ARTISAN FOOD PROCESSING AND FOOD SAFETY REGULATION IN MICHIGAN: AN ACTOR-NETWORK STUDY OF INTERACTIONS, INTERESTS, AND FLUID BOUNDARIES

By

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ABSTRACT

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Conventional wisdom has it that food safety regulations impede the practice of artisanship and other smaller-scale food processing. Artisan food processors are seen to carry on craft production methods steeped in tradition and adapted to the idiosyncrasies of individual situations, while food safety inspectors are seen to enforce broad standards formulated in scientific and political processes that are stacked against smaller producers. Current debates on regulatory responses to this trend, however, are stymied by a scarcity of research on the practice of artisanship in contemporary regulated contexts and on the practical enforcement of food safety regulations during inspections.

This dissertation presents an exploratory ethnographic study that examined the food safety regulation of artisan processing in Michigan. *(Artisan* processing is defined here as processing conducted at a small or medium scale in which producers emphasize manual production techniques and are involved at each step of the process. It involves batch rather than continuous production and allows for variability in products and processes.) Careful attention to artisan-inspector interactions illuminated aspects of artisanship, regulation, and the relationship between them that are not captured in broad narratives of conflict or in a focus on written rules. Dichotomies blurred; spaces of overlap and mutuality opened up between interests, actors, and social phenomena that are otherwise considered inimical to each other. Conventional distinctions

also blurred during fieldwork, as the flow of information and control of the study moved both ways between researcher and research participants.

Chapter 1 presents the methodology that was developed for the investigation and that built on science and technology studies (STS), primarily actor-network theory. Chapters 2 and 3 present two analytic perspectives on the findings, drawn from economic theories of regulation and STS, respectively. The dissertation concludes with recommendations for policy, practice, and further research.

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[4] Mr. Besey graciously corrected errors concerning MDARD regulations and inspections in an earlier draft of this dissertation. Remaining errors are my own.

[5] Formerly the Department of Community, Agriculture, Recreation, and Resource Studies.

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KEY TO ABBREVIATIONS

ANT ..... Actor-network theory ("A-N-T")

EPA ..... US Environmental Protection Agency

FDA..... US Food and Drug Administration

FSMA..... Food Safety Modernization Act (FIZZ-ma)

HACCP ..... Hazard Analysis and Critical Control Points ("HASS-ip")

HARPC ..... Hazard Analysis and Risk-Based Preventive Controls

MDARD..... Michigan Department of Agriculture and Rural Development ("EM-dard")

MSU ..... Michigan State University

NSF ..... National Science Foundation

SARE ..... USDA Sustainable Agriculture Research and Education Program ("SAIR")

STS..... Science and technology studies

USDA..... US Department of Agriculture

INTRODUCTION

The idea for this dissertation originated during the bright, frigid winters that I loved throughout the many years I lived in Duluth, Minnesota. Working with the Lake Superior Chapter of the Sustainable Farming Association of Minnesota, I spent the growing season each year helping create and support direct market opportunities—farmers' markets, community supported agriculture, and other ways of promoting fresh local produce. Yet the growing season was just a few months long. In the off season, at some point between canning tomatoes and snowshoeing to the compost bin in my backyard, I began to wonder: Why aren't there more commercial processing operations? Why hasn't regional food processing seized people's imagination the way fresh produce has? Eventually, after spending a career swearing I would never do a PhD, these questions took shape as a dissertation topic, and I came to Michigan State.

Conventional wisdom has it that food safety regulations impede artisanship and other smaller-scale food processing initiatives. Artisan food processors and food safety inspectors seem to move in separate worlds. The former are seen to carry on craft production methods steeped in tradition and adapted to the idiosyncrasies of individual situations, while the latter are seen to enforce broad standards formulated in scientific and political processes that are stacked against smaller producers. Some advocates of artisanship and other smaller-scale agrifood production see an inherent conflict between the two, claiming that regulation legitimates and reinforces the industrial agrifood models to which artisanship represents an alternative. Current debates on the food safety regulation of small-scale and localized production demonstrate the difficulty of determining a regulatory response to alternative agrifood production trends. What, then, *is* the relationship between artisanship and regulation? Is it troubled, and if so in what ways? What to do?

Drama permeates the issue. Food safety regulation and artisan food processing both offer stories of conflict, struggle, and persistence against adversity. The history of food safety regulation features incompetent and unscrupulous food manufacturers (Wilson 2008), and it is punctuated by exploding cans of peas (Russell 1895), spoiled meat (House Committee on Agriculture 1906), and toxic additives (New York Times staff 1904). For its part, the story of artisanship features producers who bravely flout an economic and regulatory system that favors mass industrial agrifood production. It is a narrative of honest, independent craftspeople daring to make an honest living (da Cruz and Menasche [in press]; Paxson 2012; Terrio 2000; Tregear 2005). The intersection between the two stories is also dramatic. One common perspective on the food safety regulation of artisanship pits a too-powerful government against small producers. A very different perspective pits maverick and possibly dangerous producers against an unsuspecting public, necessitating government intervention.

This dissertation presents an exploratory ethnographic study that examined this issue in Michigan. Rather than accept collision and controversy as inevitable fact, the study strove to suspend assumptions about the interaction between artisanship and regulation and, instead, examined the two phenomena in practice. The methodology developed to do so draws conceptually from science and technology studies (STS), primarily actor-network theory (ANT).[7] Artisanship and food safety regulation are approached as two social phenomena. Methodological attention to *non-human actors, logics,* and *multiple versions* of phenomena underpin the approach. That is, social phenomena are enacted through interactions among human as well as *non-human actors* (Callon 1986; Latour and Woolgar 1979; Law 1992). Artisanship

[7] STS is, broadly speaking, an interdisciplinary field that studies science and technology as forms of culture. Its roots are in the social sciences (Law 2008). ANT is introduced in Chapter 1 (page 12).

involves artisans as well as non-humans such as production equipment and ingredients. Regulation involves inspectors as well as thermometers and clipboards. What non-humans do and hence "are" is shaped by the *logics* through which humans view them (Boltanski and Thévenot 2006[1991]; Mol 2008; Singleton 2010). Like other phenomena, artisanship and regulation come into being as they are enacted, in *multiple versions,* rather than existing a priori as fixed, abstract ideas.

Field work involved semi-structured interviews and observations. Interviews were conducted with artisan bread, cheese, and jam makers and state food safety inspectors. For purposes of this study, *artisan* processing is defined as processing conducted at a small or medium scale in which producers emphasize manual production techniques and are involved at each step of the process. It involves batch rather than continuous production and allows for variability in products and processes (American Cheese Society 2011; Blundell 2002; Bread Bakers Guild of America 2013; de Roest and Menghi 2000; Paxson 2011).[8] Field observations were conducted of bread and cheese processing operations and food safety inspections.[9] Data collection procedures focused on non-humans, logics, and the interactions among actors. Two focus groups were held following interviews and observations to provide a check of internal validity on preliminary findings.

Careful attention to the minutiae of interactions illuminated aspects of artisanship, regulation, and the relationship between them that are not captured in dramatic narratives of

[8] Standard definitions have not been developed for artisanship as they have for other production approaches such as for organic agriculture. For some self-described artisans, the term refers to much more, and sometimes to less, than these qualities (Tregear 2005).

[9] Inspections are periodic visits of a food safety inspector to a processing facility in order to evaluate the facility's compliance with regulations.

conflict. Artisans and inspectors shared a concern for food safety, and in many cases defined it in the same way, although they did not always agree on how to achieve it. Dichotomies blurred; gray areas emerged between craft work and industrial work. Spaces of overlap and mutuality opened up between interests, actors, and phenomena that are otherwise considered inimical to each other. During fieldwork, the flow of information and control of the study moved both ways between researcher and research participants.

The following chapters present the methodological approach and two analytic perspectives on the findings. The methodology presented in Chapter 1 elaborates the approach introduced above, conceptualizing artisan and regulatory practice as two social phenomena that are each enacted in practice through the interactions of a mix of human and non-human actors. The two phenomena also interact with and shape each other. Artisanship is among the phenomena that shape regulatory practice, and regulatory practice is among the phenomena that shape artisanship. The research itself introduces a third phenomenon into this mix. The chapter examines the interactions of the study and the researcher with the phenomena under investigation.

Chapters 2 and 3 present the findings of this fieldwork from economic and STS perspectives, respectively. Chapter 2 positions the debate on appropriate policy responses to the growing popularity of artisanship within several economic theories of regulation. It argues that this debate is impeded by conflicting assumptions about the interests that regulations serve and do not serve. The theories have contributed to a narrative of "winners and losers" by juxtaposing the interests of different actors to explain the motivations behind regulations and to frame regulatory impacts.

Instead, Chapter 2 offers an alternative way of thinking about the interests that regulations serve. It argues that interests can be complementary. The chapter addresses the questions: Whose interests does the regulatory process serve? In what ways? According to whom? In this research, artisans and inspectors both depicted a dynamic of complementarity and synergy among their respective interests, rather than one of competing or mutually exclusive interests.

In Chapter 3, I use the idea of *boundaries* to explore the relationship between artisanship and regulation, two intersecting phenomena. The two phenomena appear to be quite separate and to have little to do with each other, and popular accounts of their relationship depict two colliding phenomena. However, observation of the interplay between artisanship and regulation during food safety inspections reveals that commonly assumed distinctions between them blur. The relationship between these phenomena is neither rigid nor static. The boundary between them is negotiated and rendered fluid by the multiple identities that human and non-human actors assume, and by the multiple logics that humans apply. In practice, both artisans and inspectors approach their work and their interactions with each other in diverse and dynamic ways. Artisan food processors use industrial technology, and some organize production in a regimented way suggestive of operations engineering. Inspectors ply a craft; they draw on the tacit skills that they have developed in learning their profession, and they use very few technologically sophisticated implements during facility inspections. Food safety inspections provide opportunities for boundary management during which artisans and inspectors negotiate points of coherence and divergence between their respective phenomena.

Implications for Policy and Practice. Interactions between artisans and inspectors during food safety inspections affect the practical impact that regulations have on artisan processing.

Inspectors and artisans appear to work well together when they are well prepared for these interactions. Artisans and other smaller-scale food processors who have been led to expect problems with food safety inspectors may well bring about (possibly unnecessary) problems. Inspectors with little understanding of artisan operations or of the multifaceted role that they play for smaller processors may also make these interactions problematic, if unwittingly.

At this writing, the Preventive Controls Rule of the FDA Food Safety Modernization Act (FSMA) has not been finalized, and its eventual impact on the production and inspection processes described in this dissertation is unknown. Michigan law adopts federal regulations by incorporation. Regulations that currently govern many of the artisans participating in this study, such as 21 CFR §110, allow inspectors discretion in determining how processors can meet regulations. It is hoped that FSMA preserves this discretionary flexibility. It is also hoped that any new requirements for written procedures and recordkeeping preserve the potential for productive interaction between inspectors and artisans during the inspection process.

Further Research. As an exploratory ethnography of the food safety regulation of artisanship, this dissertation breaks new ground in the scholarship of food policy and of alternative agrifood trends. Suggestions for further research appear at the end of each chapter and in the conclusion.

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CHAPTER 1
ACTOR-NETWORK METHODOLOGY AND INTERACTIONS AMONG SOCIAL PHENOMENA: FOOD SAFETY REGULATION, ARTISAN PROCESSING, AND ETHNOGRAPHIC RESEARCH

ABSTRACT

A methodology is developed for an exploratory ethnographic study of the food safety regulation of artisan food processing in Michigan. The methodology builds on science and technology studies perspectives, primarily actor-network theory. This conceptual foundation comprises three main elements. First is the role of *non-humans* as well as that of humans in enacting social phenomena. That is, artisan and regulatory practice are each enacted in practice through the interactions of a mix of human and non-human actors. Artisanship is enacted through the interactions of ingredients, equipment, and facilities, as well as artisans. Regulatory practice is enacted through the interactions of laboratory coats, thermometers, and clipboards, as well as inspectors. Second, these interactions are informed by the *logics* that the human actors apply to what they do and to how they view these non-humans. Third, *multiple versions* of each phenomenon ensue. What may initially appear to be well-defined categories of human activity are, in fact, continuously enacted, reenacted, and redefined over time through these collective interactions. There are as many "artisanships" as there are artisans. Regulatory practice comes in at least as many versions as there are inspectors.

Phenomena also interact with each other. Artisanship is among the phenomena that shape regulatory practice, and regulatory practice is among the phenomena that shape artisanship. The research described in this chapter investigates these *exogenous* interactions between artisanship and regulation to better understand these phenomena and the relationship between them. The research study itself introduces a third phenomenon into this mix of exogenous interactions. Fieldwork involves observations of artisan processing and subsequent food safety inspections of

the artisan facilities. The agency of the study itself and of the researcher is considered. The chapter concludes with observations on the application of the methodology and implications for further research.

I. INTRODUCTION

This chapter describes the methodology[10] developed for an exploratory ethnographic study of food safety regulation, artisan processing,[11] and the relationship between them. It develops the concepts of *endogenous* and *exogenous* interaction to examine the ways in which phenomena, such as food safety regulation and artisan food processing, are enacted and interact with each other, and to examine the interaction of a researcher and research study with the phenomena under investigation.

According to conventional wisdom, food safety regulations impede artisanship and other smaller-scale food processing initiatives.[12] However, there is little research supporting or

[10] The term *methodology* refers here to the conceptual framework that guides one's practical approach to research and one's selection of methods. The methodology presented in this chapter conceptualizes artisanship and regulation as enacted in practice through minute interactions among humans and non-humans, interactions that are shaped by human logic. These *methodological* assumptions about the research problem point toward ethnographic *methods*, such as semi-structured interviews and field observations, as the methods of choice in this investigation.

[11] For purposes of this study, *artisan* processing is defined as processing conducted at a small or medium scale in which producers emphasize manual production techniques and are involved at each step of the process. It involves batch rather than continuous production and allows for variability in products and processes (American Cheese Society 2011; Blundell 2002; Bread Bakers Guild of America 2013; de Roest and Menghi 2000; Paxson 2011).

[12] Putative tensions between artisanship and regulation are discussed in more detail in other chapters. In brief, interest in artisanship as an alternative to more conventionally produced food in the US has grown in the past 15 years (Davidson 2012; Jenkins 2005; Paxson 2012; Rector 1999). Some supporters of agrifood alternatives contend that regulations are antithetical to

refuting this claim. Little research has looked closely at the practice of artisan food processing in contemporary, industrial contexts,[13] and there has been little to no investigation involving direct field observation of the regulation of small-scale food production in the US.[14] Research in the US is based largely on the experiences that small food business owners report (Buckley et al. 2011; Worosz et al. 2008) rather than on direct observation of regulatory processes. Importantly, regulators' own experiences of small food businesses and inspections have not been examined.

Conceptually, this chapter considers the problem as one of the relationship between two social phenomena, artisanship and food safety regulation. The method developed to address this problem draws upon science and technology studies (STS), primarily actor-network theory (ANT), as a conceptual source for constructing an exploratory ethnographic method. ANT views phenomena such as artisanship and regulation as enacted by a mix of human and non-human actors. Even the most "social" of phenomena are inseparable from non-human objects and cannot be understood without attending to even the most mundane of these objects. Artisanship involves artisans, of course, but it also requires non-humans such as production equipment and ingredients, all of which interact to enact artisanship. Regulation involves legislators and inspectors, but it also requires non-humans such as thermometers and clipboards, all of which interact to enact regulation.

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artisanship and other smaller-scale production and that they instead favor large-scale industrial producers (DeLind and Howard 2008; Sage 2007; Stuart and Worosz 2012).

[13] For exceptions, see, e.g., Paxson (2008, 2010, 2011, 2012); Terrio (1998, 2000).

[14] A Google Scholar search for key terms yielded no US studies. Studies in the UK include Fairman and Yapp's research (Fairman and Yapp 2005a, b; Yapp and Fairman 2006) and Hutter's investigation (1988, 1989) of the enforcement of public health laws in a broad selection of industries.

Abstract and general notions of either of these phenomena therefore do not begin to help us understand them, let alone understand how the two relate to each other. The semantic use of broad terms such as *regulation* and *artisanship* may reinforce the notion that the phenomena exist as ideal "types" to which regulators and artisans must hew. But each phenomenon is a work in progress rather than a finished product or an archetypal idea. This study thus focused on what happens in local, specific instances of regulatory and artisan practice.

The study involved ethnographic fieldwork that included direct field observation of artisan processing and food safety inspection. The methodology takes into consideration interactions *between* phenomena—*exogenous* interactions—as well as endogenous interactions within phenomena such as those described above. Phenomena interact with and shape each other. This chapter conceptualizes the research itself as a phenomenon that enters exogenously into this mix.[15] The researcher's entry into a research situation introduces a new set of dynamics that shape the phenomena under investigation, just as the phenomena help constitute the research.

The chapter is in five sections. Following this introduction, the second section elaborates the conceptual perspective that informs the methodology: the concepts of *non-humans* and *logics* that guided the investigation and the notion that phenomena are enacted in *multiple* ways. The third section summarizes the methods, which are described in more detail in the Appendices. The fourth section extends this perspective to apply to interactions between different phenomena—exogenous interactions—with particular attention to the researcher as an exogenous actor. It describes the conduct of the fieldwork using the idea of exogenous interactions. The fifth section offers observations on the application of the methodology and implications for further research.

[15] Chapter 3 examines this idea in more detail.

II. THE ENACTMENT OF A SOCIAL PHENOMENON

Regulation and agrifood production are easy to think of as abstract ideas, as categories of human activity that simply "exist." Yet the practice of a phenomenon precedes the idea of it. Phenomena do not exist outside of their enactment in practice. It is through continual enactment and reenactment that general ideas of "regulation" and "artisanship" take shape. Over time, these general ideas overshadow the more specific interactions (of both humans and non-humans) that are involved in enacting them. We come to think of regulation and artisanship as "things" that "just are." We see a forest and not its constituent trees. But to understand what happens when phenomena such as artisanship and regulation intersect, we need to zoom back in, to re-attend to the specificities of phenomena as they are practiced.

This section presents the elements of this methodology's conceptual foundation. It first considers the *agency of non-humans*. Second, it considers the role of human *logics* in shaping these non-humans. What non-humans objects do and hence "are" is shaped by the logics through which humans view them. Third, and consequently, multiple versions of phenomena ensue. There are at least as many "artisanships" as there are artisans. Regulatory practice comes in at least as many versions as there are inspectors.

A. The Agency of Non-Humans

Artisanship and regulatory practice are enacted by a dynamic mix of human and non-human actors (Callon 1986; Jasanoff 2004; Law 1992). It is easy to think of these phenomena as simply social, since they are created in human society and appear to be shaped by humans rather than by mere non-humans such as food ingredients and equipment. However, "the social" cannot

be separated from non-humans (Latour 2005).[16] Non-human details of social life are constitutive of phenomena that otherwise appear to be strictly social; material objects shape and delimit human activities (Latour and Woolgar 1979; Mol 2002; Moser and Law 1999). Artisans alone do not produce artisanship, but interact with a host of actors such as processing technologies and ingredients. Likewise, inspectors alone do not enforce regulations, but interact with actors such as hairnets, clipboards, and flashlights.

Objects have agency. They *do* things. For this reason, this methodology considers them as *actors*. A cheesemaker, for example, installs a mechanical stirrer in his cheese vat. The stirrer is a machine, and it is not human. But it is not inert. It acts and interacts with other humans and objects that participate in cheesemaking. It compels the cheesemaker to conduct regular cleaning and maintenance. It may help the cheesemaker, such as when it facilitates the stirring of the curd. It may also hinder him, such as when it malfunctions. The stirrer may introduce other actors into cheesemaking by dripping unwanted mechanical oil into the vat or by harboring microorganisms in hard-to-clean places. Research on the cheesemaker's process is incomplete without considering what these non-humans do. The researcher needs to understand the cheesemaker's interaction with the stirrer, the series of other interactions that the stirrer introduces, and the ways in which the inspector views the stirrer.

Many non-human actors are easily overlooked, although they are indispensable in the production of a phenomenon. Think of the unassuming and humble mien of refrigerators and hairnets. This methodology looks to *difficulties*—interactions that do not go as planned—to draw

[16] A similar point is explored in organizational studies on *socio-technical* systems, e.g., Trist (1981).

attention to details that may otherwise be missed (Latour 2005).[17] To illustrate: An artisan and an inspector may disagree about whether a wooden-handled ladle is acceptable in cheesemaking. This disagreement makes visible an ensemble of actors that participate in the enactment of artisanship and regulation but that may otherwise escape the researcher's notice: the materials of which tools and equipment are made; the array of actors behind the tools and equipment, such as craftsmen and industrial engineers; the microorganisms lurking on surfaces or carried on the air; and even the surfaces and the air.

B. The Formative Role of Human Logics

The *logics*[18] that different individuals bring to situations shape non-humans and, by extension, these phenomena. A logic, here, refers broadly to the way that someone makes sense of the world and acts—to the criteria that someone applies to justify what he or she does (Mol et al. 2010).[19] For example, Mol (2008) distinguishes between the *logic of care* and the *logic of choice* among health care practitioners in the Netherlands. For practitioners who operate according to a logic of care, practices are enacted in an ongoing, malleable, and interactive process involving many factors. In contrast, the logic of choice conceptualizes patients as utility-maximizing individuals engaged in health care transactions. Similarly, Singleton (2010)

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[17] The term *difficulties* is used where Latour (2005) would refer to *controversies*. To some readers, *controversies* may imply events of a more contentious nature than is intended here. *Difficulties* also refers to situations that Boltanski and Thévenot (2006[1991]) may describe as *critical moments*. For further discussion of affinities between ANT and Boltanski and Thévenot's work, see Guggenheim and Potthast (2012).

[18] *Logic* is used as a specific noun rather than generic noun. The plural *logics* draws attention to the different ways in which people make sense of the world. This attention to multiple *logics* discourages the idea that there is a single, authoritative *logic* that drives human action.

[19] Logics may be articulated in ideologies, but they are not necessarily ideological. They may be articulated explicitly. They may be implicit and evident only by observation.

distinguishes between the logics of *care* and *control* to characterize differences between farmer and regulator logic in her investigation of farming practices and cattle regulations in the UK. The logic of care is "embodied and relational, embedded in a *flow* of events" (2010, p. 244, ital. orig.). In contrast, the logic of control follows a linear, disembodied, and calculable timetable.

