcher may "objectively" observe and theorize objects in time. This conception of time negates the different experiences *of* time and temporality by different subjects, as well as the fact that thinking about time always leads to the conundrum that such thought happens *in* time (2). In other words, a so-called objective attitude to time always finally appears to be a theoretical construct aimed at problematically bolstering the authority of the scientist-researcher. As an alternative, feminist phenomenology advocates the central import of the *embodied experience* of time to address this hegemony of linear time and clock time and its historical ties to masculinity. As this chapter shows, many of the criticisms about the uneven and oppressive experiences of academic time from a gendered perspective start from this understanding of time as a lived experience. Clock time has historically been tied to the experiences of men as primary breadwinners under capitalism, evoking values such as efficiency and money making, whereas household time was rendered feminine and tied to nurturing and to feelings in general (Smith 2015, 985).

The reductionist and masculinist framing of time as clock time is matched by the simplistic caricature of the academic. The second danger in this figure is the problem of the caricature in general: here, its presentation of a single unified experience of academia obfuscates the diversity of bodies and experiences within the academy. Academia, like every other community of practice, has its own internal divisions and categories that respond to stresses in different ways. The dynamics of time *within* the academy are divergent, intersectional, and perpetually unbalanced. (Intersectional refers to manifold differences in gender, race, and employment and the interaction of these differences from an individual to a cultural level, as well as how these differences compound and impact one another.) In the

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context of gender and time in the academy, all academics are "time-poor," but some are more time-poor than others. As British geographers Jon May and Thrift suggest in *Time-Space: Geographies of Temporality* (2001), "in reducing changes in the experience of time and space to simple feelings of acceleration and dissolution, the standard accounts of time-space compression are not a little under-developed" (10). This is true in every facet of the academy—from the gendered challenges of mature students (Stone and O'Shea 2013) to the difficulties faced by school-leaving undergraduates who struggle for financial independence after leaving home to the increasing casualization and adjunctification of the workforce and the associated temporal fragmentation of tasks and responsibilities. These examples illustrate May and Thrift's point that one cannot simply generalize about the temporal experiences of all university faculty and students, as oppressive feelings of acceleration especially befall those in the margins of the academy.

In response to the hegemonic distribution of clock time as the dominant mode of temporality, some scholars have considered time as a series of fragmented, materially embedded social and technical systems (Ylijoki and Mäntylä 2003). In the 1980s, literature from the fields of sociology and anthropology conceived of time as branching, distributed, and a heterogeneous experience, comprising different temporal systems or "orders" that intersect, creating tensions and stresses that must be negotiated in day-to-day experience. Temporal differences in gender (Odih 1999; Glucksmann 1998), race (Donaldson 1996), politics (Cwerner 2000), and nationalism (Edensor 2006) are all brought to the fore, establishing time as a site of power relations, as demonstrated in Adam's (1995) writing on gendered differences of time in relation to labor and domestic life. Put simply, if time is a human system, it must also precipitate human interests.

CULTURAL POWER AND ACADEMIC WORK

Within these broader literatures, a field called laboratory studies emerged from the sociology of science in the late 1970s. Like the sociology of science, laboratory studies is concerned with studying the production of scientific knowledge. It focuses on the scientist's laboratory as a site of social power where instruments, scientists, and data form an elaborate constellation resulting in the production of scientific facts. Scholars such as French anthropologist Bruno Latour (1947–), Austrian sociologist Karin Knorr Cetina (1944–), American science and technology scholar Michael Lynch (1948–), American anthropologist Sharon Traweek, American feminist biologist Donna Haraway (1944–), and British sociologist Steve Woolgar (1950–) began to study scientists and the sites where they work, examining the material and social pathways that eventually lead to the publication of scientific papers in their complete and polished forms. A part of this project studies the role of time in scientific production, particularly the different temporal dimensions of scientific and academic work. This literature addresses the rhythms, tempos, and cycles of scientific practice—such as seasonal staff turnover or publishing as much as possible—positioning the laboratory, and the academy generally, as a site of temporal fluctuation. Contemporary scholarship on time and knowledge production finds its roots in this lineage.

