Post-Bureaucratic Organizations: Normative and Technical Dimensions

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POST-BUREAUCRATIC ORGANIZATIONS: NORMATIVE AND TECHNICAL DIMENSIONS

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Post-Bureaucratic Organizations: Normative and Technical Dimensions

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In this dissertation, I study dynamics of inequality in three post-bureaucratic organizations: a makerspace and two on-demand labor platforms for couriers. I focus on three aspects of post-bureaucracy: 1) Identity work and social closure. 2) Dynamics of status and distinction making. 3) Technology as an alternative to rational-bureaucratic and value-rational organizations, and the experience of technologically organized work. Collectively, these cases explore how institutional orders are created, reproduced, and transformed in organizations that reject interpersonal authority relationships. As a social technology for coordinating activity, bureaucracies rely upon formalized rules, responsibilities, and impersonal authority relationships. In a completely rationalized bureaucracy, coordination is achieved through rigid adherence to codified roles and procedures, as well as deference to designated superiors within a bureaucratic hierarchy. Post-bureaucratic organizations, by contrast, eschew formalized interpersonal authority relationships - typically emphasizing normative and technical controls. For example, many high-tech organizations group workers into teams that negotiate and enforce norms. Material technology may also be used by organizations as a method to coordinate and manage workers, as in the case of on-demand labor platforms that direct workers via software technology. Like conventional bureaucracies, post-bureaucratic organizations are susceptible to a variety of pathologies. Two tendencies, however, are particularly salient: anomie and reification. Technical control involves reifying aspects of an institutional order that otherwise would be interactively negotiated and enforced. One risk in reifying an institutional order is that it will be incapable of responding to changes in the environment. In contrast to the problem of an institutional order that is too stable, anomie is a quality of normlessness and an ambiguous institutional order. Previous research suggests commitment forms of organizing are susceptible to anomic tendencies. In such weakly institutionalized environments where norms are open for negotiation, there can be considerable competition between individuals over how to define norms and practices. These individual status competitions may come at the expense of collective goals, in addition to being an avenue by which race, gender, and class inequalities are produced and reproduced.

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Status Routinization Low	Corporate Bureaucracies, Peer Software Development (Acker 1990; Clawson 1980; Ferguson 1984; Iannello 1992; Kanter 2010; Stewart 2005a)	New Social Movements (Downey 1986; Maeckelbergh 2011; Yates 2015)

1.1.2 Namedropping of Makers

Name	Number of Unique Mentions	Domain
Peter	23	Welding
Paolo	18	Robotics
Jen	15	Head Administrator
Joey	14	Circuit Hacking
Badger	10	Bike Hacking
Wind	7	Installation Design
Dale	7	Coding
Val	7	Electronics
Meagan	4	Jewelry
John	2	Coding

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	Fordist	**Post-Fordist**	**Platform**
Governance Form	Bureaucratic	Normative	Technological
Production Technology	Single-Purpose	Multi-Purpose	Multi-Purpose

1.1.4 Platform Demographics

Race	White 62%	Black 23%	Hispanic 8%	Asian 8%
Sex	Male 73%	Female 27%		
Education	Graduate 12%	Bachelor's 42%	Some College 38%	No College 8%

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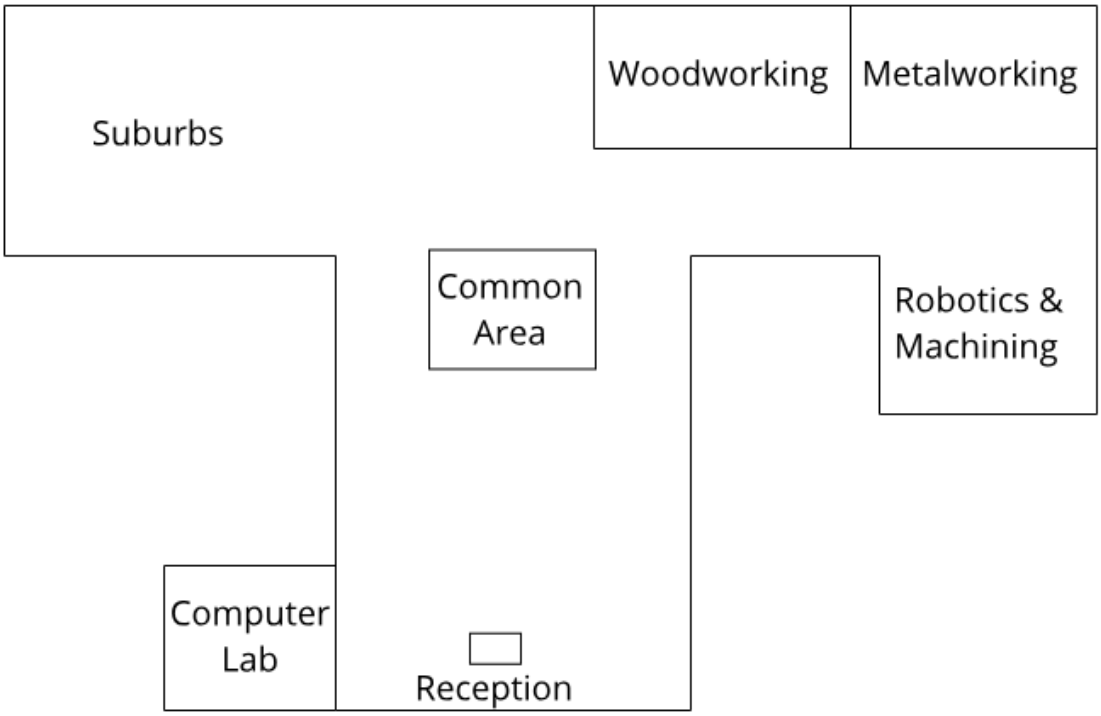

PREFACE

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INTRODUCTION

We may say that the turn of events in the world under capitalist rule proved to be the exact opposite of what Max Weber anticipated and confidently predicted when he selected bureaucracy as the prototype of the society to come and portrayed it as the liminal form of rational action. Extrapolating his vision of the future from the contemporary experience of heavy capitalism (the man who coined the phrase 'steely casing' could not possibly be aware that the 'heaviness' was merely a time-bound attribute of capitalism and that other modalities of the capitalist order were conceivable and in the offing)... - Zygmunt Bauman (2000:59)

Bureaucracy and bureaucratization have been at the center of sociological debates since the field's inception. Weber and Tönnies invoke the concepts to explain how individuals relate to each other in an increasingly instrumentalized world. Marx and Durkheim understood bureaucracy as outgrowths of rationalization and the division of labor in industrial societies. Following two World Wars, bureaucracy was believed to be both the cause and solution to society's ills. Rationalization and instrumentalization were regarded by some as forces of anomie that shredded social bonds and made citizens susceptible to scapegoating and demagoguery (Arendt 1969; Fromm 1956). For others in the Frankfurt

School, bureaucratic and capitalist rationalities were remaking society's relationship with itself through the growth of mediating culture industries (Adorno and Bernstein 1946; Marcuse 1964). At the same time, hope and optimism were popularly attached to bureaucratic institutions that could deliver services like electricity, water, and healthcare. According to Guillén, the bureaucratization of the U.S. economy accelerated in the 1930s and 1940s before reaching its peak in the 1960s (1994:66). While bureaucratic structures remain, as Bauman's quote suggests, some believe the tide is receding. But if not bureaucracy, then what? While the concept of liquid modernity has enjoyed a prominent place in critical discussions of post-bureaucracy, it denotes an absence of something ("solid" institutions), but does not suggest what will replace this old institutional order. Therefore, I explore what post-bureaucracy empirically means in two different contexts, as well as how post-bureaucratic structures are produced and reproduced in practice.

Sociologists, historians, and economists have a variety of explanations for the movement away from formal bureaucratic structures in the 1970, such as rising international competition, new production and communication technologies, new industries, and changing norms. During the interregnum of the 1970s, the U.S. economy underwent a transition from a postwar industrial economy to a post-industrial service economy (Bell 1976; Cowie 2010; Marglin and Schor 2000; Vidal 2011). In contrast to the bureaucratically managed white collar workers depicted by Mills (1951), many professional workers would labor in more nebulous organizations with vaguely defined roles and authority relationships (Kunda 2006; Sharma 1997). The structure of industrial bureaucracies also underwent changes during this period as efforts were made to

implement lean production techniques pioneered by Toyota. Lean initiatives aimed to make organizations more efficient and adaptable by taking advantage of new multi-purpose production technologies and managerial forms which emphasize relative autonomy and teamwork (Womack 1990). The flattening of organizational hierarchies is quite prevalent in management literature on the organization of the firm (Kenney and Florida 1993; Leibenstein 1987; Piore and Sabel 1984), as well as social movements that espouse horizontalism and collectivism (Castells 2012; Graeber 2007; Rothschild-Whitt 1979). Indeed, Boltanski and Chiapello (2007) argue that the popular critique of bureaucracy and cultural conformity that characterized the culture of the 1960s was absorbed by a generation of management theorists and practitioners (Binkley 2007; Frank 1997; Saval 2014; Turner 2006).

Those in the Regulation School (Aglietta 1998; Jessop 1995; Peck and Tickell 1992; Steinmetz 1994) understand this shift in terms of a movement from a Fordist mode of regulation to a post-Fordist mode of regulation. For Jessop (1994), the Fordist regime was comprised of a particular configuration of the technical and social division of labor (rationalized industrial processes wedded to a bureaucratic hierarchy), a macroeconomic accumulation regime capable of sustaining growth, a social mode of economic regulation that normatively directs the accumulation regime, and finally a mode of societalisation that integrates members into a socially cohesive production and accumulation regime. Authors in the Regulation School argue that the crises of the 1970s cut across these various dimensions of the Fordist regime and that post-Fordism was an effort to resolve these crises and create a new mode of economic and social regulation. Jessop (1994:19)

defines the post-Fordist labor process as "flexible production processes based on flexible machines or systems and an appropriately flexible workforce." This production regime would ideally be supported by a mode of macroeconomic regulation built upon permanently innovative accumulation. This permanent innovation involves rising productivity and incomes for multi-skilled workers and accompanying increased demand for niche consumer goods and services. The global economic crisis of 2008 called into question the stability of this order, as it became clear a macroeconomic accumulation regime capable of delivering sustained growth was not present (Streeck 2017). The years following 2008 have only seen a prolongation and deepening of this crisis. The upsurge in authoritarianism and ethno-nationalism around the world can be at least partially interpreted as symptomatic of this breakdown, which is now also a crisis in the mode of societalisation.

In contrast to the Marxist and political economy inspired works of the Regulation School, studies of post-bureaucracy can be placed firmly within the Weberian tradition and can be divided into two groups. The first group includes those who argue that post-bureaucracy is best understood as a hybrid form that involves some aspects of bureaucracy while also leaving other arenas open to informal deliberation (Grey and Garsten 2001; Hensby, Sibthorpe, and Driver 2012; Hodgson 2004; Josserand, Teo, and Clegg 2006; Maravelias 2003; Reed 2011). In contrast, the second group believes post-bureaucracy is a misleading and confused concept. Höpfl (2006) argues that because hierarchy can never be fully eliminated from organizations, there are only modifications or types of bureaucracy. While likely true, this ignores the existence of qualitatively

different forms of social hierarchy. Others argue that post-bureaucracy is actually an extension of bureaucracy and that post-bureaucratic techniques are merely enacted ritualistically (McSweeney 2006; Wegg-Prosser and Harris 2007). These authors argue specifically against the post-bureaucratic "new public management" reforms instigated by Tony Blair and advocates of the Third Way. In these studies, post-bureaucracy is understood as a framing device invoked by neo-conservatives to convince citizens of the benefits of marketizing public service bureaucracies. Regardless of whether post-bureaucracy is a neoliberal Trojan horse, in a longitudinal study of the formal uses of post-bureaucratic techniques across 22 countries, Johnson et al. (2009) found an uneven development towards an increased delegation of authority in organizations. I was unable to find studies that adopted a strong post-bureaucratic position, although in the post-bureaucratic literature Castels (2000) is often discussed in terms of theorizing such an epochal transformation. Bauman's (2000) less optimistic appraisal of liquid modernity also implies a radical break with bureaucratic forms, but does not appear in discussions of post-bureaucracy.

I study post-bureaucracy from a neo-Marxist and institutionalist perspective. Previous Weberian analyses of post-bureaucracy compare organizations against ideal types, finding that actually existing post-bureaucratic organizations do not neatly conform to pure types (Hodgson 2004; Josserand et al. 2006; Maravelias 2003). Rather than merely point out the discrepancy between ideal and enacted form, I explore how different kinds of social and technical relations are combined in organizations. How do participants in an organization relate to each other and what is the logic behind how social boundaries

are drawn around particular people, objects, and practices? Furthermore, how do these microprocesses of boundary making aggregate to create an institutional order, if at all? Where do logics in organizations come into tension and how do actors attempt to reconcile these tensions? How is technology deployed to police norms and what is the quality of social relationships in technologically structured organizations? These questions address fundamental concerns in organizational and institutional analysis surrounding the nature of structure and agency as well as how power operates new organizational contexts.

1.2 SOCIAL AND TECHNICAL DIMENSIONS OF POST-BUREAUCRACY

As a social technology for coordinating activity, bureaucracies rely upon formalized rules, responsibilities, and impersonal authority relationships. In a completely rationalized bureaucracy, coordination is achieved through rigid adherence to codified roles and procedures, as well as deference to designated superiors within a bureaucratic hierarchy (Weber, Roth, and Wittich 2013). Post-bureaucratic organizations, by contrast, eschew formalized interpersonal authority relationships. For example, many high-tech organizations group people into teams that decide how work should be divided and executed. In such systems, workers ideally self-manage and hold each other accountable to deadlines and quality standards. Because knowledge work often involves substantial

information asymmetries (i.e., it is difficult for management to monitor the production process), commitment as a mechanism is believed to be more effective than hierarchy in securing compliance (Belanger, Edwards, and Wright 2003; Kunda 2006). Even in contexts where there are not significant information asymmetries, as in advanced manufacturing, commitment is believed to yield better outcomes in terms of aligning the incentives of workers with that of the firm. In the realm of social movements, methods of consensus decision making developed by Quakers were adopted as alternatives to conventional membership organizations (Downey 1986; Hare 1974). Ostensibly leaderless, the consensus model strives to prefigure an egalitarian world. By arriving at decisions through deliberation, members would in theory have equal voice and arrive at more collectively desirable outcomes. Thus, the focus of a great deal of management and social movement theorizing on normative models centers around how to attain commitment from organization members (Adler 2001; Hoff 2000; Kanter 1968a; Rothschild-Whitt 1979). The shift to the normative is particularly striking from a Weberian perspective, as these models depend upon a repression of instrumental rationality – a taken for granted orientation in advanced capitalist societies. This tension between normative requirements and instrumental orientations is one explanation for the difficulty of creating and maintaining authentically egalitarian and non-hierarchical environments.

Material technology may also be used by organizations as a method to coordinate and manage workers. In a conventional bureaucracy, authority is vested in roles and positions, which individuals occupy. Bureaucratic authority relationships are ideally

impersonal in the sense that the personal qualities of the individual occupying the role should not matter in terms of legitimating their authority (it is a matter of pure technical qualifications). Platform technology is able to replicate some aspects of bureaucratic routinization while eliminating the need to interactively enforce authority relationships (Stewart 2005b). For example, a labor platform may automatically sort workers into status groups with various privileges. Regardless of whether the worker accepts the assigned status, the technology of the platform will prevent the worker from assuming an unsanctioned role. This can be thought of as an extension of the bureaucratic goal of impersonal authority as the technology formalizes the role and determines worthiness according to metrics. In the absence of the kind of normative environment characterized by team systems, ratings serve as rewards and punishments. A good average ranking can grant workers privileges or it can result in deactivation. In addition to sorting workers into role and status groups, technology can be used to police norms and practices, such as requiring workers to go through a series of steps within a given timeframe. In conventional bureaucracies, this sort of policing of the institutional hierarchy and norms was the province of managers. While I separate normative and technical dimensions of post-bureaucracy for analytical purposes, it should be noted that in practice they may be combined. For example, physicians operate in a highly normative professional environment while at the same time using electronic medical record systems that structure the labor process (Reich 2012).

1.3 POST-BUREAUCRATIC PATHOLOGIES

Bureaucratic organizations are susceptible to a variety of pathologies and post-bureaucratic organizations are no exception. Two tendencies, however, seem particularly salient: anomie and reification. Conventional bureaucracies are oriented towards continuity and stability. An aspect of the impersonal nature of authority in bureaucracies is that individuals can be moved in and out of positions without an interruption to the system's functioning. Standards and procedures should be objectified so anyone can assume a role and obedience should be given regardless of the particular characteristics of the person occupying a superior position. It is because of this emphasis on continuity and stability, as reflected in the institutional structure of bureaucracies, that they have been interpreted as forces of reification (Colignon 1989; Tadić 1979). Yet objectification has practical limits in bureaucracies. Rules can be written, but seldom enforced. Managers can give orders, which are not followed (Gouldner 1954). Insofar as bureaucracies still depend upon adherence to formalized practices and norms, there remains the possibility the objectified order could vanish. In materializing aspects of an institutional order, however, technology has the ability to enforce practices and norms regardless of shared mental conceptions. For example, an electronic medical record system (EMR) requires nurses and physicians to enter particular information before ending an appointment. The rule may have existed before, but the EMR technology is able to enforce compliance in a way conventional bureaucracy cannot (Reich 2012). One risk in reifying an institutional order is that it will be incapable of responding to changes in the environment. As discussed previously, it is partially this ossified quality of

bureaucracies that justified the adoption of lean production techniques. By allowing workers to exercise some autonomy in decision making, and by allowing institutional structures to be renegotiated and even decoupled, organizations can be collectively more intelligent than when completely rationalized (Fiss and Zajac 2006; Hirsch and Bermiss 2009; Sandholtz 2012a). To the extent new software technologies are doing institutional work, organizational scholars have fertile ground for studying dynamics of organizational rigidity, decoupling, and learning.

In contrast to the problem of an institutional order that is too stable, anomie is a quality of normlessness and an ambiguous institutional order. Previous research suggests commitment forms of organizing are susceptible to anomic tendencies (Vallas 2003). In emphasizing informal roles, responsibilities, and authority relationships, commitment forms of organizing require a great deal of interpersonal negotiation. Individuals can't take their role for granted in the same way as they could in a bureaucratic institution where roles are formalized. Furthermore, unlike bureaucracies where status is institutionalized and depersonified, in commitment forms of organizing status is a characteristic of individuals. Commitment forms of organizing, in other words, can be charismatic (Biggart 1989; Garces 2013). As Weber (2013) notes, charisma is an unstable and volatile form of authority as it is directed against both traditional and rational-legal authority. Charismatics introduce original criteria of judgement that are typically not institutionally sanctioned. In such weakly institutionalized environments where norms are open for negotiation, there can be considerable competition between individuals over how to define norms and practices. This competition is desirable from an organizational

perspective if it yields the best practices and norms for ensuring a desirable organizational outcome. However, these individual status competitions could also come at the expense of collective goals.

1.4 FOCUS AND SCOPE

The purpose of this project is to contribute to the empirical study of post-bureaucracy, with an emphasis on how organizations are enacted at the interactional level. This project aims to examine three aspects of post-bureaucracy:

1. Identity work and social closure in a post-bureaucratic, collectivist organization
2. Dynamics of status and distinction-making in a post-bureaucratic, collectivist organization
3. Technology as an alternative to rational-bureaucratic and value-rational organizations, and the experience of technologically organized work

First, I explore a makerspace as a post-bureaucratic, collectivist organization. Beyond a negative definition of the makerspace (i.e. it is not a bureaucracy), I offer a positive definition (what it is) by interrogating how the organization was practically achieved. Literature on non-hierarchical, collectivist organizations suggests they rely upon high degrees of ideological conformity. I use the empirical context of a makerspace, "Make

Industry" (Industry), to address the question of ideological conformity in post-bureaucratic environments. Industry attempted to create a non-hierarchical, collectivist organization that was explicitly opposed to conformity. The promotion of creativity as a value was meant to counter the repressive tendencies attributed to conventional workplaces. Yet "creativity" and "individuality" have a variety of meanings, and may be weighed against other, potentially competing values. To understand how particular values are instantiated at the interactional level, I bring the Institutional Work literature to bear on the subject of creativity and making (Lawrence and Suddaby 2006; Smets and Jarzabkowski 2013; Zietsma and Lawrence 2010). I consider the changing logic of the craft as it relates to what Boltanski and Chiapello (2007) term the artistic and social critiques of capitalism. How is making understood as an individual and as a social practice, and how does social closure (Murphy 1988; Parkin 1979) operate in the context of Industry, if at all?

Second, I analyze status dynamics in a putatively non-hierarchical organization through an ethnographic study of the same makerspace. Makerspaces offer an ideal location for the study of status reproduction in leveled environments, as they operate in a larger field with a strong rhetoric of openness, community, and egalitarianism (Dougherty 2012). If there is a widely shared norm in this field, it is that making is best fostered through the creation of an open community that gives freely of its time and knowledge. This raises a paradox: how do actors attempt to distinguish themselves in an environment where egalitarianism is a widely accepted norm? Furthermore, what is the meaning of status competition in this domain? While actors may espouse strong preferences for openness

and egalitarianism, they may actually be playing a different game, which undermines their professed values. By interrogating the logic of making in our research site, we can explore the boundaries actors draw around particular practices, objects, and people, as well as the meaning of these boundaries in relationship to the field (Lamont, Beljean, and Clair 2014; Lamont and Molnár 2002). This study is particularly interested in how boundaries are interactionally enforced and, potentially, misrecognized by participating actors.

Finally, I study a technological post-bureaucracy: two on demand labor platforms for couriers. In doing so, I explore the role of technology in coordinating and controlling on-demand, "gig workers," as well as how these laborers experience platform work. The term "gig workers" recalls the freewheeling Jazz musician who searches out "gigs," but now refers to any and all platform workers that fall under the legal classification of "independent contractors" (Nunberg 2016). In what sense, if any, are digital labor platforms organizations? If labor platforms are technologies that assume institutional responsibilities previously left to human actors, like coordination and control, then how is control exercised through the platform (Burawoy 1979; Irani 2015; Noble 1984)? I ask how gig laborers interact with technology, and how control is (or isn't) experienced.
In sum, these cases share an interest with how institutional orders are created, reproduced, and transformed in organizations that formally reject interpersonal authority relationships. The makerspace and gig platforms are analyzed in terms of the social and technical relations that produce an institutional order. How does status and hierarchy operate in these organizations? Do these organizations ameliorate or reproduce social

inequalities? I find that inequalities are reproduced in subtle and not so subtle ways, while the mechanisms differ somewhat between the contexts of the makerspace and gig platforms. In the makerspace, hierarchies were created and reproduced through the promotion of a set of practices that favored exoticism and distance from necessity. Status jockeying and one-upmanship also defined practices in the space. The result was an organization and elite faction that skewed wealthy, White, and male. In contrast, the gig platforms used software technology to define organizational practices, as well as sort workers into groups with various privileges. In the absence of normative commitments, the platforms were able to secure compliance through the threat of deactivation. Platform workers report breaking rules, often without repercussions, while others went to extreme lengths (such as finishing a delivery after being hit by a car) to avoid penalties.

2.0 CHAPTER 1

Over the last four decades, large U.S. institutions have been engaged in a Herculean effort to flatten out. Businesses have reduced layers of management, collapsed job categories (Kalleberg 2003), and promoted participatory workplace arrangements (Vallas 2006). Social movement organizations have espoused horizontalism as an organizing principle (Piven 2013; White and Kossoff 2007). In manufacturing, firms have moved towards team-based systems of work organization that encourage self-supervision and normative controls, in contrast to the external discipline of supervisors and foremen (Kunda 2006). Similarly, high-tech corporations have promoted semi-autonomous team systems, some of which encourage the regular rotation of leadership (Davis and Eisenhardt 2011). Leveling has been at the core of management advice on enhancing creativity and innovation. Informality, collaboration and community have been seen as essential to unleashing employees' commitment, inner passions, and ability to "think outside the box."