Human logics define the non-human actors involved in phenomena. What a non-human actor "is" and "does" depends on the place that it has in someone's world.[20] Artisans and regulators may see the same implement as two quite different actors—as "doing" quite different things. The ladle in a cheesemaking facility cannot be assumed to be just a ladle. To an artisan cheesemaker, a wooden-handled ladle may carry on a quality craft tradition. According to the artisan's logic, the wooden-handled ladle represents a tradition of creative craftsmanship that uses natural materials. He justifies its use according to criteria that value creativity, tradition, and the accommodation of nature. To an inspector, a wooden-handled ladle may harbor disease-causing microbes. The inspector may prefer the use of stainless steel, viewing it as a material that increases the scale, safety, and efficiency of food production—a technological achievement in food manufacture. She applies criteria that value technological progress, consistency in materials and processes, and unprecedented ability to control unwanted microbes. According to these two logics, the ladle *is* two different actors.

[20] The idea of logics is akin to the *modes of justification* theorized by Boltanski and Thévenot (2006[1991]). In their analysis, actions are justified according to different sets of rules that correspond to different "worlds." For example, action within the *industrial* world of justification—which is arguably reflected in regulations—is justified by efficiency. Action within the *inspired* world, suggested by some aspects of artisan production, is justified by creativity. Compromise is made possible when different worlds share specific principles (see also Wilkinson 1997). Compare to Kaplan's (1979) *logic-in-use* and *reconstructed logic.*

As they did for non-humans above, *difficulties* help to foreground the logics by which humans act. By introducing a difficulty, an issue to resolve, the ladle provides the cheesemaker and inspector with occasion to articulate the logics by which they justify what they do. Attending to details such as these generates a sharper picture of each phenomenon than do general claims about regulations and artisans. In turn, this sharper picture facilitates a better understanding of the relationship between the two phenomena than do claims that regulations do not accommodate artisans.

C. Multiple Versions

Multiple versions of phenomena ensue (Law and Lien 2013; Law and Urry 2004; Mol 1999, 2002). Regulation, artisanship, and other phenomena do not exist a priori as abstract, well-defined human activities. They are complex and varied. Phenomena are continuously enacted, reenacted, and redefined over time through the collective interactions of humans and non-humans. The human actors involved in phenomena are, themselves, multiple (Schatzki 2002; Star 1991)—they enact different roles in different contexts. They draw on different justifications for what they do (Boltanski and Thévenot 2006[1991]). An artisan may collect motorcycles and care for aging parents when not baking bread. An inspector may ride horses and raise children when not at work. The logic that they both apply to artisanship and regulation is shaped by these other interests and experiences.

This has two methodological implications. First, phenomena can be understood only through detailed investigation of local, specific practices. Second, researchers (just like the actors and phenomena they study) also hold multiple identities and logics together within one person, one research study. It is this very multiplicity in a researcher, this "split and contradictory self,"

that enables her to understand other points of view and to make sense of what she observes in the field (Haraway 1988, p. 586).

III. METHODS

This research consisted of three phases. In the first phase, semi-structured interviews were conducted with artisan bread, cheese, and jam producers and state food safety inspectors. In the second phase, field observations were conducted of bread and cheese production and food safety inspection. The design of field observations was informed by findings made during the interview phase. In the third phase, two focus groups were conducted of artisans and inspectors in order to discuss preliminary findings and provide a check of internal validity of findings made during the first two phases. Both focus groups involved artisans together with inspectors.

Selection Bias. Artisans and inspectors participated voluntarily in the study, introducing a selection bias.[21] The bias was arguably unavoidable. The study was exploratory; empirical data on the food safety regulation of processors (including artisans and other small- and medium-scale processors) was unavailable yet would have been necessary in developing selection criteria. In selecting food safety inspectors, initial plans were to adapt Hutter's (1989) typology of *persuasive* and *insistent* styles of enforcement. This proved unworkable when MDARD staff indicated that individual inspectors drew on different styles of enforcement in different situations.

My consequently cooperative relationships with research participants, while also introducing bias, allowed greater access to food safety inspections than has been reported in

[21] Further discussion is in Chapter 2 (page 88).

other agrifood policy studies. This access helped generate elements of an agenda for further research, which are presented at the end of each chapter in this dissertation.

More detail on the methods used in this study appears in the Appendices to this chapter. The methodology presented in what follows applied particularly to the field observation phase of the study. The remainder of the chapter focuses on field observations.

IV. EXOGENOUS INTERACTIONS BETWEEN PHENOMENA

The interactions described up to this point represent *endogenous* interactions. They involve the humans and non-humans that make up specific phenomena, such as artisanship or regulation. In addition, however, the humans, non-humans, and logics involved in any given phenomenon also play roles in enacting other phenomena. *Exogenous* interactions occur between different phenomena. Regulatory and artisan practice may appear to be quite unrelated to each other and to be enacted by quite different sets of human and non-human actors. Yet artisanship is among the phenomena that shape regulatory practice, and regulations are among the phenomena that shape artisan practice.[22]

The present section focuses on the interactions introduced by the research, a third phenomenon. A research study is a phenomenon like any other. To enact a research study, a researcher musters a corps of human and non-human actors. These may include emails, schedules, and data collection forms, as well as personalities, work cultures, and the sides of the bed on which researchers get up on the days they are in the field. In this section, I first elaborate

[22] Compare to the notions of co-production (Jasanoff 2004) and co-construction (Murdoch 2001). Exogenous interactions between regulatory and artisan practice are further discussed in Chapter 3.

this idea with reference to other ethnographic research. I then describe my own interactions with participants during the present study.

A. The Researcher as an Exogenous Actor

Interaction between the researcher and the researched unavoidably shapes ethnographic fieldwork. A researcher entering the field becomes an exogenous actor implicated in the phenomena under investigation. Our methods "do not simply describe but in some measure help to *do* the realities that they discover" (Law 2008, p. 640, ital. mine; see also Law and Urry 2004). The researcher experiences the field, and participants also experience research. They are asked to participate in a study, such as by speaking with a researcher or being observed. How participants understand a study and how they see researchers affect what they tell researchers and allow them to see.

Two bodies of ethnographic scholarship are particularly helpful in developing this perspective. First, ANT and related scholarship address the role of the researcher in enacting the phenomena under investigation—the two-way traffic between the viewer and the viewed (Law 2004). As an Australian teacher in Nigeria, Verran experienced disconcertment on realizing profound differences between Western and Yoruba number systems (1999). Yet this disconcertment enabled her to understand, and move between, different logics and different versions of reality. This finding hinged on her interaction, as a teacher and researcher, with students and other teachers.[23] Mol opens the book that describes her study of arteriosclerosis

[23] Some ANT scholarship depicts research as detached observation. The present chapter aims to correct this depiction. Latour and Woolgar's "observer" (1979) clearly interacts with other scientists and participates in laboratory work. Yet apart from periodic references to discussions with scientists and to scientists' reactions to their study, Latour and Woolgar offer little insight into the unavoidably interpersonal nature of their study.

(2002) by situating herself in relation to her fieldwork. A network of human and non-human actors emerges, all of which mediate her interaction with her research subjects, and their interaction with Mol: her contacts at the hospital, her bicycle, and her lab coat, as well as the mass of medical, philosophical, and sociological literatures that inform her approach.

Second, this perspective can frame ethnographic studies of artisanship. The notion of exogenous interaction provides a means of conceptualizing the process by which the researcher "connects" with participants in the field (e.g., DeWalt and DeWalt 2002). "It is much easier to walk into a bakery than into a baker's life," Bertaux and Bertaux-Wiame observe, describing their initially unsuccessful attempts to establish dialogue with French bakers (1981, p. 175). Skilled ethnographers achieve a level of comfort and familiarity with their subjects that allow them to "blend in" with the research situation, without creating a feeling of invasion. Paxson (2012) developed collegial relationships with cheesemakers, who not only consented to speak with her in interviews but also took the effort to train her in cheesemaking, enabling her to conduct participant observation. Terrio (1998, 2000) gained the trust of diverse actors in the politically charged world of French chocolatiers. She attributes her initial access to this community in part to the chocolatiers' (mistaken) assumption that she, as an American, would be able to provide advice on marketing and sales.

This conduct of ethnographic research depends on two-way interaction between the research and the research subject. Dialogue and relationships are central in developing knowledge (Greenwood and Levin 1998). Terrio's participants, she observes, "chose me as much as I chose them" (1998, p. 26). Like the access that Bertaux and Bertaux-Wiame eventually gained to bakers, Terrio's access to chocolatiers was predicated on the chocolatiers' belief that

her work had something to offer *them*. In other words, they enrolled her, and her work, in the series of interactions through which their phenomena were enacted (Star and Griesemer 1989).

B. The Interaction of This Researcher with Artisanship and Regulation

Conducting fieldwork in relatively small production facilities means working in close proximity to participants as they go about their activities. In the current study, walking into the production area of an artisan bakery felt much the same *as* walking into the baker's life (cf Bertaux and Bertaux-Wiame 1981, cited above). In planning for observations, I initially expected to be a fly on the wall and to interact little with research participants. This was expected to be particularly easy during the first two observations. Both artisans, a baker and a cheesemaker, were already familiar with my research. During earlier interviews, we had had lively, extended conversations about their work and about the question of regulations. I planned to merely show up to watch them work, learn more about what they did, and stay out of the way. This is consistent with the conventions of scientific method, which demand that the process of data collection not influence the data. The researcher is not to affect the phenomena under investigation. One hopes that if the research is well designed, research subjects behave in the presence of a researcher the same as they would unobserved.

Yet if one is close enough to a phenomenon to collect information on activities, non-humans, and other "routinely occurring minutiae" (Latour and Woolgar 1979, p. 27), then one cannot help but interact. It is impossible to be a detached spectator, particularly when standing with an artisan and inspector in a small room. I had gone into the field to observe phenomena,

and the phenomena watched back.[24] Moreover, not all of the actors appeared comfortable being followed (cf Latour 2005). My notetaking—even simply my presence—could not help but impinge on the practices that I observed. The more I tried to remain unobtrusive and stay out of the way, the more obtrusive I became. I felt like a voyeur.[25]

This section applies the concept of exogenous interaction to the conduct of this fieldwork. It foregrounds and examines the ways in which participants interacted with my study and with me.[26]

The Research Study as an Actor. The participants engaged with the research study as much as the study engaged (through data collection) with them. They wanted, of course, to know about the study of which they were a part. They wanted to know what they were dealing with—to know who this actor was, this research. Facilitating this interaction between the two phenomena meant 1) responding to their questions about preliminary findings, 2) responding to their questions about data collection, and 3) recognizing that the research could serve their purposes as much as it served mine.

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[24] Terrio recounts her alarm on finding that some of the French chocolatiers who participated in her research later published a synopsized and altered version of her study without her knowledge or permission. "The irony was, of course, that the 'hegemonic ethnographic gaze' of the American anthropologist had been met and transformed by the so-called objects of that gaze" (1998, p. 25).

[25] The comedic improbability of such an expectation is dramatized in the feature film "Kitchen Stories" (2003, Norway, dir. Bert Hamer). A researcher is stationed in the corner of a farmer's kitchen to observe his cooking practices The institute conducting the research has prohibited interaction between researchers and subjects. This approach to ethnography proves to be conceptually flawed and impossible to carry out. Thanks to Larry Busch for alerting me to this film.

[26] This conceptual perspective is consonant with feminist methodologies that recognize the agency of the objects of research and that promote reflexivity on the part of researchers (Haraway 1988; Harding 2001).

First, artisans and inspectors were curious about preliminary findings. They wanted to know what I had learned from other participants. I initially feared that discussing this would "contaminate" the study—that it would affect what they told me and influence their activities during observations. I feared this particularly as a key preliminary finding was that many artisans reported positive experiences with food safety inspectors. Yet one way or another, the research would have affected participant activities during observations. *Not* disclosing this information would have *also* influenced what participants said and did. What represented methodological purity to me would have appeared to be secrecy to them. Coyness on my part may have made them distrustful, worried, and distracted (McKay 2002; Oakley 1981). Indeed, I found that telling them about the ideas that I was developing provided a kind of icebreaker; it cleared the air.

Second, participants needed to trust what the research would do with them and their work, particularly as I was witness to details that participants may have deemed sensitive, confidential, or incriminating. Some of them wanted to know why I was writing down so much about what they did, drawing floor plans and making lists of objects, with dimensions, materials, and uses. Delivering a theoretical response about ANT would have missed the point. I instead explained that if I did not write down details, I would forget things that had seemed obvious at the time, and that I would therefore not understand issues that arose during inspections. This is, after all, ANT at its simplest, methodologically speaking. If participants were interested, I also explained that I was using a theory that warned against making general assumptions about things like artisanship and regulation without looking in close detail at what happened in the real world.

Third, participants approached the research as a means of communication and action. For some inspectors, the study had the potential to prompt action among their superiors at MDARD,

such as through increasing training on certain issues. As one said, "If there's anything you can include in your report, it's that we need to understand how artisans do things, because a lot of us have never seen anything like this [facility] before." Artisans, too, used the research to convey positive and negative views on regulations and inspector practices, views that they hoped would effect change. They took the opportunity to learn about each other, asking what I had seen other bakers and cheesemakers do. To me, these exchanges provided data, helping me understand how participants worked and how they thought about their work. To participants, the research provided a means to their own ends. The research represented a *mediator* in participants' networks by transforming "the meaning…[that the data were] supposed to carry" (Latour 2005, p. 39).

The Researcher as an Actor. Giving participants an agreeable experience in my research required that I become comfortable, myself, with my own disruptive role and with the bricolage of fieldwork. Being a fly on the wall was not possible, regardless of the size of the processing plants.[27] I had initially planned to avoid interaction with artisans and inspectors as they conducted their work so that I could see things as they "normally" went. However, observing artisanship and inspection meant standing in processing rooms that were often as small as 15 by 30 feet, together with one or two other people who were occupied with processing duties or with inspections. Other facilities were as large as 5,000 square feet. Even here, groups of employees eyed me as I walked around in a white lab coat and hairnet taking notes on a clipboard. Although managers had usually explained who I was and what I would be doing, I looked "clinical." To

[27] The metaphor is apposite. Flies in processing plants pose risks of contamination. As long as I tried to be a fly on the wall, I felt like a contaminant in my own research.

artisans, I looked like a food inspector noting criticisms about them. To food inspectors, I looked like a researcher noting criticisms about *them*.

The question instead became *how* I would interact with participants to make their experience of research as mutually productive and agreeable as possible. I looked to processors and inspectors to determine my approach at each facility. Interacting with participants in the manner most comfortable to them proved more effective than trying to establish a standard field protocol (DeWalt and DeWalt 2002; Law 2004). In some instances, producers were eager to chat, to hear about my research and weigh in on my findings. They offered coffee, samples of bread and cheese, and periodically asked for help with minor tasks. In other cases, my presence appeared distracting, particularly to people who were accustomed to working alone. A cheesemaker who spilled a small amount of milk while transferring it into a milk vat glanced quickly over at me as if he had been caught in a mistake. (I did not record the spill in my notes, but I remember the unnecessary look of embarrassment.) A baker and his assistant spoke very little during the four hours that I was at their facility, apart from brief allusions to political conversations that they otherwise often had. Some inspectors included me in conversations with processors, while with others I held questions for a later time.

My interaction with participants permitted the access to, and insight into, regulatory and artisan practice that strengthen an exploratory study. The selection bias that is implicit in the design of this study, and my ensuing cooperative relationships with participants, were discussed on page 19. Brief remarks on addressing this bias in any further data analysis appear in Chapter 2 (page 88).

V. OBSERVATIONS AND IMPLICATIONS FOR FURTHER RESEARCH

The methodology developed in this study sought to suspend broad assumptions about artisanship, regulation, and the relationship between them and, instead, to closely observe their enactment in practice. It dispensed with broadly abstract notions of *artisanship* and *regulation* to focus on the cast of human and non-human actors involved in enacting these phenomena. These interactions are endogenous as well as exogenous. Endogenous interactions occur, for example, among an artisan and the non-humans involved in enacting artisanship. In exogenous interactions, different phenomena are involved in each other's enactment. Artisanship and regulation interact with and shape each other.

A research study on the relationship between artisanship and regulation involves, of course, these two phenomena. But not only the two. The research itself introduces a third phenomenon and a new set of exogenous interactions. The research shapes the other phenomena and affects their interactions with each other. This interaction is two-way. Participants have agency; they "look back" at the researcher, just as the researcher looks at them. In this study, conducting fieldwork involved facilitating interactions between my own phenomenon (the study) and the phenomena under investigation. Rather than remain detached and aloof, I responded to participant questions about preliminary findings and data collection and recognized that the research may serve their purposes as much as it served mine. Rather than establish a standard protocol, I took my cue from participants in deciding how to interact with them.

A. Observations on the Application of the Methodology

This section describes the insights generated by the study's methodological attention to non-humans, logics, and difficulties, and it discusses the implications of interpersonal interaction between researcher and participants.

Non-Humans. The focus on non-humans led to findings in three areas. First, it paradoxically foregrounded the importance of interpersonal rapport. In "following the actors" (Latour 2005), I found that many interactions could not be described in physical terms. The tone of discussions between artisans and inspectors, the trust or distrust that they had developed over time, the ways in which each of them handled disagreements—all of these figured in the interaction between artisanship and regulation. How inspectors interpreted what they saw was influenced by their interaction with an artisan and by their previous experience of him or her.[28] Whether an artisan adopted or challenged the inspector's directives was influenced by a sense of fairness and by his or her trust in the inspector's expertise. Interactions were shaped by the interpersonal relationship formed between artisans and inspectors as well as by the non-humans (such as equipment and ingredients) to which the study attended.[29]

Second, and relatedly, the data collection instrument developed to characterize interpersonal interaction only confirmed the nuanced character of these interactions. Using the typology described in Appendix E, interactions between artisans and inspectors were to be characterized as corrective, instructive, clarifying, or conversational. Yet interactions could rarely be characterized according to only one type; in fact, many of them fell into all four categories. When correcting an artisan's practices, inspectors also usually instructed. Artisans and inspectors conversed about the correction, and they clarified details as needed. The tone was almost always pleasant and relaxed.

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[28] This point is elaborated in Chapter 3 (page 127).

[29] In fact, regulatory practice in Michigan hinges on interpersonal interaction. Inspectors expect to speak with a designated staff person during inspection visits. If this person is not present, the inspector is not able to discuss potential problems in order to determine whether they are violations.

Third, the methodology's attention to non-humans foregrounded artisans' use of "industrial" approaches and their concerns with contemporary notions of food safety.[30] To illustrate: Milk protein residue[31] and trashcans may appear to have little to do with distinctly *artisan* practice. Yet using this methodology, I could not separate the mundane from the distinctive. Like other food processing, artisanship that is practiced without sanitation can be deadly (Lichfield 1999). Excising actors like milk protein residue and trashcans from an investigation of the relationship between artisanship and regulation would have privileged an a priori conception of artisanship over what is observed in its actual practice.

Logics. My logic affected how I saw actors and actions and how I approached my interactions in the field (Harding 2001). Throughout fieldwork, as in life, I am comfortable with uncertainty, gray areas, and conceptual mess. My logic necessarily influenced preliminary findings, which indicated that positive artisan-inspector relations provide a way for artisanship and inspection to shape each other in ways acceptable to both actors. The idea that the regulatory process can be made to "work" for smaller producers without a radical revision of regulatory requirements suited my reformist predispositions. It also gave me a particular message to try out on participants when they asked what I was learning—which provided an informal test of internal validity (Yin 2014). A researcher conducting the same observations with a different logic may have seen difficulties here, while I did not.

Difficulties. During observations of production, difficulties brought to my attention the non-human actors that would later figure in inspections. Difficulties encountered in

[30] This point is elaborated in Chapter 3 (page 119).

[31] When milk is heated during cheesemaking, proteins precipitate and eventually collect on equipment surfaces. This "milkstone" is difficult to clean and can harbor microorganisms.

cheesemaking, for example, foregrounded actors that are otherwise invisible. The aging rooms used by cheesemakers are quiet and fragrant places, populated by cheese wheels arranged on shelves. The cheese is at rest. The effect is earthy and orderly. Yet there is vigorous invisible activity. Microorganisms are ubiquitous; some are borne on ambient air, and some are propagated on specific cheeses. The air is an actor here, as are the microorganisms and humidity of the air. For this reason, some types of cheese need to be separated from others so as not to introduce unwanted types of microorganisms. A cheesemaker who had not attended sufficiently to this separation pointed out the wheels that were not developing as intended, difficulties that foregrounded microorganisms, humidity, and air. Later, during the inspection, the cheesemaker and the inspector discussed the ventilation system and the maintenance of the wooden aging boards. My understanding of the role that these invisible non-human actors played was critical to my understanding of this inspector-artisan interaction.

Watching for difficulties also enabled me to engage in casual conversation with artisans while simultaneously attending to key points of data collection—that is, to play the dual roles of "researcher" and "person" while interacting with artisans.

Interpersonal Interaction. The boundary between a study and the phenomenon under investigation is more fluid and negotiated in ethnography than it is in studies that use methods such as surveys. When a survey is conducted, the researcher and the research study engage less directly with a phenomenon.[32] "The study" is an actor in survey research just as it is in ethnography; respondents who complete surveys interact with the research, wanting to know how their information will be used and wondering about the intent behind some questions. Yet

[32] See Chapter 3 for more on fluid, negotiated boundaries between phenomena.

within the more generous boundary space created in ethnography, the researcher and participants are able to clarify issues such as these. Moreover, researcher-participant interactions *are* data. Participant reactions (such as in the case of the embarrassed cheesemaker spilling milk, above) yield information about a phenomenon that would not emerge outside of interactions.

On the other hand, the distance between a researcher and survey participants creates an anonymity that may encourage participants to share information that they may withhold in an ethnographic context.

B. Implications for Further Research

Participant Observation. Participant observation would both contribute to and detract from other research on this issue. Incorporating participant observation into this study would have enriched both the findings and the role of the researcher as exogenous actor. What a researcher can know by cataloguing non-humans, actions, and interviewee statements about activities is different from what he or she can know by participating in the same activities. Participant observation would substantively change the researcher's understanding of the actors, actions, and logics involved in enacting regulation and artisanship. Artisans and inspectors exercise embodied knowledge as they interact with non-humans and with each other (Paxson 2011). Much of this knowledge cannot be communicated cognitively but is instead generated in a "connective tissue of action" (Sudnow 2001, p. 59).

Yet participant observation would have imposed new difficulties on the fieldwork. It would have demanded more of artisans, each of whom would have needed to train me in his or her varied approaches, and then risked the consequences for product quality. As a novice, I may not have attained a degree of embodied skill to understand artisan practice or been able to

translate it into research data. Helping with simple tasks like washing dishes may have been feasible, but embodied knowledge of dishwashing would have added little to my understanding of food processing. Further, participant observation could not have been conducted at the same time as the notetaking that the present methodology required.