In *Beamtimes and Lifetimes* (1992), Traweek, for instance, examines how high-particle physicists in Japan understand their community and how they narrate their position vis-à-vis their American counterparts who dominate the field. She analyzes how the largely white and male American researchers, but also the male Japanese researchers, employ gendered and raced discourses in order to appear authoritative and knowledgeable. She thereby illustrates

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how the field of high-particle research is caught up in gendered structures of power within the academy as well as in the context of larger imperialist global relations. In addition, Traweek draws out how these stories of authority intertwine with what counts as the dominant concepts of time and matter in the field, illustrating how such gendered discourses find their way into theoretical discussions around the nature of temporality. Interestingly, too, the Japanese physicists use their "feminized" marginality to their advantage by claiming that their unique position allows for breakthroughs and new knowledge in this cutting-edge field from a non-Western perspective. Though such gendered discourses in the physicists' daily interactions and self-understandings may come as no surprise for a discipline that has historically been dominated by men, Traweek reminds the reader that "reproducing all-encompassing stories" (1992, 430) about an academic field's objects of study and its own practices is exactly what anthropology does, too. Indeed, Traweek thus suggests that anthropology, even if not necessarily male dominated, also falls for a masculinist narrative of linear progress.

The work of American feminist theorist Karen Barad (1956–) further addresses this issue of temporality, and its connection to Western notions of masculinity, as it plays out in the field of quantum physics, which is also disproportionately dominated by men. In "Posthumanist Performativity" (2003), Barad argues that mainstream science and philosophy problematically see matter as inert, so that the researcher can pretend that innovative agency lies in his rational approach to the object in question. Inspired by the irrational outcomes of some quantum experiments, Barad instead proposes a metaphysics that is "diffractive" rather than unifying, so that "in the absence of the classical ontological condition between observer and observed [a new metaphysics] provides the condition for the possibility of objectivity" (2003, 815). Diffraction refers to quantum experiments that show light exists in divergent states at the same time, but Barad also uses this term to illustrate that different objectivities are possible simultaneously. In short, Barad proposes that a rethinking of matter, and the critique of the principle of temporal causality that follows, must lead to a rethinking of human rationality. This rethinking would entail a "queer" challenge to the conception of the knowing subject-researcher and "his" pretense of neutral objectivity, which has historically been coded as masculine and which has dominated Western science and philosophy for centuries (2003, 810). This alternative human rationality would understand thinking and knowledge production as emanating from networks of subjects and their infrastructures, so that rationality is no longer the property of an individual but emerges out of a field of agencies that act upon one another. Barad's work on this alternative "feminine" version of objectivity and causality as a web of relations follows the work of Haraway on the embodiedness of the subject-researcher in "Situated Knowledges" (1988) and resonates with Latour's challenge in "Technology Is Society Made Durable" (1991) to diffusion-of-innovation theory. This theory problematically conceptualizes the usually male innovator-hero at the center of technological progress; after his initial "flash of brilliance" and individual efforts, the "innovation" disseminates itself linearly through time and space.

Building on the work of feminist phenomenology, Australian philosopher Elizabeth Grosz (1952–) points out in *The Nick of Time: Politics, Evolution, and the Untimely* (2004) that time "cannot be viewed directly, nor can it be eliminated from pragmatic consideration. It is a kind of evanescence that appears only at those moments when our expectations are (positively or negatively) surprised. We can think it only when we are jarred out of our immersion in its continuity, when something ultimately disrupts our expectations" (5). Here, Grosz raises a pivotal point in referring to the expectation of time. Expectations are projections of experience through time, mobilizing elements of past, present, and future. Some expectations are limited, such as the maintenance of daily routines. Although the

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chronometric experience of a day—that is, the experience of a day according to a timekeeping instrument—is just twenty-four hours, it is nonetheless packed with tasks that must be accomplished, such as sleep, domestic work, and leisure. Other expectations span much longer periods but are less dense; these involve aspirations or goals that are not chronometrically specific—just hopes for the future. Such expectations are less constrained by calendar and clock time and more dependent on resources or circumstances. Expectations are not merely individualistic but are shared with (or even forced on) others, as in the case of adopting an employer's organizational strategy or paying bills on time. This transaction of expectations renders them as a site of social and institutional power.