The theory behind leveling assumed it would work to create high-commitment cooperative workplaces because hierarchical structures determined and contained status competitions. However, the relationship between formal organizational structure and status competitions is not necessarily determinant. Despite the hopes of management theorists, the question of how an absence of formal hierarchy affects status competitions is an open one. The organizational literature suggests we need a more complex accounting of the relationship between Bourdieusian style practices of distinction and formal organizational structure (Emirbayer and Johnson 2008; Lounsbury and Ventresca 2003; Swartz 2008). The work

of Baron et al. suggests that status inequalities were more pronounced in a flat organization than in conventional hierarchically organized firms. Indeed, organizational scholars (Adler and Borys 1996) have taken issue with the theoretical and methodological formalism that conflates structure and content. Are bureaucratic procedures applied in a consistent, universalistic manner? Or are they applied discriminatingly, such as with "good ol' boy" networks? Post-bureaucratic organizations raise analogous questions. How does formal structure relate to cultural content? Does structural leveling yield socially level environments? Do attempts to create social cooperation flounder on the shoals of cultural distinction? A similar question can be posed in context of level organizations that eschew bureaucracy and hierarchy. What happens to status competition and ascribed inequalities in these contexts? Are they reduced, in a genuine move toward cooperation and a team orientation, as the architects of leveling hope it will be? Or does it move, like an amoeba, into new domains where organizational dictates are absent?

In the era of large-scale bureaucracies, organizations were structured vertically (Mills 1951; Whyte 1956). Markers of status were clearly delineated, albeit with some exceptions (such as salaries). These markers include job titles, job descriptions, budget and personnel responsibilities, and office size and placement. Corporate jets, corner offices, parking space location and permission to eat in select dining facilities were visible status markers at higher levels of large bureaucratic organizations. Overall, the structure of the organization reflected and reproduced a relatively transparent status hierarchy (Konar et al. 1982). This hierarchy was ordered largely in economic terms, in that status markers were arrayed by economic cost. The people at the top of the pyramid typically had the highest salaries,

biggest offices, largest expense accounts, as well as the largest budgets and the most people reporting to them (Saval 2014:144). In those contexts, a large part of competition took place within the parameters set by the firm. Few accounts interpret this as a Bourdieusian style game of distinction via cultural capital.

With leveling, existing systems of status markers have been transformed. Open-plan cubicles replaced offices with doors, sometimes even for top management (Meerwarth, Trotter, and Briody 2008; Saval 2014; Vischer 2005; Wells and Thelen 2002). Employees in many industries are less beholden than they once were to formalities, such as referring to superiors by surnames. Similarly, dress codes in many organizations have been relaxed (Morand 1995). While some of the old status markers remain, a number of these (such as salaries, and to some extent budgetary responsibilities) are those that are least publicly visible.

There are questions about whether this transformation has been successful. In addition to the leveled firm, there is the proliferation of formally egalitarian organizations. Proponents of leveling argue that formal structure determines competition and cooperation, thus they expect formally non-hierarchical organizations to reduce competition and elevate cooperation. A similar point of view is held by advocates of horizontal social movements. For some radical feminists and neo-Marxists, the bureaucratic organizational form is an inherently patriarchal and oppressive institution (Acker 1990; Clawson 1980; Ferguson 1984; Iannello 1992; Kanter 2010). While bureaucracies may be presented as "rational" systems that sort candidates into positions based upon formal criteria, in practice they are

often used to scientize inequality, making them every bit as arbitrary as the "irrational" systems they replace (Acker 2006; Baron and Newman 1990). Insofar as de-bureaucratization promotes trust, fellow-feeling, and personal growth, it is expected to reduce the salience of ascribed status inequalities, such as race and gender.

The alternative point of view holds that commitment forms of governance that reject bureaucracy can also reproduce status inequalities (Baron et al. 2007; Kang and Frankel 2015). Baron et al. (2007) argue against the view that the bureaucratic organizational form is inherently more prone to status inequality than post-bureaucratic forms. In their study of gender inequality in start-up firms they found that organizations that were created with or transitioned to a bureaucratic logic were quicker to hire and maintain women than ones that were founded with a commitment logic. These findings complicate the relationship between bureaucracy and inequality. More important than an organization's formal structure, then, is its underlying logic or substantive content. We believe these questions are also relevant in organizations that have not shifted away from hierarchy but were founded as level organizations. How does status play out among various actors in an environment where there are few official roles, responsibilities and authority relationships?

We investigate a makerspace, which we call Make Industry. Making is a form of autonomous, collaborative production that emphasizes exploration, creativity, and knowledge sharing. Proponents of the maker movement call into question the distinction between expert and laity, professional and hobbyist (Dougherty 2012). While there is no standard format, all makerspaces provide individuals with the space and tools to undertake

and collaborate on projects. Make Industry is a production environment characterized by open membership and access, shared tools, shared governance, as well as an ethic of egalitarianism and community. These norms and structures suggest a refusal of status and hierarchy. The goal of Industry is to integrate a wide variety of production practices and motivations in order to enhance the creativity and capacity of the community. Given the ethic of making, there is little reason to believe that makers would necessarily pursue a logic of status distinction, or that status within Industry would operate according to a zero-sum logic. We begin our paper with a short discussion of the phenomena of leveling. From there we move to a discussion of distinction and status, our case and research methods, and our findings.

2.1 ORGANIZATIONAL FORM AND STATUS PRACTICES

Leveling has been a persistent theme in organizational practice for decades. It is present in the literature on the organization of the firm (Kanter 1990; Kenney and Florida 1993; Leibenstein 1987; Piore 1984) and is reflected in the popular backlash against bureaucratic conformity that characterized the culture of the 1960s and 1970s (Binkley 2007; Cowie 2010; Turner 2006). Many of these normative critiques regard bureaucracy as inherently alienating and degrading, echoing Mills's (1951:xii) Bartleby-like depiction of white collar workers as, "[A] small creature who is acted upon but who does not act, who works along unnoticed in somebody's office or store, never talking loud, never talking back, never

taking a stand." These themes are also present in social movements that espouse horizontalism (Castells 2012; Downey 1986; Kanter 1968b; Piven 2013; Rothschild-Whitt 1979). Boltanski and Chiapello trace the origins of this anti-bureaucratic spirit to the May '68 events in France (2005). A similar ethos animated the U.S. counterculture during the late 1950s and early 1960s, a formative time for a generation of managers and workers.

The critique of bureaucracy and hierarchy that began in the 1950s would eventually lead theorists across numerous disciplines to envision the firm not as a stable set of roles and authority relationships but as a neo-Coasian collection of networked actors (Boltanski et al. 2007; Castells and Castells 2000; Himanen 2002; Turner 2006). If bureaucratization is partly a process of de-personifying status and authority by vesting it in roles, the post-bureaucratic organization relies upon individual, charismatic attributes (Biggart 1989; Garces 2013). Additionally, leadership roles in flattened organizations are sometimes intentionally made impermanent in order to encourage collective ownership, while theoretically discouraging dominating leadership (Davis and Eisenhardt 2011). The literature has addressed questions of worker reputation and how to properly assess quality of production, whether in the context of teamwork or in the gathering of objective metrics. However, this literature has generally not addressed the role of cultural content in determining worker reputation. We believe this can become an important dimension of organizational dynamics.

A recurring issue in the literature on organizational leveling is worker resistance to change. For example, in Milkman's (1997) classic account of leveling in *Farewell to the Factory*,

she found that the restructured "new Linden" factory and its heralded level and cooperative working environment failed to materialize. Managers were reluctant to risk a slowdown in production and reverted to the hierarchical and authoritarian practices that characterized the old regime. In Vallas's (2003) account of the introduction of team systems at four manufacturing plants, he found that the emphasis on the technical and efficiency benefits of horizontal team systems produced in a normative vacuum, which served to exacerbate status distinctions among workers. Similarly, Attwood-Charles & Babb (2017) found that efforts to deploy a team system model in the context of a hospital and managed care organization were subverted as workers decoupled and attenuated the model out of existence Efforts at winning over high-status workers who possessed the ability to resist model deployment were successful, but at the expense of the substance of the new model. Conversely, a hierarchically imposed deployment of team systems produced technical and normative contradictions, which resulted in middle managers decoupling the model from its practical enactment. These cases show how status groups who stand to lose from leveling subvert the efforts of management and formal structures. This literature on leveled organizations naturally leads to the question of whether organizational form and content can be relatively more aligned in level organizations. In contrast to leveled organizations where actors have individual and collective memories of hierarchical structures, practices, and norms (Kameo 2017; Walsh and Ungson 1991), Industry is both a new organization and a *de novo* organizational form (Jones et al. 2012). That is, members of Industry are engaging in practices that do not have a shared referent. There is no organizational or institutional memory for actors to draw upon when making justificatory claims in the same manner as actors participating in an established form (e.g. a university, hospital, gym, etc.).

By studying a *de novo* organization in formation, we can see how logics are imprinted as norms and practices are negotiated and solidified (Baron et al. 2007; Johnson 2007). It is therefore possible to study the relationship between an organization's formal structure and its emerging (and possibly diverging) organizational content. This moves us away from a formalistic understanding of bureaucracy and post-bureaucracy, which has plagued previous studies.

There are examples of organizations that began as a *de novo* level organization where the relationship between formal structure and status inequality has been explored. Baron et al. find that gender inequalities were more pronounced in a less bureaucratized tech startup firms. In fact, they found that bureaucratic organizations did a better job at hiring and maintaining women than level, commitment forms. The literature on peer production has also dealt with the question of organizational structure and status practices. In Stewart's study of a peer production software community he notes how the development of a productivity-based technological evaluation system created a status hierarchy (2005). Members certified each other's contributions to projects, which resulted in members being automatically sorted into a four-tiered status system (masters, journeymen, apprentices, and observers). The inference from this work is that the routinization of status ascription undermined individual jockeying for position and prestige. In contrast, Shaw & Hill's (2014) analysis of Wikipedia finds the emergence of the Iron Law of Oligarchy, in which informal competitions lead to institutional power.

These questions are also relevant to new social movements. While we might expect numerous studies of status dynamics, there is quite very few. One study by Betsy Leondar-Wright (2014) finds the marked class differences in putatively egalitarian social movements. Robert Wengronowitz's (CITE) research on a local climate movement finds strong Bourdieusian practices of distinction among activists.

A Boudieusian analysis suggests status competitions operating through multiple forms of capital (economic, cultural, social) take place in all fields. Historically, the relationship between Bourdieusian status competitions and organizational form has been relatively unexplored. However, numerous organizational scholars have called for integrating Bourdieusian concepts into organizational analyses (Dobbin 2008; Emirbayer and Johnson 2008; Swartz 2008), a task we take up in this paper. We specifically take up the relationship between formal hierarchy and Bourdieusian status competition. We hypothesize there is no necessary correspondence between formal hierarchies and their converse, formal egalitarianism, and the type of status dynamics. As in the case of the postwar bureaucratic firm, formal hierarchy can channel status dynamics into proscribed outlets. In this context, status competitions occurred within the strictures of institutionalized hierarchies with clear rules and metrics. As noted above, we suggest that economic and social capital were primary in these kinds of competitions.

These highly institutionalized environments where status is formalized led to a situation where actors who contest dominant meetings run the risk of being marked as illegitimate (Berger and Luckmann 1966; Zuckerman 1999). The bureaucratic organization itself

accepted and directed status competitions into preferred forms. This raises the question of what happens in post-bureaucratic and aspirational egalitarian organizations. In some cases, such as the peer production context, new status metrics can become institutionalized. However, does a lack of formal status markers and institutionalization lead to new types of competitions? For example, Fligstein and McAdam (2011) argue that in organizations where roles and authority relationships are not formalized, individuals are likely to engage in more intentional, everyday status-claiming practices. We hypothesize that these situations are particularly ripe for competitions via cultural capital, specifically field-specific cultural capital, as Wengronowitz (CITE) found with the use of activist capital.

Wall Street represents an interesting case with a bit of a hybrid logic. On the one hand, like the bureaucratic corporation, it has formal titles and a clear horizontal chain of command. However, a strong market logic also operates in this context which allows for other dimensions of status competition. One marker is purely based on an individual's financial return. However, Ho's (2009) ethnography suggests this system is also prone to cultural capital competition. Concepts like intelligence, educational pedigree, and consumption practices become highly salient. We take this as an example of formal hierarchy with informal status competition. Unlike bureaucratic corporations, these are not formally managed status competitions.

The forgoing examples suggest a 2x2 typology between formal hierarchy and what we call "status jockeying." We define status jockeying as more informal, person to person, unstructured, and unmanaged status competitions. What is key about status jockeying is

that the organization's formal structure is not directing them. Rather, they tend to be informal and non-institutionalized. We present these in Figure 1. In the lower left-hand quadrant, we have the bureaucratic corporation with high formal hierarchy and relatively little status jockeying. Stewart's study of a software peer production community is included in this quadrant, as the technology of the contribution platform serves to formalize status hierarchies. We put Wall Street in the upper left-hand quadrant, arguing that it has high formal hierarchy but high informal status jockeying. Moving clockwise, we have the leveled firm and tech startups with low formal hierarchy and high jockeying. This includes Shaw and Hill's (2014)

study of Wikipedia and our case of Make Industry. Finally, in the lower right-hand quadrant we have the egalitarian organization of new social movements which aspires for low hierarchy and status routinization in the form of everyone occupying the same position.

[INSERT TABLE 1 HERE]

Makerspaces offer an ideal location for the study of status reproduction in level environments, as they operate in a larger field with a strong rhetoric of openness, community and universality (Dougherty 2012). If there is a widely shared norm in this field, it is that making is best fostered through the creation of an open community that gives freely of its time and knowledge. There is also an emphasis on the incorporation of diverse production practices. While many conventional shop spaces are home to a limited range of tools, as in the case of woodworking and metalworking shops, many makerspaces house equipment to produce anything from jewelry to robots. Additionally, there is no single

purpose or motivation behind making. For the creators of makerspaces, this is a feature, not a bug. By having makers who are prototyping products working next to artisans and hobbyists, members can learn from and help each other in their diverse pursuits. Thus, the ideal of making is one of individual and collective growth. For these reasons, we might expect status competition to be fairly minimal, as it would run counter to the ecumenical logic of coproduction. However, actors may espouse strong preferences for openness and egalitarianism, they may be playing a different game, which undermines their professed values. We now turn to our case.

2.2 THE MAKER MOVEMENT

Beginning in 2005 with the founding of Make Magazine, the Maker Movement has emerged as a form of collaborative production (Busch 2012; Gorbatai 2016; Holman 2015; Smith et al. 2013; Toombs, Bardzell, and Bardzell 2014). It has been described as less "Do-It-Yourself" than "Do-It-Together" (Busch 2012). The founder of Make Magazine, Dale Dougherty, has noted that the founders of the maker movement were not concerned with making products that could be sold on the market, but rather with exploration and fun (Dougherty 2008:9). For instance, many makers participate in Burning Man, a yearly festival that involves assembling a temporary city-sized encampment in the Nevada dessert – an organizing marvel by any standard. Both the Maker and "Burner" movements eschew bureaucracy, hierarchy, and rule-following, while at the same time espousing ideals of

exploration, passion, gift giving and community (Chen 2009; Lloyd 2010). These groups evolved from the Cyber Communalists of the 1960s, who aimed to liberate individuals from the stifling confines of the traditional workplace through networked forms of organization (Barbrook and Cameron 1996; Turner 2006).

We believe this case is of interest in part because of the relationship of making to the hi-tech sector. New industries engender new methods of organizing that are often emulated (DiMaggio and Powell 1983). Makerspaces are also of intrinsic interest because this form of social production is expanding rapidly (Benkler, Shaw, and Hill 2015). Makerspaces have begun to attract many highly skilled and creative engineers and experts in computers and robotics, as well as artists, fabricators and inventors. There are now an estimated 400 makerspaces worldwide (Anon n.d.), with over 100 in the United States (Anon 2016). Many cities also host "makerfaires," public gatherings that showcase the work of makers and encourage everyday making and fabrication.

Unlike professional associations and craft guilds that maintain a monopoly on skills and status through social closure, making ideally operates according to a logic of social inclusion. Making is in part a rejection of what Bourdieu (2011) termed institutionalized cultural capital. Among makers, the field of higher education is the subject of a critique that questions the legitimacy of formal credentials (Kamenetz 2010). In contrast to status conferred through position in a workplace or educational bureaucracy, makers valorize the act of material creation. Status is ideally associated with what one can produce and share, not the degrees one happens to possess. Of course, some makers are people with PhDs, but

they are also mechanics, coders, and woodworkers. This can be seen in Dougherty's normative conception of hacking and making:

> A coder would share his work, and like a chef who develops his own recipes, he wanted to find others who might use them and in doing so test them. Sharing created community. From the beginning the best coders were ones who made tools to make tools.... In the community, hackers developed a reputation on the basis of their work… Hackers had a disregard for credentials but a clear focus on the work itself. Amateurs could succeed on the same terms as professionals. Independents could work alongside those who had corporate or academic titles. Share and share alike (Dougherty 2008:10).

Making, for many within the movement, embodies a critique of the credential society (Collins 1979) and an affirmation of individual competency. It harkens back to the familiar set of supposed uniquely American attributes (Tocqueville and Renshaw 1835), which our participants also voiced: openness, egalitarianism, and meritocracy (Dawkins 2011; Toombs et al. 2014; Wolf et al. 2014). The makerspace as an organization attempts to instantiate these values, providing anyone with the time and inclination to engage in making with the necessary tools, knowledge, and connections to do so. Although Make Industry formally rejects hierarchy, we found pronounced informal status jockeying that was channeled almost exclusively through cultural capital.

The Maker Movement's critique of hierarchy, credentials, and work coincides with at least three trends in U.S. society. The first trend towards organizational leveling and a general rejection of the legitimacy of bureaucracy has already been noted (Boltanski et al. 2007).

The critique of credentialism comes at a time when educational attainment in the U.S. has never been higher (U.S. Census Bureau 2017b, 2017a) or more expensive (U.S. Department of Education 2016). It also occurs during a period of increased job polarization (Hacker 2008; Kalleberg 2013; Standing 2011; Vallas and Prener 2012) in which competitions for jobs with advanced degrees has become more intense {torche other cites] (McIntosh 2013; Okahana and Zhou 2017). This raises larger questions of whether the Maker Movement's critique of credentials reflects a rejection of status hierarchies themselves, or if it is a new status strategy for challenging incumbents or legitimating preexisting status positions. We return to this question in the discussion.

2.3 METHODS

Make Industry (hereafter referred to as "Industry") is one of the largest makerspaces in the United States and is an ideal location for studying status in the context of formally level organizations. As both a newly established organization and a novel organizational form, Industry exhibits low-levels of institutionalization. Unlike a recently transformed hierarchical organization where leveling unsettles status symbols, new organizational forms lack established status systems. We selected the pseudonym "Make Industry" to retain the symbolism of the organization's name. The same is true of the "cog" name members used when ironically referring to themselves and each other. Like the original

name, cog denotes a lack of institutionalization and an unruly orientation (They are "bad cogs"). Industry encourages the flourishing of the self and is framed in opposition to the traditional, hierarchical world of work. Industry is also notable in that, as in Wright's real utopias (2010), members emphasize community as both as an end and as a means to arrive at a more socially just and sustainable organization of production.

Individuals participate at Industry in a number of ways. They can enroll in classes, which gives them access to the space and machinery only during class times, and only in the workshops relevant to their classes. They can join as a member, which gives unlimited access to all the workshops and the common space. Finally, they can supplement their membership with a private rented space. At the time of our research, there was excess demand for the private spaces.

We engaged in a variety of research strategies. The core of our study is derived from an ethnographic fieldwork and 35 semi-structured interviews, in addition to document analysis. We were at Industry for a total of 18 months. During that time, we rented a space and were placed in an area of Industry referred to as the suburbs. In total, 175 hours of field research were conducted by the first author, which included taking classes, hanging out in the common areas and spending time in our rented space. We also analyzed hundreds of internal documents and electronic communications produced by members of Industry.

Participants were recruited for interviews through a combination of snowball and purposeful sampling to ensure representation across the various skill groups and sub-

cultures at Industry. Of the 35 individuals interviewed, two-thirds were men, which reflects the overall gender composition of the site. Participants were usually interviewed in their work environments at the site or at a nearby coffee shop. The open floorplan and low workplace dividers (at the time of the research) provided us with the opportunity to observe members go about their work, interact with other members, and instruct new members. Because of this, we were able to compare the claims made by participants in interviews with our own observations and interpretations. All makers are identified by pseudonyms.

The field researcher, a White man in his early 30s who wore jeans, Vans shoes, and gingham shirts, did not superficially "stick out" in the White, male, and relatively young, tech-ish atmosphere of Industry. These aspects of his presentation, however, did not automatically endear him to all members. Participants would approach him to inquire if he should be there or tell him to wear a visitor's badge when he was a due-paying member and frequent presence. When approached for casual conversation, participants were frequently skeptical and oriented towards maintaining social distance. The general interactive style among high-status members was ironic, declarative, and confrontational. This was less true of lower status members. In terms of his interactive habitus, the field researcher was not at ease in this environment and found it difficult to engage in assertive banter or project an air of self-assured detachment. Despite categorical similarities in terms of race and sex, his interactive style and bodily hexis conveyed an unnaturalness that perhaps led to the assumption of being an outsider.

The boundary between insider and outsider was sometimes heightened in the course of the interview process. Industry draws many participants from STEM related fields. In this context, ethnographic and qualitative methods were not merely unfamiliar to participants (as is the case with many ethnographic encounters) but were ritually mocked to convey one's professional training. As one participant – an engineer - stated after the conclusion of an interview, "How do you know I'm not lying to you?" This assertive interpersonal dynamic was manifested in the flipping of scripts between researcher and participants, with participants taking charge of the interaction. In these instances, the field researcher deferred to participants and attempted to nudge their educational efforts towards an account of norms and practices at Industry.

Our participant observations focused on the particular justificatory devices actors invoked to explain their work (Boltanski 2006), the actors they chose to associate with at Industry, and the meaning and purpose of Industry as an organization (Mohr 1998). When analyzing our data, we looked for instances where actors drew boundaries around particular objects, people, and practices, as well as how they justified the drawing of these boundaries (Lamont and Molnár 2002). We also looked for instances where actors contested perceived symbolic boundaries. In this way, we analyzed the distinction-making of actors in terms of the various logics of practice they invoked. Through this approach, we aim not to simply document the existence of distinguishing practices, but to explore the meanings of distinguishing practices and the material and symbolic structures they relate to.

2.4 FINDINGS: STATUS PRACTICES AT MAKE INDUSTRY

Make Industry is a thriving, successful makerspace. It has grown rapidly, has developed a strong reputation, and can boast high levels of not only production, but also collaboration, skills transmission, and engagement. In some ways, it looks like a model makerspace, fulfilling the ideals of the maker movement. However, in our research, we also found that it is characterized by high levels of status practices, a strong insider culture, and a pronounced gender racial, and class skew. We found that the absence of visible, formalized status markers led to heavy reliance on informal cultural capital as a way to distinguish participants. We find that status aspirants perform status by adherence to a common high-prestige set of values about making that privilege creativity, distance from necessity, exoticism and idiosyncratic making. In the pages that follow, we discuss these findings. We start with a discussion of the high-status group and the evidence for their existence. We then discuss the kinds of practices which yield status and the justificatory devises that legitimate status claims.