Social Justice. This research aimed to bracket questions of power and social justice. In this respect it departs from other work on smaller-scale and local agrifood production for which social justice is among the defining concerns of alternative agrifood systems (e.g., Allen and Guthman 2006; Kloppenburg et al. 1996).

My decision *not* to assume that inspectors exercised (undue) authority over artisans stemmed, in fact, from a concern for methodological justice. Some advocates of artisanship may argue that inspectors' perspectives had little place in this research and that the research should instead have favored the views of artisans as the less powerful set of actors. Yet power comes in too many different forms to make such generalizations (cf Kirsch 1999). To identify inspectors with "the system" and artisans as independent of it would have denied inspectors the opportunity to establish their own identities in their interactions with me. It would have blinkered the study against the ways in which artisans *do* exercise power. Conceptually, it would have confused what it sought to explain with the explanation (Latour 2005).

The methodology generated new insights into interactions between artisans and inspectors exactly because these interactions involved more than power asymmetries. However, in a study in which inspections are more contentious, or differences between artisans and inspectors more problematic, this methodological neutrality would be more difficult than it was in this study.

APPENDICES

APPENDIX A: DETAILED DESCRIPTION OF METHODS

The methods used in this fieldwork were described briefly at the beginning of Section III. This appendix provides more detail on participants and describes the three phases of the research: semi-structured interviews, field observations, and focus groups.

I. DESCRIPTION OF PARTICIPANTS

Table 1 and Table 2 provide descriptive information on participants.

Table 1. Participation in research phases: Numbers and types of participants

Participant totals (unique participants)		Phase 1 Interviews	Phase 2 Field observations	Phase 3 Focus groups #1	#2
Artisans	**n = 34**	**n = 24**	**n = 11**	**n = 13**	**n = 10**
Bread	n = 10	n = 8	n = 5		mix of food start-ups
Cheese	n = 18	n = 10	n = 6	n = 13	
Jam	n = 6	n = 6			
Inspectors	**n = 21**	**n = 9**	**n = 10**	**n = 2**	**n = 1**
Food	n = 13	n = 6	n = 6		n = 1
Dairy	n = 8	n = 3	n = 4*	n = 2	

*During field observations, 1 dairy inspector was accompanied to inspections of 3 facilities.

Table 2. Participants in interviews and field observations: Years of experience as licensed processors or practicing inspectors

Participant type	Years			
	Min.	Max.	Avg.	Median
artisan processor (n = 27)	1	30	10	6
inspector (n = 19)†	3	26	14	16

†Values for 3 of the 19 inspectors were missing.

A Project Advisory Committee of stakeholders was assembled at the outset of the study to advise on participant selection, interview questions, and project evaluation, and to provide guidance throughout the project. Members:

- Kevin Besey, Director, MDARD Food and Dairy Division
- Siobhan Kent, Department Analyst, MDARD Food Safety Planning and Response
- Natasha Lantz, Community Liaison, Marquette Food Co-op, Marquette, Mich.
- Sue Spagnuolo, Cheesemaker, Greenbush Farms, St. Johns, Mich.
- Ron Steiner, Director, The Starting Block Incubator Kitchen, Hart, Mich.

For clarity of analysis, the research focused on Michigan food laws rather than FDA, USDA, or EPA regulations.

II. SEMI-STRUCTURED INTERVIEWS

Participant Selection. Artisans were selected to represent producers of cheese, bread, and jam, three common processed products in Michigan. Managers of two incubator kitchens in which jam is produced were also included. This selection of products captured a small diversity of producers and inspectors in different parts of Michigan. The products are inspected by the two types of inspectors working in MDARD's Food and Dairy Division: bakers and jam makers are inspected by Food inspectors, and cheesemakers are inspected by Dairy inspectors. Apart from this distinction, Food and Dairy inspectors are assigned to geographic areas rather than to specific product types.

Artisans were identified through 1) suggestions made and contacts facilitated by the Project Advisory Committee; 2) internet searches for producers who met the study's working

definition of *artisanship,* emphasizing handcraft production, engaging in each step of the production process, and producing at a small or medium scale; 3) "snowball sampling"—that is, processors contacted early in the project recommended other processors (Corbin and Strauss 2008); and 4) the assistance of agrifood professionals and resource providers. Participants' own definitions of *artisanship* were further discussed during interviews.

MDARD Food and Dairy supervisors identified inspectors whose areas included artisan facilities. Inspectors' participation was voluntary. Interviews focused on participants as individuals, not artisans and their inspectors in pairs. The artisan clients of some inspectors did not participate, and the inspectors of some artisans did not participate. In some instances, both an artisan and his or her inspector participated. Selection was determined in part by artisans' and inspectors' availability during periods of the fieldwork and their willingness to participate.

Data Collection. Artisans and inspectors participated in semi-structured, one-on-one interviews that lasted between 30 and 90 minutes and averaged 60 minutes. Most interviews were audio recorded and transcribed. When interviews were not recorded, notes were taken manually. Instruments appear in Appendices B and C to this chapter.

Data Analysis. Interview transcripts and notes were coded for emerging concepts (Corbin and Strauss 2008) using NVivo, a qualitative data analysis program. Two passes were made through each transcript or set of notes to capture themes that emerged during this process.

III. FIELD OBSERVATIONS

Participant Selection. Two types of artisan processing, bread and cheese making, were selected for field observations. Artisans in both types of production are active throughout

Michigan's Lower Peninsula (Michigan Cheesemakers Cooperative 2012; Rector 2009). They are inspected by the two types of inspectors working in MDARD's Food and Dairy Division; bakers are inspected by Food inspectors, and cheesemakers are inspected by Dairy inspectors.

Twelve cases were selected for the field observation phase of the study, a number feasible within the six months available for data collection.[33] Cases were selected based on three criteria: 1) artisans met the study's working definition of artisanship by emphasizing handcraft production, engaging in each step of the production process, and producing at a small or medium scale, 2) the facility had an inspection scheduled within the period of the study,[34] and 3) both the artisan and his or her inspector were willing to participate in the study.

I first observed processing operations in order to familiarize myself with the actors and activities involved in each artisan's version of artisanship. Observations of production lasted between 2 and 4 hours, averaging 3 hours. Artisans conversed with me during this time and responded to questions about their operations and their approaches to artisanship. Second, I returned to the artisan facility with the facility's food safety inspector in order to observe the inspection. Inspections lasted between 1 and 3 hours, averaging 2 hours. Inspectors explained their practices to me as they worked, and in one-on-one conversations during or following the inspection.

Data Collection Instruments. Data collection instruments were constructed to generate a detailed record of the series of activities and actors involved in artisan processing, food safety

[33] A total of 23 observations were conducted: observation of artisan processing at 11 facilities, followed by observation of inspection at these facilities. In the twelfth case, inspection but not production was observed.

[34] MDARD provided me lists of facilities, facility contact information, and inspection due dates.

inspections, and the interaction between the two. Data collection was formed around the concepts of non-humans, difficulties, and logics. Instruments appear in Appendices D and E to this chapter.

Instruments were designed to compel myself to attend to the details of artisan practice, bracket my assumptions about artisanship, and reduce the extent to which my notes reflected subjective impressions. It would have been easy to record subjective impressions of production or inspection, noting things that appeared "typical" or "remarkable." I had not worked in artisan or other food manufacturing plants, and I had little familiarity with the practicalities of commercial-scale processing. My experience with food safety inspections was limited. Subjective impressions, while of possible interest in another study, would have shifted the data away the human and non-human actors involved in artisan practice and toward the learning process of a researcher unfamiliar with commercial artisanship and inspection.

Preliminary observations had demonstrated that research notes made without closely following a carefully specified guide omitted important details, omissions that would have impeded subsequent observations of inspection. For example, many work surfaces are constructed of stainless steel. Because stainless steel is common in food manufacturing, it is easy to miss this detail. Yet during some inspections, work surface materials became a concern, foregrounding these non-humans in the exogenous interactions between artisanship and regulation. Without a record of the non-humans used in all facilities, I would not understand the differing roles that stainless steel, wood, plastic, and other non-humans played in the enactment of artisanship or regulation or in the interaction between them.

Data Recording. Notes were taken by hand. Data collection involved a pen, paper, and clipboard, in addition to the white laboratory coat and hairnet that I wore. This limited set of tools made me more flexible, allowing me to stand close to activities and maneuver out of the way of artisans and inspectors when needed. Notes on paper provided the data in a tangible, visible form that I could show to participants if they so requested, as some of them did.

The use of a voice-activated audio recorder was initially considered but not adopted for three reasons. First, the quality of a preliminary test was poor. Second, field observations were intended to interfere as little as possible with processing and inspection. The use of an audio recorder—capturing possibly private remarks—would have been intrusive. Third, electronic devices would have been sensitive to processing conditions. Cheesemaking facilities are often humid. Many surfaces in bakeries sport at least a thin layer of flour dust.

The act of recording data by hand created an immediacy of interaction with the written data that neither a computer nor an audio recorder would have allowed.[35] Convention permits handwritten notes a degree of messiness not typically tolerated in word-processed documents. Details were recorded in a less processed or polished form than they would have been if typed; they could be scribbled down without being "thought through." Data collection forms were completed as actions were taken and actors appeared; corrections and comments were later written impromptu without the need to add columns to word processing tables, find a specific place in a computer file, or remember what had been dictated into a recorder. This allowed me to engage more closely with participants while also taking careful and copious notes.

[35] Researchers engage with data collection technologies in different ways. Researchers of a different generation may be less likely to share the experiences described here.

Data Analysis. Notes from observations were typed and organized in Microsoft Word files. A section in each file identified themes and findings and offered preliminary analysis.

IV. FOCUS GROUPS

Findings that emerged from interviews and field observations were discussed during two focus groups. Each group lasted 1.5 hours. Focus groups provided a check of internal validity for the study. Participant details appear above, in Table 1 (page 35). Discussion agendas appear in Appendices F and G to this chapter.

The first focus group included MDARD Dairy supervisors and cheesemakers from Michigan's Lower Peninsula. Invitations were sent to all artisan and farmstead cheesemakers on the master list I had developed. All cheesemakers who responded and were able to attend participated. The second group included a mix of food entrepreneurs in Detroit. Invitations were sent to a food entrepreneur listserv along with an introduction by the listserv facilitator. All entrepreneurs who responded and were able to attend participated. An MDARD inspector whose area included Detroit participated.

APPENDIX B: INTERVIEW INSTRUMENT—ARTISANS

Artisan production: For this study, I'm defining it as production where the producer is involved with each step of the process, and where there is at least some handcrafting. Is "artisan" a word that you use to describe what you do?

About you

- How did you get into this type of production—what prompted you to start producing food?
- What philosophy or principles drive what you do?

Experiences with Michigan Department of Agriculture and Rural Development inspections

- Describe your experiences being inspected. What makes an inspection go well? Not well?
- What's a "good inspector"? What makes an inspector not so good? Describe attitudes, practices, etc.
- Are there producer attitudes and practices that do and do not work well when dealing with an inspector?
- What have you learned from inspectors? What have they learned from you?

Impact on your business

- What role does regulation play in your ability and desire to grow?
- How do regulations affect your production decisions? Do regulations limit what you decide to produce?
- Have regulations helped your business? Not helped it? How?
- How do you define food safety? In what way, if any, does this differ from regulatory definitions?

Information needs

- How have you learned about regulations?
- Are there aspects of food safety that you would like to understand better? What are they?
- What advice concerning inspectors and inspections do you have for other artisans?
- In what ways, if any, are regulations difficult to follow—for example, clarity, consistency of enforcement, expense, etc.

Suggested changes in policy or inspector trainings

- Do you recommend any changes in regulations to accommodate artisan processing operations?
- Do you suggest any trainings for inspectors to help them work with operations like yours?

What purposes do you see food safety regulations as serving?

APPENDIX C: INTERVIEW INSTRUMENT—FOOD SAFETY INSPECTORS

Artisan production: For this study, I'm defining it as production where the producer is involved with each step of the process, and where there is at least some handcrafting. I'd like to hear about the artisan plants that you inspect. Are they different from other, larger plants? If so, how?

About you

- How did you decide to become an inspector?
- What philosophy or principles drive what you do?

Educational needs of artisans

- What educational needs do you see among artisan processors?
- Do artisan processors sometimes misinterpret regulations? If so, which regulations?
- What regulations or aspects of regulations do processors have the most difficulty understanding?
- Do artisan processors sometimes understand "food safety" differently than you do? How do their definitions differ?

Experiences evaluating artisan processing plants

- Are artisan processing plants more challenging to inspect than other plants that you inspect? If so, in what ways?
- Are there corrective actions that you take frequently with artisan plants? What? Why do you think they're necessary?
- What attitudes do artisan producers have about regulation?
- Have you learned anything from inspecting artisans? If so, what?

Regulatory changes

- Some small producers would like regulatory changes that accommodate small entrepreneurs, for example by requiring less costly investments. Do you think that regulations could change in this way?

Training of regulators

- Do you recommend any changes to guidance documents or trainings, to prepare you better for artisan processor evaluations? If so, describe.
- Have there been questions that were difficult to resolve during an evaluation without consulting with other regulatory staff? What types of questions?

What makes someone a "good producer?"
What makes someone a "good inspector?"

APPENDIX D: FIELD OBSERVATION INSTRUMENT—ARTISAN PROCESSING

Questions

1. What is important to you in the work that you do and about doing it these specific ways? Why? How else could it be done, and why not in that way? What principles drive your approach?

2. Has what's important to you changed over the years?

3. How has your operation changed over time? What changes in products, equipment, or practices have you made? Why?

4. Do you have any thoughts about the "industrial food system"? Do you see yourself as separate from it, part of it, etc.? In what ways?

5. What's your annual production?

6. How long have you been in business?

7. Do you trust your inspector more than you trust the MDA?

Objects

Table heading row:

object #	object	dimension	material	where	how used	other

Activities

Activities were listed, including these details: action, materials, equipment, tools, purpose, time

Sketches and plans

Items and locations were numbered to correspond to the other lists.

APPENDIX E: FIELD OBSERVATION INSTRUMENT—FOOD SAFETY INSPECTION

Questions for inspectors before inspection

1. Have you inspected this facility before?
2. What are your expectations, hopes, etc.?
3. What is important to you in the work that you do? Why? What principles drive your approach?
4. What different interests does your work serve? In what ways? How do you define the "public interest," and how does the public interest relate to the economic interests of producers?
5. How has your work changed over time? What changes in rules, equipment, or practices have been made? Why?
6. Describe an "ideal" production operation. What attitudes and practices characterize it?
7. How have inspections of artisan operations affected what you do?
8. Describe how your work fits into the regulatory process.
9. How long have you been an inspector?
10. Does hands-on production introduce risks that more automated production doesn't have?
11. What makes someone a good producer? Good inspector?
12. How long have you been an inspector?

Typology of interactions. Column headings in table:

- what
- type
- justification for claims
- interests at stake
- practices involved
- non-humans involved
- actions that either takes or plans to take
- tone

Guide for completing the table:

1. Type of interaction
    - Corrective. These interactions concern corrective action required by the inspector, and they may or may not involve violations.
    - Instructive. These include interactions in which inspectors explain aspects of regulations or provide guidance on achieving compliance. These interactions typify the educational and technical assistance roles that inspectors may play. They do not concern violations.
    - Clarifying. These interactions serve to clarify matters that are related to the operation or compliance but that do not raise concerns on the part of producers or inspectors. For example, an inspector may want to know where flour bins are kept.
    - Conversational. These interactions include small talk and other matters that appear to be unrelated to the production operation or regulatory compliance.
    - Non-verbal interactions. I anticipate relatively few non-verbal interactions but will be prepared to record those that occur.
2. Justifications for the claims made

3. The interests at stake in the interaction, for example the public safety or the producer's economic interests, and whether these are stated explicitly or implicitly by producers and regulators.
4. The practices involved
5. The non-humans that the interaction concerns or to which producers or regulators refer during the conversation
6. Actions that producers or regulators take or plan to take following the inspection
7. The tone of each actor during the interaction

APPENDIX F: AGENDA FOR FOCUS GROUP #1

1. Overview

2. Research consent forms

3. Introductions
   - Your name
   - Your business's name
   - Where
   - Type of cheese
   - How long you have been making cheese

4. Review ground rules

5. Cheesemaker experiences with regulations and inspections
   - Identify positive aspects of Dairy regulations and inspections
   - Discuss regulations or practices that are unclear
   - Discuss regulations or practices that you would like to see changed

6. Next steps
   - Action items for MDARD
   - Action items for cheesemakers
   - Other resources to contact or develop

   Include what, who, timeline, and how to communicate it.

7. Wrap up

8. Stipends

APPENDIX G: AGENDA FOR FOCUS GROUP #2

1. Overview

2. Research consent forms

3. Introductions
   - Your name
   - Your business's name
   - Where you're located
   - What you make
   - How long you have been producing

4. Review ground rules

5. Your own goals for the discussion

6. Experiences with regulations and inspections
   - Identify positive aspects of regulations and inspections
   - Discuss regulations or practices that are unclear
   - Discuss regulations or practices that you would like to see changed

7. Next steps
   - Action items for MDARD
   - Action items for food entrepreneurs
   - Other resources to contact or develop

   Include what, who, timeline, and how to communicate it.

8. Wrap up

9. Stipends

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CHAPTER 2
THE COMPLEMENTARY INTERESTS OF ECONOMIC ACTORS: FOOD SAFETY REGULATIONS AND ARTISAN FOOD PROCESSING IN MICHIGAN

ABSTRACT

Economic theories of regulation over the past century have juxtaposed the interests of different actors in order to explain the motivations behind regulations and to frame regulatory impacts. This chapter interprets current debate about appropriate regulatory responses to small-scale and localized agrifood production in the US in terms of claims about the interests that regulations serve and do not serve. The chapter argues that the interests served by regulations are not necessarily juxtaposed but can, in fact, be complementary. It presents exploratory ethnographic research on the food safety regulation of artisan food processing in Michigan that addresses the questions: Whose interests does the regulatory process serve? In what ways? According to whom? Semi-structured interviews are conducted with artisans and inspectors, and field observations are conducted of artisan processing and food safety inspections. Artisans and inspectors both indicate that there is a dynamic of complementarity and synergy among their respective interests, rather than one of competing or mutually exclusive interests. Implications for further research and for policy are considered.

I. INTRODUCTION

Enthusiasm for artisan processing accompanies the growing popularity of small-scale and localized agrifood production in the US (Lyson and Guptill 2004) and Europe (Bessière 1998; Renting et al. 2003).[36] Some advocates of artisan and other small-scale and local products

[36] As elsewhere in this dissertation, *artisan* processing is defined here as processing conducted at a small or medium scale in which producers emphasize manual production techniques and are involved at each step of the process. It involves batch rather than continuous production and

contend that food safety regulations hamper this trend (Ramer 2013; Sage 2007). Regulations are thought to standardize production methods and product composition, while artisan production is intrinsically variable. Regulations are thought to require costly investments and to favor manufacturers that achieve economies of scale, while artisans produce at relatively small scales. Regulatory oversight of artisan and other alternative approaches is unnecessary, the argument goes, because "traditional" products and smaller, regional processing operations are inherently safer than is larger-scale industrial mass production (Holloway and Kneafsey 2000; Paxson 2008; but see also Born and Purcell 2006). Some advocates also argue that regulatory oversight is unnecessary when producers and consumers are familiar with each other, such as in direct markets or other short supply chains (Sage 2003).

Debate on appropriate policy responses to the growing popularity of artisanship is impeded by conflicting assumptions about the interests that regulations serve and do not serve. Advocates of different positions variously invoke the interests of the public and of private businesses. Normative views are implied in these positions: the public interest is to be protected; regulations should not serve private business interests; yet regulations should do more to help smaller business interests.

This chapter positions this debate within several economic theories of regulation and offers an alternative perspective on the interests that regulations serve. It argues that these theories have contributed to a narrative of "winners and losers" by juxtaposing the interests of different actors to explain the motivations behind regulations and to frame regulatory impacts. The chapter draws upon but departs from these economic views to argue that the interests served

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allows for variability in products and processes (American Cheese Society 2011; Blundell 2002; Bread Bakers Guild of America 2013; de Roest and Menghi 2000; Paxson 2011).

by regulations can, in fact, be complementary (Levine and Forrence 1990; van Zwanenberg et al. 2011). Different interests are not necessarily at odds with each other; a benefit to one actor does not necessarily entail a cost to another. Approaching the policy problem introduced above through this perspective, the chapter presents exploratory ethnographic research by considering three primary questions: Whose interests does the regulatory process serve? In what ways? According to whom?[37]

The next section reviews scholarship on artisanship and on claims about the impacts of regulation on smaller-scale agrifood production. The third section develops the conceptual framework with reference to three economic theories of regulation that frame the popular and scholarly concerns introduced above. The doctrine of the *public interest* explains regulation as a mechanism of correcting market failure, such as when manufacturers produce poor quality food products (Pigou 2002 [1952]). Other economic perspectives explain regulation as a product supplied by the government in response to demand by competing *private economic interests* (Posner 1974; Stigler 1971). *Institutional economics* problematizes the public-private dichotomy, arguing that legal and economic processes are unavoidably related in an interdependent balance of rights and responsibilities (Commons 1924; Samuels 1971). The section concludes by arguing that interests are not only interdependent but complementary.

The fourth section presents the study's methods. Qualitative, semi-structured interviews were conducted with artisan bread, cheese, and jam producers and state food safety inspectors in Michigan. Bread and cheese processing and food safety inspections were observed. The fifth

[37] Economic development policy has addressed artisan and other smaller-scale food entrepreneurship more directly than have food safety regulatory policy or economic theories of regulation (e.g., Knudson et al. 2004).

section presents the findings. Artisans and inspectors describe the benefits that they experience in this regulatory process as well as the negative aspects of the process. The final section offers conclusions and implications for policy and research.

II. ARTISAN FOOD PROCESSING

This section considers the concept of artisanship and the significance that it has attained in alternative agrifood scholarship and practice, and it explores the roots of the putative tension between artisanship and regulation. Artisan processing provides a particularly good case for investigating the charge that regulations impose standards that favor large-scale food manufacture over smaller-scale production. If regulations favor larger producers and reinforce standardized production methods, they are likely to prove particularly vexing to processors who emphasize manual techniques and allow for variability.