Expectations of time in the academy also interface with other cultural expectations around identity, such as gender, ethnicity, and class. Adam writes that "the cliché of 'women's work is never done' exemplifies the incompatibility with a work time that comes in finite units" (1995, 95), suggesting that a single, linear progression of time that can be unitized (and subsequently commodified) renders invisible labor that cannot be commercialized or transacted. This can also be seen in familial dynamics around work/life schedules. Australian science, technology, and society scholar Judy Wajcman's *Pressed for Time: The Acceleration of Life in Digital Capitalism* (2015) examines that phenomenon of acceleration in contemporary work life and the failure of technology to deliver its promises of alleviating that labor. Wajcman's work brings to light persistent gendered expectations about labor at work and at home. She examines the complex issue of time in the work/life balance and finds that although the amount of time women spend working (in both paid and unpaid capacities) is roughly comparable to men's, the nature of their leisure time is vastly different. The assumption that a work/life balance is characterized by work "on the clock" and leisure "off the clock" risks establishing a binary in which equality is simply a matter of equalizing the two. In fact, Wajcman found that when one considers the role of multitasking in leisure time, men have much more uninterrupted leisure time; women were more likely to be multitasking—that is, performing labor tasks while undertaking leisure activities. Wajcman writes that "interrupted leisure, snatched between work and self-care activities, is less restorative than unbroken leisure" (2015, 81).

An important caveat to the work of Adam and Wajcman is that their studies exist in the context of heteronormative, nuclear family situations, and fail to account for same-sex, transgender, gender-diverse, gender nonconforming, and nonparental family relationships. The root of the issue around gendered time within the academy nonetheless does lie within Western and Asian expectations of family. Western society creates temporal systems according to its expectations of punch-in, punch-out–type labor, structured around masculine archetypes of an individual employed in one job, working office hours and returning home for uninterrupted leisure time and female care in the evening. Expectations are therefore gendered anticipations that guide actions and agencies in the world; individuals act according to futures that are expected. As discussed earlier, they do not have to be chronometrically timed, but they must look to the future. Grosz states that "political and cultural struggles are all, in some sense, directed to bringing into existence futures that dislocate themselves from the dominant tendencies and forces of the present. They are about making the future different from the past and present" (2004, 14). Thus, expectations always look forward but also look back; they can be informed by experience. The more that they are, the easier they slip from our notice. It is these taken-for-granted expectations that are most easily interrupted, prompting a double-take, a surprise, a renegotiation of intent. Adam begins *Timewatch* (1995) with a statement that echoes Schües's: "Time forms such an integral part of our lives that it is rarely thought about.... It is, in fact, extraordinarily difficult to think and talk about time" (5). If we follow Grosz in her assertion that time is most visible at the breaks in expectation, then the academic—a figure defined by conflicting expectations—must experience conflicting time as well.

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IDENTITY CONSTRUCTION THROUGH EXPECTATION AND EXPERIENCE

Expectations play an important role in the construction of caricatures. When expectations remain uncontested by lived experience they are reified into truths. The academic might be a comic exaggeration for some, but in the absence of conflicting experience, it can be rendered as a cultural model, an archetype. If no other understanding of what an academic *is* is ever reached, the caricature substitutes for lived experience, transitioning from an imaginary to a projected reality. In *Communities of Practice: Learning, Meaning, and Identity* (1998), Swiss education theorist Étienne Wenger (1952–) explains that "such overgeneralizations are possible not because imagination is inherently misleading, but because it can project our experience beyond the sounding board of mutual engagement" (177). To Wenger, these otherwise innocuous "caricatures" can be held up as "ideals" in the absence of experience. These ideals can be constructed through the accumulation of tacit cultural assumptions, or they can be perpetuated in the unassuming disguises of stories. In *Beamtimes and Lifetimes*, Traweek also articulates how stories of heroism are perpetuated among members of the graduate physics community:

> Graduate students also learn stories about male scientists going to extraordinary lengths to get, record, and save data. One story concerns the bubble chamber at the now defunct Cambridge Electron Accelerator (CEA). Bubble chambers have very sensitive and very powerful pressurization systems. As the perhaps apocryphal story goes, one night one of the propane tanks exploded, practically blowing the students out of the lab; they could have been killed. One realized he was going to lose the data for his thesis and ran back in to get it; the second explosion blew him out the door again, data in hand. (1992, 84–85)

Traweek's story contains a number of unassuming features that construct and perpetuate notions of heroism among graduate physicists. Graduate students are told tales of their (usually male) colleagues and predecessors, not the lofty heroes of physics whose fame might seem unattainable. In this story of this "demigod" predecessor are concealed gendered expectations. The story takes place at night, demonstrating the presence of a long-hours work culture, and it takes place in a defunct lab using what is now a very rare apparatus—creating an absence of experience (graduate students will likely not be familiar with the CEA or bubble chambers), so the story is mythologized. In contrast to this mythos, there are also elements of familiarity used to render the story relatable. Male-identified graduate students, especially, might find elements of the tale familiar, reinforcing the complicit values within the story.

Wenger is careful to note, however, that experience is not the ultimate arbiter of identity construction in communities of practice. He structures learning in social systems as a mix of competence and experience. The discipline or community collectively determines which behaviors are desirable, then reifies them into competence. Experience then either consolidates or contradicts those standards and competencies. Here again, one can often discern a coding of competence in the sciences as masculine. If enough people in a community are experiencing events that challenge the community's definitions of competence, the community adjusts its behaviors or standards to accommodate them. This competence/experience adjustment is accelerated in academia, in which the requirement for novelty in research perpetuates faster reflexive cycles, with academics increasingly looking to optimize behaviors to better suit "real-world experiences" (see also Vostal 2016, 123).

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The entanglement of competence and experience establishes the values of the community, which then form the framework for individuals to coordinate their identity within the community using certain modes of belonging. Wenger's theories of identity formation are useful because they articulate the strength of expectations such as archetypes and stories in identity construction. Like expectation, identity is a highly gendered temporal process. Grosz describes how "subjective identity, the belonging to social groups or categories, is always a matter of history, a history that may extend from one's own life story, through one's family genealogy, to cultural, political, and ultimately biological history, as broadly as one chooses" (2004, 257). For Grosz, the means of both perpetuity and difference is found in the past.

Having articulated a relationship between Wenger's theories of identity construction and Grosz's notion that the experience of time is predicated on expectation, identity construction in relation to time can be a source of alignment: individuals learn to belong through shared attitudes to time. Dissonance, individuals' differing understandings of time, prompts feelings of separation from surrounding communities. An aspirational ideal can help postgraduate students attain the necessary level of quality in their work while they have less time with their supervisors and must learn how to be members of an academic community. This is especially so in contexts where postgraduate study is an increasingly solitary process (particularly in the humanities in Anglo-American and European universities, in which independent doctoral projects are more common). This is also true for casual/part-time teaching staff, who frequently have no contact with faculty beyond their immediate supervisor and often report feelings of disconnection with faculty and academic communities (Kimber 2003). Wenger's theory of identity construction does not extend to an individual's satisfaction with his or her identity or his or her career. The students in Traweek's story may have been in the lab because they felt pressured to be there or because of a collective camaraderie that developed between the researchers, resulting in a desire to work late.