2.4.1 The Emergence of a Status Hierarchy

As is the case with many organizations and social movements, the founding myth of Make Industry has evolved over time. What began as a novel way to secure costly machinery and

space for a core group of hackers and mechanical engineers eventually became a high-minded experiment in peer-production. Indeed, members invoked a variety of goals and functions when describing Industry and their work in it. Industry was at once an educational and production environment, recreation center, incubator, and – foremost, if the frequency of mentions is a reliable gauge—a community. Industry was many things to many people, a reality that is reflected in its official mission statement, "We create cool things, together." As many participants told the story, the looseness of Industry as an organization and its vague sense of purpose stood in stark contrast to their experiences of work in hierarchical organizational environments. Industry was a place where "cogs" didn't have to be cogs, where individuals were free from institutional constraints on what they could learn and make. In short, Industry was a place where producers could flourish. In an attempt to foster such an environment, organizers at Industry encouraged member involvement in governance, whether in drafting bylaws or helping to decide what equipment to purchase. Frequent town hall meetings allowed members to voice concerns and participate in decision-making. There were few formal leaders to speak of, and members volunteered their time to act as shop stewards, receptionists, and janitors. Members didn't just espouse equality in terms of access, but also via widespread encouragement to give freely of one's time, knowledge, and resources.

However, the formal commitment to an open, self-governing community did not prevent the emergence of a pronounced status hierarchy within the space. While members invoked values of openness, egalitarianism, and meritocracy to give meaning to their work at Industry, these values were often aligned through a logic of distinction. To be sure, Make

Industry was a community, but it was a community in competition with itself. Values of openness and egalitarianism often came into conflict with the practice of one-upmanship involved in making the next cool thing or demonstrating one's superior knowledge or abilities. Furthermore, high-status aspirants constantly asserted themselves, through displaying the products they had made, elaborately decorating their workstations, publicly associating themselves with high-status actors and institutions, and through other, more conventional forms of self-promotion (such as sending out email announcements, running for positions in Industry, and assuming disciplinary responsibilities). Over the course of interviewing and participant observation, this status hierarchy became apparent. Evidence of the status group was found in the location and configuration of workspace within Industry, the frequency (and context) of mentions of certain makers in interviews and everyday conversation, exclusive associations between makers, and the use of a distinct currency that demarcated trades within the status group from the wider network of trading within and outside Industry.

In our discussion, we will focus on a subset of high-status members who work in various domains within Industry. They form part of a larger dominant, high-status group, not all of whom we interviewed. Paolo, the founder of Industry, primarily worked in the robotics and machining shops, and was a friend of Val's, an electronics engineer, whom he had met at a goth club. Paolo was also a close friend of Jen's, a student turned organizer, who was brought on board to assist with operations. Another high-status actor, Joey, is an accomplished circuit hacker and programmer who founded a hackerspace. In the

beginning, Paolo approached Joey about merging his hackerspace into the newly formed Make Industry. As Joey told it:

> Paolo and company came over to my place and we cooked some food, and kind of sat down and chatted about it. We were, like, "Yes, we'll dissolve the hackerspace and we'll transfer all of the assets over to Industry."

It was a casual and serendipitous meeting between members of a hackerspace that had too much space (and an inability to make rent) and a new makerspace that didn't have enough space. Other groups were also brought on board, such as Starship, a bike hacking collective headed by a man named Badger. This, in turn, brought other bike hacking enthusiasts under the expanding Industry canopy, such as Peter, an expert welder who made his own custom-built bicycle frames that he hoped to sell to high-end consumers.

The projects undertaken by many of Industry's initial members were often produced for Burning Man and similar artistic/affinity groups. The Burning Man community was a recruitment ground for new members of Industry, as many of the projects undertaken at Industry, as well as the cultural assumptions, values, and people, were shared between the two groups. Three high-status members joined through their affiliation with Burning Man: Dale (a computer programmer), Kima (an installation designer), and Meagan (a jeweler). Some members even questioned the borders between Burning and Industry. As Meagan put it during one interview at Industry: "People ask if Burning Man can exist in the default world. I'm in it right now." In defining the cultural content of Industry, the early group of makers referenced their shared motivations for participating in another affinity group. In doing so, they imported logics of practice to define activity in the newly formed space.

While these logics were imported, they were simultaneously re-contextualized as they were made to fit in the new context (Ansari, Fiss, and Zajac 2010). Logics of practice that resembled those of Burning Man and various other countercultural communities were imprinted during the stage of field formation at Industry (Johnson 2007). As new types of making were introduced into the space, like sewing and woodworking, these production forms were aligned through this distinctive logic of practice, a process that will be discussed in more detail in the sections that follow.

This early, core group of makers began to establish their own social circles within Industry, often through trading skills and knowledge in the high-status network we refer to as the beer economy. As we discuss below, the beer economy, in contrast to the conventional cash economy, is network where high-status actors and high-status aspirants engage in non-monetized transactions. The use of beer as a currency was one way high-status actors distinguished themselves from the maker laity. This high-status network was exclusively White and, like Industry as a whole, disproportionately male.

2.4.2 Space and Status

When initially designing the layout of Make Industry, organizers made a concerted effort to promote openness and community through the construction of low, uniform dividers

between workstations. Open office designs have become a staple of many hi-tech and knowledge related firms (Lohr 2017; Saval 2014). As Meagan explained:

> Most art spaces are big buildings and, you know, they're all these offices with locked doors. The real elegance and intelligence of this space are the four-foot walls. Because you're in such an open space, we all know each other. And so we created a community. That's the real difference.

Like their use in corporate office spaces, the low dividers at Industry were justified in terms of a rejection of a "corner office" mentality and the individualism of private workspaces. The layout of the space was seen as essential for fostering innovation and community and was framed in direct opposition to the compartmentalized and isolating tendency of many office buildings. Ironically, the cavernous interior of Industry, which members found so unique and innovative, was a consequence of the building's legacy as an industrial factory. In the early stages of Industry's formation, however, the open design was seen as central to the space's purpose and appeal. Makers re-contextualized the space of the industrial factory as a site of spontaneous individual and collective production. However, even as egalitarianism and openness were widely accepted norms in the space, some (although not all) members engaged in both blatant and subtle status practices with their personal spaces.

The design and location of workstations at Industry were important status markers. The core group of makers who founded Industry were also its first occupants and formed a small village in the center of the main building between the entryway and the common area. As Industry expanded, it rented buildings that were conjoined with the main building (a legacy of the building's sprawling industrial use). Architecturally the space resembled a

"T", with the center line being the first building acquired, and then the top left, and top right of the "T" representing warehouses that were subsequently rented by Industry. High-status makers were clustered together in the center of the space where their work could be prominently displayed, as well as around highly utilized tools. On the periphery of the main building were lower-status makers, who generally had smaller spaces that were less lavishly adorned. During open houses where the public was welcomed into Industry to see the products of its creators, the work stations in the suburbs were not clearly visible, and without being accustomed to the layout of the space, would be easy to miss entirely. These spaces were therefore less desirable for makers hoping to display their wares, or for ones who wanted to participate in the main social hub of the space.

[INSERT IMAGE 1 HERE]

Once a maker laid claim to a space, there was very little movement or relocation, with a few notable exceptions. Not only was moving difficult in the sense that makers tended to accumulate tools and production materials that were difficult to move, it was also rare that more desirable space would open up. Where there was turnover in space, it tended to be in the far reaches of the space, which makers termed the "suburbs." This portion of Industry housed new and novice makers. It was named the suburbs both because of its peripheral proximity to the "urban" core of Industry, but also because of its occupants less extravagant, middle-class making sensibilities. The biggest move at Industry was the relocation of the bike hacking collective, Starship, from the periphery to the core. This was an extremely difficult move given their heavy equipment, but spatially positioned them

further away from low-status makers and closer to their high-status equivalents. High-status makers were generally buffered or shielded themselves through the private construction of wooden enclosures or higher dividers that augmented the low dividing walls installed by Industry. The erection of vertical barriers, while not in keeping with the open ethos of Industry, was consistent with the desire for control over space and the ideals of individuality and authenticity. The workstations of high-status makers were also easily recognizable as belonging to a particular maker, and no one else. High-status workstations were highly personalized and usually displayed knowledge of a variety of skills.

In general, the further one was from Industry's main artery that ran from the entrance to the common area, the lower status the maker. One notable exception was the space of the site's founder, Paolo, who enjoyed a large and far removed robotics shop that housed perhaps the grandest of Industry projects, a robotic creature that would, if ever operational, tower over a small car. This space was also in close proximity to the welding, laser cutting, and machining areas. The paths taken by tour guides typically concentrated on the most prestigious areas—the main corridor and its environs and the founder's work area. This itinerary highlighted the most ambitious, extravagant, and financially successful makers (in terms of Kickstarter pledges). These were the high-status members Industry chose to display prominently, and who prominently displayed themselves. The most prominent reshuffle of physical space occurred when the bike hacking group, Starship, moved its considerable equipment from an area between the main building and the suburbs to a space between the welding area and entryway of Industry. This put Starship in a more visible area, while also moving them near to other high-status makers, and closer to tools and

machinery they frequently used. The space formerly occupied by Starship housed new makers and for all intents and purposes was an extension of the suburbs.

At Industry, the customization of personal space and objects wasn't justified in terms of an actor's position in a collectively recognized bureaucratic hierarchy, but by a maker's technical proficiency. One maker, Jeb, a White man in his late 30s who came from an upper-middle class background (mother a high-level administrator in a school district, father in sales), had an elaborate workspace. Jeb felt that his desire to customize and individualize was blocked by apartment living in the outside world. This frustration, combined with an unfulfilling job in IT at a large research hospital, led Jeb to join Industry:

> It's frustrating because you have no control over your space. I hated our wall color and asked our landlord if I could paint it. He said "no," but I did it anyway. I did all sorts of other work, and I think behind it all was this need to feel more connected. I was really influenced by "Building, Dwelling, Thinking" by Heidegger in school. I tried reading more of him, but it was half in Greek.

Jeb described his willingness to repair and customize his apartment in terms of a natural desire to make things his own in order to lead a more authentic life. At the same time, he described his day job as an information technology worker as stifling. As he put it, "I was looking for something to feel invested in." Jeb considered the monthly $190 membership fee and $200+ cost for a workstation a, "pretty low barrier to entry," although felt that he was not able to advance beyond basics of woodworking with the level of instruction provided at the space.

The customization of space and objects was not typically pursued for the use-value of objects. Similar to the way some makers attempted to one-up each other in their displays of knowledge, they attempted to best each other when customizing their workstations. For example, Joey, a White man in his mid-30s who came from a working-class background but found some success as a computer programmer, erected a 20-foot tall supply rack that stood, like a black obelisk, in the center of building. In addition to taking up physical space, Joey would sometimes expand his presence by playing music loudly over elevated tower speakers. If there was any question about whose space it was, the answer could readily be found by glancing at a large picture that hung from the tower. On it appeared a shirtless Joey, bellowing through a ram's horn, as onlookers reveled in mock pagan worship. This is perhaps the most vivid example of performing status through customization of space.

At Industry, customization of space served as one of the ways actors performed status and asserted their presence in the community. Personalization, especially in the core of the space, was less about individual taste or "personal touch" than about making a statement. Customization went beyond hanging a photo of a family member on the cubicle wall or decorating it with flowers and assortment of trinkets collected from travels (as in many office environments). At Industry, customization was extravagant, and often involved making an enclosed cubicle (within the already low cubicle dividers) from the ground up. This might include building walls and applying wallpaper, constructing a personalized workbench, or building a roof that could function as vertical storage space. Newer makers and novices typically had spare workstations, with premade furniture and little in the way of décor. For example, the field researcher's space was occupied by a desk, chair, and

cabinet that were brought from his home institution to Industry. In comparison to other workstations at Industry, this space appeared completely depersonalized (although was less so in comparison to fellow inhabitants of the suburbs), which helps explain why it was used by members of Industry as an unofficial storage space (to the amusement and occasional difficulty of the researcher). The field researcher did eventually decorate the space with a Simpsons action figure (Groundskeeper Willie) and some sketches, but this was perhaps too little, too late.

Makers who cultivated and displayed their idiosyncrasies were frequent subjects of conversations (both public and private), and often regarded as sources of expertise. These were the actors many makers attempted to associate with, both in practice via collaboration and symbolically via name-dropping. Social proximity to high-status actors and institutions (or at least claims to social proximity) were central to makers' performance of status. While makers frequently positioned Industry in opposition to the conventional world of work, where positions, titles, and social connections reflect status hierarchies, many makers were quick to associate themselves with elite institutions, such as MIT and Boston Scientific. In their efforts to distinguish themselves, actors denied that the game of distinction was taking place, enacting Bourdieu's concept of misrecognition (Bourdieu 2011). In practice, status associated with institutions of higher education and business augmented status claims made through making. Makers did not attempt to hide or downplay degrees from prestigious schools or affiliations with respected firms.

2.4.3 Connection to High Status Actors

High-status actors at Industry presided over particular domains, either in governance or a particular craft area. These members were identified during interviews and participant observation as prominent makers who enjoyed influence and were sources of knowledge and expertise. We regarded a maker as having influence if they possessed the ability (either formally or informally) to set shop policies, allocate resources, or command a constituency. While many makers had ideas about the way Industry should be run, high-status makers possessed the social and cultural capital to enact their visions by mobilizing members or making use of their personal connections with other high-status actors in positions of power.

One piece of evidence for the existence of this high-status group is that they were talked about frequently in our interviews and informal conversations. In Table 1 we present the number of times high-status actors are referred to in our interview data.

[INSERT TABLE 1 HERE]

Even when interviewees did not directly work with high-status makers, they would sometimes tell stories of these makers' exploits. In doing so, they demonstrated that they possessed privileged knowledge and some sort of relationship with the high-status actor. Joey was the most one of the most frequently discussed member of Industry, with 14 unique mentions during recorded interviews. Indeed, Ethan described him as the epitome of a maker, saying, "He's, like, one of the captains. He runs the space, the email list, everything.

He's great. So Industry." In another interview with Bob, a maker who specialized in prop fabrication, Joey was invoked when the topic of open-source production came up:

> Joey sells his equipment and is able to make a living off it. But about once every couple of months he gets online and looks at different knock-offs of his equipment, and we get to see how crappy the functionality is between his original and the copy. And it's, like, "Great. You copied it, it's open source, and this is perfectly fine and legal." But his board is still the superior product. So are you going to spend $8 on this, or are you going to spend $10 on Joey's product? You're going to spend $10 on Joey's product because you know it's better.

In this account, Joey is described as an exceptional open-source maker who, despite others' attempts at emulating his products, is still without peer in terms of quality of design. In telling this story, Bob not only lionized Joey, but also himself insofar as it was "we" who "gets to see how crappy the functionality is between his original and the copy."

In the realm of welding, Peter was the most discussed maker. During our participant observations, Peter was a near constant presence, with his trademark blue jeans, plaid shirt and welding mask. Virtually all participants who had taken a welding class (a popular one at Industry) had Peter as an instructor. However, while some participants who signaled status did so by invoking the names or deeds of high-status actors, certain high-status aspirants signaled their social proximity to high-status actors by emphasizing the exclusive nature of their relationships. For example, as Ethan noted of his association with Peter:

> Peter, the frame-builder guy, is my both housemate and for a time we were actually sharing space here… Peter and I are totally kindred spirits in terms of being frame-

> building nerds. We actually have very different styles and, like, very different ideas of what an awesome bike looks like, but we're both obsessive about tools and gluttons for punishment in a way - because building bike frames is incredibly hard and time consuming.

These connections, in turn, provided new avenues for distinction making. Indeed, Joey was able to obtain help from Peter in painting a robot for an autonomous robot competition. As Joey related:

> For a case of beer, he powder coated my robot for me. To get someone else to even turn their powder coating oven on is, like, $75. That doesn't even cover everything else. But he was already baking bikes, so it was already on. It took ten minutes of doing the powder coating and then just having it sit there in the oven to bake on. And then I had the best-looking robot in the competition, hands down. Like, nobody else had a sparkly purple glitter robot with pink hearts as plasma cutouts.

Connections to high-status actors served to legitimate the status claims of makers through their social proximity, while providing opportunities for individual status attainment insofar as high-status actors possessed scarce resources that they would, occasionally, share. Some makers provided more elaborate narratives of their connection to high-status actors, emphasizing the validity of their claims to social proximity through stories of shared making exploits. Thus, while namedropping was a widely-adopted strategy for status attainment, it operated in a variety of ways.

2.4.4 The Beer Economy

In the previous section, we explored how actors referenced and reinforced an informal status hierarchy within Industry. In this section, we explore the implications of this hierarchy for the day-to-day realities of producing at Industry. Even as individual makers shared the same tools and space, their position within this status hierarchy meant that they confronted very different production environments, particularly in their social dimensions. Social connections were a central attraction of Industry. They allowed makers to learn new skills, collaborate on projects, and gain access to new social networks that would enable new forms of production. We found that access to these types of social connections was not always forthcoming. To understand how some members gained many of the advantages of being a full member of Industry, and others were left on the margins, we introduce the beer economy, an exclusive medium of exchange which served to create symbolic boundaries across spheres and the meanings actors made of these symbols.

At Industry, members often went out of their way to point out the lack of formal roles and authority relationships. As a general rule, members presented themselves against conventional, hierarchical organizations. Indeed, when the question of status in context of collective production was posed to Joey, he replied, “I’ve been involved so long in the community that I don’t notice status differences anymore. I come from the point where everyone is level.” At the same time Joey denied being aware of status differences, he immediately felt it necessary to distinguish himself from certain other makers, saying, “new people will come in and they don’t know how to do anything, they just want to

'make.' They have no direction, they don't know where to go." Joey's friend, in overhearing our conversation, added, "There's a strong culture of meritocracy here. It's put up or shut up; what can you actually make?" The division between true makers and the maker laity was also reflected in the use of different currencies, as Joey remarked:

> If new people are like, "Hey, can somebody help me out with this?" It's like, "who is that person?" Versus if it is somebody who I've seen in the community, I'm just going to do it for them for beer. I like using beer as payment; it's a low-key, very social thing. Someone involved in the community, I will give them three or four hours of my time… Someone who just comes in, I'm going to charge them my hourly rate, so $50 to $150 an hour.

Joey expressed his willingness to exchange services for beer provided he saw that the candidate was "involved in the community." However, at least officially, any member with access to Industry tools and space was part of the community. There was no other formal induction ceremony. Indeed, some prominent participants in Industry's online forum were welcomed as part of community even when they were not dues paying members. Nonetheless, Joey made a clear distinction between those who were *at* Industry and those who were part of its community (who shared a particular disinterested orientation and cultural sensibility). In distinguishing between the two types, Joey placed emphasis on the candidate's orientation towards making. As he puts it, some makers "have no direction." For high-status actors like Joey, making requires a particular vision, one that is oriented towards some larger life project.

The use of beer as a currency was frequent, and Industry's online message board was filled with promises of beer for services and expertise. However, while hardly a secret, not any member could solicit services for beer. As Joey's remark suggests, entry into the beer economy required some standing in the community. This selectiveness can be seen in the following post a member made on behalf of someone else:

> Hello, this email is an offer of beer for help from my cube neighbor. I am hoping that a cog is thirsty. I have a set of fancy handlebars into which I would like to insert some Tektro bar end brakes. Unfortunately, the inside of the handlebars are not the standard diameter. Go figure! I am looking for some help to ream the internal diameter of the bars out to 20+mm. I am local and would of course pay with the requisite six-pack of your choice.

In contrast to those who were granted entrance to the rarefied confines of the beer economy, ordinary makers and outsiders had to offer cash to get access to the time and knowledge of the high-status group. They paid either in fees for classes or, if they wanted personalized attention, an hourly rate or fixed cash sum for a service.

In creating an informal economy around the exchange of beer, high-status makers were able to differentiate between those who shared similar values and norms—particularly around passionate production that displayed a distance from necessity, as we discuss below—and those who potentially did not. As a medium of exchange, beer was preferred because it represented a casual, non-instrumental approach towards collaboration and was used in facilitating social relationships. The ritual of beer drinking potentially exposes participants to slips in the presentation of self and exposure of vulnerabilities which can

result in moments of fellow-feeling. However this type of bonding only occurs with social equals; with a social inferior, exposure reinforces status inequality. The association of beer with masculinity also solidified gender bonding among this almost all-male group. While makers were successful in instituting a robust, non-monetary alternative to the conventional cash economy, prospective entrants into this exchange were required to demonstrate their worth in terms that privileged a particular form of making that denies the realm of necessity and requires a specific cultural habitus (Schor et al. 2016).

Throughout our time at Industry, although we heard frequent critiques of undemocratic practices, less frequent critiques of gender relations, and occasional critiques of other aspects of social relations, we never heard a criticism of the exclusionary aspects of the dual-currency system. In fact, the beer economy was generally revered. Being permitted to perform services for beer was a sure way to make one's way into the select circle of high-status makers.

2.4.5 Ascribed Status Inequalities at Industry

As noted above, the high-status group was almost exclusively male, and was exclusively white. While race was almost never discussed, gender was. For the most part, women gained status adopting the dominant masculine norms of Industry, and attempted to prove themselves within the classification system that prevailed, a finding that accords with Phillips and Zuckerman's findings regarding middle-status conformity to high-status

incumbents' norms (2001). One instructor, Liz, a White woman in her late 30s and a member of the original core group of organizers, frequently taught courses in traditionally male environments and was acutely aware of this dynamic. Indeed, she related the need to constantly demonstrate her competency to the mostly White and male audience that comprised Industry:

> It's something that comes up when you're in groups where everyone's just kind of talking, trying to troubleshoot a thing, or a topic comes up that some people feel pride in. Some people have a one-upmanship kind of mentality, and gender bias comes up more. It's pretty frustrating to have grown-ups doing all these things at the same time as we're trying to be an environment that's really inclusive to people. To have to fight against it and try to point out to people sometimes that what they are doing is gender bias. And of course people don't want to see that in themselves, they don't want to admit to it, especially when they have this self-image of being a "liberal maker."

Liz eventually left Industry.

In some sense, the presence of a strongly gendered culture at Industry is not surprising, despite the high fraction of women and "women's" activities (e.g., art, jewelry making and sewing) in comparison to most other makerspaces. During the initial stages of field formation, Industry was oriented towards robotics, circuit hacking, welding, and costuming. Of these types of making, costuming is likely the one most traditionally associated with femininity. Indeed, its inclusion was due to the influence of Paolo's then girlfriend, who was a professional costume designer. Costuming had other purposes for

members besides its use for theater. Many participants were involved in cosplay (dressing up as a character from anime, TV, movies, or books), LARPING (live action role playing games), and kink. These costuming practices are not exclusively, or possibly even predominantly, male. However, given the overall context of making practices during the early stages of Industry, they represent a small mixed gender component of an otherwise conventionally masculine space.

More generally, the ways makers performed gender was one aspect of status practices in Industry. While Industry's organizers made some attempts at fostering an inclusive environment, such as briefly offering a metal working course for women, gender segregation was the norm. Women tended to cross over into traditionally male dominated domains far more often than men ventured into female domains. Men dominated in terms of membership, governance, and status. The early imprinting of traditionally male cultural practices, in addition to the promotion of a logic of distinction at Industry, gendered the space masculine. This was not lost on many of the women in the space. The principle person behind the jewelry shop, Barbara, noted during the interview that the space skewed masculine and young, and created what she felt to be an environment where many "lacked social skills."