A. Artisanship

Artisan processors produce at a small or medium scale, emphasize manual techniques and close producer involvement, and accommodate variability in products and processes. To scholars and practitioners critical of conventional food production, local and artisan foods represent alternatives to foods that are more industrially produced. They constitute part of a trend toward new models of agricultural and rural development that do not necessarily involve scale enlargement, reliance on industrial technologies, or other aspects of what van der Ploeg et al. refer to as "the modernization project" (2000, p. 395). This alternative trend represents a critique of the industrial paradigm that has dominated agrifood production throughout much of the past century (Buttel 2003; Cochrane 1993; Lobao and Meyer 2001). Critics characterize industrial production as predicated on the (deleterious) control of nature and as controlled by centralized,

corporate decision makers acting on narrowly economic priorities (Kloppenburg et al. 2000). In contrast, artisans are lauded as accommodating natural and seasonal variations and as acting from more than simply economic motivations (Tregear 2005).

B. Artisanship and Food Safety Regulation

Some supporters of alternative agrifood production charge that regulations protect large-scale agrifood production and impose industrial techniques on small, handcraft, and other alternative agrifood producers, and that regulatory oversight is unnecessary to assure the safety of these products.

Contemporary critics of industrial-scale food production writing from a range of social sciences argue that agrifood regulations protect large industry and further capital accumulation. Some critics of regulation charge that "industrial food" both necessitates regulation and is legitimated by it—that a self-reinforcing loop has developed in which food scares of industrial origin necessitate regulation, which in turn is tailored to respond to these specific problems. Artisan production, identified with pre-industrial food production, is seen neither to require the same regulations nor to benefit from them (Busch 2004; Stuart 2008). Writing on the food scares that have persisted despite a proliferation of new food safety measures, DeLind and Howard claim that the "disproportionate influence [of the largest firms] results in injustices for smaller capitalist firms, not just the public" (2008, p. 308; also Worosz et al. 2008). Some small producers agree with this critique, holding that regulations increase entry costs by requiring costly investments that are disproportionate to firm size (Buckley et al. 2011).

Some critics charge that regulations impose industrial techniques on producers (Sage 2007). Regulations set standards for production surfaces, production methods, product

composition, and equipment, among other factors.[38] Artisans who wish to use traditional materials, such as wood and linen, may be required instead to use stainless steel and food-grade plastic. Many artisans make use of locally available ingredients, and products are often identified with the geographic area in which they are produced (Paxson 2012; Rector 1999). This variability can make it difficult for producers to standardize production methods and product composition.

Some advocates of artisans and other "alternative" (i.e., non-industrial) food producers argue that regulations are not necessary to ensure the safety of their products. First, these producers are assumed to operate with integrity and expertise that render government oversight superfluous (Murdoch et al. 2000; Nygård and Storstad 1998). Small scale production and handcrafting methods are associated with care on the part of the producer (Berry 1997; Wildgen 2011). Second, advocates argue that relationships of trust between producers and consumers develop in direct market connections (Sage 2003). According to this logic, immediacy of contact with customers compels artisans to serve customers' interest. For some artisans and customers, safety is constructed in local relationships rather than in codified rules (Enticott 2003; Ilbery and Kneafsey 2000; Kupiec and Revell 1998). Finally, small processors argue that requirements do not improve the quality or safety of their products (Buckley et al. 2011).

The assumption that regulatory oversight may not be necessary to ensure the safety of these products subtends recent policy changes, which exempt from licensing requirements small processors who sell directly to end consumers and who meet other criteria. The federal Food Safety Modernization Act of 2011 exempts farmers and processors whose production falls within

[38] 21 CFR § 110.40(a)

sales and market distance limits. State home processing exemptions, such as the Michigan Cottage Food Law of 2010, exempt some home processors.[39]

The next section frames these issues around economic perspectives on regulation in the US.

III. REGULATIONS AND INTERESTS

This section positions the debate on policy responses to artisanship within economic theories of regulation, and it concludes by offering an alternative way of thinking about the interests that regulations serve. Economic perspectives on regulation in the US offer different views on what motivates and justifies regulation, and they raise three interrelated questions: Whose interests does the regulatory process serve? In what ways? According to whom? In what follows, the notions of 1) public and 2) private interests are examined, respectively, as the motivations behind regulations. The notions of "public" and "private" are problematized in 3) institutional economics, which approaches divergent interests as interdependent. Finally, 4) the argument is made that interests are not only interdependent but complementary. Evidence from economics and historical scholarship that supports this claim is reviewed.

A. Public Interest

Historical and Conceptual Background. The concept of the *public interest* originated as an economic doctrine that explained government regulation as a means of correcting market failures and inefficiencies. In serving the public interest, "governments…control the play of economic forces in such wise as to promote the economic welfare, and through that, the total welfare, of

[39] Home processor laws, a.k.a. cottage food laws or pickle bills, have been passed in over half of US states.

their citizens as a whole" (Pigou 2002 [1952], p. 130). The doctrine views government intervention as necessary to correct businesses' tendency to serve their own interests rather than those of others. In the matter of food safety, the idea of the public interest loosely refers to the need to protect the general public from the health and safety risks created by unscrupulous or incompetent food producers.

According to the doctrine of public interest, government regulation (compared with private litigation) provides an efficient way of addressing problems in food manufacture and of achieving a more equitable distribution of food that meets quality standards (Weisbrod et al. 1978). Before the contemporary food regulatory system was created, the responsibility of dealing with unscrupulous producers, poor quality products, and other instances of market failure fell to individuals (Young 1989). A person who attributed an illness or injury to a food product had recourse to private litigation (Glaeser and Shleifer 2003). Under the contemporary system, the government has right of entry to food manufacturing plants and conducts product testing, saving individuals the cost of hiring attorneys or investigators on a case-by-case basis. It carries out, with taxpayer money, what had earlier fallen to individuals to do. The government obtains information for, and sets quality standards on behalf of, all prospective customers.

The *public interest* is invoked in a range of food safety discussion that includes the popular media, consumer advocates, regulators, and scholars (e.g., Burros 1995; Center for Science in the Public Interest 2012; Garcia Martinez et al. 2007). The tagline on the website of the US Food and Drug Administration (FDA) reads "protecting and promoting *your* health" (FDA 2013, ital. orig.). Calls to defend the public interest have figured prominently throughout the development of contemporary food safety regulation in the US. During the nineteenth century, agrifood production, distribution, and marketing changed dramatically (Fortin 2009).

Mass production technologies and more complex distribution networks introduced new and greater numbers of intermediaries between producers and end users. Along with benefits, these changes also provided unscrupulous food producers with new means to mislead consumers, and they created new problems of trust on the part of domestic and international buyers (Libecap 1992). Food traveled greater distances from producers to end users with the advent of technologies such as refrigerated rail transportation (Freidberg 2008; Kujovich 1970). New preservation technologies, such as canning processes and synthetic additives, made foods available in forms previously unfamiliar to buyers and made the quality of products more difficult for them to assess (Vileisis 2008; Wilson 2008).

By the last half of the nineteenth century, civic organizations and food manufacturers were demanding production standards and improved information on food quality and composition (Goodwin 1999; Young 1992). Much of this activism and lobbying focused on the need to protect consumers. States responded by promulgating food laws, and popular support for federal-level food safety legislation increased. Newspaper stories and legislative debates leading up to the passage of federal-level food safety legislation in 1906 emphasized the failure of manufacturers to supply food that customers trusted (House Committee on Interstate and Foreign Commerce 1906; New York Times staff 1905). Harvey Washington Wiley, author of the Pure Food and Drugs Act, made a career of opposing chemical food additives as adulterants (Gaughan and Hutt 2004). He argued, "The sole objects of food adulteration are to sell an inferior article at the price of a superior one and to preserve a good article, so that it can be sold after preservation at the same price or at a higher price than it would bring in its natural fresh state, and to secure this object reprehensible methods are employed" (Wiley 1899, p. 153).

Problematizing the Notion of the Public Interest. The idea itself of the *public interest* may appear at first to be straightforward, signifying what is good for people in general. Who, after all, can argue with the idea of protecting the public? Parsing the concept, however, proves troublesome (Coase 1960; Posner 1974). First, the idea of "the public" is nebulous. Little scholarship that uses the term "public interest" defines "public," either as a qualifier or as an entity (McCraw 1975). The term "public" is often defined in juxtaposition to "private," a dichotomy that stems from Aristotle (1889, 1905) and continues to inform scholarly and popular views of regulation (e.g., Nestle 2010; Pollan 2009). For example, while Hirschman's discussion of the private-public dichotomy considers at length the term "private," his treatment of the term "public" is vague, if confident. He asserts that the term "offers little difficulty…[it refers] to action in the political realm, to involvement of the citizen in civic or community affairs" (2002 [1982], p. 6). This definition draws a sharp but simplistic distinction between what one does in business or the home, i.e., privately, and the "rest" of one's activities. It also draws a simplistic distinction between what people do as individuals and what they do collectively. Yet to the extent that "public" and "private" interests may be distinguished from each other (and as argued below they cannot be), they are simultaneously and iteratively determined (Levine and Forrence 1990).[40]

[40] Another economic concept, that of *public goods,* may be confused with the idea of the public interest. A key difference between public goods and the public interest is that "public" refers to different entities in the two. A public *good* is public because it is provided *by a public institution*. A public *interest* pertains *to the general public*.
Two characteristics define a public good: it is available to everyone when it is available to anyone, and one person's use of the good does not diminish its availability to another person. That is, public goods are non-excludable and non-rivalrous. Most highways, for example, are public goods. Some economists have argued that such goods must be provided by public means—i.e., by the government—rather than by private business, because these two characteristics make it difficult for a private business to charge for and profit from the use of the

Second, the idea of "interest" is also nebulous. In the sense used in discussions of the public interest, an "interest" implicitly represents what benefits an individual or a group (e.g., Hirschman 2002 [1982]). Yet, in what way, according to whom, and over what period of time (Pleasence and Maclean 1998)? Individually or collectively? Asked to define their own interests, what people articulate may differ from what is evident in their conduct. What people articulate may not ultimately benefit them. What people choose for themselves may not reflect their broader policy preferences (Olson 1968; Sunding 2003).

Where used in this chapter, the term *public interest* denotes the interest of people to avoid illness or injury from consuming food that they have purchased.[41] The *public*, here, comprises buyers and end users of purchased food. Most food in the US is obtained on the market rather than produced by people for their own consumption. Avoiding illness and injury is assumed to be an *interest* that people share in common, hence a public interest. By promulgating food safety regulations, the government acts on "the public" through the market. Therefore food safety regulations serve the parties and interests that the market serves, not the entire population or all of its interests, imagined or actualized.

B. Private Interests

Another perspective, the theory of economic regulation, explains regulation as an outcome of demand for and supply of regulation (Posner 1974; Stigler 1971). Regulation redistributes income among *private interests*—industry organizations, individuals, regulators (Bardach and Kagan 1982), and others. Interest groups form in order to influence regulations to

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good (Samuelson 1954, 1958). See Unnevehr (2007) for a discussion of food safety as a "global public good" in a globalizing food system.

[41] The notions of sickness and health can themselves be problematized, as can the unit at which sickness and health are analyzed. See, e.g., Busch (2004); Enticott (2003); Thompson (2007).

their own advantage, such as by increasing barriers to entry, influencing prices, or affecting the market in other ways. The groups demand regulations that benefit them, and in exchange they support the politicians who honor their demands. Larger and more politically influential business interests have the resources to shape regulations to increase their advantage over smaller or less influential businesses and other competitors. Individual consumers and others not associated with an industry also have private economic interests. But they also tend to have less incentive and means to organize than does industry, and less to offer politicians in exchange for regulatory benefits.

A relative of this view, capture theory, emphasizes the political dimension of the relationship between government and private enterprise. Proponents of the idea suggest that regulatory agencies and their public agendas are in fact *controlled* by industry's interests (e.g., Casey 1997). In two histories of Progressive Era regulation in the US, Kolko (1963, 1965) argues that Theodore Roosevelt promoted these ostensibly publicly minded reforms *primarily* in order to consolidate the power of corporations. Movement of workers between government regulatory agencies and industry in a "revolving door" provides continuing evidence for some degree of industry influence over regulators (Meghani and Kuzma 2011).

The view of regulation as an outcome of competing private interests is consonant with that of the advocates, cited above, who charge that regulations serve the interests of large-scale processors by imposing unattainable costs and burdens on small-scale processors. There is empirical evidence that economic power has motivated the development of food safety regulation in the US, to the benefit of large agrifood producers. Historian Harvey Levenstein (1988) argues that the large processors who supported the 1906 legislation recognized that the new regulatory standards would enable them to compete more successfully with small and

under-resourced firms. Legal scholars and economists writing on Wiley, author of the 1906 Pure Food and Drugs Act, describe the close relationships that Wiley formed with influential food and beverage producers in order to build support for federal legislation (Gaughan and Hutt 2004; High and Coppin 1988).

Writing from a different conceptual perspective, science and technology scholars also point to the close relationship between the state and influential business interests. Busch (2004) argues that modern food law has served to legitimate industrial production since its initial passage in 1906. The scientific experts who advise on contemporary regulations are responsive to powerful political and economic interests, and their advice is unavoidably intertwined in politics (Busch 2002; Millstone 2007). Regulatory science reinforces the administrative need of government and large-scale producers for standardization and control, and it may fail to take the diversity of small producer situations into account (Scott 1998; Stuart 2008; Wynne 1996).

C. Institutional Economics and the Interdependence of Interests

Institutional economics takes a yet different view of the relationship between government and economic entities. It foregrounds the ineluctable role of institutions—such as government regulations, professional norms, and social traditions—in setting the rules that shape the market. "Law is an instrument for the attainment of economic objectives, *and* the economy is an object of legal control" (Samuels 1972a, comma and ital. mine). This is not a cynical lament on collusion between government and private enterprise, and it aims not to be a normative statement (Samuels 1972b). It is an observation that the economy does not function without a "structured set of [working] rules and sanctions" (Bromley 1989, p. 44; also Mercuro and Medema 2006). Rules and sanctions are collectively defined and enforced, whether formally or informally.

That is, institutional economics conceives of legal and economic interests as dynamically interrelated. It introduces the idea that the interests of different economic actors are reciprocal and interdependent. In a seminal work in this field, Commons defines an institution as "collective action in restraint, liberation, and expansion of individual action" (1934, p. 73). Rights and responsibilities are inevitable in economic life, and they are directly correlative. One person's liberty correlates with another's restraint; one person's right correlates with another's responsibility. "Freedom for the pike is death for the minnows" (quoted in Berlin 1969, p. 124). Institutions, such as regulations, determine how these rights and responsibilities are distributed (Schmid 1987, 1999).[42] There is no freedom "from" rules; there is only the question of how the rules distribute rights and responsibilities.

An institutionalist perspective offers two main contributions to the current study. First, it strives to provide a more specific and positive (as opposed to normative) approach to thinking about interests. As seen above, debate concerning artisan food processing and food safety regulation paints "interests" with a broad and normative brush. Interests that figure in this debate include those of the public (a group whose health, it is assumed, is to be protected), small agrifood producers (a minority group that is to be encouraged), and large agrifood producers (a group whose power is to be curbed). The approach adopted in this chapter strives to suspend assumptions about whose interests *ought* to be served. Instead, it inquires into the ways in which actors indicate that their interests *are or are not* served. Second, an institutional perspective resists categorizing interests as public or private. As seen in the previous two sections, fundamental conceptual differences complicate any investigation concerning the *public* interest

[42] For example, if a new law restricts a factory's emissions in response to neighboring residents' complaints about air quality, it is not imposing a new regulatory burden. It is *shifting* the burden away from the residents and to the factory.

and *private* economic interests. Instead, institutional economists problematize the distinction between *public* and *private*. If the law both structures and serves private power (Samuels 1971), then identifying a set of interests as either public or private is presumptive and misleading. It blinkers our view of the matter under investigation (Schmid 1987).

D. Complementary Interests

This chapter follows the institutionalists in approaching interests as interdependent. Yet it departs from the institutionalists in approaching interests as complementary. In asserting complementarity, the chapter argues that there may not always be a direct correlative relationship between rights and responsibilities, or benefits and burdens.[43] One party's right may not correlate directly with another's responsibility. To assert that freedom for the pike is death for the minnows (see above) is to assume a very small pool of economic actors with an exceedingly narrow and fixed set of interests. In fact, economic actors are motivated by a mix of interests (Levine and Forrence 1990). Interests are not mutually exclusive; they may overlap, and sometimes they may even be synergistic. In a twist on the idea of regulatory capture discussed above, van Zwanenberg et al. observe that "everyone implicated in a regulatory system is partially captured by everyone else in that system" (2011, p. 20; see also Carpenter 2004; Nielsen and Parker 2012).

There is historical and contemporary evidence of overlap and synergy among the interests affected by regulation. The interests of businesses and customers, and arguably those of regulatory agencies, are served in multiple ways. Reviewing the work of regulatory commissions throughout US history, McCraw concludes, "Regulation is best understood as an institution

[43] "Interdependence does not necessarily equate with perfect balance or perfect harmony."
Rev. David A. Robins, Aug. 17, 2013

capable of serving diverse, even contradictory ends, some economic, some political, some cultural" (1975, p. 180). Following the passage of the Pure Food and Drugs Act in 1906, USDA inspectors found that an educational approach was at least as effective in achieving compliance among food manufacturers as was a strict enforcement approach (Law 2006; Young 1992). The technical assistance that manufacturers received from these early inspectors suggests a complicated relationship of interdependence that cannot easily be represented in polar correlates. Contemporary economic cost-benefit analysis of the implementation and outcomes of food law indicate that regulatory measures may simultaneously achieve different benefits for different stakeholders (Unnevehr and Jensen 1999; see also Gardner 2003). Business owners in the UK appreciate the technical information provided by public health regulators (Elgood et al. 2004; Yapp and Fairman 2006). The "patience and understanding" (Hutter 1989, p. 155) that regulators exercise with firms may also benefit consumers, communities, and other public stakeholders affected by a firm's activities.

IV. METHODS

There is little empirical study to inform food safety policy affecting artisans. Few studies have focused on artisan processing in contemporary, regulated, and industrialized contexts.[44] Research on artisanship has focused mostly on historical and developing country contexts. There are also gaps in research on the food safety regulation of artisan processing. Research in the US has been directed toward the barriers that small food business owners report (Buckley et al. 2011; Worosz et al. 2008) and has not focused equally on benefits that producers experience.

[44] For exceptions, see Paxson (2008, 2010, 2011, 2012); Terrio (1998, 2000).

Importantly, food safety inspections of these facilities have not been observed, and regulators' experiences of small food businesses and inspections have not been researched.

To investigate the food safety regulation of artisan processing, this study focused on food safety inspections rather than on written laws. Law is "made" during the enforcement of regulations just as it is in more formal policymaking processes (Lipsky 2010 [1980]). Indeed, "the actual behavior of officials [is] the only legal reality that we really know" (Commons 1924, p. 112). Studies of regulatory enforcement suggest that outcomes are the product of the discretion and interpretive flexibility that inspectors exercise, interactions between inspectors and regulated parties, and the experiences that each brings to inspection situations (Arce 1989; Gormley 1998; Lipsky 2010 [1980]; May and Wood 2003; van Zwanenberg et al. 2011). Yet enforcement of food safety regulations, such as during inspections, has received little attention in the study of US food law (Law 2006).[45]

When policy debate focuses only on substantive law (i.e., legislation and administrative regulations), it risks reproducing a common and yet idealized view of regulations that depicts a linear, unidirectional trajectory from legislation to enforcement. It assumes that legislative and regulatory mandates translate straightforwardly into regulatory outcomes. Yet in practice, inspections introduce issues beyond those defined in codified law. First, many regulatory requirements are broad and require interpretation by food safety inspectors, who take into account contextual details of specific facilities (Grattet and Jenness 2005; Yapp and Fairman 2006). Second, interactions between food safety regulators and producers may extend beyond strictly technical questions of compliance. Some agencies adopt a consulting approach that

[45] A Google Scholar search for key terms yielded no US studies.

emphasizes cooperation and education (Braithwaite et al. 1987; Macauley 1993; May and Wood 2003; Scholz and Gray 1997). Writing on the sociology of regulation, Hutter (1989) describes an "accommodative" approach in which inspectors explain to regulated parties the reasons for requirements and discuss possible means for attaining them. "Patience and understanding underpin the whole strategy, which is regarded as an open-ended and long-term venture" (Hutter 1989, p. 155). Third, regulators work to accommodate individual producers' notions of right and wrong as they enforce regulations (Lowe and Ward 1997). Producers' decisions about whether and how to comply with regulations are influenced by their interaction with enforcers (Fairman and Yapp 2005; Henson and Heasman 1998).

A. The Case

Popular media stories and casual observation indicate that there is burgeoning interest in artisan food processing in Michigan. Small-scale processing activity has increased in recent years, paralleling rising interest in regionally produced food and economic necessity stemming from the decline of the state's leading industry, auto manufacturing (Cantrell 2010).

Artisan processing figures prominently in this trend. Data on the number of artisan processors in Michigan are not available. However, of the 15 craft bakeries identified during this study, 10 indicated that they have opened within the past 15 years (see also Rector 1999). The Michigan Cheese Makers Cooperative, a group of 11 artisan and farmstead[46] cheesemakers, was formed in 2010 (MSU ANR Communications 2010).

[46] Farmstead cheese is made on a farm using milk produced on that farm. Farmstead cheese is often (though not always) handcrafted in small batches.

The Michigan Department of Agriculture and Rural Development (MDARD) is the state agency charged with assuring food safety. MDARD's Food and Dairy Division handles food safety inspections. Inspectors work out of their homes and out of vehicles that the state provides. In 2012, there were 47 Food inspectors responsible for approximately 2,000 food processing operations and 18 Dairy inspectors responsible for approximately 3,500 dairy farms and processing operations.[47]

B. Participant Selection

Artisan participants in this study were selected to represent cheese, bread, and jam production, three common types of small scale processing in Michigan. This selection of products captured a small diversity of producers and inspectors and represented different geographic parts of Michigan. The products are inspected by the two types of inspectors working in MDARD's Food and Dairy Division: bakers and jam makers are inspected by Food inspectors, and cheesemakers are inspected by Dairy inspectors. Food and Dairy inspectors are assigned to geographic areas rather than to specific product types.

Artisans were identified through 1) internet searches for producers who met the study's working definition of artisanship, emphasizing handcrafted products, engaging in each step of the production process, and producing at a small or medium scale; 2) "snowball sampling"—that is, processors contacted early in the project recommended other processors (Corbin and Strauss 2008); and 3) the assistance of agrifood professionals and resource providers. A Project Advisory Committee was created to provide guidance on this research, and Committee members facilitated

[47] Numbers provided by MDARD.

contact with research participants.[48] Production approaches were further discussed during interviews in order to confirm that participants met broadly artisan criteria. Artisan participants included 10 bread bakers, 11 cheesemakers, and 4 jam processors, as well as managers of 2 incubator kitchens where jam and other products are processed (see Table 3, page 75). Artisans had been licensed for between 1 and 30 years.