TIMES OF CASUALIZATION AND PRECARITY

Wajcman's work, too, addresses the social dimensions of labor in relation to new technologies. She stresses how the increasingly technical complexity of labor may present itself as convenient but carries a raft of unseen effects and consequences. This increase in both pace and variety of labor fits with the broadening series of tasks expected of academics. In *Pressed for Time*, Wajcman describes "'busyness' [as] a subjective state that results from an individual's assessment of his or her recent activity patterns in the light of current norms or expectations" (2015, 72). Busyness is a temporal process that relies on prior experience of a task—it signals an increase in labor and often describes an increase in different tasks that need to be addressed. Defining an academic ideal as a constantly busy figure positions free time as a direct threat to one's identity. The new caricature of the stressed academic is also seen as ruthlessly self-critical with demanding self-expectations. Although ambition is a virtue in the rat race of academia, positioning the role of an academic as a driven, independent character with high personal standards renders the university somewhat absent in discussions of stress, burnout, and job dissatisfaction, which disproportionately befall (female) staff who do "emotional management" (Van Emmerik 2002).

Furthermore, academics who disagree with the long-hours work culture or what they see as unreasonable work demands may also be dissuaded from resistance by the undercurrent of competitive individualism that is also fostered among researchers in the academy. This is

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typified by an awareness of being disposable, particularly in casual or low-level permanent positions (Brown, Goodman, and Yasukawa 2010). This disposability (and its relationship to time) is epitomized by the casualization of the Anglo-American and European university workforce. In response to recent budgetary constraints on higher education globally, colleges and universities have had to radically redraft their recruitment and employment practices, sourcing more teaching power from graduate students (referred to as postgraduate students in Australia and the United Kingdom) and early career researchers. This response has seen a shift from permanent or tenured appointments to sessional contracts that directly exchange hourly labor for an hourly wage but conceal a range of unanticipated effects. In light of this, there is extensive feminist literature that addresses lived feelings of disposability and precarity in academia and precarity's relation to gender, class, and ethnic backgrounds in the Australian and European contexts (Fantone 2007; Courtois and O'Keefe 2015; Ivancheva 2015; McKenzie 2017).

In 2011 the American Association of University Professors estimated that 76.5 percent of all college instruction in the United States is done by non–tenure-track staff (Curtis 2014). Similarly, in 2008 Australian education scholar Alisa Percy and colleagues estimated that approximately half of teaching at Australian universities is delivered by casual (occasionally known as "sessional") staff (Percy et al. 2008). Although statements about casualization can apply to higher education globally, the Australian situation is perhaps unique among university employment systems in its dependence on this "casual" (as opposed to part-time) workforce. Whereas Curtis's study refers to non–tenure-track staff as including full-time non–tenure-track, part-time faculty, and graduate student employees, the study by Percy and colleagues specifically refers to "casual" or "sessional" roles, whose conditions are much more similar than the range of roles in Curtis's study. The terms of casual university employment are highly precarious; contracts often are limited to a single semester and can be terminated with twenty-four hours' notice. Instead of receiving entitlements such as annual, sick, and maternity leave, casual staff are paid a higher rate for forgoing such benefits. This is further complicated by the varying rates of casual teaching contracts, which ascribe different dollar values per hour depending on the tasks performed. In Australia, for instance, a contract might have two or three different hourly rates listed as a result of a 1980 tribunal for Australia's university staff specifying that every hour of face-to-face teaching involved two hours of preparation of materials, except in the case of successive classes in which the same content is being delivered (which has yet another hourly rate). Under this system, the obvious problem is the expectation to complete preparation within the allocated time, which—for example, in the case of writing a lecture—may not be achievable. Thus (especially female) academics are crushed between different expectations: the temporal expectations of their employer, the quality expectations of themselves and their students, and, as described earlier, the pressures of pastoral work both at home and at work. As Grosz says, time is foregrounded most at the disruption (or conflict) of expectations.

Finnish social scientist Oili-Helena Ylijoki, in a paper titled "Boundary-Work between Work and Life in the High-Speed University" (2013), discusses this ambiguity present in long-hours work culture. In her study of forty Finnish academics, many of the male and also some of the female interview participants reported a desire to work longer hours and willingly prioritized research above family or other social commitments. Ylijoki also reports, however, that most of the academics in her study who were unwilling to participate in a long-hours culture were young women (though there were similar responses from some male and female senior academics, too).