In addition to being disproportionately male, Make Industry was overwhelmingly White. When the question of racial representation was posed to one prominent maker, the goal of inclusion, and the reality of Industry's whiteness, was trivialized:

> You can't have this be the United Nations of Industry. You know, "we want a rich African American, and we want a poor Latino, and an American Indian, or Native American." We can't do that. We have X-many people, so we've got to work with what we've got. If we could be more diverse, phenomenal, great… But it isn't our mission statement to say, "We must be diverse." No, we want people here who want to do stuff… Our mission statement is not to be diverse; our mission statement is to do cool things. Being diverse is cool, it's kind of nifty, but if you try to force that, like, by quotas or anything like that, you're just going to make people upset. So we try to be as open as we can.

Not only did this maker believe that racial representation was an intractable problem that Industry was not capable of addressing, representation was only tenuously connected to Industry's mission, in the sense that "being diverse is cool" and making is about "doing cool things." For this maker, if doing cool things could be achieved without being diverse, the mission of Industry was being fulfilled. When discussing the racial composition of Industry with other makers, participants invariably invoked the language of color blindness (Bonilla-Silva 2010). While the high cost of space, gender composition of membership, and governance arrangements were regarded by many members as problematic, how practices at Industry produced racialized outcomes were seldom, if ever, discussed as a problem.

We have argued that our site was characterized by the existence of an exclusive high-status group. Most of the actors we interviewed in one way or another referenced this group. It was also self-referencing and it used a separate currency to separate transactions internal

to itself. We turn now to discuss the common distinguishing practices through which its members legitimated their status claims and right to membership.

2.4.6 Distance from Necessity

For Bourdieu, status claims necessarily depend upon some degree of misrecognition (1990:112). However, misrecognition is not simply a fog that descends over a group of actors, blinding them and others to acts of symbolic domination. It requires active production on part of actors. Misrecognition is a form of symbolic labor that attempts to naturalize social relationships, practices, and meanings, as it disavows the arbitrariness of the valuations being made. Bourdieu argued that "the labour required to conceal the function of the exchanges is as important as the labour needed to perform this function" (112). It is therefore possible for an actor to hold sincere commitments to creating a non-hierarchical environment while having a stake in an altogether different game. At Industry this happened through adherence to a shared set of values, in particular, creativity, exoticism, individuality, impracticality, and rejection of mass consumption. These reigning tastes are characteristic of high cultural capital, elite consumers (Bourdieu 1984; Holt 1998, Carfagna et al. 2014) . We found that members believed strongly in the virtuousness of these tastes. As such they were never problematized in terms of their relation to existing class, race or gender inequalities.

At Industry, high status makers did not make to fulfill immediate needs, but to execute an internal vision. Generally, their practice conformed to Bourdieu's concept of distance from necessity (Bourdieu 1984). They appear not to have an economic stake in the game, and this lack of interest is part of what codes their work as creative. At Industry, eschewing of the practical or mundane was common practice. Makers at Industry conveyed their distance from necessity in three ways. They produced impractical objects. They engaged in exotic and impractical making. And they cultivated and curated idiosyncrasies. We discuss these strategies in turn.

One piece of evidence of the importance of denying the realm of necessity was the fact that at Industry there was little discussion of members' day jobs i.e., their paid employment. Working for money symbolically erased distance from necessity and in that sense was almost a taboo subject. Michelle explained her initial attraction to Industry in these terms: "I wanted to get to a place where the kinds of questions are not, 'What do you make money at?' but 'What do you make?'" One high-status maker, Job, feigned confusion when confronted with such a common inquiry, replying, "I don't know what I do. I know how to make all kinds of crazy stuff, and someone at MIT gives me money for that." In denying a function to his work, Job presented himself as above instrumental considerations. He is free to do whatever "crazy stuff" comes to mind. Furthermore, when asked about his motivations for making, he refused to dignify the value in a reason, saying, "I mean, people come up with all kinds of interesting reasons here; but I don't know, I don't bother with coming up with reasons." Indeed, the projects Job engaged in demonstrated that. A key

feature was impracticality. In describing the kind of projects he undertook in Industry, Job said:

> I mean, to the extent I finish projects—which is definitely not all of the time—I get some interesting results. Half the time I end up with weird stuff that I'm, like, "What do I do with this now?" In general, I have a tendency to make tables that have some problem with being a table. Like, the cement one is round on top and things roll off. It's also too heavy to move anywhere. Also, the other table is full of holes, so things fall through it.

Job's art consisted of creating everyday objects that denied the essence of their form – in the case of a table, its worldly function. In Bourdieusian terms, Job's making denied the realm of necessity. At the same time as Job denied the realm of necessity and downplayed the instrumental nature of his production, he found his participation in the space useful for securing a highly sought-after staff position at MIT. When Job brought up his recent hiring, the interviewer asked if he had come to Industry through his participation, to which Job replied:

> No. It was more the other way around--I got MIT through having been involved here. Probably two-ish years ago, I heard about Industry somehow and it seemed really cool. I volunteered a couple times. And then here in the new location I started teaching woodworking basic trainings, and eventually I did get a studio, made stuff, made weird furniture. I heard about [the MIT job] both through Industry and through a previous client of mine. But having been an instructor here and participating in managing woodshop directly contributed to getting the job at MIT.

This suggest making isn't always pursued as a rejection of conventional institutions or credentialism but can be used as a way to advance one's career in conventional institutions. Like interning, there is a significant barrier to entry in the sense of having to perform unpaid labor to secure social and cultural capital (Perlin 2012).

Social events at Industry also tended to deny the realm of necessity, even as they could serve necessitarian ends (as demonstrated above). Whether it was by erecting a velodrome (a type of cycling track) in the common area of Industry for an evening, or organizing an autonomous robot competition, these activities required considerable technical expertise, material resources, and time. As Joey reminisced:

> It was a fully autonomous robotics competition. So, essentially we dropped our robots in the ring and then we just drank. That was what that night was. But it was pretty fun; it was one week, about fifty hours of build time involved in, like, going from a rough kit to an autonomous robot.

The fact that the robots were destroyed that night was key to the ritual—by displaying their ability to spend many hours building something that would be destroyed in a flash members signaled their distance from necessity. These social events were well attended by high-status makers at Industry and were typically provided as examples of community building in the space. These rituals also served to promote a particular type of otherworldly making at Industry, one that valorized novel and impractical projects.

Not everyone at Industry adopted these dispositions. Chris, who ran a small business out of the space, remarked how baffled he and his girlfriend were by such activities. When asked to expand on his comment, Chris said:

> You have people who take it to some extreme. They're building some really specific or weird project that they've devoted eight months to, like a giant robot animal. It's really single use. Like, you're going to devote so much time to this one project, and then it has one function and then you're done. Then they just move on to the next project. When you ask them, "Why did you build that?" They say, "Because I can." Like, "I have the intelligence, the skillsets, and the tools at my disposal to build said thing. That's why I built that thing, because it occurred to me to build said thing."

As a maker who was trying to use his membership to bring in an income, Chris found it difficult to understand what he saw as purposeless production. He considered himself to be, in his typology of makers, a "normie." This was in contrast to his two other identified types: "weirdies" and "awkwardies." Indeed, as several members of Industry noted, the ability to make without consideration of finances is a privilege, for which they were grateful. One member, Derek, when asked how he was able to financially support himself in his making suddenly underwent a shift in manner, from boastful to sheepish, as he acknowledged that he was, in his words, a "trust fund kid." As he put it:

> If I was dependent on what I was producing today in order to pay my rent for the end of the month, then I think it would be a very different story, and I think that my decision would've been crazy. But I have a lot of privilege, and I think that the

> way I'm using my privilege now makes me happy, because I'm finding much more meaning in the work that I'm doing.

Enacting distance from necessity also meant that not everyone was understanding about some members' needs to generate an income through the space, and saw in their insistence on professionalism and reliability a conservatism that was fundamentally opposed to the otherworldly ethos of Industry. As Kat remarked:

> You have people come who have high expectations around cleanliness, around tools. They say, "I'm putting down my money, why don't the tools work? Rawr rawr rawr, I'm mad." I always tell them, "Well, the reason we exist is because there is a community of volunteers. So, I don't think we are doing a good job of socializing people into our culture. Instead, we get people who think, "We've got to make money."

Insofar as actors with economic, social and cultural resources are better positioned to maintain a presentation of self that denies the realm of necessity, the rejection of the practical as a cultural value at Industry structured the field of making in such a way as to disadvantage certain players, while advantaging others.

2.4.7 Exoticism and Impractical Making

In eschewing the practical, some making at Industry may not have been economically lucrative, but it did garner a great deal of prestige for the makers. Visitors came from all over the world to tour Industry, and it was not uncommon to see guided groups making

their way among workstations, marveling at exotic projects in various stages of completion. The atmosphere of Industry was one of buzzing excitement, and tours allowed visitors a glimpse into the lives of a highly celebrated figure: the creative (Florida 2012). It was this creative atmosphere that many participants described as Industry's primary appeal. While Industry drew from a variety of hobbyist subcultures, all shared a similar orientation towards engaged, passionate production. As Brian characterized the membership of Industry:

> It's really broad. If you can get excited about making something, about other people making something, and about doing something - preferably something weird. Parts of Industry have a lot of overlap with the Burning Man community. So, you get some real characters. We have one guy who is an accomplished S&M bondage rigger, there's an electronic music cooperative. I never would have expected to see all that in these people in the same space.

Industry was a place where makers could come together to celebrate making and their individuality. Makers positioned themselves both against mass production, which they regarded as alienating, and mass consumption, which they regarded as uncool. High status actors in Industry were the ones who possessed—and were capable of producing – objects that could not be purchased on the open market. In the words of "Val," an electronics engineer by trade:

> If I make this thing I can say, "See? Isn't it cool?" But if I buy it, it's not nearly as cool. Anybody who has the money can buy that same thing. The laser harp I'm making and spending $2000 on, you can't buy unless you commission me to make one. So, it's something new in the world.

Make Magazine now provides instructions on its website for building a laser harp, but Val's point remains valid: it is difficult to pick up a laser harp at the neighborhood RadioShack. It is a relatively hard to build, distinctive item that requires time, money, and know-how.

Objects did not have to be the original vision of the maker in order for them to be distinct; the important point was that they couldn't be bought. Bob discussed the origins of the maker movement in terms of an extension of nerd culture and fandom. He described the prop enthusiasts who replicated objects from science fiction movies as precursors to the maker movement. Prop enthusiasts were dedicated to creating objects that couldn't be bought on the market. As Bob remarked:

> The only way to get a Star Trek prop is to go through one of these not very legal garage resin producers. So, there may be some toys—like, hand phasers and stuff—you can buy, but all the other stuff, you're either making yourself or buying it from somebody who's making it. And they're usually doing it sans, you know, rights.

When asked what the benefit or value of making something for oneself versus buying something, Bob described it in terms of possession versus ownership:

> Somebody tried to explain to me the other day how if you make something then you really own it. Whereas otherwise you just sort of have it. If you buy something, you don't really relate to the object… It has potential to have value, but it doesn't have value.

Thus, what is important for makers is an attachment to an object that can only be attained through making. Makers are calling out consumers of high-status objects for possessing

illegitimate cultural capital. While both the maker of a resin phaser and the buyer of a Louis Vuitton handbag signal their status through their association with an object, the maker's status claim is legitimated on the grounds of labor invested into the creation of the object. It is a materialism that adheres to a logic of producerism, a form of what Schor has called true materialism (2010).

Other projects, while not necessarily impractical, were intentionally exotic. An obsession or singular vision indicate an otherworldly orientation just as much as the creation of an impractical object. In the case of one maker, Kat, it was creating a singular type of functional object, but in the widest variety of possible ways. When asked to describe her motivation behind making, she responded:

> My goal is to make a sex toy using every workshop at Industry. In one class everybody else's first project was a candle, but I made a butt-plug. I've done some other kind of prototypes along that line, and Joey and I just built a vacuum casting device for making copies of genitals.

Kat made a point to distinguish her making from more conventional projects, even as she learned the process with everyone else in her class of novices. Kat also invoked her work with Joey creating a single-purpose vacuum casting device for genitals to bolster her status claims as well as distinguish her work from more conventional making.

Exotic and impractical production signaled to other makers one's disinterested and otherworldly orientation. It also was a primary source of identity work, a way makers could distinguish themselves from other high-status makers who were invested in a similar game.

In the next section, we explore how makers cultivated and curated idiosyncrasies, attempting to fashion an iconoclastic identity that would put them above the laity.

2.4.8 Cultivated and Curated Idiosyncrasies

In cultivating and performing their idiosyncrasies, makers attempted to demonstrate that they were not the same as everyone else, and they were not conformists (as many people were imagined to be). One high-status participant, Larry, explicitly defined maker culture in opposition to the passivity of mass society. As he put it:

> It's always inspiring to see other people doing stuff, as opposed to just seeing people through a window in their house watching TV. I walk by this house every night and there's always that blue glow. It's a kind of a living death, in a way.

In this telling, the common person idly consumes their recreation. In contrast, the maker heroically transcends the common, both by producing distinct objects, but also by engaging in unusual forms of recreation. Another maker, who was only known by the alias Badger, adopted a heroic persona. Badger was the ringleader of a group of bike-hacking enthusiasts who frequently went on group rides referred to as "missions." Badger's most prized bike was a 200 lb. custom-made behemoth that sported a flashing lights and speakers. When asked the motivation behind his biker game, Badger replied:

> Well, we have a motto, and that is, "Be a superhero version of yourself." That came from some of my friends who were art students. They were talking about their education in college, and they said that learning art is counterintuitive to your

> creativity. What came out of our conversation was that they believed in becoming an uber-you, a more heroic, larger than life version of you. So, basically, we don't really have an agenda or a goal to change anything; we just want to ride and have a good time.

Here we can see how recreational activities also do identity work. While the same is true of mass consumption practices, in the case of bike or circuit hacking the identity construction occurs via production rather than consumption.

Status Importation

When making status claims, actors at Industry did so not only in terms of the local field, but also by referencing larger fields that overlapped with Industry. For example, even a high-status maker like Joey was not above namedropping. Joey would often discuss his association with international hackerspaces (he was a "hacker in resident" at one), interviews in prominent magazines, and leadership in the open-hardware community. When discussing how he started a hackerspace (which merged with Industry at its inception), Joey made sure to mention his connection to the notorious hacker collective, Chaos Computer Club (CCC):

> So, at the 2007 CCC camp, there was a presentation given for hacker space design patterns, and a group of people had gone on this trip called "Hackers on a Plane," and they all bought tickets where they toured a bunch of different hacker spaces around Germany. And from that, about a dozen U.S. hacker spaces started. And I

> knew a lot of the people that were involved in that. But after reading the design patterns I was, like, "Hey, we basically have a hackerspace."

Joey's namedropping of prominent hackerspaces conveyed his status at Industry to his audience by drawing upon collectively recognized symbolic resources from related fields. In this sense, the weakly institutionalized field of Industry provided opportunities for actors to make status claims on fairly conventional terms. While makers may be critical of bureaucratic hierarchies, this group was not without leaders. Board members were elected through a formal process, but there were also powerful informal leaders who presided over particular domains within Industry (welding, robotics, woodworking, circuitry, jewelry making, burning, costuming). These captains were powerful in the sense that they had considerable influence in promoting (and skirting) policies, as well as in shaping practices and their meanings at Industry. Often, these makers had some type of connection to high-status institutions outside of Industry, and drew upon these to legitimate their status claims. Brian drew on his connection to Paolo, the founder of Industry:

> I was almost out of college when I met Paolo through a company that we both used to work for - that I had an internship for. It's a robotics company. And he was really excited about Make Industry, about everything that people were doing. He's got a very infectious personality. He's very convincing.

About two years after founding Make Industry, Paolo stepped down from his formal role in Industry's governance to focus exclusively on his personal robotics work. However, even after he resigned his elected position, Paolo maintained a prominent role in managing Industry, particularly in the robotics area, which, for all intents and purposes, served as his group's personal shop space. These leaders, while ostensibly on the same level as any other

dues paying member of Industry, enjoyed a privileged status. This generated no small amount of frustration, and accusations of favoritism were not uncommon.

Other makers attempted to situate themselves as experts in the field of making by emphasizing their connections to national and global makerspaces. Larry made it a point to visit makerspaces in his extensive world travels:

> Whenever I travel somewhere I try to seek out other people who are doing similar things - so other artists, other creative types. And for a while, every time I'd go to a city, I'd look up the funkiest bar and makerspace, or any hackerspace, things like this. There was always something fascinating going on, and there was always a way to meet interesting people who had a better sense of what was going on that was worth seeing in the town. So, I do that, and we talk shop, and trade stories. And as time progressed these things got bigger and bigger.

Like Joey, Larry presented himself as an expert maker, someone who possessed esoteric knowledge of the history and origins of the maker movement, what some scholars term organizational or institutional memory (Walsh and Ungson 1991). Institutional memory is a source of power insofar as actors who possess legitimate claims to knowledge are better positioned to promote particular meanings.

The importation of status markers from related fields posed a practical barrier to Industry's attempts to promote egalitarianism and non-hierarchical work arrangements. Many of the fields that overlapped with Industry—academic, artistic, scientific—operated according to competitive and hierarchical logics which came into direct contradiction with Industry's

mission of inclusion and egalitarianism. This tension did not go unnoticed to members of Industry, particularly the makers who were attracted to Industry because it offered an alternative to conventional institutions. As Liz related with obvious frustration:

> Should we be catering to people who are here purely as a hobby because they have the disposable income to be able to be here doing these things as a hobby, versus people who are not in that same financial situation? I have always been concerned with trying to make sure we stay an all-purpose maker space rather than a software/hardware-y hackerspace. Because it's an inclusivity thing, and it's also because I come from a background of being a visual artist; and, you know, the fate of the visual artist is, historically speaking, the "starving artist." Whereas the more purely hackerspace kind of mentality comes from a space of, you know, software engineering, and having jobs that pay well, and being highly educated, and being able to afford doing things that don't necessarily cost as much to do in the first place.

In Liz's telling, there was a tendency for makers to import mentalities that were developed in other fields, like hacking and software engineering, that didn't necessarily accord with the inclusive goals of Industry.

Here I think we should add a sentence or two to sum up what we think of this issue. How much of inside Industry status is related to outside status?

2.5 DISCUSSION

We began this paper with the question of how status-seeking behavior relates to the formal structure of an organization. Does formal hierarchy suppress status jockeying? Does leveling or flat structure result in a larger role for cultural content to structure status hierarchy? In the case of Make Industry we found high levels of status practices and boundary work to assert informal status positions. Our argument is that when economic markers are suppressed, status seeking finds new outlets, particularly in the cultural realm. At Make Industry the absence of a formal hierarchy validated by titles, positions, and organizational authority resulted in an environment characterized by high levels of distinguishing practices and numerous ways of displaying cultural capital. These include performing distance from necessity through exotic, esoteric, impractical and idiosyncratic making, and emphasizing distance from mass production. Interviews were full of name-dropping and boasts. High-status members adhered to a set of distinctive cultural tastes that were defined in opposition to "normies." Through our observation in the space we discovered that a discernible status hierarchy was maintained via visible displays, verbal transmission of status information and obvious status performances. A key piece of evidence for the existence of a high-status group was that its members signaled its existence via willingness to trade skills and time for a distinct currency: beer. By contrast, for outsiders and lower-status makers, ordinary money served as the medium of exchange. This also accords with another expectation from Bourdieusian theory: when economic markers are suppressed, cultural markers become more salient in status competitions. Furthermore, the ability to identify and deploy cultural capital often requires deep cultural

immersion within a group. Even when some actors come to conceptually grasp aspects of a normative order and the particular logics of deploying cultural capital in it, there is no guarantee that high-status incumbents will recognize their performances as legitimate.

This study has both practical and theoretical implications for our understanding of organizations. Theoretically, organizational leveling has mostly been explored in terms of eliminating formal hierarchies and collapsing job categories (Kalleberg 2003; Smith 1997). Vallas (2003) and Milkman (1997) provide much needed meso-level accounts of the process of leveling hierarchical organizations, finding that hierarchies often persisted despite official pronouncements to the contrary. Efforts to eliminate or redefine status hierarchies may be subverted, as actors interface with pre-existing norms and interests (Attwood-Charles and Babb 2017). We therefore studied an organization that is already level in order to ask how hierarchy is practically achieved in environments where openness and egalitarianism are shared norms and reflected in the formal structure of the organization.

This study brings new evidence to bear on the debate regarding the relative ability of bureaucratic and commitment/level forms in reducing the salience of ascribed status inequalities. Similar to Baron et al.'s (2007) finding that hi-tech firms which began or transitioned to a bureaucratic logic were better at recruiting and maintaining women workers, we find that a commitment orientation and a level organizational form are not sufficient for ensuring egalitarian outcomes. Indeed, a pronounced White, male status-hierarchy emerged at Industry, which was also characterized by a strong upper-middle class

skew. Some radical feminist theorists and neo-Marxists (Acker 1990; Clawson 1980; Ferguson 1984; Iannello 1992; Kanter 2010) have argued that bureaucracy is an inherently patriarchal and oppressive institutional form, insofar as it involves the hierarchical figure of the father-manager and depersonalized interactions. However, bureaucratic techniques can also be effective at minimizing status competition - another characteristically masculine quality - by routinizing status ascription (Charles 2018; Stewart 2005a). In contrast, the non-hierarchical/commitment form may reject the father-manager and encourage personal authority and interactions, even as it adopts a logic of status competition. It makes little sense, then, to speak of organizational forms as having "inherent tendencies," particularly considering findings that level organization can be substantively more patriarchal and inegalitarian than formally bureaucratic ones.

The ideal behind non-hierarchical organizing is to produce substantively egalitarian outcomes. At Industry, we found that durable status hierarchies were created despite the adoption of a level organizational form and the normative rejection of formalization, status, and hierarchy. As in Gouldner's (1954) theorization of "mock bureaucracy," one is tempted to described Industry in terms of a "mock horizontal" organization. This is not to say that Industry does not exhibit formal features of a level organization, or that its members are insincere in their commitment to egalitarian norms. Rather, it is to argue that the formal structure and cultural content of Industry's organization were in tension and produced contradictory outcomes. That values, practices, and structures in an organization can become misaligned or loosely coupled is not a new or striking finding (Meyer and Rowan 1977). Nor is the existence of informal status hierarchies particularly surprising (Costas

and Grey 2014; Diefenbach and Sillince 2011). What is more interesting is *how* and *why* the emerging cultural content at Industry departed so drastically from its formal structure and values, and how this gap was misrecognized and reconciled by members (Bourdieu 1977; Festinger 1964).

For Bourdieu, the assertion of status simultaneously necessitates its misrecognition if it is to be regarded by an audience as legitimate (Moore 2004). Too blunt a declaration of superiority can undermine a status claim as it will be recognized as overt domination. Misrecognition therefore involves the transformation of status claims into seemingly neutral or "naturalized" terms and values, which the audience believes are their own (or at least not entirely foisted upon them). To borrow once again from Gouldner, a "representative horizontal" organization involves the continuous enactment of non-hierarchical structures. This is more than simply a discursive rejection of status and hierarchy. It requires a more equitable distribution of organizational resources as well as participation in non-rivalrous status sharing. Such a move would undoubtedly have an effect on the cultural content of Industry, as valorized practices would likely not be limited to the production of exotic, esoteric, or impractical objects, but would perhaps bring the cultural content more in line with the organization's formal structures and values.