MDARD Food and Dairy supervisors identified inspectors whose areas included artisan facilities. Inspectors' participation was voluntary.[49] Inspector participants included 13 Food inspectors and 6 Dairy inspectors. Inspectors had between 3 and 26 years' experience.

Interviews involved participants as individuals, not artisans and their inspectors in pairs. The artisan clients of some inspectors did not participate, and the inspectors of some artisans did not participate. In some instances, both an artisan and his or her inspector participated. Selection was determined in part by artisans' and inspectors' availability during periods of the fieldwork and their willingness to participate. Participants represented a broad geographic distribution of artisans and inspectors in the state.

C. Data Collection and Analysis

Data collection consisted of interviews and field observations.

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[48] The Project Advisory Committee consisted of Kevin Besey, Director, MDARD Food and Dairy Division; Siobhan Kent, Department Analyst, MDARD Food Safety Planning and Response; Natasha Lantz, Community Liaison, Marquette Food Co-op, Marquette, Mich.; Sue Spagnuolo, Cheesemaker, Greenbush Farms, St. Johns, Mich.; and Ron Steiner, Director, The Starting Block Incubator Kitchen, Hart, Mich.

[49] Selection bias and my consequently cooperative relationships with participants are discussed in Chapter 1 (page 19). More detail on the methods outlined here appears in the Appendices to Chapter 1 (starting on page 35).

Table 3. Participation in interviews and field observations

		Interviews	Field observations
Artisans	**n = 27**	**n = 24**	**n = 11**
Bread	n = 10	n = 8	n = 5
Cheese	n = 11	n = 10	n = 6
Jam	n = 6	n = 6	
Inspectors	**n = 19**	**n = 9**	**n = 12**
Food	n = 13	n = 6	n = 6
Dairy	n = 6	n = 3	n = 6

Artisans and inspectors participated in semi-structured, one-on-one interviews that lasted between 30 and 90 minutes and averaged 65 minutes. Discussion focused on the experiences of established artisan processors in dealing with inspectors, and of inspectors in dealing with artisans; factors that made the regulatory process succeed for both parties; training that participants felt was needed for themselves or others; and regulations that artisans wanted to see changed.[50] Most interviews were audio recorded and transcribed. When interviews were not recorded, notes were taken manually.

Issues that emerged during interviews were further investigated during field observations. Field observations were conducted at facilities in which 1) an inspection was scheduled within the period of the study,[51] and 2) both the artisan and his or her inspector were willing to participate in the study. First, I observed artisan observations for between 2 and 4 hours in order to become familiar with the actors and activities in each artisan's production. I conversed with artisans about their operations and their approaches to artisanship. Second, I returned to these facilities with food safety inspectors in order to observe the facilities' inspections. Inspections lasted between 1 and 3 hours. One-on-one conversations with artisans and inspectors before,

[50] See interview instruments in Chapter 1, Appendices B and C.

[51] MDARD provided me with lists of facilities, facility contact information, and inspection due dates.

during, and/or after observations covered issues similar to those covered in interviews. Observations focused on concerns that arose during inspections, the practices involved, and interpersonal interactions between artisans and inspectors. During observations, all notes were taken by hand.

Interview transcripts and notes were coded for emerging concepts (Corbin and Strauss 2008) using NVivo, a qualitative data analysis program. Two passes were made through each transcript or set of notes to capture emergent themes. Notes from observations were typed and organized in Microsoft Word files. Themes and preliminary findings were identified.[52]

V. FINDINGS: ARTISAN AND INSPECTOR VIEWS ON INTERESTS SERVED BY REGULATIONS

Artisans and inspectors identified ways in which the regulatory process did and did not serve their interests and the interests of others. *Interests* are operationalized here as benefits, economic or otherwise, to these actors. The section identifies the benefits and the negative aspects that artisans and inspectors identified with the regulation of artisan facilities.

A. Benefits

1. To Artisans

Many artisans indicated that they receive assistance and support from their inspectors, and they described these benefits in detail. These artisans felt that their inspectors, through enforcing food safety regulations, helped them improve their businesses. Regulations and inspectors serve artisan interests by 1) providing technical assistance, 2) supporting and

[52] More detail is in Chapter 1, Appendix A, page 35).

reinforcing the directives that artisans give their processing staff, and 3) sharing ideas used by other artisans.

Technical Assistance. Many of the artisans participating in the study looked to inspectors for technical assistance, quality assurance, and other matters not directly related to food safety. These producers' attention was divided among the many details that running a food business involves, and they appreciated inspectors' specific focus on food safety issues:

> He's a guy that's just coming here to make sure that I'm not overlooking something that could potentially harm somebody.
>
> *Cheesemaker*

They saw inspectors as specialists who drew their attention to possible hazards that they may have otherwise missed, such as unprotected light bulbs and allergen cross-contamination. For example, a baker described a visit during which an inspector required him to replace the bakery's ceiling light bulbs with shatter resistant bulbs within a certain period of time. He reluctantly complied, noting the considerable cost of the bulbs. Yet:

> I think it was three months later that I hit a light bulb [with a long handle], and it didn't shatter in a million pieces and go into all our dough and all our product. It stayed contained.
>
> Baker

Inspectors, too, indicated that the guidance they provided on food safety often related to broader operational matters, such as identifying methods for keeping older equipment running properly:

> And [crappy equipment] is one of the things that…really frustrates us. I think it frustrates the artisanal producers, too, because they would love to make more money and buy new equipment and comply…Sometimes what we'll do is say, "You have got this old run-down piece of equipment," and we will try to find processes or methodologies for them…so they can continue to use that until they can afford to buy something better.
>
> Food inspector

Even some artisans who did not agree with the government's role in assuring food safety nevertheless liked their inspectors as people and appreciated their help, describing in detail the ways in which inspectors had improved their operations.

Support in Enforcing Their Own Standards. Artisans indicated that it can be difficult to enforce standards of hygiene and sanitation among their staff. As one cheesemaker put it, "I can play good cop and let [the inspector] be bad cop…And it does make it easier to manage [the operation]." At one bakery, an inspector recorded violations in part to draw these problems to the baker's landlord's attention, thus assisting the baker.

Sharing of Ideas. As inspectors became more familiar with artisan facilities, they broadened their understanding of the equipment and techniques that different artisans used. Many of the artisans participating in this study conversed at length with inspectors during visits. Inspectors sometimes relayed to them, in general terms, experiences that other producers had with specific processes or types of equipment.

2. To Inspectors

Pride in Seeing Businesses Succeed. Inspectors were invested in the success of the facilities they inspected. Many, though not all of them, enjoyed providing technical assistance to artisan businesses. Conversations between inspectors and artisans often veered from food safety to many other operational matters.

> [Our inspector] takes pride in seeing us succeed. If he sees us in a news story, or if he walks in a store and he sees our cheese, he feels like he's part of that…[J]ust like if we're buying hay from somebody, or the retail store, all the way along the chain, they're part of the process. And the inspector, he feels like he's part of the process.
>
> Farmstead cheesemaker

Relationships with Small and Medium Producers. Inspectors reported benefitting from their interactions with the artisans whose facilities they inspected. Providing technical assistance to smaller plants can be time-consuming. However, asked what made these plant inspections worthwhile, one inspector echoed the views of others when he replied, "The relationships."

MDARD directs inspectors to approach their work as educators and trainers.[53] Asked what they enjoyed about their roles, inspectors emphasized the value and reward of assisting food manufacturers:

> What I like about the job is you get to work with people and you get to help them solve their problems.
>
> Food inspector

Learning about a Variety of Production Styles. Inspectors expressed curiosity about and appreciation for the approaches used by artisan processors, although they did not always agree with these approaches. Several Dairy inspectors had taken Michigan State University's artisan cheesemaking short course in order to learn more about techniques used by new cheesemakers in their areas. The following inspector spoke appreciatively of the ingenuity with which an Amish farmer had developed a cheese plant that met regulatory requirements without electricity. He explained:

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[53] Four of the inspectors indicated that they had teaching degrees or taught school before becoming inspectors.

> I like going to new areas and just seeing the farms, seeing how they operate, all the farmers' thoughts on why they're doing it this way, why they're doing it that way.
>
> Dairy inspector

3. To Food Consumers

Artisans and inspectors generally agreed on the importance of public health, and both saw themselves as accountable to food consumers. Many artisans took issue with specific legal definitions of food safety, such as whether linen threads represented a safety risk and whether flour beetles under a stove were likely to contaminate bread. Yet they agreed with inspectors about the overriding importance of preventing foodborne illness.

> We have two clients in this world: the public, and the [food business] entity. And they're not mutually exclusive.
>
> Food inspector

Most of the artisans saw inspectors as fulfilling a necessary duty in protecting the public. In fact, two of the producers wished that their own inspectors were stricter. A baker recounted surprise at how cursory he felt his own opening inspection was:

> I would have preferred a little more rigorous conversation [with the inspector]…It would have given me confidence that all the other businesses are also being checked. I mean, I guess my thought was, "If that's the level of inspection I got, okay, what is the business down the street doing? Where the owner doesn't care about product contamination or anything like that?"
>
> Baker

Asked whom he saw himself serving, a food inspector gestured around to the other patrons of the coffee shop in which his interview took place:

> *These* people…You know, I got a letter that I carried around in my car for years. [A lady] was complaining about a store where they had big problems with the refrigeration. To me, customer complaints are one of the most important things that we do, because those people are our eyes

> and ears in the stores when we're not able to be there. And she said, "Please, can you do something about this. We don't have any place else to go." I thought to myself, "That's the lady that I work for. She pays my wages."
>
> Food inspector

B. Negative Aspects

1. For Artisans

Artisans described ways in which they felt regulations countered their interests. They referred to specific rules and—less so—to their experiences with inspectors. They indicated ways in which the regulatory process 1) impeded artisan techniques, 2) imposed costs that they considered unreasonable, and 3) required measures that they considered unnecessary. Some burdens reflected a combination of these.

Impeding Artisan Techniques. When asked whether they would change any regulatory requirements if they could, most artisans in this study indicated that requirements had not prevented them from doing what they wanted to. However, some artisans did report conflicts between their approaches to production and those required by inspectors. For example, many artisan bakers proof dough in baskets made of wicker and lined with linen in order to achieve a specific quality of bread. Federal regulations require that food contact surfaces be "adequately cleanable" and "maintained to protect food from being contaminated by any source."[54] Some inspectors interpret this to prohibit the use of these proofing baskets, requiring instead baskets made of a more impermeable material such as plastic. Plastic interacts differently with dough and affects the dough's moisture, requiring these bakers to change their baking processes and produce what they considered to be a lesser quality bread.

[54] 21 CFR § 110.40(a)

Imposing Unreasonable Costs. Cheesemakers raised more concerns about the costs involved in meeting regulations than did bakers or jam producers. Sanitation rules are more detailed for dairy processing than they are for other types of food manufacture and tend to allow for less interpretation by inspectors. Many cheesemakers cited the antibiotic testing of milk as a costly and troublesome requirement. "Other than buying my milk, [testing] is probably the most expensive element to my cheesemaking," said one. Although producers agreed that antibiotics are to be avoided in cheesemaking, many questioned the rule's effectiveness and the costs involved.

Requiring Unnecessary Measures. Artisans described episodes in which inspectors initially interpreted regulations as requiring large-scale equipment. In some of these cases, inspectors subsequently determined that smaller or less expensive alternatives achieved regulatory objectives:

> One of the biggest problems with cheesemakers, especially starting out, is they invest way too much in the beginning. Especially if you're talking to your inspectors. I remember the first conversation I had with him, he said, "It will cost you at least a quarter million to start up." And in the end it was $30,000. So if we had listened to our inspector the whole way…it could be that it would have cost well over a couple hundred thousand dollars. But…we said, "Can we do *this* instead?"
>
> Farmstead cheesemaker

Many inspectors had more experience inspecting large-scale facilities than smaller facilities. They were familiar with the equipment and facilities that larger producers use, and some expected to see the same equipment and techniques at smaller facilities.

2. For Inspectors

Investment of Time. Many artisan processors looked to inspectors for quality assurance, technical assistance, and business advice not directly related to food safety regulations. In

contrast to operators of large facilities, they were unlikely to have staff specializing in quality control, procurement, or other matters. The inspections that were observed during this research involved often lengthy conversations about many issues. In some cases, several hours were spent at facilities measuring less than 1,000 square feet. Many (though not all) inspectors enjoyed this aspect of their jobs and were interested in learning about artisan approaches. Yet with MDARD budget decreases, inspectors also found it difficult to invest this much time addressing broad food business matters.

Emotional Investment in Businesses That Ultimately Close. Inspectors did not use terms such as "emotional," and their relationships with artisans and other agrifood producers were defined professionally as those of regulators and regulatees. Still, inspectors spoke of the disappointment of helping food entrepreneurs launch businesses, only to see them close after a short time for lack of markets or other reasons. It appeared that their work involved a degree of emotional investment in client enterprises.

C. The Interpersonal Dynamics of Regulatory Practice

The interpersonal dynamics between artisans and inspectors affected the ways in which interests were or were not served during regulatory processes. The study's methodological focus on inspections revealed a more complex interplay of interests than emerges from a focus on formal requirements or rulemaking. As artisans and inspectors interacted, they learned about each other's interests, ways of working, and sometimes their personal lives. The relationships that they developed over time shaped their views of their own interests and the ways in which these interests were served. Participants spoke of the benefits of positive relationships and the negative aspects of problematic relationships.

1. Benefits

Collegial, trusting relationships made it easier for artisans and inspectors to benefit from the regulatory process. When asked whether they recommended that any requirements be changed in order to accommodate their approaches to production, most artisans indicated that specific requirements had not impeded them from doing what they wanted to do. As one baker responded, "It's just a conversation." That is, it was merely a matter of discussing his aims and approach with his inspector and, together, determining how to achieve them while meeting requirements.

Interactions provided a means of resolving differences. When one couple opened the first brick oven bakery in their inspector's area and presented their plans to her, she was concerned that food contact surfaces be cleanable and protect food from contamination. She asked that they take bread to farmers' markets in plastic bags. However:

> We were not interested in putting [the bread] in plastic…I remember talking about that the most. After her hearing about what we wanted to do, and expressing what the concerns are from the safety regulation standpoint, [I remember] her essentially saying, "Let me tell you how you can do this." And I just remember…breathing a sigh of relief, like "Oh my gosh, she's willing to work with us and help us figure out how to make this happen."…I appreciate the fact that she has taken the attitude of an advocate for small business owners rather than the gate keeper to entry for those who want to participate in Michigan's economy.
>
> Baker

Many inspectors indicated that they made efforts to accommodate producers whose intentions and capabilities they had come to trust. Inspectors also spoke of their own responsibility in forming constructive relationships. Like the dairy inspector described above, others also made an effort to understand artisan processes and to engage with them as people and not merely as law enforcers.

Attending to the interpersonal dynamic of inspections helped serve inspector's own interests. These inspectors described effective inspection practices as follows:

> If you know the nature of his process, you understand things he does…[You have to] walk in their shoes. You make yourself credible, and they'll do anything you ask.
>
> Food inspector

> You've got to make yourself human for them. Otherwise they won't comply.
>
> Food inspector

2. Negative Aspects

Processors who indicated frustration with inspectors described inspectors' "need to be in control and not taking the time to address a problem." A baker described asking an inspector to explain the justification for specific requirements, so that he could explain them to staff. Yet answers were not forthcoming:

> Every question about "why" is viewed as a challenge and confrontation and actually not answered.
>
> Baker

Inspectors who indicated frustration with processors described people who believed they had nothing more to learn about their businesses. Processors agreed with this assessment and cautioned other processors to be open to learning from inspectors.

> You can tell, when you talk to some [business owners], they put up a wall right there: "You don't know what you're talking about. I've been doing this for 18 years, 22 years. I think I know my business."
>
> Food inspector

VI. CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

A. Conclusions

This chapter began with the questions: Whose interests does the regulatory process serve? In what ways? According to whom? The study demonstrates that multiple interests are served in different ways, according to both artisans and inspectors. These findings offer little traction to the narrative of winners and losers, described above, that characterizes policy discussion of the regulation of small food businesses.

Artisans and inspectors depicted a dynamic of complementarity—in fact synergy—rather than mutual exclusion among interests. They engaged in collaborative discussions to identify production strategies that met artisan priorities as well as regulatory requirements. When an inspector helped a small processor identify a way to keep an older piece of equipment functioning satisfactorily, she helped the processor address an operational and financial challenge, reduced the likelihood that the processor's customers would find broken bits of machinery in his products, and indulged her own interest in processors' machinery and production approaches.

It is difficult to separate "public" and "private" interests in these remarks. Individual actors have many different interests—actors such as the baker who was concerned about a lax inspection at his own facility because of what it might portend for inspections at the food businesses where he shopped. Inspectors saw their clients not just as facilities to be regulated but as part of the communities in which they lived; they saw themselves as serving the public through serving food businesses. Artisans served their own interests through serving the public.

Popular and scholarly accounts of business influences on regulation focus on large businesses. Powerful connections are made through lobbying and the "revolving door" movement of regulators to industry and back. True, artisans may enjoy little influence in this conventional political sense. Yet the influence that private businesses wield in the regulatory process can take different forms. This study demonstrates that the enforcement of regulations through inspections generates connections between regulators and smaller business interests.

B. Implications and Recommendations for Research and Policy

1. Research Implications

This study provides a point of departure for further qualitative and quantitative investigation. This section identifies sources of bias in the study that may be addressed in further work, and it suggests further avenues of inquiry.

Bias. At least three potential sources of bias are evident in the study's method. Research that builds on this study should develop some indication (if not measure) of these biases and identify ways of reducing them. First, inspectors participated in this study voluntarily, introducing selection bias. The implications of the bias for the study are not clear. It might have been expected that inspectors with poorer relationships with artisan processors would be less inclined to participate. Yet some inspectors with excellent reputations among artisans declined to participate. Further research may be broadened to include a wider, more systematic, and less voluntary selection of inspectors.

Second, and relatedly, the criteria according to which artisans were selected may be more clearly specified and more strictly applied in further research.

Third, it is almost certain that both artisans and inspectors withheld sensitive information during interviews and that the presence of a researcher during field observations affected interactions. Just how this affected the data is difficult to assess; some artisans unreservedly relayed complaints about specific inspectors and inspection practices. Inspectors criticized some practices of artisans and other small food businesses, though not by name or in an identifiable way.

As argued in Chapter 1 (page 19), selection bias and my consequent cooperative relationships with participants permitted me a degree of access to food safety inspections that strengthened this exploratory study. However, additional analysis (should these data be analyzed further) may reveal implications of this bias and of my interactions with participants. Approaches would include triangulation of the data obtained through the different methods used in the study—interviews, observations, and focus groups—and cross-case comparisons (Yin 2014).

Further Research. Several questions emerge from this study. First, how do food safety agencies differ in culture and enforcement style? The application of this study's findings may be limited by the culture of an agency and the approach that it encourages among its inspectors. Some of the artisan participants in this study indicated that MDARD food safety inspectors take a more constructive approach to their work than do inspectors from other agencies.

Second, how do inspector age and years of experience impact inspector styles? Artisans and inspectors both spoke of the difference that age and experience make in an inspector. Younger inspectors were generally characterized as stricter, more "by the book," and harder to work with. A middle-aged inspector stated firmly that if he had started directly out of college, he "absolutely would have failed at this job" because he saw the world in black and white.

Inspectors who had children or who had taught K–12 spoke of the crucial difference those experiences had made in the greater flexibility and understanding that they brought to inspections.

Third, is the rapport between an inspector and small or medium producer a predictor of regulatory compliance? This study suggests that this rapport makes at least as a great a difference for compliance as does the producer's knowledge of regulatory requirements. A producer who is unfamiliar with regulations will learn about them if he or she has open, constructive communication with an inspector. But producers who have poor relationships with inspectors may well have problems regardless of how well they know regulations.

Fourth, what is the economic impact of inspection practices and of the inspector-processor relationship? This study suggests that positive inspector-processor relationships help improve artisan operations and may increase business viability. Artisans spoke of specific facility and operations improvements that inspectors had identified. A closer investigation may quantify these benefits.

2. Policy Recommendations

Interpersonal interaction between artisans and inspectors have the potential to improve the regulatory process for artisans and other small to medium processors. The positive experiences that artisans reported appeared to stem from the training and assistance approach that MDARD encourages its inspectors to take, coupled with the discretionary flexibility that it allows its inspectors.

The proposed Preventive Controls Rule of the FDA Food Safety Modernization Act (FSMA) would extend requirements for audit systems to more types of processing.[55] FSMA would require virtually all processing facilities to comply with Hazard Analysis and Risk-Based Preventive Controls (HARPC) requirements. HARPC involves preparing and implementing a food safety plan that includes several written components: hazard analysis, preventive controls, procedures for monitoring implementation, corrective action procedures, verification procedures, and a recall plan. Small facilities may qualify for modified requirements that are less burdensome. Some of the cheesemakers who participated in this study had voluntarily developed and implemented HACCP plans and spoke positively about the closer oversight that it instituted in their operations and management practices. At the same time, audit regimes risk supplanting decision-making with routinized practice (Busch 2004). HARPC requirements may favor rationalized production over more discretionary and adaptive approaches.

Policymaking to accommodate and encourage smaller agrifood producers has focused on laws and regulations. This study indicates that the regulatory process may also be improved for these producers at the inspection level. Following are recommendations for inspector training.

Recommended Inspector Approaches. Inspectors and artisans in this study identified approaches that improve the regulatory process for artisans, and in many cases for inspectors as well. These include:

- Work to understand how processors do things, and do not be afraid to ask questions. Do not rush an inspection.
- Engage with processors as people, on a human level.

[55] Hazard Analysis and Critical Control Points (HACCP) plans are common audit systems.

- Work *toward* compliance, improving things gradually over time. Be collaborative with processors in this. Address basic food safety concerns first, and then proceed to other concerns.
- Explain *how* to correct any violations, or find the information needed in order to correct a problem. Explaining *why* is important, so that the processor understands.

Approaches to avoid include: sounding argumentative or blaming; bearing grudges; taking things personally or emotionally; nitpicking or overwhelming the operator; telling operators that they are doing things wrong.

Inspector Training. Inspectors should become more familiar with artisan and other smaller processing facilities. Training should prepare them for equipment, approaches, and other characteristics unique to smaller facilities; questions that smaller processors commonly pose; practicalities of setting up a smaller facility; and common problem areas. Experience working with other inspectors who are responsible for smaller facilities is also advisable. Inspectors in this study who participated in MSU's artisan cheesemaking course indicated that it improved their understanding of farmstead and artisan cheesemakers.