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A 2006 report by the UK Institute of Physics titled *Women in University Physics Departments: A Site Visit Scheme, 2003–2005* identified a continuing long-hours culture in physics departments. Although some respondents chose to work long hours for their love of the research, the study identified that "younger people, particularly those seeking permanent contracts, felt that they had to give up evenings and weekends to maintain their profile" (2006, 3). These findings echo the gender and age distinctions present in Ylijoki's research on long-hours culture in Finnish universities. It must be said that not all casual teaching employees aim for academic positions, but the 2012 Work and Careers in Australian Universities (WCAU) survey, conducted by a team at Griffith University, found that 54 percent of casual staff surveyed were aspiring academics (seeking a fixed academic position). For these people, in order to adapt to the university system and position themselves as academics, they must construct their identity as such. This disjuncture between academic and contract teaching is most noticeable when casuals cannot invest the time for engagement or do not have the professional networks for alignment within their communities.

The issues of long-hour work cultures and precarious contracting has had widespread effects on career advancement in the academy, and unsurprisingly, this also conceals a constellation of inequities and power relationships, including gendered differences. A minor (but dramatic) finding of a 2004 study was that 30 percent of respondents believed casual employees were "open to the risk of unreasonable work demands" and that "68 per cent of this minority reported moderate to severe worry about task insecurity or vulnerability to arbitrary redefinition of work roles" (Junor 2004, 292). Of course, given the task-dependent pay system in the casual tertiary workforce, an arbitrary redefinition of work roles can also precipitate changes in remuneration.

This redefinition of work roles can already be seen in the widening cultural and temporal gaps between tenure and nontenure positions. For sessional (nontenured) staff looking to climb the ranks of the academy into a permanent (or tenured) position, they must demonstrate the competencies that would be expected of them in such a position. Notably, these competencies are doing research, publishing, engaging in competition, traveling to conferences, and managing a heavy workload; none of these is supported by a sessional teaching contract, and they must be done pro bono. On top of this, women's self-images in the Western context tend to be socially constructed around alternative competencies. As Wendy Faulkner illustrates in "Can Women Engineers Be 'Real Engineers' and 'Real Women'?" (2014), the academic culture in the sciences tends to be masculine, so doing the job properly invariably entails "doing gender" (189). Faulkner provides the example of how women "refut[e] or [play] down the significance of gender [. . .] to strengthen or protect their fragile membership as engineers, while playing up gender and heightening their visibility as 'women' can be seen (and felt) to threaten their membership in the community of practice" (193). She notes that this situation has remained the same despite efforts by the European Union to redress policies around family-related issues, work-life balance, and career development in its universities (199).

The differences within higher education regarding gender roles and employment positions often manifest in disputes about time. The different temporal expectations held between tenured and non-tenured staff result in individuals feeling as though their colleagues in different employment conditions do not treat their work properly. In addition to the labor and wage gaps between permanent and casual staff, time is also spent by adding meetings, for instance, ensuring that these groups collaborate properly. In their study on staff at the University of Western Sydney, Australian sociologist Ann Lazarsfeld Jensen and researcher

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Kylie Morgan found that "casualization has a profound impact on tenured staff. They must recruit and manage teachers who in turn have no access to training or support and whose roles are constrained by a minimalist contract system. Last minute recruitment was often based on prior relationships, which casuals felt opened them up to excessive demands and bullying because of their financial vulnerability" (2009, 54). The study also found a subtle animosity between the two groups, as "full-time staff felt that casuals were uncommitted, took shortcuts particularly with marking, and did not contribute beyond scheduled hours. Casuals felt excluded from the life of the schools, unsupported and poorly resourced, underpaid for the actual work performed, marginalised and insecure in their jobs" (55). This demonstrates not only temporal expectations between the university, administration, and the student body, but also internal temporal expectations within academic communities, with full-time academics articulating a lack of investment on behalf of casual staff, and casuals, in turn, describing a disproportionate relationship between work and pay.