Our study also makes a contribution to the way distinction operates and to the broader study of work and education. Classic accounts from Bourdieu (1988, 1998) and Lamont (1992) relate patterns of consumption and moral orientations to social positions that largely correspond with occupational categories and levels. Bourdieu's original project was to

challenge the presentation of culture in noumenal terms by anchoring it in material and interested struggles. As we also find, interested work can be cast in a disinterested light. We believe A Bourdieusian framework is useful for understanding how people are responding to recent trends in labor markets. In the context of historically high educational attainment and an increasingly polarized labor market (Kalleberg 2013; Okahana and Zhou 2017; Standing 2011; U.S. Census Bureau 2017b), we would expect competition over desirable positions to be increasing, particularly in lucrative STEM fields that require credentials and frequent recertification. This requires changes in the ways candidates differentiate themselves in an institutional environment characterized by an abundance of credentials and a dearth of jobs with fixed skill requirements. Making, far from being a rejection of status as such, can be understood as a new status strategy for distinguishing oneself from equally credentialed candidates. This raises a host of questions regarding changing norms around the motivations behind education and work. In what circumstances is work and education framed in a disinterested manner? What groups of actors are best positioned to maintain a disinterested presentation of self? What features of the work process, organization, and broader field do these performances pertain to? These questions are particularly relevant to the study of newly emergent cultural organizations, such as hi-tech organizations (Kunda 2006), that depend more upon shared norms than hierarchical control to coordinate production. How might a Bourdieusian framework help us better understand the durable nature of inequality in established professional cultures, emergent hi-tech organizations, and social movements?

2.6 CONCLUSION

There is little question that Make Industry is a successful makerspace. It is able to hold a full schedule of classes, there is excess demand for its rental spaces, and membership is high. The site is home to a diverse set of activities, from robotics to electronic music to woodworking, welding, art and prop fabrication. Furthermore, while it is not without tensions related to governance, there is a functioning community at the site. Members interact with each other, and even more importantly, they learn from each other. They teach each other how to use machines, learn new skills, and navigate technically difficult tasks. The site's mission of creating a community of makers is being fulfilled. However, our findings suggest that the social dynamics within the community are far from ideal. A visible in-group has been successful at claiming status in ways that are socially exclusionary. This finding has implications not only for firms, but also social movements that eschew hierarchies in favor of horizontal structures (Taylor 2011; Van Gelder 2011). In the absence of formalized roles, responsibilities and authority relationships, non-hierarchical social movements depend upon shared normative frameworks to coordinate action. This often requires intense ideological commitment or local-level interactional enforcement/negotiation to ensure continual adherence to shared norms. In the process of negotiating a normative order, the outsized influence of high-status actors in promoting particular meanings may be misrecognized, as high-status actors present themselves as disinterested parties. Misrecognition, as an act of symbolic domination, undermines the democratic ethos of non-hierarchical organizing. Our findings suggest a similar dynamic, as middle-status actors conformed to high-status norms, further defining a normative order

by adhering to categorical boundaries (Lamont and Molnár 2002; Zuckerman 1999). The maker movement has made clear its interest in reaching broadly across class, gender, race, age and other social divisions to engage a wide spectrum of people in the joys and satisfactions of making. If the movement is to be successful at constituting itself broadly, our findings suggest it should pay explicit attention to status dynamics within its communities.

3.0 CHAPTER 2

The collectivist organization promises the possibility and benefits of an organization without the familiar downsides, namely: hierarchy, conformity, and alienation. It is explicitly opposed to domination, whether that of rationalized bureaucracies (Mills 1951; Weber et al. 2013) or the traditional rule of the father (Adams 2005). This emancipatory vision harkens back to a tradition of utopian socialism, represented by figures like Robert Owens and Charles Fourier, who created and inspired communities dedicated to equality and human flourishing (White and Kossoff 2007; Wilson 1940). In practice, many of these communities were hierarchical and short lived. In the 1960s and 1970s, there was a renewed interest in progressive circles with self-organizing societies that could potentially overcome the defects associated with previous communitarian efforts. Indeed, over the past several decades, communitarian ideas have migrated from the countercultural fringes into the center of corporate capitalism (Barbrook and Cameron 1996; Turner 2006). Companies like Google and Zappos publicly espouse principles of horizontalism, while emphasizing a shared culture of creativity and innovation (Pisoni 2015; Saval 2016).

The structure and culture of organizations associated with this ‘New Economy’ should be of both practical and theoretical interest to sociologists. Practically, we might expect an economic sector characterized by distinct organizational structures to also be characterized by a distinct regime of inequality (Acker 2006). Theoretically, we can ask how culture operates in collectivist organizations, whether to integrate members into a

collective, define the collective in opposition to various reference groups, or blur boundaries between potentially competing identities. Previous research on corporate uses of culture management strategies in level workplace environments focus on efforts at boosting productivity and minimizing workplace dissent (Kunda 2006; Robertson and Swan 2003; Waring and Currie 2009). These analyses of culture management explore the process by which organizational elites (typically managers and consultants) craft and disseminate meanings around what is appropriate and inappropriate. In contrast, I explore how members of a collectivist organization negotiate and solidify meanings around organizational activity. In doing so, I ask how membership and standing is determined in an organization that explicitly rejects hierarchy *and* cultural conformity. This question is relevant to a range of horizontal organizations, whether social movement organizations that operate on the basis of consensus, or for-profit firms that attempt to promote innovations through an emphasis on cultural and technical disruption.

Previous research suggests that horizontal, collectivist organizations depend upon high degrees of cultural conformity (Downey 1986; Rothschild-Whitt 1979). In the absence of formalized bureaucratic rules and authority relationships, collectivist organizations are able to sustain themselves over time by recruiting members who share similar values and world views (Collins 1975). As Rothschild-Whitt notes, 'Such recruitment criteria are not at all uncommon or hidden in alternative work organizations.' Indeed, an emphasis on 'cultural fit' in the recruitment of tech workers is one common explanation for the overwhelming Whiteness and maleness of hi-tech organizations in Silicon Valley (Lee 2015; Vara 2016). This is a problem for members of value-rational, collectivist

organizations insofar as they are often dedicated to minimizing repression and domination (Chen 2009; Marcuse 1955). Members do not want to simply switch out one mode of domination or exclusionary principle for another, but rather they typically seek to overcome domination in all its forms. This is also a problem for a liberal society that is (at least rhetorically) invested in ideals of pluralism, which is to say the coexistence of multiple normative orders (Larmore 1996; Reay and Hinings 2009; Rorty 1989). Insofar as the scope of opportunity in a society characterized by collectivist institutions is increasingly limited to domains of pre-defined cultural sameness, it is a freedom of exit and retreat, as opposed to one of voice and advancement (Hirschman 1970).

I use the empirical context of a makerspace, Make Industry (hereafter referred to as 'Industry'), to explore dynamics of inclusion and exclusion in collectivist environments. Data consists of 18 months of ethnographic fieldwork, interviews with 36 participants, in addition to analysis of internally generated documents and correspondence. I ask how membership at Industry is determined, and how social closure is practically enacted in an organization that is explicitly opposed to cultural conformity. Building upon Weber, Parkin defines social closure as, 'The process by which social collectives seek to maximize rewards by restricting access to resources and opportunities to a limited circle of eligibles. This entails the singling out of certain social or physical attributes as the justificatory basis of exclusion' (1979: 44). We might expect any organization that confronts the practicalities of resource scarcity to engage in some form of social closure. This, however, does not mean that all forms of social closure are qualitatively the same. It is possible that some forms of social closure are aligned through a logic of domination

(the restriction of resources in the pursuit of hierarchy), while other forms of social closure are aligned through a logic of mutualism (the practical restriction of resources in the pursuit of an enhanced commonwealth). Thus, there is a distinction in terms of both the means and ends of social closure. The validity of this distinction is essential if collectivist organizing is to be compatible, at least minimally, with egalitarian and pluralist ideals.

Collectivist organizations are often created to prefigure a more just society (Yates 2015). They are defined against both the oppressive tendencies of bureaucracy and patriarchal rule (Adams 2005; Marcuse 1955, 1964). The collectivist organization promises to not only benefit its members, but the larger society as well. Collectivist organizations that are dedicated to creating environments that meet human needs for creative and rewarding work, while also addressing collective considerations of justice and fairness, can be thought of as expressing what Boltanski and Chiapello (2007) term the artistic and social critiques of capitalism. Dale Dougherty, the founder of Make Magazine and Maker Faire invokes both critiques in his understanding of 'the movement':

> A lot of institutions, such as schools, corporations, or government departments, think they understand what drives innovation and that they can manage it in a controlled environment. At Maker Faire, we see innovation "in the wild." It hasn't been "domesticated" or controlled, you have to look for it, and to turn a corner at any of our Faires is to see something you haven't seen before. I believe that in the same way U.S. companies studied the secrets of the Japanese manufacturers decades ago, the institutions around us should look to the maker movement for

> tips on how to create an ecosystem of talent, connections, and learning that will lead to a truly innovative economy and society (2012: 12).

In Dougherty's account, the maker movement represents a break from hierarchical forms of production and learning. Similar to the adoption of Japanese principles of lean production (Womack 1990), which emphasize worker participation in the design of processes and job enlargement, the maker movement would reduce alienation and promote creativity by releasing workers into 'the wild.' By creating spaces where people can interact spontaneously and on a leveled playing field, makerspaces would in theory incorporate individuals who have not been served well by conventional institutions. However, a rhetorical commitment to values tells us very little about how these values are enacted at the organizational or interactional level, or whether or not makerspaces are effective at realizing their professed values. To better understand how the artistic and social critiques are manifested at different times and places, as well as what this means for the way social closure is practically enacted, it is useful to situate the maker movement in context of its predecessor: The Arts and Crafts movement.

3.1 CREATIVITY AND THE ARTISTIC CRITIQUE

According to Boltanski and Chiapello (2007), '[The artistic critique] foregrounds the loss of meaning and, in particular, the loss of the sense of what is beautiful and valuable, which derives from standardization and generalized commodification, affecting not only

everyday objects but also artworks (the cultural mercantilism of the bourgeoisie) and human beings' (Boltanski et al. 2007:38). At the turn of the century, participants of the Arts and Crafts movement in the United States, Great Britain, and Germany invoked the artistic critique to condemn mass production practices (Cumming and Kaplan 1991; Lambourne 1983). This movement was very much a Victorian product, a reaction to fears of an overly industrialized society that was politically, socially, and aesthetically degraded. Socialists in the movement argued that factory workers were alienated from their labor, the mental aspects of production separated from the tasks of execution. Moralists held that the factory produced social ills, breeding poverty, sickness and vice. Artisans criticized the factory from the perspective that it produced goods that were aesthetically unpleasing, homogenous, and soulless. Over the past decade, there has been a resurgence of interest in DIY (do-it-yourself) and neo-craft production, much of which is pitted against the alienating tendencies of mass consumption (Bratich and Brush 2011; Dawkins 2011; Hagedorn and Springgay 2013; Kuznetsov and Paulos 2010; Ocejo 2017; Schor and Fitzmaurice 2015). As noted by Morozov (2014), the maker movement is just one incarnation of this burgeoning interest in the handmade, local and artisan. Many people who perform immaterial labor as their primary source of income are finding in neo-craft work a potentially more 'authentic' and tangible occupation (Berman 2009; Crawford 2009; Zukin 2008). Like the Arts and Crafts movement, there is a noticeably nostalgic dimension and a sense of a world (even if imagined) that is lost.

Even as the Arts and Crafts and the Maker movements are both clear representatives of the artistic critique, the individual and social meaning of creation in each movement are

nonetheless distinct. It is doubtful that a craftsperson would think of their work in the same "creative" terms as contemporary Makers. While the craftworker was not alienated in the sense of there being a separation between the mental conception and execution of work, the mental conception of work was formed through a strict process of socialization, as methods were passed from master to apprentice over the course of what could be decades. There is a hereditary and repetitious logic to craftwork, as apprentices attempted to recreate the form of the master, even as they would eventually provide their own signature flourish (Sennett 2008). It is because there is slight variation along with continuity that appraisers are able to trace craft objects to particular times and places with a fair degree of certainty. 'Creativity' characterizes the work of makers in the sense that, in abandoning the intense socialization process of craftwork and the strictures it imposes, makers produce things in extremely idiosyncratic ways. It is highly unlikely that appraisers could place and date the product of the maker movement in the same manner as that of a traditional craft object. There is simply no baseline or continuity to making that would enable such accurate placement.

Boltanski and Chiapello argue that the artistic critique has migrated from its artistic and craft origins and is increasingly defining work in the heart of contemporary corporate capitalism. It is the application of the logic of the hobby, which Adorno (1946: 188) defined as 'that human condition which sees itself as the opposite of reification, the oasis of unmediated life within a completely mediated total system,' to the realm of wage work. Fully integrated into capitalism, the artistic critique would make the firm an oasis. It is perhaps not surprising, then, that Google's new Mountain View campus has been

described as ‘monastic’ (Heller 2015). For Boltanski and Chiapello, this process of capital absorbing the artistic critique defines the post-1960s configuration of capitalism (2007). Workers are expected to intensely identify with corporate culture, view coworkers in terms of fictive kin, and develop passion projects that could potentially be monetized. Managers offer creativity and individuality not only as values that will produce happier employees, but which will also help the bottom line (Anon 2014; Grant 2016). What, however, is the role of the social critique, and how might we characterize the relationship between this recontextualized artistic critique and the way social closure is enacted in contemporary collectivist organizations?

3.2 THE SOCIAL CRITIQUE AND CRAFT

If the artistic critique attempts to restore beauty and meaning to the world by reuniting the artisan with the tools and autonomous means to produce great works, the social critique attempts to bring about a different type of beauty: the universal right to a dignified existence and the elimination of cruelty. It is an unabashedly ethical and solidaristic impulse. As Boltanski and Chiapello note of this critique, it is directed against both ‘the egoism of private interests in bourgeois society and the growing poverty of the popular classes in a society of unprecedented wealth – a mystery that will find its

explanation in theories of exploitation' (Boltanski et al. 2007:38). Thus, the social critique is explicitly opposed to all forms of domination. The Arts and Crafts movement, far from being a retreat into aestheticism, was an attempt to aestheticize the social critique. As Lambourne remarks of the movement's key luminaries:

> All these thinkers, however, had two ultimate and connected concerns in common; the lot of the worker and the low standards of the designs and artifacts produced by the machines. Bad working conditions, it was felt, produced bad designs. Reform working conditions and design standards would inevitably improve… Though these concerns did not emerge as crucial issues until the middle of the century their antecedents could already be discerned in earlier years. Both the pragmatic and the Utopian approaches were clearly exemplified in the career of Robert Owen, who in some respects can be described as the founder of British socialism (1983:6).

In this account of the Arts and Crafts movement, the artistic and the social critique are wedded. Factory work was regarded as degrading to design while robbing the laborer of the intrinsic rewards of craftwork (the artistic critique). At the same time, factory work was criticized for producing widespread poverty (the social critique). This is not to say that craft workers did not engage in exclusionary practices, like rent seeking or opportunity hoarding (Tilly 1998). Practically, craft workers monopolized access to resources through establishing 'trade secrets' and limiting the number of apprentices a master could instruct (Gustafsson 1987). This is not the case for making. Not only do participants explicitly critique social closure in their injunction that 'we are all makers' (Dougherty 2011, 2008), as well as in their promotion of open source instructions and

schematics, they also reject the hierarchical socialization process that characterized the master/apprentice relationship in craftwork. Makers learn in a collaborative, self-directed manner, at least in theory. Knowledge of production should be available for anyone with the desire and inclination to make, certainly regardless of one's familial, religious, or class origin. In this sense, the rhetoric of the maker movement is characterized by a strong social critique, particularly in terms of values like equal access and representation.

According to Boltanski and Chiapello, it was the social critique that was absorbed, albeit partially, into the justificatory framework characteristic of the postwar Keynesian era, which saw a relative socialization of consumption and production. In their understanding of the contemporary era of connexionist capitalism, the social critique has lost its salience, while the artistic critique enjoys a great deal of currency. In this context, questions of justice and fairness are difficult to engage with. On what common basis can actors invoke the social critique if interests, needs, and values are the sacred, sole province of individuals? Craft guilds had no such problems in articulating shared interests, even if these shared interests were limited to a relatively small circle of eligibles. Articulating shared interests is potentially a more difficult proposition for makers and makerspaces, as many combine a range of non-profit, for-profit, and hobbyist production. It is the supposed pluralism of makerspaces, both in terms of types and orientations towards making, that are said to produce new innovations (Bowler 2014). This raises the question addressed earlier in this paper: how does social closure operate in collectivist organizations that explicitly reject hierarchy and cultural conformity, if at all? What does pluralism mean in this context?

3.3 INSTITUTIONAL WORK

What should be clear is that ‘creativity’ and ‘alienation’ have a variety of meanings, and may be weighed against other, potentially competing values. To understand how particular values are instantiated at organizational level, scholars adopting a new institutionalist perspective seek to identify the everyday work actors perform to create, recreate, and transform institutions (Lawrence and Suddaby 2006; Smets and Jarzabkowski 2013). While this framework is often used to uncover the taken for granted, everyday work that goes into reproducing conventional organizations, it is perhaps of greater relevance to newly formed organizations where meanings may be more unsettled or open to contestation. We might expect collectivist organizations to require considerable amounts of institutional work in the early stages of formation, as norms and practices are negotiated and solidified. In bringing this literature to bear on the challenges of pluralism in collectivist organizations, we can ask what kinds of institutional work actors are doing in their attempts to create and recreate the organization. Furthermore, we can ask how meanings around missions, values, and governance structures at Industry evolved over time as organizers and members addressed specific challenges.

Lawrence and Suddaby (2006) provide a comprehensive list of forms of institutional work. I focus on four forms that seem particularly relevant to Make Industry: defining, constructing identities, changing normative associations, and theorizing. Defining refers to the 'construction of rule systems that confer status or identity, define boundaries of membership or create status hierarchies within the field' (2006:222). Defining overlaps with the second form, constructing identities, in that actors attempt to construct identities in relationship to other fields. This may be in constructing identities as variations of other identities, or in opposition to particular identities. Changing normative associations refers to the process of redefining the connection between sets of practices and the meanings that underlie those practices (2006:224). Theorization is related to the previous forms but is broader in that it refers to the symbolic work that goes into the 'naming of concepts and practices so that they might become a part of the cognitive map of the field' (2006:226).

3.4 METHODS

In order to examine dynamics of inclusion and exclusion in collectivist environments, I selected an organization that formally rejects hierarchical modes of organizing and cultural conformity (Adams 2005; Weber et al. 2013). In addition to being formed around egalitarian and anti-authoritarian principles, the founders of Industry also espoused a clear value-rational orientation when providing an explanation of activity in the space

(Rothschild-Whitt 1979). To address questions of social closure in non-hierarchical, collectivist organizations that reject cultural conformity, I conducted an ethnographic case study of Make Industry (Yin 2009). This involved 175 hours of participant observation, 36 semi-structured interviews, and analysis of internally generated documents and correspondence. Industry is an ideal location for exploring questions of organizational pluralism, as it is one of the largest makerspaces in the world and boasts a wide range of production equipment. Compared to makerspaces and fabrication labs that offer a narrow range of tools and resources, there is no reason to believe that Industry would necessarily coalesce around a singular type of making or develop a homogenous organizational culture.

Participants were recruited for interviews through a combination of snowball and purposeful sampling to ensure representation across the various skill groups and subcultures at Industry. Of the 36 individuals interviewed, two-thirds were men, which reflects the overall gender composition of the site. All of the participants interviewed, save three, were White. This also reflects the overall racial composition of the site. Ethnographic fieldwork involved attending 'town hall' meetings, taking classes, and participating in making. Field notes were recorded and analyzed using the same process as the transcribed interviews. This process began with an initial round of open coding centered on basic descriptive categories, such as personal and group identification, reference groups, class background, race, gender presentation, etc. The second round of theoretical coding involved four specific boundary work subtypes: defining, constructing identities, changing normative associations, and theorizing.

I was introduced to the founders of Industry by a former board member of Industry. I identified myself as a researcher who was interested in new forms of workplace organization. The founders of Industry were accustomed to answering questions from academics and entrepreneurs, and many of the participants interviewed were familiar with the research process. As a White man in his early 30s, with a somewhat disheveled appearance, I also did not "stick out" in the environment. During one interview, for example, I remarked in my field notes 'the researcher is wearing the same outfit as the participant.' While I could not demonstrate competency with machines or tools, I was able to pass as someone from a similar background and who shared similar cultural tastes. Thus, the researcher enjoyed a relatively privileged position as an outsider in the space. I was present at Industry enough to be a familiar figure to participants, but I was also a stranger in the sense that participants did not view me as having a stake in the same game that they were invested in (Bourdieu 2011; Simmel 2007).

3.5 FINDINGS

3.5.1 Founding Industry

Paolo, a White man in his late 30s, came up with the idea of establishing a makerspace after working several years at a prestigious robotics firm. As Paolo tells it, he found the

corporate world dull and unsatisfying. What Paolo really wanted to do was create crazy robotic monsters, something that is difficult to do without being independently wealthy. After learning of the makerspace concept, Paolo thought he would try organizing local hobbyists and tinkerers around creating a shared shop space. One prominent member of Industry, Joey, was the de facto leader of a computer club when Paolo approached him about merging with Industry. At the time, membership in the computer club was diminishing, and they were having difficulties making rent. After looking over the basic concept of a makerspace, Joey said, 'we basically already had a makerspace.' It was a fairly smooth transition. Paolo and Joey considered each other peers, both in terms of technical skills and cultural affinities. Another prominent maker, Val, knew Paolo through their mutual involvement in the regional goth and rave community. Val was an electronics engineer and taught circuit building classes the first couple of years at Industry, before others were able to assume teaching responsibilities. This early group of makers talked about each other in very close, familiar terms. Indeed, they operated similarly to a family business, with Paolo's girlfriend, Ann, performing most of the administrative, day-to-day functions required to keep the space operational, with friends assuming odd jobs and helping out where they could. In this sense, Industry was created in a fairly traditional manner, drawing from preexisting social networks and their resources, while maintaining commitment through bonds of mutual trust and affinities (Collins 1975; Ouchi 1979; Pfeffer 1981).

The creation of Industry came before its justification, as one member of the board of directors noted when describing the ever-evolving origin story of the space. This is

perhaps not surprising, given that "crowdsourcing Paolo's passion project" is hardly a collectively energizing mission, regardless of Paolo's charisma. Yet some justification for the space's existence and formal structure seemed in order. The desire to 'create cool things, together' was both succinct and honest. The founders of Industry were also averse to hierarchy, as they saw the space as an alternative to the conventional, bureaucratic world of work. When creating workplaces, founders deliberately capped the wall height at three feet, similar to the design of many contemporary cubicles (Saval 2014). The idea behind this design was that it would facilitate community and co-creation. Industry would be informal and fairly leaderless, with decisions made collectively during 'town hall' meetings. There would be no litmus test for joining, save a shared passion for making and creating. 'Share and share alike,' as Dale Dougherty, the founder of Make Magazine remarked of their ethos. Is such an environment open and pluralistic by definition? This requires knowing more about how members understand the meaning of their activities. I begin by exploring how members defined practices at Industry.

3.5.2 Defining practices

Make Industry is a 'de novo' organization, which is to say that in contrast to familiar types of organizations (e.g. a gym or post office), participants 'cannot draw on existing assumptions and legitimacy associated with established categories' (Jones et al. 2012: 1523). In such an environment, the meaning of practices cannot be taken for granted, as

there is no pre-established collective frame of reference for interpreting behavior. It is therefore incumbent on participants to make their activity meaningful, whether personally or socially. At Industry, there is no shortage of possible activities or justifications. The space is home to woodworking, robotics, costuming, jewelry making, electronics, pottery, painting, screen printing, and many other forms of fabrication. Within each of these domains, activities could be pursued for any number of reasons: making a gift for a friend, a product to be sold, or simply experimentation. There are as many reasons to make a table, after all, as there are ways to use one. Yet at Industry, makers defined their activities in terms of a fairly limited range of values and motivations, namely: creativity, passion, and curiosity. Values that resonate with Boltanski and Chiapello's understanding of the artistic critique of capitalism. As Olive, a White woman in her 40s who joined the space to learn metal sculpting described Industry:

> It's a crazy place full of sparks, creativity, a limitless environment. Like, for me, everybody was free to create, express... Things are going in every direction - you have some sort of MIT-like project, really serious, and all that. But sometimes you just have, you know, some other weird invention.