Inspectors in this study emphasized the importance of "people skills" and of the time and experience that it takes to develop these skills. They indicated a need for training on day-to-day communication, for example identifying personality types and learning to work with different types of people; resolving conflicts; and deescalating tense situations.

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CHAPTER 3
THE CRAFT OF FOOD SAFETY INSPECTION AND THE TECHNOLOGY OF ARTISANSHIP: EXPLORING FLUID BOUNDARIES BETWEEN SOCIAL PHENOMENA

ABSTRACT

Artisan food processing and food safety regulation may appear to be quite separate social phenomena. In fact, popular accounts of their relationship depict two colliding phenomena. This chapter draws upon science and technology studies to explore the relationship between artisanship and regulation. Observation of the interplay between them during food safety inspections reveals that commonly assumed distinctions between the two phenomena blur. Their relationship is neither rigid nor static. The boundary between them is negotiated and rendered fluid by the multiple identities that human and non-human actors assume and by the multiple logics that humans apply to what they do.

Food safety inspections provide opportunities for boundary management during which artisans and inspectors negotiate points of coherence and divergence between their respective phenomena. Artisans and inspectors both approach their work and their interactions with each other in diverse and dynamic ways. When observed in practice, neither artisanship nor regulation is exactly what we may expect it to be. Inspectors ply a craft; they draw on the tacit skills that they have developed in learning their profession, and they use very few technologically sophisticated implements during facility inspections. Artisan food processors use industrial technology, and some of them organize production in a regimented way suggestive of operations engineering. Implications for inspectors and artisans and for further research are considered.

I. INTRODUCTION

Food safety inspectors and artisan food processors[56] seem to move in separate worlds. The former enforce broad standards formulated in scientific and political processes, while the latter pursue craft production methods adapted to individual situations. Some advocates of artisanship and other smaller-scale agrifood production see an inherent conflict between artisanship and regulation, claiming that regulation legitimates and reinforces the industrial agrifood model to which artisanship represents an alternative. Recent debates on the food safety regulation of small-scale and localized production demonstrate the difficulty of determining a regulatory response to current agrifood production trends. It seems difficult to reconcile the practices of regulators and small producers. What, then, *is* the relationship between artisanship and regulation? Is it troubled, and if so in what ways? What to do?

This exploratory ethnographic study of the food safety inspection of artisan processing problematizes popular characterizations of artisans, inspectors, and the gulf that presumably separates them. It finds that the boundary between these two erstwhile distinct social phenomena is fluid and negotiated. Observation of the interplay between artisanship and regulation during food safety inspections reveals that commonly assumed distinctions between the two phenomena blur. In practice, both artisans and inspectors approach their work and their interactions with each other in diverse and dynamic ways. Artisan food processors use industrial technology, and some of them organize production in a regimented way that suggests operations engineering. Inspectors ply a craft; they draw on the tacit skills that they have developed in learning their

[56] *Artisan* processing is defined in this dissertation as processing conducted at a small or medium scale in which producers emphasize manual production techniques and are involved at each step of the process. It involves batch rather than continuous production and allows for variability in products and processes (American Cheese Society 2011; Blundell 2002; Bread Bakers Guild of America 2013; de Roest and Menghi 2000; Paxson 2011).

profession, and they use very few technologically sophisticated implements during facility inspections.

This chapter explores the shared space that is created during inspections and in which artisan and inspector practices mingle and intersect. It argues that, in fact, artisanship and regulation interact with and shape each other. The chapter explores these *exogenous* interactions. True, phenomena that appear to have little in common—like artisanship and regulation—may diverge from each other. But they may also at times cohere. One key to addressing the food safety regulation of artisan processing lies in exploring the fluid and negotiated boundary offered by food safety inspections.

The chapter comprises five sections. The next section examines in historical context the ideas at the heart of the above policy debate—craft production, industrial production, and food safety regulation. The third section describes the contemporary enactment of regulation and artisanship in practice. The fourth section argues that the boundaries of these phenomena are more fluid than they appear. Food safety inspections create boundary spaces shared by artisanship and regulation in which artisans and inspectors negotiate points of coherence and divergence between the two phenomena. The fifth and final section suggests the implications of this work for further research and for inspectors and artisans.

II. CRAFT PRODUCTION, INDUSTRIAL PRODUCTION, AND FOOD SAFETY REGULATION

The word *artisan* is in vogue, conjuring images of handcrafting, tradition, and careful hard work (Horovitz 2011; see also Trudeau 2013). Critics of conventional agrifood production (e.g., Kloppenburg et al. 2000) promote craft products as alternatives to "industrial food" and charge that food safety regulations legitimate and reinforce industrial production. According to

this critique, regulations embody industrial thinking (DeLind and Howard 2008; Stuart 2008). Artisans are seen to perpetuate craft traditions that predate industrial food production and the consequent call for federal regulations. Yet at the same time, artisanship is a dissenting alternative within an industrial idiom that it cannot wholly abandon (Ilbery and Maye 2005; Sonnino and Marsden 2006; Vittersø et al. 2005). These understandings of craft, which juxtapose it to industrial production, oversimplify and as a result fail to help us understand the practice of artisanship in regulated and industrial settings.

Understanding the relationship between regulation and artisanship requires examining the notions of craft production, industrial production, and food safety regulation that are at the heart of the debate on the policy response to artisanship and other alternative agrifood trends. In this section, I review the practices and logics that have informed craft production in Western history, changes introduced by industrialization, and the historical development of federal food safety regulation in the US.

A. Craft Production

Contemporary US notions of *craft* and *artisanship* invoke specific features of pre-industrial methods of production.[57] The terms refer to production that is done by hand rather than by machine, with producers closely engaged throughout production processes. Production is at a relatively small scale. There is variability in processes and products as artisans accommodate

[57] *Craft* and *artisan* are used more or less synonymously in this dissertation and in popular sources.

fluctuations in ingredients and environment. Producers are independent, not affiliated with (or at least not beholden to) larger, more powerful interests.[58]

Proponents commonly invoke the idea of *tradition*, which sounds stable and timeless enough. However, traditions are invented and reinvented (Sonnino 2007; West [in press]). The idea of *tradition* itself refers to different qualities and values in different contexts. "Traditional" foods can be traced to specific periods, contexts, and meanings. This is as true of everyday breads (Rubel 2011) as it is of specialty foods (Tregear 2003). *Craft* and *artisanship* have signified different priorities, processes, and social relationships historically and from place to place (Costin 2007; Heath and Meneley 2007). Even the apparently simple idea of *nature* invoked in popular usage of the word *artisan* embodies historically specific associations and political and social values (Schama 1995).

Contemporary notions of craft are selective. They reflect normative commitments (Becker 1978). In particular, they critique the industrial paradigm that has dominated agrifood production throughout much of the past century (Buttel 2003; Cochrane 1993; Lobao and Meyer 2001). Artisanship is seen as part of a trend toward new models of agricultural and rural development that do not necessarily involve scale enlargement, reliance on industrial technologies, or other aspects of what van der Ploeg et al. refer to as "the modernization project" (2000, p. 395). Artisanship is seen to serve non-industrial interests (Kloppenburg et al. 2000; Marx 1906 [1867]), and producers are assumed to have a greater orientation to community and to craft than to personal profit (Lyson 2004; Tregear 2005). Closer connections are created between

[58] See such popular-audience references as: Artisan Made-Northeast (2010); Bread Bakers Guild of America (2013); Dietmann and Greenberg (n.d.); Geist (2013); Jenkins (2005); Marcus (2012); Polis (2011); Rector (1999); Sakovitz-Dale (2006); Vermont Institute for Artisan Cheese (2013).

food and territory and between producers and consumers (Renting et al. 2003; Tregear 2003). "Traditional" products are assumed to be safer than their "industrial" counterparts (Paxson 2008).

This section draws on historical and critical scholarship to examine in more detail the qualities and values emphasized by proponents of craft production.

Embodied Skill and Small Scale. Limited mechanization is a defining characteristic of contemporary craft production (e.g., Blundell 2002; de Roest and Menghi 2000). Craft production involves tacit knowledge and embodied skills that are developed through direct experience rather than mediated by machines (Paxson 2011). This skill and judgment have historically been acquired through apprenticeships involving observation, practice, repetition, and rehearsal (Hobsbawm 1984; Terrio 2000). Production is a visceral activity that cannot be fully prescribed in codified procedures or taught formally—what master baker Jeffrey Hamelman calls "the education of the hands" (2013, p. xii; see also Polanyi 1958; Sudnow 2001). Knowledge may be acquired through formal training, but these "established external ways of doing" are adapted and subordinated to artisans' own products and production methods (Gralton and Vanclay 2009, p. 200). The direct engagement of the producer, together with reliance on manual techniques, limits the scale of production to what can be accomplished by hand.

Variability and Adaptability. Work routines in pre-industrial societies were driven by what EP Thompson terms "the logic of need" (1967, p. 59). Work was task oriented; that is, fulfillment of obligations was gauged by completion of a task and not by time spent working, as it would later be in industrial conditions. Thompson observes that, by industrial standards, this

approach to work would come to appear inefficient. Contemporary craft production involves "coming up with effective solutions to all the problems that consistently present themselves in the process" (O'Connor 2007, p. 137) rather than following a linear, codified, or tightly controlled process through which inputs are efficiently transformed into products. Craft is both constrained and defined by locale and nature; it is invested with cultural as well as instrumental meaning and is not merely an abstract act of producing products (Heath and Meneley 2007; Ulin 2002).

Autonomy. The figure of the "independent artisan" recurs throughout anthropological scholarship (e.g., Geertz 1960). Yet while craftsmen historically worked independently of the standards-setting and regulatory institutions that we know today—institutions that developed in the twentieth century—they were constrained in other ways.

First, artisan production has not historically been free of power relations, whether at the household or industry level (Costin 2007). In nineteenth-century England, the word *artisan* referred in some instances to a master—a tradesman—who did not engage in production at all but managed the laborers who executed the work (Hobsbawm 1984). Much European craft production was governed by guilds to which artisans were accountable. In France, in fact, the practice of artisanship arguably became *more* independent with the rise of "the individual" under industrial capitalism after the French Revolution and the abolishment of the craft guilds (Sewell 1980). Second, contrary to the bucolic imagery popular in advertisements for artisan products, many historical artisans were urban rather than rural craftsmen (Hobsbawm 1984; Marx 1906 [1867]; though see also Young 1996). Third, with the rise of industrialism, artisans engaged in industrial work, providing skilled manual labor in nineteenth century factories. The adoption of automated, mechanized processes and the concomitant deskilling of labor proceeded unevenly.

The construction of industrial factories required skilled machinists to build machines (by hand), to maintain them, and to make the parts with which to maintain them.

B. Industrial Production

An understanding of contemporary craft requires that we also understand the industrial approach to production from which it is differentiated. Through what non-human objects and logics[59] is industrial production constituted? What would we expect to find in artisan practice if regulations forced it into an industrial mold? This section considers two historical developments that distinguish industrialization and to which craft production is popularly juxtaposed: transformations in manufacturing technologies, and a logic driven by productive and bureaucratic efficiency.

Manufacturing Technologies. The use of engine-powered machinery eclipsed manual work as large-scale mechanized manufacturing developed in the eighteenth and nineteenth centuries in England and the rest of the West (Hobsbawm 1984; Thompson, EP 1963). Giedion defines mechanization as "dissecting work into its component operations" (1948, p. 31). While pre-industrial craftsmen exercised a broad range of physical skills and possessed a diverse expertise, the adoption of industrial technologies supplanted both the labor and expertise of workers. "[T]he machine ate away at [the artisan's] technical mastery one bite at a time, and, gradually, the artisanal worker faded into the skilled industrial worker" (Hanagan 1977, p. 30).

Technological developments, particularly those that preserved food and reduced the need for production labor, played significant roles in the increasing mass production of food products. Canning was invented in 1795 by a French confectioner to supply the Napoleonic Wars (Appert

[59] The concepts of *non-humans* and *logics* are introduced in Chapter 1.

1810; Blumenthal 1990). The process was brought to the US in 1821 (Underwood 1914). Its development over the nineteenth century was propelled by the convenience of canned foods as war rations, increasing urbanization, and westward expansion (Busch, J 1981; Kranzberg and Pursell 1967).[60] The editor of a US trade publication, *The Canning Trade*, wrote in 1914 of "the marvelous increase in the production of canned foods, from a few thousand cans fifty years ago…to the present enormous output and consumption of over 3,000,000,000 cans" (Judge 1914, p. 5). Mechanical refrigeration was invented in the 1860s by Charles Tellier, according to some accounts. Tellier was a French engineer who believed it "would allow for the 'rational' reorganization of the global fresh food supply" and increase worker productivity (Freidberg 2008, p. 402). Refrigeration was introduced into commercial food distribution around 1880.

These industrial technologies had profound implications for the control of the food supply and for the social relationships coordinated around food (Freidberg 2008; Thompson, PB 2010). Nineteenth-century craft workers in US canneries resisted the introduction of innovations that would replace labor and, more importantly, decrease their control over production decisions (Brown and Philips 1986).

A Logic of Efficiency. Machinery and other technological features of industrialism were not ends in themselves but served a logic of productive and bureaucratic efficiency according to which production was reorganized and controlled. Machinery served to standardize and automate manufacturing processes (Giedion 1948). The materials of choice in facilities and equipment were amenable to standardization; stainless steel was preferable to wood in this respect. In turn,

[60] With varying degrees of success. The putrid quality of the "embalmed beef" supplied to US troops during the Spanish-American War of 1898 became a scandal (Brown and Philips 1986; New York Times staff 1899).

these non-human objects themselves standardized the humans who used them (Busch, L 2000). Just as technology was designed for human use, human work was adapted to technology, and it was managed hierarchically (Gutman 1973; Kerr et al. 1960).

As an increasing amount of physical skill devolved to machines, authoritative knowledge about production accrued to managers (Dubofsky 1996; Scott, AJ 1986). Work was reorganized to centralize the management of machines and of increasingly unskilled workers (Scott, JC 1998). The adoption of scientific management approaches in the early twentieth century—Taylorism—also increased managerial control over decision-making.[61] Whereas preindustrial manufacturers had commanded an understanding of the entire trajectory of production, the logic of bureaucratic efficiency relegated to industrial workers a blinkered view of a limited set of tasks. What had been a holistic understanding of the work was dispersed among many different workers. Labor was put to efficient use with respect to time (Thompson, EP 1967). Investments were made in facilities and equipment rather than in human labor.

C. Food Safety Regulation in the US

The roots of the contention that food safety regulation is inimical to craft production are not hard to find. Contemporary food safety regulation has its historical origins in a modern, expert-driven, and hierarchical approach to social problems that differs sharply from that of craft production as described above. This section considers the changes in artisan governance brought about by the parallel developments of the modern state and of industrialism.

[61] Scientific management and the drive to rationalize human activity would also find their way into the domestic kitchens of the West. See Freeman (2004) and van Otterloo (2000).

As argued above, the iconic images of independent family-based craft production that dominate contemporary popular notions of artisanship often omit artisans' historical connections to broader political and economic actors (Bertaux and Bertaux-Wiame 1981; Costin 2007; Heath and Meneley 2007; Terrio 2000). Like other tradespeople and producers, artisans have long been embedded in power relations of some kind or other (Costin 2007; Elias 2000; Hanagan 1977; Inomata 2001). European craft guilds set and enforced standards and manipulated markets (Richardson and McBride 2009; Smith 1937 [1776]; cf. Epstein 2008). However, the Enlightenment witnessed the gradual transformation of the state into the modern administrative institution that we know today, imposing formal, abstract order; promulgating standards; and assuming governance of economic entities such as craft producers (Foucault 2007 [1978]; Scott, JC 1998; Sewell 1980).

Industrialization accompanied the development of the modern state, and traces of the rational, managerial logic of industrialism may be found in contemporary food law. Nineteenth-century problems in industrial food production provided the proximate impetus for contemporary food safety regulation.[62] A more fundamental cause, however, may be found in the modernist transformation that sought and gradually imposed bureaucratic and managerial solutions to social problems such as hazardous food.[63] The technological optimism of modernity reached full voice in the US during the Progressive Era, a time during which social problems came to be viewed as technical problems of engineering to be solved by experts (Wiebe 1967). Society was seen as a machine to be carefully controlled, requiring a hierarchical approach to both management and

[62] More detail on this is in Chapter 2 (page 62).

[63] In other words, the solution and the problem have iteratively co-defined each other. The food safety problems that stemmed from rationalized agrifood production found their solution in rationalized government (Otter 2011).

knowledge (Scott, JC 1998). Scientific knowledge itself became industrialized during this time, and craft knowledge less valid (Otter 2011; Star 1992). As Progressive Era legislation, US food law, even today, reflects the organizing principles—the logic—of the late nineteenth century: rational management, specialization, and an ostensibly apolitical reliance on scientific and technological expertise (Millstone 2007; Sunstein 1990; Wiebe 1967).

Techno-bureaucratic conceptions of "good" production may not readily accommodate the adaptive practices of artisan production (da Cruz and Menasche [in press]; Sylvander and Biencourt 2006). Contemporary food law emphasizes instrumental rationality and standardization as conditions of food safety. US food safety regulations specify the properties of food contact surfaces and set standards of identity that define the legal composition of common food products.[64] Critics of governmental responses to major recent food scares point to reliance on "technological fixes" and audit-based bureaucratic oversight rather than attention to the industrial agrifood practices to which the scares are attributed (Busch, L 2004; DeLind and Howard 2008; Dunn 2007; Stuart and Worosz 2012).

III. THE CRAFT OF INSPECTION AND THE INDUSTRIAL TECHNOLOGY OF ARTISANSHIP

With essential features of craft production, industrial production, and food safety regulation established in historical context, we turn to the contemporary enactment of food safety regulation and artisan food processing. When regulatory and artisan practices are observed at close range, the differences between them become more difficult to pin down than one might expect. In fact, as will be shown below, it is perilous to juxtapose the notions of craft production and regulation, or even the notions of craft and industrial production (see also Lowe and Ward

[64] 21 CFR § 155

1997). Artisans make use of non-human objects that their supporters may dismiss as industrial, and some of them follow—at their own initiative—regimented procedures suggestive of operations engineering, an ideal Progressive-Era model. Food safety inspectors—the putative foot soldiers of industrial food—carry out their work in a manner that may be lauded as artisan.[65]

The findings presented in this section emerged during research on the food safety regulation of artisan food processing in Michigan between 2011 and 2013. They reflect 1) remarks made by artisans and state food safety inspectors during semi-structured interviews and 2) field observations of processing and of inspections.[66]

A. The Craft of Inspection

Food safety inspectors ply a craft. True, the practice of inspection draws upon a large body of scientific knowledge and an accumulation of statutes, regulations, and other policy documents. Yet conducting an inspection calls upon embodied skill and tacit knowledge quite apart from what is conveyed in codified law or agency procedures. Inspections are adaptive and interactive processes that are contingent on the facility being inspected, the people with whom the inspector engages, and the inspector's own skill. Inspectors work independently, and their tools are both few and technologically simple.

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[65] The word "hybridization" might also be used to describe the unexpectedly mixed characteristics of regulatory and artisan practice. However, a hybrid is a combination of two pure, distinct entities. As will be argued in section IV, the idea that any given phenomenon exists in pure form, or comes into being in isolation from other phenomena, is a fiction.

[66] Methodology is presented in Chapter 1.

In fact, the "task orientation" of pre-industrial work routines (Thompson, EP 1967, see above), much more than the productive and bureaucratic efficiency of industrial work, characterizes the practice of inspection. First, many of the inspectors in this study attended to Thompson's "observed necessity," taking whatever time was required to communicate with producers and to help them understand the justification behind regulations. Second, they did not clearly demarcate between "work" and "life" in their interactions with artisans. They chatted about children, pets, and hobbies as well as about regulatory compliance. They "made themselves human" and approached artisans on a human level as well, looking "past the business," in the words of one inspector. Third, this approach to inspections may appear to an outside observer to be an unreasonable and inefficient investment of time. The time that inspectors spend in facilities cannot be evaluated in standardized (i.e., industrial) terms—not in inspector hours per square foot of facility, per unit of production output, or even (if it were possible) per microbe. Measuring efficiency would be futile and at cross-purposes with the "logic of need" according to which many inspectors operate (Thompson, EP 1967, p. 59).

Developing Embodied Skill. Inspectors learn their jobs through professional and life experience. The practice of food safety inspections requires knowledge and skills that are not conveyed in regulations themselves or through an understanding of the scientific basis for regulatory requirements. Translating regulations so that producers understand and respond to them involves communication skills, discernment, and patience.

Artisans and inspectors both spoke of the difference that age and experience make in an inspector. One middle-aged inspector stated firmly that if he had started directly out of college, he "absolutely would have failed at this job" because he saw the world in black and white. Younger inspectors were generally characterized as stricter, more "by the book," and harder to

work with. “Being yourself” and establishing interpersonal connections were important. Inspectors who had children or who had taught school spoke of the difference those experiences made in the greater flexibility and understanding that they brought to inspections: “If you don’t take the time to turn yourself into a human being for [producers], then they see you as a bad parent.” Several indicated that working with more experienced inspectors would provide important training.

Variable and Adaptive Work. Inspection is adaptive work that is difficult to standardize. There is tacit knowledge (Polanyi 1958) even in what appear to be regimented activities. Asked what made someone a good inspector, a dairy inspector began his response stating, “Flexibility as things come up that you have to react to.”

Inspectors “make” policy within the varying situational contexts that their field work presents. In the many instances in which a violation is not classified “priority,”[67] inspectors have broad discretion in deciding whether to record it. “You don’t want to overload people,” one explained, “I never write up everything that I could.” Their interaction with producers is integral to the practice of inspection:

> If there’s no one there, you have to write down everything you see. [But if] the producer is there and you have a conversation, there are things that you don’t need to write down.
>
> Dairy inspector

Many of the inspectors in this study spent considerable time talking with producers in order to learn about their operations and their approaches to production. They indicated that artisans, like many small plant owners, rely on them as quality control consultants; smaller food

[67] Priority violations represent immediate health risks to consumers. Examples include insect infestations and refrigerator temperatures that are too high.

facilities may not have the resources to hire specialized staff. Inspections involved lengthy conversations about issues only tangentially related to food safety. “Walk in their shoes,” one of them described her approach to her job. These discussions with producers built trust, established inspectors’ credibility, and enabled inspectors to better exercise their discretionary decision making:

> [The interpersonal rapport between the producer and the inspector] allows the humanness to come through in a program that’s designed to remove it. All of the regulations…are designed to remove the decision making process, remove interpretation, remove humanity, and make it a cut and dried, black and white, “do not think.” Nobody likes life like that. On either side. Building a relationship allows both parties to address the absurdity of it while seeking a mutually satisfactory experience.
>
> Jam producer

Regulatory outcomes are affected by what the inspector knows of a producer’s situation, by a producer’s receptiveness to inspector directives, and by the trust and collegiality that they have established. During one bakery inspection observed in this study, the inspector’s decision whether to record non-priority violations was based on her knowledge of the bakers’ situation and her past experience with them. She did not record the violations that she was confident would be corrected, and she recorded violations that she felt might require extra incentive.