Finally, a frequent discussion of the casualization of the academic workforce concerns the issues of flexibility and choice. The literature remains divided over the extent to which each party (the employee and the university) benefits from this flexibility. In a 2009 study titled *Work, Life and Workplace Flexibility*, economics and business theorists Barbara Pocock, Natalie Skinner, and Reina Ichii acknowledge a distinction between employer-related flexibility and employee-centered flexibility, suggesting that "the two can occur simultaneously, but there are forms of employer and employee flexibility that are quite independent of—indeed, counter to—each other" (2009, 52). With the shift to casualization, more members of the workforce manage their contracts semester to semester, in synchronization with teaching periods. This is a phenomenon increasingly common in the casual workforce generally. Wajcman describes how "higher socioeconomic groups may be able to utilize flexibilization to gain greater control over their time, [though] lower status groups suffer from temporal fragmentation caused by working irregular hours" (2015, 75). While it is true that shorter contract windows can provide greater professional agility for all parties, they come at the cost of long-term planning and job security. The WCAU survey statistic that 54 percent of the casual workforce preferred to be in permanent academic appointments within the next five years, whereas only 11 percent of respondents preferred to be in casual positions in the same period. In contrast, the survey's responses that charted expectations (as opposed to preferences) indicated that only 27 percent expected to be in continuing academic positions, and 23 percent expected to still be in casual/sessional positions. These data indicate that despite widely held aspirations to advance to permanent academic appointments, the casual community remains pessimistic as to the feasibility of this.

Another unintended by-product of mass casualization (aside from the politics of choice) is the synchronization of the casual workforce with teaching periods, leading to noticeable rhythms in the academy. Tying the majority of (casual) staff to semester systems results in temporal fragmentation for permanent staff, who experience dramatic peaks and troughs in labor exacerbated by the tasks associated with the casual workforce (such as recruitment and necessary training). This is also a problem for the wider university system, as provision of equipment and facilities (such as office space and computer access) may not be able to keep pace with the demands of a fluctuating workforce. What then arises is another temporal asynchronicity between permanent and casual staff, in which cycles in the institution produce difficulties for those not aligned to their rhythms.

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TIME IN THE WEAPONS LAB

In contrast to the discordant rhythms of the academy described above, temporal cycles in research environments can also be used beneficially as institutional schemas around which to organize activity. In her ethnographic study of the Los Alamos National Laboratory, American organizational anthropologist Laura McNamara examined the roles of knowledge, time, and identity formation among nuclear weapons experts from 1997 to 2000. Her resulting doctoral thesis, "Ways of Knowing about Weapons: The Cold War's End at the Los Alamos National Laboratory," is both a fascinating examination of an insular community of scientists and a valuable historic artifact of weaponeering in a pre-9/11 era (the thesis was submitted in May 2001). McNamara's study is situated at a pivotal point in US weaponeering history.

During the Cold War, Los Alamos was the flagship laboratory for designing and testing of experimental nuclear weapons. The design-build-test period was referred to as the "test cycle," and colossal portions of the social and technical systems of the laboratory were mobilized around it. Test cycles became the temporal rallying points for laboratory activity, when multiple departments and management bodies coordinated their activities to realize an experimental nuclear device. In this way, time was mobilized as a unifying force, a metric by which pace could be kept and tasks planned and executed.

Near the end of the Cold War in the late 1980s, concerns arose about the role of nuclear weaponeers in the postwar environment, and particularly about the problem of knowledge loss, which could hinder the training of a new generation of weaponeers to succeed the ageing population of the nuclear weapons community. Nuclear weapons design is a heavily guarded knowledge that must be taught on the job, by the staff at the lab, synchronizing the training of new researchers with the test cycle. In 1990 President George H. W. Bush introduced bilateral reductions in strategic weapons, precipitating the cancellation of the test cycles at Los Alamos, which destroyed the temporal framework around which the laboratory coordinated its activity. With the Comprehensive Nuclear-Test-Ban Treaty (CTBT) looming in 1996, the Los Alamos laboratory's purpose was shifted from design-build-test to stockpile stewardship. Still believing that its nuclear stockpile was pivotal to national security, the United States planned to maintain its arsenal but in compliance with the CTBT.