Olive's description emphasizes the extraordinary, or what Boltanski & Thévenot (2006) term the 'world of inspiration.' It is a space without limits, without conventions. The unifying characteristic is that your typical activity rejects the commonplace. As Frank, a White man in his thirties who operated a DJ business out of the space described Industry, 'It's a serendipitous, rare kind of place. It's not judgmental. you could be doing some really inane things and nobody's thinking negatively of you for doing it.' This was the general consensus of the purpose of Industry. It was a space where creative freedom

reigned, even when a creative solution were not necessarily called for. As Val, a White man in his late 30s and an electronics engineer by trade, stated:

> They're very energetic, very smart people mostly, not always practical. There's just a lot of whimsy, and sometimes people will take doing something in a way different from the usual way as a challenge. So even though there's a better way to do it, they'll say, "No, no, no; I can't do it that way because that's the way people usually do it. I have to reinvent that part of it myself."

The story members told about themselves was one of a rejection of inherited rules. In contrast to the disciplinary logic of traditional craftwork (Sennett 2008), making, at least as defined by members of Industry, more closely resembles play (Hjorth 2004; Masters 2008). This is not to say there are 'no stakes' to making. A few members attempted to earn an income from their work at Industry, although this was less common. More often, members were invested in social recognition, or what Boltanski and Thévenot (2006) refer to as the 'polity of fame.'

When asked to characterize the kind of making that is valued at Industry, or that would garner status for the maker, Abe, a White man in his mid-30s who works in robotics, focused on two dimensions: size and quality:

> Largeness of a thing matters in and of itself. The temple [installation] that we built was very heavy. Like, it was made out of big sheets of plywood. And, just the physical logistics of it requires a certain amount of planning and competence that something you can carry in in a backpack doesn't. Plus, if you make something big it towers over people. That said, if you can do something well, it

> doesn't have to be big. I think that there is some degree of arbitrage between those two that you can do, where something that is big but only pretty well-done can trump something that is extremely elegant but small.

Abe's definition of valorized practices was typical, and Industry was decorated with monumental creations from festivals past: a giant robotic spider, a giant bicycle with disco ball, and a giant wire-framed Pterodactyl, to name a few. At the same time as makers aspired to create large and sophisticated objects, there was also prestige attached with making everyday objects as opposed to buying them. One maker, Liz, a White woman in her 30s who was a Jill of all trades, recounted becoming vividly aware of this norm through the breach:

> When I was on this road trip, I got my car broken into and a bunch of my stuff stolen. So, I went to Wal-Mart to replace most of my stuff, because it's, like, "Okay, one-stop shopping where everything's really damn cheap." And I can't afford to, like, go around to all the little boutiques and replace everything with hand-made. So, I have a couple dresses now that I wear regularly that I really like, and I've had friends be like, "Oh, that's really cool; did you make it?" I'm, like, "No, bought it at Wal-Mart." [LAUGHTER] It's, like, "Oh;" conversation killer. I guess what I'm saying is, you get kind of looked down on for doing the easy thing sometimes, because everyone assumes that because they have found the time and spare income to do X, Y, or Z thing.

In defining people, objects, and practices at Industry, makers emphasized the artistic and inspirational aspects of creation, as opposed to more instrumental forms of building and repairing. Making was offered as a method of consciousness raising, insofar as it made

participants aware of the skills required to produce any given object, or simply to learn something new. This act of personal growth through making was often valued above the object itself.

3.5.3 Changing normative associations

A theme repeated throughout the interviews and interactions in the space was that 'making' was not new - that it was only being rediscovered and revalorized. When asked how one got involved in making, a typical response was through parents or grandparents who were 'handy.' In this way, Makers drew upon the seemingly disparate practices of previous generations to render contemporary practices intelligible and legitimate. This process of changing normative associations, which Lawrence and Suddaby (2006: 221) define as, 'Re-making the connections between sets of practices and the moral and cultural foundations for those practices,' can be seen in the ways makers associate their activities with the frugality and ingenuity of working class people (who are imagined or lost in time). As Andrew recalled:

> Growing up it's, like, we didn't have money to pay people to do stuff, so you learned how to do it yourself. You know, put in paneling, do plumbing, do electrical work. It was, like, "Okay, this is how you wire something." You could read it from a book or you could learn to do-it-yourself. You know, the labor background of my Sicilian heritage is certainly there. So yes, I think it's just

> people like to tinker, people like to do stuff. I mean, I find golf to be an alien idea. It's, like, I can't sit around.

Andrew, like other makers, emphasizes the active/productive component of making, in contrast to passive/idle forms of recreation. The acts of necessity that characterized everyday practices, like fixing a leaky faucet, are recast in terms of self-sufficiency, a rejection of consumerism, and its educational potential. Similarly, Abe describes his approach to Maker asceticism in terms of a renunciation of life outside projects:

> I would say most of my income that I don't spend on food, rent, and gas for my car, goes into my projects. I tend to buy clothing with an eye towards durability and non-descriptness rather than fashion. So, I'm wearing the same pants I've been wearing for years and years and years. I very rarely consume entertainment that you sit in front of. So, I don't buy video games, I don't watch movies, I don't watch TV, I don't own a TV, I don't buy cable.

Abe isn't simply *not* buying or consuming things but is rather engaging in a practice of decontamination. Like Andrew, he emphasizes the active/productive nature of his downtime.

Another way makers changed normative associations was by attaching the practice of making to an enhanced appreciation of things, a 'true materialism' (Schor 2010). This was both in terms of intellectual stimulation and one's literal senses, like smell, touch, and appearance. Even as makers disavowed many forms of consumption, making simultaneously made one a better consumer. As Guthrie put it:

> Like, it's a thread I see throughout my entire life. When I cook, I like to get down

> to the raw ingredients. I brew my own beer—not because it's cheaper—it's not—but because it's really interesting and I'm fascinating by all the steps that go into it. And I've learned, as I do more of these things, that when you try something out you gain a really deep appreciation for how things are made. So, by brewing beer I can notice things about it that I wouldn't notice. By building furniture, I notice things about furniture…

One doesn't necessarily connect the practice of making things with the enhanced ability to consume and judge, but for many makers this motivation is central. Bob, a White man in his mid-50s who specializes in making science fiction props equated it to gastronomy:

> I like to cook. So, if I go into a restaurant and I'm not getting what I perceive to be value for my money, I'm not happy, I want maximum value for that. I want great service and I want wonderful food. And it may be food that I can make, but I know that it was going to take me three hours to make it or whatever. So, knowledge, again, has been the driving factor for my consumption. As I learn things, as I understand things, I change my consumption habits.

Making as a form of consumer self-education is quite a departure from a traditional craft logic, which involves highly specialized knowledge that is imparted across many years by a master. It is also distinct from a 'traditional' consumer logic, at least as expressed in the popular idiom 'the consumer is always right,' which doesn't presuppose a deep familiarity with the production process.

3.5.4 Constructing identities

A quality that united participants at Industry was their engagement in a form of individual and collective identity work (Bain 2005; Hjorth and Johannison 2003; Moisio, Arnould, and Gentry 2013). Although members were involved in a wide variety of making practices, which were not always done with the help of others, all collectively the identity of the 'Maker.' For some like Larry, participation was primarily about achieving identity through an association with the space and other makers. As Larry put it:

> Well, I've got a fabrication shop a half-a-mile away from here, so most of my stuff I do over there, except for things that I do on that one machine [which is on loan to Industry]. So, I don't really have any space here other than that machine. I don't really need it. I've got a full fabrication shop at home. All my other tools are just down the road. I'm here for the community.

Even though Larry didn't actually make anything at Industry, he was one of the space's most active participants in events and governance. This participation in the maker community extended to his wanderings, as well:

> Whenever I travel somewhere, I go and try to seek out other people who are doing similar things - so other artists, other creative types. And for a while there, every time I'd go to a city I'd look up the funkiest bar and a makerspace or any hackerspace, things like this.

An association with artists and creative types was an appeal for many members of Industry, and the former industrial warehouse space was decorated to radiate creative energy. Indeed, the motto on the front page of the space's website reads, 'We make

creativity a way of life.' Woz, a White man in his 60s who enjoyed regaling the interviewer with his passion for homemade trebuchets, had a similar motivation for participation:

> The creative energy is just wonderful to be in the presence of. And that's part of the reason I buy a membership, it gives me license to hang out here, to just to chat with people. I mean, I'm on the Industry mailing list just because interesting things get asked. And I've hooked up with and found out about things, like the Burning Man "Let's load the trucks and then party" event.

The intense identification with creativity can also help explain the Promethean obsession with fire among members of Industry, as well as its overlapping Burning Man base. As Abe put it when describing common interests and practices of members:

> Well, it gets weird because… there are a ton of people who do dexterity arts, so juggling, all that sort of thing. And there are people who do fire spinning and fire breathing. And there are people who are better or worse at it. There's some people I know who are quite good, and I know some people who are amateurs. I can fire-breathe, but I haven't done any of the other stuff… So, there's definitely a spectrum there of ability. And I think to some extent there's a prestige attached to that ability, but it only exists within those communities.

When describing the practices and identities of members, one common technique was to juxtapose Industry with 'conventional' workplaces (even as conventional workplaces are increasingly attempting to imitate the environment of places like Industry). As Andrew explained:

> This not a cube farm, although it has some elements of it. Like, there's, a little space where you work, but nobody cares how sloppy you are... I mean, if it's a fire hazard, sure; we'll complain. But nobody cares how you decorate, or what your politics are. In a firm people are going to care. And I think that's another big advantage of this place--it's a lot of independent people here, but they share a common cause. And it's different than a company because our mission here is we want to do cool things, whatever that cool thing is, but that's pretty much it.

Sloppiness, unruliness, a rejection of everyday necessities, in other words all of the characteristics that describe the 'world of inspiration,' (Boltanski 2006) characterize Industry. In the context of the rise of "knowledge work" (Alvesson 2001) and the "creative class" (Florida 2012), Industry offers participants the material and symbolic resources to facilitate the construction of just such an identity.

3.5.5 Theorization

Lawrence and Sudabby (2006: 221) define theorization as, 'The development and specification of abstract categories and the elaboration of chains of cause and effect.' Theorization is essential to the process of institutionalization insofar as it vests practices and structures with some semblance of meaning and purpose, and therefore stability. Theorization situates practices within a particular lifeworld (Schutz 1970), with specific values, beliefs, and orientations to the world. At Industry, theorization can most readily

be seen in the ways makers articulate the existential importance of creating things. As Larry put it, when asked how making fits into the general scheme of things:

> I can't tell you exactly, but I can tell you if I don't do it, I'm very, very unhappy. I think one of the most magical things in the world is envisioning something in your mind, and then taking that out of your head and putting it into the world. Making it real, making it happen, being able to viscerally hold it in your hands and go, "Yes, all right, it's doing what I thought it might do." And, you know, instead of just having it be just a thought experiment, it's an actual thing that's come into the world and does something, it accomplishes something, even if it's just a thing of beauty that somebody looks at.

In Larry's account, there are at least four abstract categories at work. There is the abstract conception of the real, which is closely linked with the material. There is the abstract notion of the ideal, which is internal and intellectual. And lastly there are the abstract notions of externalization (i.e. the movement from ideal to material), or the process of creation, which is linked to the concept of enchantment. It is an explanation of making that clearly resonates with Marx's conception of homo faber. Evan provides a similar theorization of making practices, but put in terms of psychology:

> I mean, it's a Maslow's higher order need, right? Sure, like, shelter or making things--yes, I'm going to choose shelter. But I would be less of a happy camper, and I would be less raring to go at work if I didn't have the outlet of coming here once a week, twice a week.

Evan's theorization of making is perhaps more closely in line with the logic of a hobby (i.e. an arena of unmediated activity in context of an otherwise mediated existence) than

Larry's existential/humanist notion of making. Both, however, emphasize the innate value of making. In this way, makers naturalized their practices, lending them a permanency that would, hopefully, transcend mere fashion or fads.

Similar to observers of the maker movement, members of Industry had their own theories as to why it was an increasingly popular cultural practice. Joey provides one of the most elaborate theorizations of the rise of making, connecting the movement to critiques of consumerism, deindustrialization, and precaritization (Standing 2011):

> We've given away a lot of things that we used to do for ourselves for the sake of convenience. We've given that to other people. And we've done a lot of things that are questionably, like, energy-intensive or wasteful in exchange for this convenience. So, we're seeing a lot of those changes. But also, we're seeing a massive downturn in the economy, and those nine-to-five jobs that are steady and stable, they do not exist anymore. Office jobs don't exist anymore. For actual manufacturing jobs, forget about it. Like, the percentage of people that are employed in hands-on manufacturing is insignificant. But there's a general unrest and dissatisfaction, so you see a lot of these communities popping up. Back in 2007, there was maybe thirty to fifty hacker spaces around the world, depending on what you want to define as a "hacker space." And now there's well over a thousand that are doors-open spaces. And that's worldwide; that's all over the place. So, this isn't a regional thing, or a national thing, this is an international thing, this is a worldwide thing.

Joey's theorization blends popular criticisms concerning the degradation of work and

casualization, with a libertarian emphasis on self-sufficiency. In Joey's telling, people have sacrificed the intrinsic rewards associated with manual work for the 'sake of convenience.' This of course assumes that your average person has a say in the overall organization of production, if only through their voice as a consumer. In any case, Joey regards the global establishment of makerspaces and hackerspaces as an expression of popular dissatisfaction with the quality of work, as well as environmentally degrading consumer practices.

3.5.6 Governing Industry

During the course of my fieldwork, there was a growing crisis of identity around the nature of work at Industry and governance. While there were no shortage of applicants waiting for a space to become available, the cost of maintaining the space and its equipment was only rising. Tools were frequently broken by novices, who were less proficient and aware of their limitations. With the popularity of the space, the landlord also saw the opportunity to raise rent, which they seized. This provoked the board of Industry to reassess some of its foundational principles, such as the tool sharing. As Jess, one of five full-time employees of Industry stated:

> The director has been working on tool lease agreements. Well, choosing to end tool lease agreements, because they lower the risk and liability that Industry has. With the agreement, the person who owns the tool brings it here and wants to

> share it as a resource. A subsidization of their membership, and/or rental, depending on the value of the tool, at 1/48 of the depreciated value every month. And then if the tool is broken or needs to be replaced, Industry is responsible for the cost of doing that for the person who owns the tool. But it's hard for me because I know that taking some of these tools off lease removes the possibility of a $15,000 tool being broken by someone and then us having to replace it per our agreement with the owner. Buying the tool ourselves maybe lower the risk and liability, but then we're not supporting the original idea, which is to come and share...

For some makers, the ethic of sharing that was represented by tool lease agreements was what distinguished Industry from its corporate competitor: TechShop. It was also a means of subsidizing membership for those without money, but also happened to be in possession of tools. In practice, most of the members with tools (particularly expensive tools that cost $15,000), were already quite well off. Nonetheless, the issue of tools and reliability was not only important for the finances of Industry, but also had implications for the way the space could be used, and by whom. Reliability was particularly important for members of Industry who were attempting to use Industry's tools to bring in an income. For these makers, functional equipment was important for meeting deadlines and getting products to buyers. Hobbyists and tinkerers, on the other hand, were far less invested in reliability. The director of Industry was keenly aware of this dynamic:

> Part of the trouble is also at our existing rates, we can't provide the reliability, but we're already not affordable to many of the people who would like to use this space. So, we're in this uncomfortable compromise position. We want to be both

> of these things, and there's a certain amount of fundraising that might be able to get us to the reliability marker, but that, you know, is still with basic prices being at a level which is already inaccessible to many people... So, finding the compromise positions there are going to be difficult. I hate the idea of only being accessible to the special select few of the disadvantaged masses, you know, that we would generally be a high-priced commodity with a scholarship program for a few special individuals. Because I feel like that's not really the point. The point isn't to provide these tools to the rich and the particularly talented; the point is to make them accessible, like a library, to anyone. So, I don't know how we get there. I mean, maybe it requires public libraries and public funding.

In the end, many of the transformative social claims around providing average citizens with tools and production space were recast in terms of community education and evangelizing creativity. While members often gestured towards social commitments, they simultaneously acknowledged the limitations of the space in realizing them. When describing the composition of Industry's membership, and the purpose of their work, Evan threw up his hands in resignation:

> It's super self-selective, you know? It's, like, the people who have the money and the time… Actually, time is the big thing--screw the money. And so, like, people who are too busy solving the world's problems outside of Industry aren't going to come here and solve the world's problems at Industry. But it's worth discussing, "What is the best thing we can be doing?" But when I ask myself that question, the answer is stuff related to welding, because I just love welding so much. So, like, I'm going to do me; I'm going to do that. And I don't really, like, force it; I

don't want to, like, "Well, I feel guilty that I'm not doing this because I should be doing this." That's not a way to live your life.

In the end, the artistic critique was undoubtedly realized, while the social critique was increasingly narrowed, if not occasionally repressed.

3.6 DISCUSSION

I began this study by asking how social closure operates in an organization that explicitly rejects hierarchy *and* cultural conformity. This question is relevant to a range of organizations, whether social movement organizations, non-profits, or for-profit firms, that attempt to promote collectivist and pluralist ideals. Insofar as creativity and individuality involve the subversion of norms and conventional categorizations, as values they seem ill-suited as a basis of a social closure project. Yet while members of Industry espoused creativity and non-conformity, a distinct, culturally homogenous in-group simultaneously defined the space. Previous scholarship has explored such decoupling of values from practices in terms of organized hypocrisy (Brunsson 1989) and cynicism (Fleming and Spicer 2003). Another perspective on the gap between values and practices comes from the cultural sociologist Pierre Bourdieu, who argued that institutions often depend upon such misrecognition for legitimacy. While members of Industry invoked a strong artistic critique, particularly in terms of a pursuit of meaning and beauty through making, their practices were characterized less by the social critique. The aspects of

Industry's social critique that expanded upon its Arts and Crafts movement predecessor, such as an emphasis on representation and incorporation, were not practically enacted. Makers discussed their practices in universalistic terms of a human need for rewarding work, as well as the artificial barriers to knowledge imposed by a legacy of trade secrets and exclusionary educational institutions. However, the composition of Industry reflected (and was in some ways more homogeneous) than the institutions it critiqued. In the end, the social critique that was practically enacted could be described as, 'unalienated work for those who can afford it,' even as this narrowed version was lamented by some participants.

The jettisoning of the social critique at Industry mirrors in many ways transformations in the wider U.S. economy, such as an increasingly competitive (and shrinking) professional sector where some workers enjoy a relative autonomy, and an ever expanding low-end of the service sector where workers more closely resemble automatons (Kalleberg 2013; Smith 1997; Standing 2011; Vallas and Prener 2012). The invocation of values like creativity and individuality, in this context, also serve as class and status markers. Binkley comes to a similar conclusion in describing how many professional knowledge workers embraced the personal injunction to become 'loose,' while abandoning its transformative social potential (Binkley, 2007). A particular performance of individuality, which denies the realm of necessity, allows the bourgeoisie to brandish its liberal credentials, while reaping the benefits of an inegalitarian order. This is very different from saying that the practices of makers are exploitative. While makers may hoard opportunities for the production of economic value (or deny the need to produce

economic value), like Tilly's observation of the Mamaroneck Italian immigrant community (Tilly, 1998), makers do not incorporate the effort of excluded parties.

The form of social closure at Industry does, however, qualify as a form of social domination (Vrousalis 2013). Social closure that pursues a logic of domination has the effect of reproducing an internal hierarchy, or the position of a group within a larger social hierarchy. This logic depends upon an 'us' vs. 'them' distinction, as the justification for keeping material and symbolic resources within a particular group first depends upon a sense of it being a distinct group (Fields and Fields 2014; Lamont et al. 2014; Lamont and Molnár 2002). Insofar as collectivist and communitarian organizations are created as bastions of the sacred in the midst of a profane mass society, it necessarily involves the drawing of boundaries between those who are worthy and unworthy. It would seem that collectivist organizations are inherently illiberal. This is only if one accepts the premise that the collectivist organization must be understood in oppositional terms and that the sphere of the sacred cannot be expanded outside of the sanctuary without it somehow being diluted. Indeed, this is the philosopher Richard Rorty's understanding of an ideal liberal society. Rather than an 'us' vs. 'them' dichotomy, Rorty's version depends upon a continually reconstructed and expanded conception of the 'we.' It would shift the idea of the collectivist organization as a sanctuary from a profane society, to an idea of the collectivist organization as a group that is trying to live up to a larger collective's ideals (1989:60).

The narrowing of the social critique at Industry also resulted in a narrowing of the artistic critique. While Industry was successful at incorporating a variety of production practices, from woodworking to sewing, these practices were approached through a similar, disinterested orientation. Unlike the Arts and Crafts movement, which sought to make instrumental production more artful and rewarding, practices at Industry were defined in terms of a rejection of the conventional and as type of productive recreation. Identities were constructed in opposition to instrumental work and the routines of 9-5 employment. Everyday practices of repairing and self-provisioning were recast as a form of decontamination and personal growth. In short, the maker ethic became a sort of bourgeois asceticism. As Marcuse argued of the limits of individual withdrawal into communities that practice non-repressiveness, 'this sort of protest turns into a vehicle of stabilization and even conformity, because it not only leaves the roots of the evil untouched, but also testifies to the personal liberties that are practicable within the framework of general oppression. That these private liberties are still practicable and practiced is good – nevertheless, the general servitude gives them a regressive content' (1955: ix). If the maker movement is to succeed in its efforts at enacting the artistic and social critiques, it must consider its role in regards to broader struggles against generalized repression, as well as facilitate economic value creation for members without the disposable income to engage in recreational work. This requires a broader understanding of 'creativity,' one that doesn't regard instrumental practices as profane, and which can make them more rewarding.

4.0 CHAPTER 3

Uber Technologies Inc., the most well-known face of what has come to be known as the "gig" or "platform" economy launched in 2009, offering "logistical services" to drivers and passengers. Soon after, imitators such as Postmates and Favor emerged, advertising themselves as "Uber for deliveries." Initially confined to a few cities, these labor platforms now have a presence in virtually every major city in the U.S., and many across the world. Reporters, investors, and some academics heralded the rise of such firms as akin to a fourth industrial revolution (Schwab 2016). In these accounts, the algorithmic technology employed by labor platforms represents a radical break from the past, enabling a massive restructuring of supply chains. Many of the same questions that characterized the debate between economists, sociologists, and historians concerning the significance of the Industrial Revolution can be posed in context of the "Platform Revolution." In particular, the classic debate between Marglin (1974) and Landes (1986) on the role of bosses and the reasons that work was centralized into factories is relevant. Are bosses unnecessary intermediaries whose real function is to appropriate profits for capital, or are they strategically and organizationally valuable actors who coordinate the production process? Digital labor platforms could potentially substitute algorithms for bosses, raising the question of whether the technology of labor platforms represents a hyper-efficient management system or a new (or updated) method by which capital can mediate the labor process, and thereby extract value. To address these questions, I studied the process of laboring on digital labor platforms. In doing so, I ask, "what does the

technology of digital labor platforms really do?" What is it capable of controlling, and how do we know if platform technology is shaping the labor process?