Outcomes are also affected by inspectors’ experiences at other facilities. Inspectors indicated that their degree of familiarity with artisan facilities affected their interpretations of artisan situations. In some cases, as artisans explained their methods and the equipment they used, inspectors adjusted their understanding of concomitant health risks and, hence, their assessment of what constituted a violation. Some food inspectors who had initially been reluctant to accept the use of linen-lined wicker proofing baskets in bread baking came to view them as an acceptable part of artisan processes.

Other studies also offer evidence that inspectors adapt to enforcement situations. Policy directives are not simply conveyed, intact, from written rules or court decisions to enforcement. They instead involve interactions that are not reflected in legal codes—myriad translations that are influenced by extralegal actors, agency resources, and the enforcement styles of individual inspectors (Harrison et al. 1997; Hutter and Sorensen 1993; Levi and Valverde 2008). Enforcement situations vary, and rules are interpreted. "[A]uthority and rulemaking are actually quite dispersed, both laterally and hierarchically, and…understandings of law circulate rather than move strictly from the top down" (Grattet and Jenness 2005, p. 896; see also Hutter 1989).[68]

In a classic policy study of "street-level bureaucrats," Lipsky conceptualizes policy as comprising inspectors' decisions, routines, and the "devices [inspectors] invent to cope with uncertainties and work pressures" (2010 [1980], p. xii). In some instances, social interactions in the field may determine administrative actions more than do administrative mandates themselves (Arce 1989). Lowe and Ward (1997) found that UK environmental inspectors worked to accommodate farmers' notions of right and wrong as they enforced regulations, rather than strictly interpreting regulatory directives. In a study of the application of global technology standards in development contexts, van Zwanenberg et al. remark that successful regulations "often need to accommodate plural framings of the regulatory purpose in order to attain consent and compliance" (2011, p. 15). In the years immediately following the passage of the 1906 Pure Food and Drugs Act, US government inspectors adopted an advisory rather than strict

[68] See also legal and economic studies of firm economics, activities, and behavior that impact compliance (e.g., Henson and Heasman 1998; Malloy 2003).

enforcement role. Their interactions with food manufacturers had indicated that education would be more effective than policing in obtaining compliance (Law, MT 2006).

Autonomy. Inspectors work independently, both physically and as decision-makers. They work out of state vehicles and manage their own time. Vehicles serve as mobile offices, containing computers, printers, and paper files. Many meals are eaten on the road. Although the practice of inspection is founded upon a large body of scientific knowledge and a hierarchical classification of statutes, regulations, and other policy documents, inspectors internalize this information; they make decisions independently and often "on the fly" in enforcement situations. When an inspector is not sure how to address a situation, he or she calls on other inspectors or supervisors for advice. Regional supervisors convene periodic meetings of field staff, and field staff meet annually for a statewide training.

Technological Simplicity. The implements that inspectors use in conducting food safety inspection are few and technologically simple. During the inspections observed in this study, implements included clipboards, paper, and pens; flashlights; probe thermometers; and paper strips for testing sanitizer solutions. Inspectors took notes by hand, often in pocket notebooks, and sometimes checked boxes on paper forms. Following inspections, they entered their findings into Evaluation Reports on laptop computers either in the facilities or at another location. These reports form the official and public record of a facility's compliance status and provide a reference for future evaluations.

B. The Industrial Technology of Artisanship

When observed at close range, the practice of artisanship has elements of industrialism. Examining the role that these industrial elements play sharpens our picture of artisanship in a

contemporary, industrialized, regulated context. It also improves our understanding of the relationship between artisanship and food safety regulation in ways that will be discussed below.

Artisan food processors in the contemporary US make use of manufacturing technologies and standardize some aspects of their production operations (Hamelman 2013; Paxson 2012). Even where not required by regulations, most of the artisans in this study used some form of motor-powered technology, and many of them kept records beyond what regulations required. In other words, to the extent that artisanship is defined by a reliance on manual, pre-industrial methods and a liberal, intuitive tolerance for variability, much contemporary artisan practice is not "artisan." This is not to say that artisans fail at their own craft. Instead, broad characterizations of artisanship as "non-industrial" fail to do justice to the skill, adaptability, and autonomy that artisans exercise within a broader industrial context. This section examines artisan use of industrial technologies to preserve food and reduce labor, and it considers the place of standardization and industrial technologies within a logic of craft production.

Industrial Technologies. Artisans use manufacturing technologies in several ways, including to control temperature during production processes, to limit microbial growth, and to reduce labor.

Some of the bakeries visited in this research used convection ovens rather than wood-fired brick ovens, although the law allows brick ovens. Convection ovens are heated electrically or with natural gas and require less time and labor than do brick ovens. Those who used convection ovens produced bread in quantities that made brick ovens impractical.

All facilities visited in this study used mechanical refrigeration—refrigerators and freezers.[69] Refrigeration controlled fermentation for bakers and cheesemakers. Some bakers used refrigerated space as dough retarders, in which the temperature slowed the development of bread dough until bakers were ready to allow it to rise. Cheesemakers managed the temperatures of aging rooms, or caves, by mechanical means. Refrigerators and freezers prevented unwanted microbial growth in ingredients and finished products.

Mechanical mixers and stirrers were commonly used as labor saving devices. All bakers used automated dough mixers, and nearly all cheesemakers used milk pumps or automated stirrers. This enabled artisans to produce larger quantities of product and freed up time for other tasks (see Paxson [2012] for similar findings). In some instances, this machinery represented a means of preventing strain on employees' bodies. Taking dough out of mixers involves bending over and extracting large volumes of dough by hand. One baker had installed a tipping mechanism to reduce bodily strain. He next hoped to install a machine to raise and lower the facility's oven loader in order to prevent employee shoulder strain.

Cheesemakers discussed the relative merits of stirring curd by hand or with a mechanical stirrer. Nearly all of the cheesemakers in this study used mechanical stirrers. Describing the interaction of machinery with the curd, this cheesemaker deemed machinery to be acceptable at certain points in cheesemaking if it would not "do any more damage:"

> When you take milk in cheesemaking, you're damaging it the whole time. Everything you do is going to do some damage…The only reason I hand stir it is, it's on such a small scale that a mechanized arm doesn't make economic sense. If I had that mechanized arm, I would still do the initial

[69] I had intended, but was not able, to include Amish processors and others who do not use electricity.

> first 20 minutes' stirring by hand, because the curd is very soft and fragile and the arms might damage it. After that, it's firmed up, and the arms won't damage it.
>
> Cheesemaker

Standardization. Contemporary artisans manage a delicate balance. On one hand is the variability of working within ambient temperatures and humidities and using ingredients that may fluctuate throughout the year. On the other hand, artisans set quality standards and work to attain them, and they produce for markets that may frown on surprises. Time and temperature controls and careful recordkeeping helped meet and monitor artisans' standards.

In fact, the regimentation and recordkeeping of some artisan processes was suggestive of operations engineering. Artisans felt that the creative dimension of craft production has been overstated in popular accounts. "[You] don't survive it, if you don't have that attention-to-detail side of you," stated a farmstead cheesemaker.

Industrial Technology and Craft Logic. Artisans use industrial technology, but they do not adopt an industrial logic of production. If, as argued above, mechanization does not by itself define industrialism, then neither does its absence define artisanship. The difference between industrial and craft production lies in part in the logics according to which artisans define these technologies as actors in their processes. It lies in the meanings that artisans ascribe to the technologies that they use.

Artisans put industrial technology to the service of craft production. They use machinery selectively. For example, the tipping mechanism described above served workers by reducing bodily strain. In another bakery:

> I use a mixer that does all the heavy lifting for me. And that's certainly not handcrafting. But there is a style of mixing that I employ that is not cookie

> cutter mixing. I mix to touch, to feel, to temperature, to ration…If I undermix, then I know that at the bench I have a lot more additional work to do over the next few hours or the next 24 hours. That's certainly an artisanal approach.
>
> Baker

In contrast, in a thoroughgoing process of industrialization, human work is adapted to machine-powered processes, as machines define standards and work routines.

While popular notions of artisanship emphasize its adaptation to nature—such as ambient temperatures and seasonal fluctuations in ingredients—artisans interact with many other variables as well. Participation in certain markets may necessitate the use of industrial equipment. Retailers may require bar codes on packaging, and customers who shop for the holidays far in advance may prefer foods that are vacuum-packed. As argued above, traditions are adaptive. The artisans in this study adapted to accommodate many dimensions of their environment—socioeconomic and natural, as well as regulatory:

> Those regulations, to me, are just like that pasture out there. If those does [female goats] go out in the north pasture and they eat wild mustard leaves all day or wild chives, I'm going to taste it in the milk. So I need to adapt.
>
> Farmstead cheesemaker

IV. FLUID BOUNDARIES BETWEEN ARTISANSHIP AND FOOD SAFETY REGULATION

When observed in practice, neither artisanship nor regulation is exactly what we may expect it to be. They differ, but not in the ways we might expect them to. One key to addressing the food safety regulation of artisan processing lies in exploring the shared space between the two phenomena—the space that is created during inspections and in which these practices mingle and intersect.

This section builds conceptually upon science and technology studies (STS) to approach phenomena such as artisanship and regulation as enacted in practice through *endogenous* and *exogenous interactions*. Endogenous interactions pertain to a specific phenomenon: Artisanship is enacted by a cast of actors that includes artisans, ingredients, tables, and other non-humans. Regulation is enacted by a different cast, one that includes inspectors, thermometers, clipboards, and still other non-humans.

The idea of *exogenous* interaction takes the idea of enactment-through-interaction a step farther. It dispenses with any fiction that these phenomena are enacted independently of the other (Callon 1986; Jasanoff 2004). Endogenous interactions are not enough to bring a phenomenon into being. As sturdy and self-contained as ideas of artisanship and regulation may appear to be, their boundaries are porous and malleable, and they cannot help but shape each other, in exogenous interaction. Artisanship is not a stand-alone phenomenon that is enacted independently of markets, ingredient suppliers, or even inspectors. Regulation is not a stand-alone phenomenon that is enacted only by politicians, scientists, and administrators.[70]

Exogenous interactions occur at the boundaries where two phenomena intersect, such as during food safety inspections. Here, artisans and inspectors interact and negotiate the relationship between their respective phenomena. This section first describes the endogenous as well as exogenous interactions through which artisanship and regulation are enacted. Second, it explores the boundary function that food safety inspections fulfill as artisans and inspectors

[70] This chapter nevertheless accepts the idea that there *is* a specific phenomenon that is identifiable as artisanship, and a separate phenomenon that is identifiable as regulation. The boundaries between the phenomena may be fluid, and the phenomena may shape each other. Yet I accept conventional semantics that recognizes such a "thing" as artisanship, and such a different "thing" as regulation.

manage exogenous interactions. Third, it examines the ways in which artisanship and regulation cohere and diverge.

A. Endogenous and Exogenous Interactions

Endogenous Interactions. Phenomena are enacted through interactions between human and non-human actors (Callon 1986; Latour 1987; Law, J and Hassard 1999). *Endogenous* interactions are the interactions through which specific phenomena are enacted. As a baker enacts artisanship, he buys ingredients, mixes them to make dough using tools and equipment that he has purchased, lets the dough proof, and eventually—after a further series of non-humans and interactions—puts the dough in an oven, from which it will emerge as bread.

Inspectors are attuned to interactions that lead not so much to the food product intended by the processor, but to potential illnesses or other threats to public safety. With the aid of flashlights, thermometers, and other objects, they follow a set of non-food actors that include pathogens, contaminants, and adulterants. The actions to which inspectors attend are those that might introduce these problems into the production process or allow them to persist through to the finished product. Inspectors' own observation practices in this study echoed ANT methodology. Once inside a facility, they "follow[ed] the flow of the food," as one put it. "To make our food safe, we need to look at the interaction of the food, food employees, and environment."

Different regulators and artisans carry out their work in different ways; hence there are at least as many versions of regulatory and artisan practice as there are regulators and artisans. Each artisan uses different ingredients, tools, techniques, and skills, and applies his or her own logic to this process. He or she enacts a version of artisanship that differs from that of other artisans, and

that may itself change slightly from one day to the next, one season to the next. Regulatory practice, too, differs from one regulator to another.

Exogenous Interactions. The boundaries that delimit phenomena are more porous than they may appear. Phenomena interact with *each other;* the humans and non-humans involved in any given phenomenon play roles in enacting other phenomena. Regulatory and artisan practice may appear to be quite unrelated to each other and to be enacted by quite different sets of human and non-human actors. Yet artisanship is among the phenomena that shape regulatory practice, and regulations are among the phenomena that shape artisan practice. Past experiences also shape these practices. Phenomena are enacted iteratively over time as humans interact with a wide variety of non-humans and logics (Callon 1991; see also Butler 2006 [1999]).

Two types of exogenous interactions emerged in this study. First, the non-humans and logics implicated in any given phenomenon are shaped by human actors' involvement in *other phenomena*. Legal requirements, input availability, buyer expectations, and local norms connect artisans to a diversity of state, industry, consumer, and other actors. Artisans "are inescapably constituted within regulatory and market formations" (Paxson 2011, p. 117). Sewell's argument concerning French artisans between the sixteenth and nineteenth centuries is equally true in the contemporary US: "The culture of artisans must be…defined in relation to the culture of other groups, and as both participating in and reacting to…larger social, political, and ideological struggles…" (1980, p. 12-13).

These exogenous interactions between artisans and actors who are not directly involved in the production process—such as suppliers, marketers, and food safety inspectors—can be seen in the findings above. Exogenous phenomena shaped artisans' decisions to adopt vacuum

packing technology and use bar codes. When an inspector suggested changes in the production process to improve regulatory compliance, she shaped—and did not appear to coerce[71]—the artisan's production practices and his perspective on production.

One may not think of artisanship as shaping regulation. Yet an artisan's practices and situation affect whether violations are recorded. The baker who educated his inspector about craft production that used wicker proofing baskets and wood-fired brick ovens shaped her view of the potential food safety risks created during phases of production. Artisans' demand for quality control advice shapes the role that inspectors play.

Second, the non-humans and logics implicated in any given phenomenon are shaped by human actors' *past experiences*. Regulations come to "mean" what they do through the cumulative interactions between inspectors and the practices in the plants they have inspected. When most of these experiences have been in inspecting larger plants, inspectors expect to see regulations operationalized in the same way at smaller plants. A process of path dependence develops (Callon 1991; David 1994) as the practices and equipment used in larger plants come to define inspectors' food processing standards. Indeed, as described in the previous section, food inspectors overcame their initial suspicion of artisan bakers' wicker proofing baskets as they interacted with artisans over time and became more familiar with artisan practices.

Similarly, changes that an artisan made from one inspection to the next affected the extent to which an actor or activity represented a problem to an inspector. For instance, growth of mold on walls raised distinct concerns. During one visit to a cheese plant, an inspector looked at the walls of an aging room and noticed what may have been mold. He stood on a ladder to

[71] The matter of asymmetrical power is addressed on page 135.

inspect the spots closely, and they did not appear to be fresh. He commented to me that, since his previous visit, the cheesemaker had reduced humidity problems in the aging room considerably. Although the inspector preferred to see no mold at all, what he saw on this visit represented improvement. It indicated that his efforts to educate the cheesemaker and improve his business had been successful.

B. Boundaries

Popular debates on the food safety regulation of artisan and other smaller-scale processing create an impression of two colliding phenomena. Yet a shared space, a boundary space, emerges in the finer-grained investigation described here. The relationship between these phenomena is neither rigid nor static. It is fluid, and it is negotiated during food safety inspections as artisans and inspectors manage the boundaries that only partly separate their phenomena.

Boundaries are rendered fluid by the multiple identities that human and non-human actors assume and by the multiple logics that humans apply. "People inhabit many different domains at once" (Star 1991, p. 52; see also Haraway 1988; Law, J 1991; Schatzki 2002).[72] The possibilities for artisans and inspectors to find common ground are rich; they have recourse to a variety of justifications for what they do, and for what they understand the other as doing (Boltanski and Thévenot 2006[1991]). Inspectors are law enforcers and consultants, and they call upon a variety of strategies (Hutter 1989). Artisans are processors and marketers, and they act from a variety of motives (Nielsen and Parker 2012; Tregear 2005). Both may also have children, pursue hobbies, and be involved in community life. Further, any given non-human

[72] Identities are negotiated both exogenously and endogenously. See Mol's (2002) discussion of Butler (2006 [1999]).

object implicated in artisanship or inspection may acquire multiple identities depending on the logic that is applied to it. Consequently, phenomena are variable in practice; they are constantly made and remade in the interactions of non-humans, human actors, and logics (Callon 1991).[73]

Boundary spaces between phenomena, such as those created in food safety inspections, offer opportunities for actors to negotiate—to operate within each other's worlds and to identify ways of cooperating (Callon 1991; Mol 2002; Star and Griesemer 1989). Artisans and inspectors "tack back and forth" during inspections (Star 2010). They may disagree about specific practices and requirements, but as they learn about each other's practices and priorities, they may also identify points of compromise.[74]

Regulatory practice evidences the limits of standardization. Even when standards are strictly enforced—and we see above that they may not always be—their enforcement is not standardized. Inspectors accommodate uncertainties. In fact, federal food safety regulations themselves, such as those governing food manufacture,[75] are stated generally enough to necessitate interpretation. Regulatory practice does not necessarily "shoehorn" artisan practice into something that artisans do not want it to be. The craft dimension of inspection allows inspectors to apply regulations in variable ways. As the jam producer quoted above stated, the

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[73] For that matter, it may not be possible to characterize even the regulatory system according to a single logic. Regulations occupy different "worlds" depending on how they are justified (Boltanski and Thévenot 2006[1991]). They may be seen to serve markets (Stigler 1971), serve the state by standardizing activities (Scott, JC 1998), or serve a notion of the public welfare (Pigou 2002 [1952]). See also Chapter 2.

[74] The importance of interaction between two very different sets of actors in resolving regulatory matters for artisans is similar to the critical role of multi-stakeholder engagement and transdisciplinary knowledge in sustainable development (Peterson 2013; Peterson and Mager 2010).

[75] E.g., 21 CFR § 110.

interactive nature of inspections creates opportunities for artisans and inspectors to reintroduce interpretation, decision-making, and "humanity," as he put it, "into a program that's designed to remove [them]." Inspections may actually accommodate and maintain variety and adaptability rather than "collapsing" them, as regulations are otherwise expected to do (Scott, JC 1998; Star 1991, 2010).

C. Coherence and Divergence

Phenomena such as artisanship and regulation may both cohere and diverge. What happens between them is negotiated in the boundary space formed where they intersect, such as during food safety inspections. In this section, coherence is understood to happen when artisans and inspectors both enact their respective phenomena as they wish to. Divergence is understood to happen when artisans are compelled to do things that conflict with their versions of artisan practice, or inspectors fail to obtain compliance, or both. This section presents instances of coherence and divergence that emerged in this study.

Coherence. This study provides evidence that regulations enable artisans to pursue their own styles of production. It also provides evidence that inspectors obtain compliance even from processors such as artisans, who approach production in what may appear to be a heterodox way. Importantly, the artisans and inspectors in this study shared a concern for food safety, and in many cases defined it in the same way, although they did not always agree on how to achieve it.

Asked whether regulations impeded them from doing what they wanted to do, and whether they would revise regulations if they could, most artisans shrugged the question off. One baker responded, "It's just a conversation." He indicated that he ran new production ideas past his inspector and that they discussed how he might make desired changes while meeting

requirements. Questioned about their rigorous recordkeeping practices, some of which exceeded those required by law, cheesemakers indicated that they would need the records in the event of a food scare or market recall.

Artisans' resource constraints affected the coherence of the two phenomena more than did non-humans or logics specifically associated with craft production. Asked whether artisan facilities posed more safety risks or regulatory challenges than did larger facilities, inspectors replied that the risks and challenges were simply different. Artisans' relative lack of expertise in quality control and regulatory matters posed greater barriers to compliance than did their production practices.

Coherence was facilitated as inspectors drew on craft logic and artisans employed what may be considered industrial thinking. The craft dimension of inspection allowed inspectors to identify points of coherence that may not have been possible under an unvarying application of requirements. A dairy inspector, for example, described the flexibility that he had developed over his career. In his current practice, a non-priority violation that was corrected during an inspection could be deemed compliance: "What's wrong with 'Hey, put the light bulb back in, and we'll call it good?'" Similarly, the regimented, almost engineer-like approach of some artisans helped them to understand the logic that informed regulatory requirements. Inspectors valued artisans' care and attention to detail as an indication that they had "the right mindset."

Coherence was also achieved when artisans and inspectors accepted issues that they could not reconcile by identifying other common concerns. An inspector did not cite a floor that was in need of repair because, from experience, she knew that the producer was doing as much as she could to improve the facility. A producer complied with an inspector's order to install

plumbing that she considered unnecessary because she trusted his overall intentions and believed it would make it easier to negotiate other, bigger issues in the future.

Divergence. At times, the dour expectations for the relationship between artisanship and regulation are realized. Artisans are compelled to do things that conflict with their principles or practice. Inspectors fail to obtain compliance.

Some artisans disagreed in principle with legal definitions of food safety and standards of hygiene. More than one, for example, argued that exposure to microbes was in fact desirable, that it promoted long-term health.[76] They did not believe that hair or linen threads (which are legally deemed adulterants) posed food safety risks. Yet they had little choice in these matters, which constitute priority violations. If an inspector determined that linen-lined wicker proofing baskets were not safe to use in a specific bakery, the baker had little choice but to comply. Artisans felt that appealing to their inspectors' supervisors or taking other action risked irritating their inspectors, and it appeared that few were willing to do so.

Several cheesemakers took issue with the practical implications of antibiotic testing requirements. First, milk must be tested for antibiotic residues even if a herd is not customarily treated with antibiotics.[77] Some farmstead cheesemakers who did not use antibiotics did not

[76] Inspectors also saw the value of building human immune systems. However, they argued that current immune systems are not as robust as they were in previous generations. Stricter standards of hygiene had become more important in preventing foodborne illness. Some artisans agreed with this and recognized the challenges of "recharging" immune systems. A farmstead cheesemaker stated, "I believe one of the ways back to good health is exposure [to microbes]. But I don't want to be the creamery doing it."