Naturally, the collapse of the test cycle had widespread ramifications for the remaining staff at Los Alamos, particularly in their ability to ensure that newly trained scientists and engineers could certify the performance of the stockpile. Prior to the CTBT, full-scale nuclear tests were conducted to gauge the effectiveness of the laboratory's prototypes. In addition to being a vital stage of the test cycles, the tests were also seen as highly important training experiences for neophyte weaponeers. The cessation of both testing and design had forced a drastic renegotiation of the pedagogical process of the laboratory, but at the end of McNamara's study in 2000 there were still significant doubts about the capability of the laboratory to execute a full-scale nuclear test if it were required.

For McNamara, time is not just a social construction but is foregrounded in the entropic state of the nuclear stockpile. She describes how "calendrical time beat the rhythm of decay as days, months, and years marked the passage of temporal forces eating away at the stockpile" (2001, 167). What she describes is, in fact, an asynchronous relationship between the stockpile and its stewards; the careers of nuclear weaponeers decay more quickly than the

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nuclear weapons themselves do, and without the capacity to test the weapons, their upkeep must be closely and cautiously monitored.

A crucial development in McNamara's study was her recognition of the importance of identity construction in relation to knowledge and research work. She states, "I discovered that I was far less interested in knowledge *per se* than in the very human activity of knowing. My explorations of the weapons community convinced me that knowing is intrinsically connected to the formation of identity, to the way that we locate ourselves in relation to other people and to the physical spaces we inhabit" (2001, 27). The sense of community and the identity that developed among the Los Alamos staff arose in the face of adversity. In addition to facing criticism from the civilian population of Los Alamos, laboratory staff (even those who lacked security clearance to access classified information) came to construct their identities as targets of espionage, and they were taught not to wear their badges in public or to discuss their work.

The discussion of mass casualization of labor in universities and the Los Alamos lab's history is the widening temporal and cultural fissures formed around changes in organizational time. The rhythm established by casual staff's employment around teaching periods is at odds with the research cycles of permanent university staff, creating a dissonance that can trouble their mutual existence. Similarly, the collapse of a unified rhythm was responsible for the disjunctures at Los Alamos, where the test cycle had been a central rallying point, an organizational structure that embodied the labor and activity of the laboratory but also its social and community structures. The collapse of (or rather, the change in) these organizing systems led to temporal dissonances that carry into organizational and community practices due to desynchronizing the activities of the individuals whose work and lives were woven into the test cycle.

Summary

From teaching universities to immense research laboratories, time works in academic environments in manifold gendered and often conflicting ways. This chapter demonstrates that the experience of time in the academy is a product of a series of temporal relationships between the academic and their surrounding cultural, technical, and conceptual systems that are likewise gendered. Labor and time in the academy are heterogeneous and fluctuate relative to different experiences of gender, age, race, and employment. The pervasiveness of tacit cultural beliefs and practices around gender, identity, labor, and time in the academy presents a unified experience of academic work—an aspirational ideal—that ignores the intersectional and diffractional reality of life in the academy. The wide variety of perspectives presented in this chapter, when applied to the academic community, demonstrate the role of cultural ideals in shaping identity in a temporally fragmented workforce. The reality of university life is that embodying the ideal academic involves demonstrating what are often Western and masculine-coded experiences of time. The adoption of this singular, chronometric temporality in the academy denies the plethora of temporal experiences that arise from difference in gender, race, age, and employment. Understanding the intersections of gender and time within the academy helps to unearth how all these factors, including labor and identity, affect how academics make sense of their world, their community, and, most notably, their time.

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