The conventional understanding of digital labor platforms, largely emanating from management schools and engineering departments, analyzes these technologies in terms of two-sided markets and network architectures (Armstrong 2006; Gawer 2014; Gawer and Cusumano 2014; Hagiu 2009). In the management perspective, platforms look to expand both sides of the market (e.g. couriers and customers) to create the conditions for robust exchange volume (Gawer 2010). In the two-sided market perspective, labor control does not factor into the equation, in the same way "control" typically doesn't enter analyses of exchange in free markets. In the engineering perspective, platforms are understood as mechanical systems (Jiao, Simpson, and Siddique 2007; Krishnan and Gupta 2001). This perspective focuses on the creation of modules that serve discrete functions, as well as how modules interface with other modules to execute a larger, core function. This literature conceives of platforms as integrated systems that, like industrial factories, are waiting for humans to put gears into motion. Control is exercised in the engineering perspective through the abstract design of a system. Mechanical systems simply rule out certain possibilities, reducing the need to monitor or discipline workers.

The two-sided market perspective has been valuable for understanding dynamics of platform growth, particularly in terms of "network effects." However, as a framework for understanding the labor process, it offers very little in the way of insights. The management perspective echoes many of the claims made by digital labor platforms

concerning the self-directed, entrepreneurial nature of platform work. The engineering perspective is similarly limited in its explanatory potential, as the design of an abstract system does not tell us whether it is effective at bringing about its intended outcomes, and if so, through what particular mechanisms. Still, the engineering perspective is useful for understanding the components of digital labor platforms, and the potential points of friction in the production process where workers can potentially disrupt the system's smooth functioning, as they did in industrial factory systems.

Critical sociological theories of technology and capitalist work generally treat technology as inherently alienating and skills degrading (Berman 1988; Braverman 1974; Burawoy 1979; Scholz 2013; Srnicek and De Sutter 2017). In this perspective, the introduction of new production technologies into the labor process is analyzed in terms of their potential for circumscribing the autonomy of workers, whether through increased governance (Foucault 1977; Greenfield 2017), or by narrowing the range of possible ways a worker can execute a task (Braverman 1974). Insofar as advances in production technologies are assumed to increase managerial oversight and reduce worker discretion, these approaches leave little room for technology to play a liberating role. For all their pessimism, however, those writing in this genre do not overlook the ways technology can be used to disempower and dominate workers. This is a welcome addition to the rosier depiction of platform work in popular management accounts. At the same time, critical perspectives do foreclose a range of technological advances that could facilitate the creation of more humane working conditions. It is therefore important to ask *if* new technologies

automatically represent increased labor control, and whether there are dimensions of labor control that are being relaxed.

Classic studies of technology and the labor process also suffer from a narrow fixation on the firm as an unit of analysis (Fry 1982; Perrow 1967; Woodward 1965). We know from previous studies that firms often exploit aspects of the wider institutional environment, such as race and gender, to control workers (Griffin and Korstad 1995; Salzinger 2003). Firms may also exploit structural market conditions, as in cases where there is a high cost of job loss, to attain compliance from their workers (Schor 1985; Schor et al. 2017; Schor and Bowles 1987; Shapiro and Stiglitz 1984). By analytically isolating the firm, and the technology employed in it, many studies ignore how labor control is predicated on features of the larger social environment. That is, technology alone may not be able to exert control over workers without an additional set of enabling features. To overcome this deficiency, it is important to broaden the range of considerations workers face as they go about their work. This approach is even more necessary in the context of the distributed and open nature of platform work. In the next section, I discuss previous attempts by institutional scholars to understand the role of material technology in constructing organizations and institutions.

In this study I explore two on-demand labor platforms for couriers: Postmates and Favor. These platforms are often described as "Uber for deliveries." Couriers log into the platforms using smartphones and are able to accept or decline incoming deliveries. Depending upon whether workers signed up for shifts in advance, couriers would be

given algorithmic priority when deliveries were matched with couriers. The technology of the labor platform also sorted couriers into reputational groups with various privileges. Highly ranked workers could accept multiple deliveries at once, while workers who dropped below a 4.5 would be automatically deactivated. The technology was not effective at controlling aspects of the work, such as politeness. However, workers generally adhered to norms around civility and honesty. The technology of the platform was particularly effective at setting a timeframe in which a task needed to be completed within and mediating the exchange process via financial technology.

4.1 INSTITUTIONS AND TECHNOLOGY

Surprisingly, considering the breadth of institutional scholarship, it has had very little to say about material technology. As Joerges and Czarniawska (1998) note, for all Weber's influence in elaborating bureaucracy as a social technology, he was mute on the role of material technology. In the late 1990s and early 2000s, scholars inspired by Bruno Latour and Anthony Giddens began to formulate technology in terms familiar to institutional theory (Czarniawska 2008; Joerges and Czarniawska 1998; Lanzara and Morner 2005; Orlikowski 1992; Pinch 2008). In this view, organizations coordinate activity across time and space not only through interactively imparting authority arrangements and defining symbolic boundaries, but also by inscribing norms and practices in material technology. To quote Joerges and Czarniawska:

> Our argument runs as follows: over time, societies have transferred various institutional responsibilities to machine technologies and so removed these responsibilities from everyday awareness and made them unreadable. As organized actions are externalized in machines, and as these machineries grow more complicated on ever larger scales, norms and practices of organizing progressively devolve into society's material base: inscribed in machines, institutions are literally 'black-boxed' (1998:1).

While these authors argue that material technology is increasingly adopting institutional responsibilities, it does not necessarily follow that, in aggregate, society is becoming more institutionalized as a result (although this is certainly a possibility). In transferring institutional responsibilities to material technology, social regulation could potentially be relaxed. An institutional approach would therefore study the relative role of social and material institutions in regulating human activity.

In Berger and Luckmann's conceptualization of institutionalization, they write, "The process by which the externalized products of human activity attain the character of objectivity is objectivation. The institutional world is objectivated human activity, and so is every single institution" (1966:60). Institutional work (Battilana and D'aunno 2009; Lawrence and Suddaby 2006; Zietsma and Lawrence 2010) refers to the everyday activity actors engage in to objectify social meanings. However, it is important to emphasize that social institutions only "attain the *character* of objectivity" [emphasis mine]. They do not have a material existence outside of human consciousness, but are objective and real in the sense they are collectively agreed upon as real, or as Harvey

phrases it, they are "immaterial but objective" (2006:142). Insofar as technologies assume institutional responsibilities, we may say they are *materialized* institutions. This is a qualitatively different form of objectification in that, regardless of subjective valuations made around material technology, it exists as a "thing-in-itself."

Like Marx, this institutionalist view regards technology as materialized social relations that are reflected backwards upon those interacting with it. Thus, as Braverman noted of industrial technology, "Machinery offers to management the opportunity to do by wholly mechanical means that which it had previously attempted to do by organizational and disciplinary means" (1974:134). Braverman would have appreciated the irony that, in the context of labor platforms, it is the work of managers that is being supplanted by machines. But the principle is the same: the technology of the labor platform dispenses with a great deal of the human interactional work involved in policing norms and practices - the building blocks of institutions.

4.2 REIFICATION AND DISEMBEDDING

The question of whether technology determines the labor process is often posed in a simplistic "yes" or "no" manner. Technology is presented either as a cultural artifact that is subject to multiple interpretations, as any text, or as frozen fragments of materialized

power relations that weigh like a nightmare on the brains of users. Returning to Joerges and Czarniawska's account of technology, norms and practices that might otherwise be interactively imparted and enforced devolve into society's material base. Technology can therefore be thought of as a way to reify institutions (Lukács 1971). Insofar as this reification process removes the deliberative and interactional process through which institutions are created, sustained, and transformed, they have the potential to be forces of what Polanyi (1957) refers to as disembedding. Indeed, the ideology of technological disruption is built upon a positive vision of disembedding, as radical technologies remake rather than interface with social relations (Greenfield 2017). Pasquale (2015) adopts the same metaphor as Joerges and Czarniawska of a "black box" when speaking of technology and algorithmic governance. In this view, technology not only reifies social relations, it renders the ordering principles behind social relations invisible.

Interpreting technology as reified institutional structures presents a host of questions for organizational scholars. While technology can perform institutional work, tight coupling and loose coupling should not be processes that characterize materialized institutions. Loose coupling is possible in social institutions because institutions only attain the character of objectivity. Insofar as people reinterpret the purpose, rules, and norms around social institutions, or simply ignore them, the objectivity of the institution is called into question. This is not the case with material technology. Material technology does not depend on shared mental conceptions to persist into the future in the same manner as social institutions. A machine system may not be effective at determining an outcome, but this is not to say that its formal structure or objectivity hangs in the balance.

Like a machine that consistently botches its task, the gap between intent and outcome is not the result of a sudden absence of objectivity or crisis of perception (as in a legitimacy crisis), but that the machine doesn't work regardless of whether one thinks it should work. This is practically and theoretically significant because decoupling is a method by which institutions manage their legitimacy and respond to competing pressures (Hirsch and Bermiss 2009; Pache and Santos 2013; Sandholtz 2012b). There are also situations for which rules do not apply, or obviously were not accounted for when the rule was solidified. To the extent decoupling allows for some autonomy and deliberation in decision-making, it is like allowing the passenger of a self-driving Tesla to prevent it from driving into a wall.

Although material technology constrains practices in ways social institutions cannot, there is often a great deal of indeterminacy within technological systems (Noble 1984). The most technologically sophisticated factory system is still vulnerable to worker disruption. In addition to indeterminacy within technological systems, there are also countervailing forces that seek to subordinate technology to social relations. An example of this can be seen in Germany's system of codetermination and the work humanization program, which involved workers in the assessment and deployment of new industrial technologies (Dankbaar 1987). A similar attempt at embedding platform technologies in social relations can be found in the case of Turkopticon, an alternative to Amazon's microwork platform Mechanical Turk, which builds in feedback tools that allow workers to rate their employers and engage in mutual aid (Irani and Silberman 2015). At the level of municipalities, cities have sought to embed labor platforms in local governance

structures (Fitzsimmons and Scheiber 2017; Satariano 2018; Zhou 2018). While operating at different levels, the principle behind these re-embedding movements is the same: to subordinate technology to social relations.

Rather than assume material technology necessarily subordinates social relations to its imperatives, this study also entertains the reverse proposition: under what conditions might material technologies depend upon social relations to arrive at desirable outcomes? A less deterministic framework for understanding historical variation and the relationship between technology and control would be to explore the quality and politics of social institutions and material technology. How are social relations and material technology combined to create any given labor regime? Furthermore, what broader institutional arrangements are labor regimes embedded in, and how do these arrangements enable or constrain the development of various sociotechnical systems? It is to these questions that I now turn.

4.3 SOCIAL AND TECHNOLOGICAL CONFIGURATIONS OF PRODUCTION

Many attempts at periodizing social and technological configurations of production obscure the reality of considerable institutional differentiation. The "Golden Age" of U.S.

capitalism (Bowles, Gordon, and Weisskopf 1986; Marglin and Schor 2000), which is often associated with the image of Fordist factories, was in fact a combination of production regimes. It would therefore be more accurate to speak of "dominant production regimes." These production regimes are dominant because of their association with powerful actors who have an interest in legitimizing and promoting a given mode of production. Even as dominant production regimes rarely, if ever, comprise a majority of economic activity in a society, alternative modes of production are nonetheless compared against these regimes. It is therefore useful to understand changes in dominant conceptions of how to organize production, if only to understand the coercive pressures (DiMaggio and Powell 1983) non-dominant production regimes will likely face.

Fordism is a sociotechnical system that wedded bureaucratic social relations with simplified and standardized industrial processes (Bendix 1963; Guillén 1994). The industrial factory necessitated that workers labor under a single roof, as they interact with fixed machines that performed specific functions. The physical layout of machinery in the factory was typically planned to maximize workflow between other machines in a mechanical system, as well as to oversee moments of indeterminacy, when workers stepped in to perform tasks unsuited to machines. Burawoy, in his study of Allied (1979), found that workers often exploited these moments of indeterminacy to game the system, strategically withholding objects caught between points in an industrial process, only to later push them through en masse. However, it was argued that such attempts at "making out," while garnering status and dignity for the worker, often played into the hands of management. Workers broke rules but were also more productive. This is because unlike

loose coupling in the context of social systems, rule breaking under mechanical systems leaves the overall organization of production intact.

Around the 1970s, advances in industrial and communication technologies facilitated the movement towards what is commonly referred to as flexible specialization and just-in-time manufacturing (Piore and Sabel 1984; Womack 1990). In contrast to Fordism and Taylorism, these production systems are highly adaptable in that industrial machines are capable of being reprogrammed to execute a variety of tasks, while being integrated into new mechanical systems. Coinciding with this transition, management theorists and practitioners began promoting alternatives to bureaucratic social relationships (Womack 1990). This was for both practical and normative considerations, as rigid hierarchies were not particularly suited to the increasingly competitive economic environment, or the massive backlash against bureaucratic authority that characterized the culture of the 1960s and 1970s (Binkley 2007; Boltanski and Chiapello 2005). Many of these systems also incorporate sophisticated technology for monitoring the production process, rendering immediate human oversight superfluous. To the extent that flexible production systems are augmented by social arrangements to ensure particular outcomes, they are often focused towards embedding technology in local norms and relationships of trust (Adler 2001). Practically, however, advances in technology have outpaced the transformation of social relationships in Post-Fordist labor regimes. Bureaucracy often persists (Milkman 1997), and normative-based team systems can be imposed from above, potentially creating more ideologically controlling environments than what workers experienced under industrial bureaucracy (Kunda 2006; Sewell 1998).

Do digital labor platforms represent a break or an extension of the logic of flexible production? Given that algorithms have been used to coordinate global supply chains for several decades now, what is unique, if anything, about digital labor platforms? What is the social and technological configuration of labor platforms?

4.4 THE STRUCTURE OF DIGITAL LABOR PLATFORMS

An obvious distinction between digital labor platforms and conventional production regimes is that platform workers do not gather under a single roof to perform their work. A major component of labor platforms is the digital matching technology, which connects a distributed workforce with tasks on an ad hoc basis. Platform workers may labor in their own homes, someone else's, or any number of settings. As noted by several observers, this system resembles a form of proto-industrialization, often referred to as a "putting-out" system (Fitzmaurice et al. 2018; Kenney and Zysman 2015; National Employment Law Project 2016). The putting-out system was a form of domestic production, in which households manufactured goods, like the weaving of wool, for a capitalist putter-out. Payments to households were determined by piece rates, similarly to the method by which many on-demand couriers and drivers are paid. This system was dominant in the most proletarianized and pauperized regions of Great Britain (Hudson

1992). However, it worked differently in other places, like South India, where weavers had more bargaining power and bore less risk (Parthasarathi 2001). In England, the putting-out system faced difficulties coordinating and overseeing labor spread across a large geographical region. As Hudson (1992:26) notes, embezzlement of materials was a growing problem for the putter-outer.

While the use of digital accounting systems has potentially made embezzlement a more difficult proposition for workers attempting to game platform systems, questions surrounding the quality of production still plague labor platforms. This difficulty of assessing the quality of production is exacerbated in circumstances where there are large information asymmetries and when goals are unknown in advance (Sharma 1997). Reputational data is one method for ensuring quality in the absence of direct managerial supervision (Bolton, Greiner, and Ockenfels 2013; Diekmann et al. 2014; Jøsang, Ismail, and Boyd 2007), although given the inflated nature of reputational data, there is reason to be suspicious of its efficacy (Nosko and Tadelis 2015). In the context of platform mediated food delivery, assessing the quality of production is fairly straightforward. However, more complex tasks, such as the provision of healthcare or electrical work, are far more difficult for consumers to assess and capture in the form of a rating and review. Regulatory agencies and credentialing associations have traditionally served as trust-imparting institutions that assure quality of production through socialization and sanctions. In practice, rather than bypassing these institutions, labor platforms are legally embedded in them. For example, TaskRabbit only lists certified electrical workers on its site and the nursing platform Nomad requires state licenses. To the extent labor platforms

attempt to substitute normative control for technical control, they are industrializing practices associated with the service sector. In contrast to conventional courier work, gig couriers convey far less in the way of normative commitments to the organization or courier identity (Kidder 2008; Wehr 2009). Because of the emphasis on technical control, questions traditionally raised in the context of manufacturing work apply to on-demand service work.

Digital labor platforms mediate the production process in a qualitatively different way than Fordist and Post-Fordist regimes. In the Fordist system, bureaucratic social relations were combined with single-purpose tools to determine the labor process. In the post-Fordist system, multi-purpose tools were combined with normative controls to allow for flexibility while promoting particular outcomes. Digital labor platforms also employ multi-purpose tools (e.g. smart phones, software, cars, hammers, human bodies) but substitute normative controls for technological governance. Technological governance can replicate some aspects of bureaucracy, whether in terms of creating hierarchical status systems with various privileges, or in enforcing norms and practices by requiring workers to move through a series of predefined steps within a set timeframe (Stewart 2005b). The control exercised by digital labor platforms is largely confined to this dimension.

[INSERT TABLE 3 HERE]

While digital labor platforms can remove aspects of the production process from human manipulation, this same technology also has the potential to be more flexible and accommodating to workers than bureaucracy. This is because platform technology consists of software that can be modified quite rapidly, at least by platform owners. It has the quality of a non-Newtonian fluid, in that it can be iron one moment, and liquid in the next. How platforms are altered, and by whom, is therefore central to the question of labor control. Governance decisions could be the result of democratic input, authoritarian hierarchy, or cybernetic feedback (Medina 2011). These are different methods of embedding and disembedding platform technology, with obvious implications for how control is exercised and experienced. Rather than answer questions about platform control in the abstract, I use two on-demand labor platforms for couriers as empirical cases. It is to these cases that I now turn.

4.5 METHODS

To address questions of technology and control in the context of digital labor platforms, I selected two platforms that provide the same service (on-demand deliveries), but differ slightly in terms of compensation structure, scheduling policies, and branding. These platforms were selected because they operate in the same metro region, and many

workers labor on both platforms, often simultaneously. This approach allows me to compare the experience of workers as it relates to specific dimensions of the labor platform and business model. A total of 26 workers were recruited primarily through Facebook groups, Craigslist ads, and chance encounters on the street with branded couriers. The study was presented to potential participants as an exploration of work in the on-demand, gig economy. Participants were compensated between $30 and $40 for an hour-long interview and completing a survey. The semi-structured interviews focused on the background of workers, their self-conceptions and orientations towards platform work, the structure of the labor process (the steps involved in executing a task), perceptions of the technology, and individual strategies of working and earning. The survey consisted of demographic questions, weekly and hourly earnings, family background and education, and participation in the wider labor market. All names are pseudonyms.

Of the 26 participants recruited, 62% identified as White, 23% Black, 8% Hispanic, and 8% Asian. The gender composition of my sample is 73% male and 27% female. The female share is slightly higher than the 16% share who perform conventional courier and messenger work (U.S. Department of Labor 2014). Lastly, 8% of my sample report having no college education, 38% report some college, 42% report earning a bachelor's degree, and another 12% report earning a graduate degree.

[INSERT TABLE 4 HERE]

Data analysis consisted of thematic and theoretical coding of interview transcripts and field notes. Attention was given to the ways platform rules and norms were enforced, whether through human interaction or platform technology. Another dimension of analysis was platform workers' subjective experiences of control. This approach examines labor control in terms of an encounter between workers, technology, and their larger social environment. Thus, control is operationalized as the relationship between social location and position within a technological system. The social location of participants was analyzed in terms of self-identified class background, education-level, income(s), savings, assets, debts, and social capital. Thematic codes were also developed to contextualize these objective measures, like "receives familial support," "primary caregiver," and "unstable and intermittent job history." Taken in combination, this data collection strategy and method of coding allows me to analyze the social terrain on which platform technologies enter the lives of workers.

4.6 POSTMATES AND FAVOR

Postmates and Favor are on-demand labor platforms for couriers that are often described as "Uber for things." In contrast to other web platforms like Doordash and Caviar that offer delivery services from a limited number of partnering retailers, Postmates and Favor can deliver virtually any (legal) object. This is because Postmates and Favor couriers

stand in as customers, placing orders on behalf of other customers. For example, if one wanted to purchase a meal from a restaurant that doesn't deliver or partner with a platform, a Postmates courier would order in-person and make the actual purchase with a prepaid corporate card or cash. Postmates and Favor therefore do not depend upon a restaurant (or any other entity) to have a computer system that interfaces with its web platform (although it occasionally does), as it uses couriers as a linking mechanism. It is arguably this feature, as opposed to the application's proximity-based courier matching capabilities, which gives Postmates and Favor a competitive edge. This business model greatly expands the potential number of goods available for delivery. Most of the orders on the platforms are food from restaurants, however couriers also note the occasional iMac, gift basket, and bong delivery.

Both platforms launched in Boston in 2014. Couriers typically learned of Postmates and Favor through online advertisements, billboards, "guerrilla marketing," and friends. College students were targeted as potential workers, although in the "onboarding sessions" I attended, workers of all ages and backgrounds were represented. Participants also noted the diversity of people in attendance at these sessions. This is likely because there was a very low barrier to entry, the application process consisting of providing the platforms with a name, email, and telephone number. Participants recall receiving calls from platform representatives within a day of providing information online, usually encouraging the would-be courier to sign up for an onboarding session as soon as possible. The onboarding sessions were held in a shared office space for startups, and were facilitated by a two or three full-time staff. These were the only full-time workers

employed by Postmates and Favor in the city. Their responsibilities included reaching out to prospective couriers, conducting the onboarding session (a brief 30-minute PowerPoint), and handing out the materials required to conduct the work (a prepaid credit card, thermal bag for food, and t-shirts). These full-time workers would also field the occasional worker/customer complaint, as well as moderate the official courier Facebook groups. During the onboarding sessions, these full-time workers emphasized the independent nature of contract work, impressing upon the audience that it was up to them to discover the best way to work and earn. This was particularly apparent in an interaction between a man in his late 50s and the leader of a Postmates onboarding session. Perhaps believing he would endear himself to the company, he had a list of questions around the nature of the labor process, rules, strategies, and ethics. The leader of the session became increasingly irritated with questions that did not pertain to the application interface, and eventually stated, "we can't tell you what to do, because we're not your employer." Favor, however, provided couriers with the opportunity to go on a "ride around" with fellow couriers, to observe how others went about their work.

Overall, couriers described the process of learning to labor on the platforms as straightforward. Usually through trial and error, and consulting with other couriers on official and unofficial Facebook groups, couriers could solve problems. The platform interfaces of Postmates and Favor were nearly identical, with a series of simple prompts that couriers would follow to accept, execute, and complete a task. The design was anything but ambiguous, with the name and location of the pick-up location, and buttons that read "accept order" or "decline order." Once an order was accepted by a courier, they

would be provided with the delivery location and (if necessary) a list of items to order from the pick-up location. Couriers could either call ahead to place an order (if the merchant allowed this) or order in-person. Once an order was picked up, couriers would then press an "on the way" button that would trigger a timer within which the delivery needed to be completed. After delivering an order, couriers would then press another button, ending the transaction.

4.7 FINDINGS

4.7.1 Control Through Blinding and Ambiguity

The technology of the labor platform, in addition to doling out work and timing couriers, influences the labor process by strategically withholding information. When making decisions on where and how to work, couriers often factored in distance and convenience. Not surprisingly, couriers preferred to wait for orders that were near them, or where they anticipated being, rather than biking or driving across town to pick up an order. By providing all the information up front, the platforms could potentially deter couriers from accepting orders. Indeed, the labor platforms experimented with various methods of

presenting information, such as with the “blind system.” This was a point of friction between couriers and the platforms. As Frank, a full-time (in terms of hours worked) Postmates and Favor courier, described it:

> So, if you're near a restaurant that the customer requests, you're going to get that delivery. I can be near one place and the delivery address is right around the corner, but I could also be near another place and the delivery address is across the bridge. So, it's really, like, super random, which is, I mean, kind of inconvenient because you can't see where the delivery is going until you accept the job. I looked into it, because I thought that was really unfair--I'm going to accept a job, and I don't know where it's going. If it's going really far, and I don't have enough time, then, you know, it's going to cripple me for the rating. So you can't plan really at all--you've just kind of got to go with it, like, "Okay, I'm near the restaurant. That's good. But how far is the drop-off? When I asked them [why the drop-off wasn’t visible], their answer was, ‘We were doing a test to see how drivers or delivery people respond to orders that are given to them with having limited knowledge.’ But that's a key piece of information that's affecting, you know, time getting there. Because why would I accept a job that's all the way across town?”