[77] Michigan Manufacturing Milk Law of 2001, §288.692.

agree with this requirement.[78] Second, regulations have required more expensive antibiotic testing protocols in recent years.[79] Again, however, artisans have little choice but to comply—although in both this and the previous example, it should be noted that artisans' markets demand food produced according to conventional standards of safety. Artisans respected (although sometimes ruefully) the authority of the government to set these standards.

Inspectors spoke of the limits they encountered in obtaining compliance. They disputed the oft-cited belief of business owners that "the inspector can shut you down." Shutting a business down is not as easy as it may sound, they said, and it is a last resort. It involves going to court, "which is the last thing an inspector wants to do." Instead, they worked toward compromise with producers or enrolled the help of senior staff in identifying solutions that were workable to both parties.

Ultimately, instances of divergence in this study related little to the practical requirements of regulations. Intractable disagreements related more often to interpersonal dynamics and attitudes. Artisans and inspectors alike criticized processors who "believed they had nothing more to learn" about production. Artisans and inspectors, too, criticized the "cop" attitude that some inspectors adopted.

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[78] However, some farmstead cheesemakers who did not use antibiotics did agree with this requirement. One, for example, acknowledged that there may be exceptions in the case of sick animals. She recounted an episode in which a sick doe had been removed from the milk line, treated with antibiotics, and then was inadvertently milked. Antibiotic testing confirmed that the milk was not acceptable for processing.

[79] FDA Grade "A" Pasteurized Milk Ordinance, 2007 Revision, Appendix N.

V. CONCLUSIONS AND IMPLICATIONS FOR FURTHER RESEARCH

A. Conclusions

This chapter has explored the relationship between food safety regulations and artisan food processing by examining interactions between regulatory and artisan practice. Regulation and artisanship may appear worlds apart, intersecting only when they collide. Artisans' and inspectors' principles and practices are assumed to be in hopeless conflict. However, on the closer examination conducted in this study, the two phenomena are shown to have more in common than this stereotypical view allows, and they exist in greater harmony. They share unexpected features. Food safety inspectors ply a craft. Contemporary artisans use industrial technology, and some of them employ what may be deemed an industrial logic in their operations.

Artisanship and regulation also interact with and shape each other. The boundaries of both phenomena are fluid. Food safety inspections provide a loamish[80] boundary space at the intersection of artisanship and regulation. Here, inspectors and artisans negotiate their interactions, their understandings of each other and each other's work, and their differences. This boundary space yields coherence between the two phenomena when artisans are able to pursue their own objectives and inspectors obtain compliance. When this does not happen—when the two phenomena diverge—the boundary is a fraught space of frustration, misunderstanding, or conflict.

[80] *Loamish*: A variant of the term *loamy*, borrowed here from soil science to refer metaphorically to a rich, well-textured substrate.

B. Implications for Further Research

The Question of Power. In this chapter, I have largely sidestepped the matter of coercion and asymmetrical power and authority. The chapter has focused instead on symmetrical interactions of artisans and inspectors, flatly contradicting conventional wisdom about the relationship between food safety regulation and artisan processing. I have done so purposely in order to correct a deficit of research in this area.[81] Little attention to these interactions has appeared in food policy research. Much research on small-scale and alternative food initiatives assumes asymmetry.

Ultimately, though, as artisans and inspectors agreed, inspectors have more power. True, artisans interacted well with inspectors in all of the respects described in this chapter. Often, this rapport appeared to be genuinely trustful and collaborative. But artisans also recognized, as a jam producer advised, "You want them on your side. Because if you antagonize them, they can make your life [miserable]."

Inspectors and artisans may draw from a broad and malleable set of logics in order to justify what they do and in order to achieve coherence. Yet not all logics, not all worlds, are equal. As Star argues, "Power is about *whose* metaphor brings worlds together, and holds them there" (1991, p. 52; see also Bowker and Star 2000; Scott, JC 1998). STS researchers have developed a rich vocabulary for conceptualizing the ways in which different actors and different versions of phenomena may achieve balance and avoid (or at least manage) collision. Further research may apply such concepts as *translation* (Callon 1986; Latour 1987), *alignment* (Callon 1991), *distribution* (Latour 2005), and *inclusion* (Mol 2002), as well as principal-agent theory

[81] For exceptions, see, e.g., Arce (1989); Grattet and Jenness (2005); Harrison et al. (1997); Hutter (1989); Lipsky (2010 [1980]); Lowe and Ward (1997).

(Guston 1999) to investigate the negotiation of power in exogenous interactions, problematizing what Mol refers to as the "politics of who" and the "politics of what" (2002, p. 166, 172). Convention theory also provides a framework for investigating collaboration among conflicting views (Boltanski and Thévenot 2006[1991]; Wilkinson 1997). The notion of experimental regress (Collins 1981, 1985) may be adapted to explore how regulations construct their subject, i.e., regulated entities. When regulated entities do not change into the subjects that regulators intend them to be, who adapts—the regulators or the regulated entity? And in what ways?[82]

Alternative and Conventional Food Networks. The idea that exogenous interactions figure in the enactment of phenomena may contribute to research on the relationship between conventional and alternative food networks (e.g., Ilbery and Maye 2005; Sonnino and Marsden 2006; Vittersø et al. 2005). It may help problematize and improve the idea of "alternative." Alternative food networks that arise from, but oppose, conventional networks have an unavoidably oxymoronic character. This character is in some respects similar to that of artisanship, which is also defined in opposition to the contemporary, industrial, regulated context that it cannot escape. The conceptual perspective developed in this chapter allows exogenous interactions a formative role in enacting phenomena and does not conflate difference with juxtaposition.

[82] I thank Jason Delborne for suggesting the notion of experimental regress and offering this perspective.

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IN CONCLUSION
SUMMARY AND RECOMMENDATIONS

This section summarizes the main points and arguments of this dissertation and recapitulates recommendations for policy, practice, and further research. An Appendix summarizes outreach documents and presentations that have promoted these recommendations.

I. SUMMARY

Artisan food[83] is "hot." A quick scan of restaurant menus, grocery store aisles, and the popular food press confirms burgeoning availability of and enthusiasm for products that are handmade and that invoke "tradition," "authenticity," and other values. Yet current debates on the food safety regulation of small-scale and localized production demonstrate the difficulty of determining a regulatory response to this agrifood production trend. Conventional wisdom has it that food safety regulations impede artisanship and other alternative agrifood initiatives. Food safety inspectors and artisan food processors seem to pursue conflicting interests and to move in separate worlds.

This dissertation investigated artisan food processing, food safety regulation, and the relationship between them. Chapter 1 presented the method developed to address this problem. It drew upon science and technology studies (STS), primarily actor-network theory (ANT), as a conceptual source in the construction of an exploratory ethnographic study. In Chapters 2 and 3, two perspectives—economic theories of regulation and STS, respectively—were used to analyze

[83] *Artisan* processing has been defined here as processing conducted at a small or medium scale in which producers emphasize manual production techniques and are involved at each step of the process. It involves batch rather than continuous production and allows for variability in products and processes (American Cheese Society 2011; Blundell 2002; Bread Bakers Guild of America 2013; de Roest and Menghi 2000; Paxson 2011).

the findings. Viewed through the former perspective, the findings showed that interests served by regulations can be complementary and, in fact, synergistic. That is, contrary to economic theories of regulation and popular views, one party's gain by regulation is not necessarily another's loss. Viewed through the latter perspective, STS, the findings showed potential for coherence between artisanship and regulation rather than the inevitability of collision. The boundary between artisanship and regulation, two erstwhile distinct phenomena, was shown to be fluid and negotiated during food safety inspections. Observation of the interplay between artisanship and regulation revealed that commonly assumed distinctions between the two phenomena blur.

More detail on these chapters follows here.

Methodology. Chapter 1 described the methodology that I developed for this study. The concepts of *endogenous* and *exogenous* interaction were introduced in order to consider the ways in which phenomena, such as food safety regulation and artisan food processing, are enacted. *Endogenous* interaction refers to the interactions among humans and non-humans that enact specific phenomena. *Exogenous* interaction refers to interactions between different phenomena.

Fieldwork was ethnographic. It consisted of semi-structured interviews with bread, cheese, and jam producers and state food safety inspectors, and observations of bread and cheese production and food safety inspections. Data collection was guided by the methodological concepts of *non-humans*, *logics*, and *difficulties*. During the implementation of the methodology, attention to *non-humans* unexpectedly foregrounded the importance of interpersonal rapport in artisan-inspector interactions. It also unexpectedly foregrounded artisans' use of industrial technologies and their concerns with contemporary notions of food safety, issues that were elaborated in Chapter 3. Attention to *difficulties* helped make visible microorganisms and other

non-human actors that are critical to the interaction between artisanship and regulation but that may otherwise be overlooked.

The idea of exogenous interaction also highlighted reflexive dimensions of ethnography. It drew attention to interactions between research participants, on one hand, and my study and me, on the other. Attention to *logics* illuminated the effect that my own perspective had on my interactions with participants and on my findings.

Interests. Debate on appropriate policy responses to the growing popularity of artisanship is impeded by conflicting assumptions about the interests that regulations serve and do not serve. Advocates of different positions variously invoke the interests of the public and of private businesses. Normative views are implied in these positions: the public interest is to be protected; regulations should not serve private business interests; yet regulations should do more to help smaller business interests than they currently do.

Chapter 2 positioned this debate within several economic theories of regulation and offered an alternative way of thinking about the interests that regulations serve. These theories have helped generate a narrative of "winners and losers" by juxtaposing the interests of different actors to explain the motivations behind regulations and to frame regulatory impacts. Chapter 2 considered three primary questions: Whose interests does the regulatory process serve? In what ways? According to whom?

Economic perspectives on regulation were reviewed and problematized. The notions of public and private interests were examined, respectively, as the motivations behind regulations. Also considered was an institutional economics perspective, which approaches interests as

reciprocal and interdependent and problematizes distinctions between "public" and "private" interests.

The chapter argued that interests are not only interdependent but complementary and can in fact be synergistic. It reviewed historical and contemporary evidence of overlap and synergy among the interests affected by regulation. The argument was also supported in the study's findings. The study's methodological focus on inspections revealed a more complex interplay of interests than has emerged in other studies focusing on formal requirements or rulemaking. Artisans described ways in which regulations and inspectors served artisan interests—by providing technical assistance, backing artisans up in improving the practices of processing staff, and sharing ideas used by other artisans. It found that inspectors, for their own part, took pride in seeing these businesses succeed, that the relationships they built with small and medium producers made the time-consuming nature of these inspections worthwhile, and that they enjoyed learning about a variety of production styles. Artisans and inspectors both saw themselves as accountable to food consumers. Most of the artisans saw inspectors as fulfilling a necessary duty in protecting the public.

When asked whether they would change any regulatory requirements if they could, most artisans in this study indicated that requirements had not prevented them from doing what they wanted to do. Yet artisans and inspectors also described burdens. Some artisans indicated that the regulatory process impeded the use of artisan techniques, imposed costs that they considered unreasonable, and required measures that they considered unnecessary. Inspectors described the considerable time required for inspections of artisan facilities, such as through providing technical assistance beyond regulatory matters. They also described the disappointment they

experienced when they had invested time helping food entrepreneurs launch businesses only to close soon thereafter.

The interpersonal dynamic between artisans and inspectors affected the ways in which interests were or were not served during regulatory processes.

Fluid and Negotiated Boundaries between Phenomena. Chapter 3, like Chapter 2, argued that there is more convergence and complementarity between artisanship and food safety regulation than one may assume. Chapter 3 drew upon the STS methodology presented in Chapter 1 as the framework for analyzing the intersection between the two phenomena. When regulation and artisanship were observed in practice, neither phenomenon hewed to popular stereotypes. Artisans made use of non-human objects that their supporters might dismiss as industrial, and some of them followed—at their own initiative—regimented procedures suggestive of operations engineering. Food safety inspectors—the putative foot soldiers of industrial food—carried out their work in a manner that might be lauded as artisan.

The boundaries of these phenomena proved to be more fluid than they appeared. The human and non-human actors involved in any given phenomenon also play roles in enacting *other* phenomena. These are *exogenous* interactions, in which different phenomena shape each other. Artisanship is among the phenomena that shape regulatory practice, and regulations are among the phenomena that shape artisan practice.

The food safety inspections observed in this study created boundary spaces, shared by artisanship and regulation, in which artisans and inspectors negotiated points of coherence and divergence between the two phenomena. Boundaries were rendered fluid by the multiple identities that human and non-human actors assumed and by the multiple logics that humans

applied. That is, inspectors acted as law enforcers and consultants. Artisans acted as processors and marketers. Both sets of actors might also have children, pursue hobbies, and be involved in community life. Hence their possibilities for finding common ground were rich. Inspectors and artisans had recourse to a variety of justifications for what they did, and for what they understood the other as doing.

Whether artisanship and regulation cohered or diverged was negotiated in the boundary space formed during food safety inspections. When they cohered, regulations enabled artisans to pursue their own styles of production, and inspectors obtained compliance. When they diverged, artisans were compelled to produce in ways that conflicted with their principles or practice, and inspectors failed to obtain compliance. This study provided evidence of both coherence and divergence.

II. RECOMMENDATIONS FOR POLICY AND PRACTICE

Much policymaking to accommodate and encourage artisans and other smaller agrifood producers has focused on the written substance of laws and regulations. This study points to the potential of food safety inspections for improving the regulatory process for these producers.

Recommended Inspector Approaches. Inspectors and artisans in this study identified approaches that improve the regulatory process for artisans and in many cases for inspectors as well. These include:

- Work to understand how processors do things, and do not be afraid to ask questions. Do not rush an inspection.
- Engage with processors as people, on a human level.

- Work *toward* compliance, improving things gradually over time. Collaborate with processors in doing so. Address basic food safety concerns first, and then proceed to other concerns.
- Explain *how* to correct any violations, or find the information needed in order to correct a problem. Explaining *why* is important, so that the processor understands.

Approaches to avoid include: sounding argumentative or blaming; bearing grudges; taking things personally or emotionally; nitpicking or overwhelming the processor; telling processors that they are doing things wrong.

Inspector Training. Inspectors should become more familiar with artisan and other smaller processing facilities. Training should prepare them for equipment, approaches, and other characteristics unique to smaller facilities; questions that smaller processors commonly pose; practicalities of setting up a smaller facility; and common problem areas. Experience working with other inspectors who are responsible for smaller facilities is also advisable. The inspectors who had participated in MSU's artisan cheesemaking course indicated that it improved their understanding of farmstead and artisan cheesemakers.

Inspectors in this study emphasized the importance of "people skills" and of the time and experience that it takes to develop these skills. They indicated a need for training on day-to-day communication, for example identifying personality types and learning to work with different types of people; resolving conflicts; and deescalating tense situations.

Effective Artisan Practices. Artisans and inspectors identified ways in which artisans and other smaller processors may improve their experience of the regulatory process. They recommended that processors see inspectors as resources and allies, be frank with their

inspectors, and remain patient and persistent when educating their inspectors about their operations.

FDA Food Safety Modernization Act. At this writing, the Preventive Controls Rule of the FDA Food Safety Modernization Act (FSMA) has not been finalized, and its eventual impact on the production and inspection processes described in this dissertation is unknown. Michigan law adopts federal food safety regulations by incorporation. Current regulations that govern the artisans participating in this study, such as 21 CFR §110, allow inspectors discretion in determining how processors can meet regulations. It is hoped that the new law preserves this discretionary flexibility. It is also hoped that any new requirements for written procedures and recordkeeping preserve the potential for productive interaction between inspectors and artisans during the inspection process.

III. RECOMMENDATIONS FOR FURTHER RESEARCH

Like all research documents, this dissertation represents a snapshot of the state of the study's analysis at the time of writing. It has pursued and developed some issues at the expense of others. This section identifies methodological considerations and suggests further research.

A. Methodological Considerations

Participant Observation. Participant observation would both contribute to and detract from similar research. Incorporating participant observation into this study would have enriched both the findings and the role of the researcher as exogenous actor. Yet recording data by hand was necessary (see Chapter 1, Appendix A, page 35), and participant observation would have made this difficult. Participant observation would also require recruiting artisans willing to train and oversee the researcher as a processing assistant.

Selection Bias. Artisans and inspectors participated voluntarily in the study, introducing a selection bias. The study was exploratory, and empirical data necessarily to form a basis for selection were unavailable. My consequent cooperative relationships with participants permitted me a degree of access to food safety inspections that strengthened the study and helped generate elements of an agenda for further research.

Additional analysis (should these data be analyzed further) may reveal implications of this bias and of my interactions with participants. Approaches would include triangulation of the data obtained through the different methods used in the study—interviews, observations, and focus groups—and cross-case comparisons (Yin 2014). Any further research may be broadened to include a wider, more systematic, and less voluntary selection of participants.

B. Further Research

Questions of Power and Social Justice. This research aimed to bracket the questions of power and social justice common in other discussions of regulation and smaller producers. My decision not to assume that inspectors exercised (undue) authority over artisans stemmed from a concern for methodological justice. The methodology generated new insights into interactions between artisans and inspectors exactly because these interactions involved more than power asymmetries. Had inspections been more contentious, or differences between artisans and inspectors more problematic, the methodological neutrality that this study strove to maintain may have been more difficult.

The dissertation focused on symmetrical interactions of artisans and inspectors in order to correct a deficit of research in this area. It focused on complementarity of interests and on the ways in which artisan and regulatory practice shaped each other, partly because these findings

were unexpected. Yet the concerns about power disparities among small processors and regulators that instigated the research warrant further consideration, both conceptually and empirically. Ultimately, as artisans and inspectors agreed, inspectors have more power. STS researchers have developed a rich vocabulary for conceptualizing the ways in which different actors and different versions of phenomena may achieve balance and avoid (or at least manage) collision. Further research may apply such concepts as *translation, alignment, distribution,* and *inclusion,* and principal-agent theory, to investigate the negotiation of power in exogenous interactions. Convention theory also provides a framework for investigating collaboration among conflicting views (Boltanski and Thévenot 2006[1991]; Wilkinson 1997). The notion of experimental regress (Collins 1981, 1985) may be adapted to explore how regulations construct their subject, i.e., regulated entities. When regulated entities do not change into the subjects that regulators intend them to be, who adapts—the regulators or the regulated entity? And in what ways?[84]

Alternative and Conventional Food Networks. The study may provide conceptual tools for further research on "alternative" food initiatives. The idea that phenomena interact with and shape each other, even when they are very different from each other, may help problematize and improve the idea of *alternative* and contribute to research on the relationship between conventional and alternative food networks (Ilbery and Maye 2005; Sonnino and Marsden 2006; Vittersø et al. 2005). Alternative food networks that arise from, but oppose, conventional networks have an unavoidably oxymoronic character. This character is in some respects similar

[84] As mentioned above, I credit Jason Delborne with suggesting the notion of experimental regress and offering this perspective.

to that of artisanship, which is also defined in opposition to the contemporary, industrial, regulated context that it cannot escape.

Regulatory Enforcement. The findings suggest avenues of further research on the enforcement of food safety regulations. First are the related questions of how food safety agencies differ in culture and enforcement approach and how agency cultures affect enforcement approaches. Second is that of how inspector age and years of experience impact inspector styles. Artisans and inspectors both spoke of the positive difference that greater age and experience made in inspectors. Third is the extent to which the rapport between an inspector and a small or medium producer predicts regulatory compliance. This study suggests that this rapport makes at least as a great a difference for compliance as does the producer's knowledge of regulatory requirements. Fourth is the economic impact of inspection practices and of the inspector-processor relationship. This study suggests that positive inspector-processor relationships help improve artisan operations and may increase business viability.

APPENDIX

APPENDIX: OUTREACH PRESENTATIONS AND ARTICLES

I. OUTREACH TO POPULAR AUDIENCES

Buckley, Jenifer. 2013. "MDARD's interaction with artisan food and dairy processors." Invited presentation, Annual Training Conference, Michigan Department of Agriculture and Rural Development Food and Dairy Division, Roscommon, Mich. (June).

The following three panel sessions brought together Michigan Department of Agriculture and Rural Development inspection staff (Giles-Austin, Robinson, Settimo, and Sorensen), small food processors (Brown, Kates, and Spagnuolo), and resource providers (Birbeck and Coggon). Panelists spoke to producer audiences about the licensing and inspection process, the processor-inspector rapport, and resources available to producers.

- Buckley, Jenifer (Coordinator), with Pearl Brown, Laurie Sorensen, Sue Spagnuolo, and Gordon Robinson. 2013. "Working with your food safety inspector: A webinar for Michigan's small food processors." Panel presentation. Online and at Michigan State University, East Lansing, Mich. (May). https://www.msu.edu/~jbuckley/events/. Last accessed September 22, 2013.

- Buckley, Jenifer (Coordinator), with Sue Spagnuolo, Lindsey Giles-Austin, Marcy Bishop Kates, Ken Settimo, and Matt Birbeck. 2013. "Small-scale food processing and food safety regulations: Resources and guidelines for processors." Panel presentation. Agriculture and Natural Resources Week, Michigan State University, East Lansing, Mich. (March).

- Coggon, Garrett and Jenifer Buckley (Co-Coordinators), with Pearl Brown and Laurie Sorensen. 2013. "Guidelines for meeting food safety requirements, from farm production to value-added processing." Panel presentation. Northern Michigan Small Farm Conference, Grayling, Mich. (January).

Buckley, Jenifer. 2013. "Artisan food processors see food safety inspectors as resources." *Michigan Good Food Newsletter* 16:1–2. http://www.michiganfood.org/assets/goodfood/docs/MichGoodFood_Newsletter_Jan_2013.pdf (last accessed September 22, 2013).

II. OUTREACH TO ACADEMIC AUDIENCES

Buckley, Jenifer. 2013. "Can food safety regulations serve the interests of artisan processors? A study of inspector-artisan interactions in Michigan." Selected paper, Annual Meetings of the Agriculture, Food and Human Values Society and the Association for the Study of Food and Society, East Lansing, Mich. (June).

Buckley, Jenifer. 2013. "Food safety regulation, artisan processing, and policy challenges in a growing agrifood sector: A study of inspector-artisan interactions in Michigan."

Selected paper, Association of American Geographers Annual Meeting, Los Angeles (April).

Buckley, Jenifer. 2013. "Methodological challenges and surprises in qualitative research: Stay calm, go with the flow, have fun." Selected paper, MSU Department of CARRS Graduate Symposium (March).

Buckley, Jenifer. 2012. "Food safety inspections of artisan food processors in Michigan: The intersection of two social phenomena." Selected paper, Michigan Sociological Association Annual Meeting, Grand Rapids, Mich. (October).

- A similar selected paper was presented at the 2012 MSU Department of CARRS Graduate Symposium (March).

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