Given the option of seeing complete information upfront, or waiting to receive the drop-off location after accepting an order, couriers virtually unanimously preferred complete information. While couriers could, in theory, cancel a request after accepting it (and seeing the complete information), this would affect their rating with the platform, and potentially cause them to be deactivated.

Another way platforms influenced the labor process was by using the technology to conceal ambiguous and arbitrary decisions, while using it as a barrier to reaching humans (who presumably have discretion). For example, Postmates often incentivized couriers to take orders during busy times using "blitz pricing," a policy similar to Uber's use of surge pricing. While one advantage of digital labor platforms is their ability to automatically adjust and calculate payments, in practice these calculations (and the logic behind them) were not transparent to couriers. Couriers would often take to the road during blitz pricing hours, only to later find that they were not paid according to the pricing structure promised in the application's blitz notification. Not only were the concrete specifications required by the platform technology to calculate payments not visible to couriers, the platform technology was used to buffer the companies from couriers. Paul, a college student in his early 20s, described his efforts to correct what he believed were incorrect payments:

> There's actually no number for you to call them. They don't give you any phone number. You have to email, or, like, hit a button that says, "Call me," and they will call you from a number that changes every time. So they don't want phone calls, they don't want you talking to them… You know, they try to hide as much as they can. Like, they'll do incentives, like the $15 an hour pay. They'll do, like, "If you do 50 jobs we'll give you an extra $100." And sometimes they just won't pay and you'll have to ask them for it. Their blitz pricing is messed up… I don't know if I'm on blitz pricing or not until I, like, finish the job and see the payout…

> So if I accept a job at 2.5x and I get no blitz pricing, like, that's pretty suspicious but it's pretty common.

Despite the ambiguous payment structure, many couriers were still incentivized to take deliveries during blitz pricing, even if they could never be sure in advance whether they qualified. Like the information on delivery locations, this information could easily be provided to couriers prior to accepting an order.

4.7.2 Rating Systems and Tiers

The technology of labor platforms was used to perform institutional work. That is, platform technology was used to impart norms and practices to workers. One way this was done was through inscribing rules in the design of the application around the movement of couriers. Because many of the couriers lived near or in the neighborhoods they delivered to, one earning strategy was simply to turn on the application and wait for an order in the comfort of one's apartment. However, this could create problems for the platform if the courier was not paying close attention to the phone, as a job request could be easily missed. To instill in couriers a sense of immediacy, Postmates used the application's geolocation feature to establish whether workers were stationary or not. As Jeff noted of his typical workday on the platform, "I would hop around the city. If you don't move for a certain amount of time they, like, log you off automatically." Thus, the platform technology was used to promote practices around movement, even when couriers had not accepted an order, or were being paid.

Another way the technology performed institutional work was through promoting norms around working hours and scheduling. While the digital matching technology was presented to couriers as an alternative to conventional, scheduled employment, in practice the platforms preferred having a predictable pool of workers. Couriers also preferred this predictability when it meant they would receive a guaranteed hourly rate, as was the case on Favor. This preference was manifested in Favor's use of scheduling software, which guaranteed a minimum of $15 an hour during the scheduled periods, with the possibility of more given the number of deliveries performed. As Paul put it:

> If you're scheduled you get higher priority, which just means you're more likely to get jobs. And there's some incentives that only apply if you're scheduled. If you're not scheduled you can still log on at any time and work.

This scheduling system was used to give algorithmic priority to couriers who signed up for shifts in advance.

A similar method of sorting workers into tiers was used by Postmates. In this case, highly rated workers were given the ability to accept multiple orders (or stack) at the same time. As Frank ruefully noted, "So you can't stack if you're below a 4.8. You lose your ability to stack. I have a 4.7, close to 4.8, so I can't stack." At the same time workers were sorted into reputational tiers with certain privileges, the platform technology also automated the termination process if workers dropped below a certain rating. Workers who fell below a 4.5 on Postmates were not able to make deliveries, but were sometimes reactivated after attending a second onboarding session.

4.7.3 Gamification

In addition to monetary incentives, like blitz pricing, Postmates and Favor could influence the labor process by priming couriers to approach their work as a game. Priming is a form of institutional work insofar as it suggests a familiar set of norms and values that can be adopted in a new setting. This priming was accomplished through the design of the application interface, which resembled in some ways a classic game of Pacman. In playing the game, workers were not simply earning money, but were also attempting to "win" at the game. One Postmates courier, Stewart, a musician who was saving to move to Seattle, found the mad dash to complete deliveries exhilarating, stating:

> So the thing is, I actually kind of find Postmates very fun. I think it's maybe the most fun out of the three [Lyft, Doordash, Postmates], even though the money isn't necessarily the best. Because of the stacking mechanics… So you accept the delivery, and you go, you order, pay with a [PEX] card. Once you've paid and you're delivering the item from the restaurant to the destination, in that time period you can start getting new requests. You stack them up, so it winds up being very, like, frenetic and, like, you link them together and it's just, like, combos, you know? It feels very fun to do

Stewart enjoyed working on Postmates, even as he earned less on it than other labor platforms. This notion of work on Postmates and Favor being fun was hardly unique to Stewart. Denise, a semi-professional in her late 20s, who only worked to pay her bills, also approached being a courier on the platform similarly to a game:

> With Postmates I think I approach it kind of like a game almost because they have this dashboard where you see your earnings racking up as well as, like, your number of deliveries. I'm a little bit addicted to checking my dashboard after deliveries and stuff to see if they tip, and also it's just fun to see, like, your number, your total earned.

This sense of platform work being a game was also encouraged through the regular promotions and contests, which were based on the labor metrics collected by the platform. As another courier, Jeff, said, "They don't tell us which jobs to accept, but, you know, they're saying, 'Hey, all right, kids. We're going to do a contest now,' or whatever."

4.7.4 Failure to Control

Not all attempts by the platforms to control the labor process were effective. The reputational systems used by Postmates and Favor provided customers the ability to rate couriers on a scale of 0 -5, as well as leave more detailed feedback. However, in practice, there was extreme variation in what types of practices garnered a low score, and in many cases the customers were unable to assess whether couriers followed correct protocols.

Couriers reported breaking rules, often without repercussions. Alternatively, couriers reported following rules, while still receiving low reviews. One courier, Melissa, a woman in her early 30s who did not depend on Postmates for an income, made it her personal policy that she would not leave the car at night, as she did not feel safe leaving her infant in the car. As she said, "If they start saying, oh, well, you have to get out of the car. It's like, 'No, no, no, no, no, no. You come down and get your food.'"

Paul was an ideal research participant, in this sense, as he consistently pushed the boundaries of the Postmates to see what he could get away with. Remarking on his rating and work ethic, he said:

> It's a 5-star rating system. If you dip below 4.7, you're cut. Like, you just get suspended. If you do it twice then you're, like, completely gone. I have a 4.9 and I'm, like, what they would call an 'awful worker.' Like, they give you these food bags to keep the food fresh, and they have these stickers that you put on the bag that say, like, 'have a nice day.' Like, I ran out of stickers, they give you 10 when you first come in. I don't use my food bag unless it's going to be more than 20 minutes. I just put it on my seat next to me. And I have a 4.9.

Paul saw very little correspondence between how courteous he was as a courier, and his rating. At the same time, Paul did not worry about being kicked off the platform, as he was only working for play money (Schor et al. 2017). This being the case, he often broke rules, whether in not following procedures for packing food, including condiments and napkins, or advertising for the company. Not only was the platform not effective in controlling (or punishing) Paul for how he performed his work, it was not even effective

at controlling where he performed his work. Postmates and Favor both limit their deliveries to customers in a predefined zone. Couriers are not supposed to be able to deliver outside of these areas. However, Paul reports receiving delivery requests from a man just outside of the delivery area, and having these requests escape both the platform software and the human overseers. As he put it:

> There was a guy, like, maybe a half-mile [out of the zone] and a couple nights ago wanted pizza delivered to him. He said, "Hey, I'll tip you extra if you, like, bring it to me out of zone." Which technically we're not supposed to do… So I brought it to him and he tipped me, like, $20 extra on what took maybe 20 minutes. That was nice. And, like, in the past three days he's ordered three times and tipped extra just for bringing it an extra half-mile.

Paul's subversion of platform rules was possible because, even as the technology can track his location, it has no way of knowing other than through self-reporting when the object was dropped off. Paul indicated to the platform that he dropped off the pizza within the delivery zone, and continued to the actual drop off location, outside of the zone.

4.7.5 Human Interactional Work

Postmates and Favor both present work on the platforms as autonomous and technologically coordinated. Part of the appeal of working on these platforms is not

having to answer to a human authority and being one's boss. However, while the technology of the labor platform assumes some institutional responsibilities, a considerable amount of human interactional work remains. Indeed, human interactional work was clear in efforts by the Favor to cajole couriers into working and showing up for shifts. Jeff was frustrated by this human pressure, particularly when the platform wouldn't let him back out of a shift, as it seemed to go against the whole "on-demand" framing:

> They don't let you cancel a shift if it's, like, the day of or, like, 48 hours before. You have to swap it. It's really stupid – you should be able to leave it and, if somebody wants to jump on in the last second, they should be able to. You should be able to work when you want to… but also, there's no way for them to enforce you being on my shift. Like, they could kick me off the platform, but then, you know, if they really want me to work, why would they kick me off the platform? I've gotten a call once from job support saying, "Hey, are you supposed to be on this shift?" I'm, like, "No, I'm not. I'm not going to be on this shift."

Perhaps because couriers do not feel morally obligated to material technology in the same manner as they do to humans, Favor found it necessary to call and harangue couriers. When Favor faced a critical labor shortage, it was a human voice, in the end, that was used to police norms and practices around scheduling. This tension, between the purported automaticity of platforms, and the human interactional work that characterizes conventional organizations, was not lost on couriers. Phong, a college student in his early 20s, was not only confused at receiving a call from a Favor employee, but also by their attempts to discipline him:

> I remember one time I began to get sick and I forgot to unscheduled myself and they‘re like, ‘Oh, are you going to clock in anytime soon?’ I was like ‘Oh yeah, I forgot to take it off, I’m really sick.’ Like, I’ve been out, I’m sorry I forgot. And they’re like, ‘Okay, can you just unschedule yourself?’ I was like, can you do it for me? Literally, I could not get out of bed for a whole day. I was, like, I cannot move. My joints were hurting and I was like okay...

Later in our conversation, Phong expressed confusion that the Favor manager couldn’t just unschedule him, that they called him, and insisted he do it himself. While he expressed confusion, he recognized this interaction for what it was, an effort to enforce a norm around individual responsibility. This type of institutional work is common in organizations, but Phong, like Jeff, did not expect it to come from a human representative of on-demand labor platform.

Human interactional work was also used to discipline couriers who were caught breaking rules. In the case of Ryu, he forgot to take a picture of an itemized receipts for hamburgers being delivered to a group of people. When the customer requested the itemized receipt to split the bill, and he did not have it, the customer not only gave him a bad review, which suspended his account, but also provoked a call from management. As Ryu recalled:

> I was just like, “No, I don’t have it.” So she gave me a 1. I was like, damn, that’s kind of coldblooded. So that kind of made me go down to a 4.3 or something. The support messaged me like a week later, and they were like, you know, we heard

> you had an issue with this. I was like, no, I didn't have an issue. I just… come on. It's all good.

Ryu was embarrassed at having received a call from a person to discuss forgetting to take a photo of a receipt for hamburgers, but this was likely the intention. The technology of the platform, while able to capture his mistake in the form of a lower rating, was not able to solicit shame in the same manner as a human voice over a phone.

There were also occasionally situations in which the rules of the labor platforms were unable to account for local considerations. This necessitated human judgment and interaction. One such instance was recounted by Mia, a woman in her early 20s who, for a short period, was dependent on the platforms for an income. During the Boston Marathon, she helped Favor management coordinate couriers and field calls from agitated customers who were trying to request items to be delivered that required hopping over the marathon route, which was not possible. As she told it:

> I worked Marathon Monday last year and it was pouring, I had come from my shift at the convenience store, so like I didn't have a jacket and it was, like, not warm rain. It was cold rain. And Favor, I guess, got shut down in Boston, and was just running in Cambridge, and it was, like, dead. So, I was just kind of designated to tell people that you can't order things to Boston. I was just contacting customers, being like, 'Hey, sorry, we can't do this job right now because of the marathon.'

The platform's software was not able to tell the difference between deliveries that would be affected by the marathon, and those that would not be. While this interruption of the

usual conditions could have been accounted for and incorporated into the software ahead of time, it was not. Indeed, it may have been more efficient to simply use the local judgment of workers, like Mia, to make such determinations. In any case, the digital labor platforms were anything but automatic, as managers often bypassed the software to match couriers with deliveries, and couriers often bypassed the route recommendations provided by the applications to complete deliveries.

4.8 DISCUSSION

I began this study by revisiting a question familiar to scholars of technology and the labor process: what does technology do? In posing this question in context of digital labor platforms, I explore the relative role of institutional work (Lawrence and Suddaby 2006; Zietsma and Lawrence 2010) performed by humans and technology in determining the labor process. In posing this question, I also address the ways workers experience institutional work performed by humans and technology. That is, do workers respond similarly to humans and material technology, and in what ways, if any, is the institutional work of humans and technology qualitatively different from each other? I found that the platform technology performed institutional work through a variety of means. The

platforms could influence the labor process through blinding and ambiguity, limiting the information available to workers in such a way as to promote practices around accepting deliveries. Platform technology was able to police practices by creating rating systems, as well as by constructing tiers of workers with various privileges. Lastly, the technology also primed workers to approach their work as if it were a game. By defining activity on the platform in this way, the technology promoted an orientation and ethic towards work.

Despite the presentation of digital labor platforms in popular accounts as fully-automated, like Shestakovsky (2017) and Gray (2016), I found that a great deal of institutional work was still performed by humans. Platform managers often bypassed the platform technology to match couriers with deliveries. Furthermore, human interactional work was used to cajole couriers into working, as well as discipline them for not working agreed upon hours. These findings call into question the automaticity of digital labor platforms, and the extent to which technology plays a determining organizational role.

Even as the platform technology performed institutional work, it was not always effective at determining the labor process. Workers reported breaking rules, often without repercussions. While the technology was effective at solidifying aspects of the exchange process, particularly around payments and duration of time required to complete a task, it depended on the voluntary compliance of workers and customers. This voluntary compliance was achieved through adherence to general norms around civility and honesty, as well as fear of job loss (Schor et al. 2017). Workers who were more dependent on the platform for an income expressed greater concerns over their rating.

This finding suggests at least two likely orientations platform architects may adopt in their attempts to secure the compliance of workers: technology as ruthless sovereign or technology as collective facilitator. The latter depends on platform technology being embedded in, and responsive to, shared norms and obligations, while the former is predicated upon a weak social contract and economic dependency.

5.0 CONCLUSION

This dissertation began with a discussion relating post-bureaucratic models of organizing with changes in the broader political economy. Those in the Regulation School (Aglietta 1998; Jessop 1990; Peck and Tickell 1992) often speak of these changes in terms of post-Fordism, while economists and management theorists refer to these innovations in terms of lean and flexible production. Both paradigms understand new forms of workplace organization as a movement away from features that characterize conventional bureaucracies. These changes include delegated autonomy as opposed to bureaucratic hierarchy, informal roles rather than fixed, and normative attachments instead of primarily instrumental appeals. The Regulation School made an important contribution in theorizing this distinctive regime of production in relation to a distinctive regime of accumulation and corresponding mode of governance. The makerspace and the gig platforms studied here reveal contradictions between how theorists of flexible production believed it would develop and the ways in which it actually did.

Piore and Sabel in *The Second Industrial Divide* (1984) made several predictions concerning the direction of post-Fordist governance regimes. At the core of these predictions were potentialities created by computerization and new production technologies. Prior to the introduction of mass production techniques in the 19th century, production was organized according to a craft and artisanal logic. Craft workers employed general-purpose machine tools that, while flexible, were only capable of small

batch production. The development of industrial technologies made large batch production viable, but only if produced in such quantities as to recuperate the cost of fixed, single-use machinery. Piore and Sabel argued that new multi-purpose machinery and computer technologies would allow for the flexibility of craft production at an industrial scale, what they term "flexible specialization." This second industrial divide would also theoretically usher in new social relations. Instead of a Braverman-like story of continuous deskilling, new technologies would necessitate (and the macroeconomic regime reward) multi-skilled workers. Furthermore, instead of the authoritarianism of industrial bureaucracy or the paternalism and individualism of craft, flexible specialization would theoretically embed workers in interdependent relationships characterized by relative autonomy (Adler 2007).

There have been vigorous debates in economics and sociology concerning the predictions of upskilling made by theorists of flexible specialization. Despite the limitations of theories of skill biased technological change, there is evidence of a general trend of rising skill requirements (Adler and Borys 1989). However, the assumption that wages would rise alongside the upskilling of work, thereby enabling a continuously innovative accumulation regime, is not supported by history. Within the firm, there has been a polarization in terms of skills and autonomy that does not accord with post-Fordist theories of unidirectional upgrading (Vallas 1999). Card and DiNardo argue that rising wage inequality in the 1980s was not driven by rewards for skills associated with new production technologies, but rather declining unionization and the minimum wage (2002: 38). Indeed, wages and productivity have remained decoupled since the early 1970s

(Bivens and Mishel 2013). Furthermore, rather than a global upskilling and adoption of flexible specialization practices, new digital communication technologies have facilitated the movement of conventional industrial production from the core to the periphery. While some attempts at industrial upgrading have been made in China, new technologies are largely deployed in a manner resembling 19th century factory work (Butollo 2014). Recent theorists of "Industry 4.0" have speculated that a new round of digitization technologies augur a reshoring of industrial production as new general purpose factories are relocated in or adjacent to consumer markets (Hirsch-Kreinsen 2014; Rauner 2016). However, as Butollo (2018) argues, advances in global supply chain management has made the delivery of customized consumer goods possible while retaining the standard industrial practices that characterize the contemporary global division (and organization) of labor.

It is possible to interpret the makerspace, in light of debates surrounding post-Fordism, as a practice that revolves around the cultivation of new production skills. Members are continuously looking for new challenges and classes are offered at reasonable prices for those learning the basics of a production technique. (Standing 2011). Makers are also oriented towards producing unique items. Most of this production is done for personal or recreational use, but perhaps a fourth is done for cash. Some transactional practices include the selling t-shirts, art, electronics, clothes, jewelry, and furniture. Signs and decorations for local businesses and museums were also described by participants. These practices could be described as artisanal, but they do not resemble in either form or content the type of craft work characteristic of the 19th century. More often, these new

craft objects could be described as "authentic" fast fashion. The result is an aesthetic defined by an Instagram replicating/recombining bricolage (Horning 2011). However, it would be misleading to interpret activity at Industry as purely an extension of the logic of post-Fordist production and accumulation, with bored knowledge workers performing the roles of postmodernist prosumers in their spare time. While they do not use academic jargon, members of Industry discuss their practices in terms that indicate a disillusionment with aspects of the post-Fordist order, such as unmoored consumerism, economic insecurity associated with the promotion of labor flexibilization, and a lack of social integration and cohesion (Fitzmaurice et al. 2018).

Labor platforms are more difficult to situate within the post-Fordist framework. The platforms studied in this dissertation are characterized by a social and technical production regime that eschews conventional bureaucracy, but which are not normatively based. Indeed, they are structured around a piece rate model with the platform technology performing the institutional work of a capitalist "putter-outer." This is a more instrumental organization of work than comparable non-platform courier work (Kidder 2008; Wehr 2009). Couriers on the platform expressed no loyalty or commitment towards the platforms. The accumulation regime represented by labor platforms is also ambiguous. On one hand, they can be thought of as extensions of post-Fordist logics, like increasingly differentiated consumer markets and innovations in logistics and process improvements. However, they reveal the hollowness of the post-Fordist ideal of increased consumption generated by the wage gains of continually up-skilled workers. The ranks of Postmates and Favor are comprised of economically dependent workers shut out of the

conventional labor market and middleclass workers and professionals who are working in their spare time. Apart from the few workers who are motivated by boredom and triathlon training, participation on these platforms is driven by economic insecurity created by an extremely high cost of living combined with student loans and credit card debt. The platform couriers describe the typical consumer of their services as affluent professionals, students, and the independently wealthy. This suggests an accumulation regime that is fueled not by widespread wage gains, but rather extreme wealth coexisting alongside = stagnant and declining wages. In addition to the polarizing tendencies that make this kind of platform work viable, the model of labor platforms is predicated upon exclusive intellectual property rights and the ability to extract platform rents (Srnicek and De Sutter 2017). This is consistent with earlier theorizations of post-Fordism that predicted increased value creation through technological rents (seen also in the growth of biotech industries). The labor platforms I studied do not resolve the contradictions associated with the polarizing tendencies of post-Fordism so much as build an edifice that depends on these tendencies.

The case studies in this dissertation offer lessons concerning organizational dynamics within post-bureaucratic organizations while at the same time situating these dynamics in a broader political economy that enables and constrains organizational possibilities. The institutional background in both studies is an urban environment characterized by extreme socioeconomic inequality. The pathologies of post-bureaucratic organizations should not be understood simply as a characteristic of the organizational form, but also viewed in context of how these organizations fit into this institutional environment. In an

extremely unequal social environment, we would expect actors to be more oriented towards the hoarding of status, as the penalties associated with a lack of status are relatively high. The members of Industy did not need to construct their identities in opposition to those outside of the space or define status in a zero-sum manner, but given their milieu it makes sense why some did. As argued in the chapter "Distinction at Work," the form of the organization was susceptible to status competitions, but the outcome was not predetermined.

In the cases of the labor platforms, the technology did not necessarily have to be used as a barrier between workers and platform managers. The same technology could have been used to solicit feedback and improve communication - or even facilitate worker self-governance. However, in the context of a disposable, low-wage labor force, platform technology offered platform owners the possibility of management with less of the interactional work. Indeed, in circumstances when platform workers needed assistance, their calls were often fielded by other platform workers. Company representatives were virtually unreachable. These considerations pertain to the earlier discussion as to whether the organizations studied fit into the post-Fordist rubric. As others have argued, we are currently in a liminal period. Like the interregnum of the 1970s, it is not clear how this crisis will be resolved or what sort of order will replace it. Therefore, it is not surprising that organizations would reflect contradictory tendencies, some indicative of the old order, others pointing to something potentially new.

The pathologies of post-bureaucratic organizations can also be understood in this light. Management by stress has its white-collar corollary in management by status competition. Some commitment organizations, like Amazon's corporate office (Kantor and Streitfeld 2015), do not even attempt to pretend otherwise. Anomie in this context isn't an unfortunate byproduct of the commitment form, but rather the modus operandi. One should never feel too secure, comfortable, or safe. The problem of reification in technological organizations is also, in this context, a feature not a bug. A question raised by this research is whether there are socially embedded pathways to post-bureaucracy. How might commitment organizations secure loyalty without drawing boundaries between in-group and out-group? What sort of structures might reduce status competition while offering members some degree of freedom? How might platform technology be used to not only freeze aspects of an institutional order, but also enable their transformation? While this study does not have any definitive answers to these questions, it points to future avenues for empirical research.

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