

Great Plains Sociologist
Volume 16, No. 1, Summer 2004

The Irrationality of Rational Hogs

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Abstract

The restructuring of the swine sector has been a major topic of research among social and natural scientists over the past decade. Biological scientists have drawn correlations between confined agriculture feeding operations (CAFOs) and environmental degradation while social scientists have linked the economic changes to a wide range of socio-cultural problems plaguing rural communities. While this process is generally recognized as the industrialization and concentration of animal agriculture, little attention has been paid to the precise nature of this organizational schema beyond noting a substitution of capital for land and labor and mounting technological dependence corresponding with declining individual autonomy. In this paper, I argue that increasingly the industrialization of swine agriculture resembles the principles of the McDonaldization of society as outlined by Ritzer (1993). The modern swine production facility embraces efficiency, predictability, calculability and control, echoing the organizational arrangement honed by the fast food giant. The consequences of a McDonaldized swine sector, then, lead to a host of irrationalities to which farmers, scientists, consumers, and rural communities are forced to confront.

Introduction

When Americans think about agriculture they reach back in time at which point a mythical and romantic image takes hold of our imagination and throws realism to the wind. In this cognitive furry, we conjure up mental images reminiscent of Ole' MacDonalds Farm where happy hogs, cows, chicks, and ducks roam freely interacting with each other and their caretakers in the way

'nature intended' on the bounty of rolling lush green hillsides and deep blue watering holes. Farm families lovingly tend to their livestock almost as beloved family members, naming their livestock such pet names as Ed or Blue. Farm children learn the cycles of nature through their stewardship of the land and animals and they embark on their journey of life together in a symbiotic relationship. Competitive markets, pollution plumes, nausea, skin rashes, or community conflict are not part of this mythical countryside. This world is marked by tranquility and integrative relationships between humans and the natural environment.

This storybook image has never accurately described American agriculture – nor any food provisioning system of which I am aware. Thus, we can think of our romanticism of it as an ideal type in the Weberian tradition. It is the fanciful product of Hollywood and agribusiness – both of which financially benefit from constructing and diffusing this conflict-free interpretation of the social relations of agriculture.

Increasingly, farm and food activists are calling on consumers to “put a face on our food.” This involves understanding the embeddedness of food in socio-cultural and environmental contexts rather than decontextualizing it from empirical reality. This paper is such an attempt. I will argue that the mythical and abstract imagery we cling to is far removed from the reality of our mainstream agricultural system. Many changes have taken place in American agriculture. Rather than resembling the tranquil haven home to ‘happy hogs’ found on Ole MacDonald’s farm, agriculture under late modernity looks more like McDonalds™ fast food restaurant. Thus, this paper explores the McDonalization of farming. George Ritzer’s (1993) McDonalization thesis gives us a set of tools to help understand fundamental changes in the food we eat and associated production processes. I am confident that one could apply Ritzer’s thesis to multiple areas of agriculture, but I have chosen to concentrate on animal agriculture, specifically swine production. In short, I ask, ‘In what ways does

swine production resemble, or fail to resemble, the McDonalds™ fast food process?' Let's be clear, there are no crispy French fries on the typical swine farm, nor creamy milkshakes, and when you walk onto a farm no one will ask to take your order. But there are parallel organizational forms that typify the production processes of burgers and the raw inputs for the burgers – livestock. What follows is a survey from observation, interviews, and secondary data of some of the organizational transformations that have taken place in the U.S. swine system. It is not exhaustive, but attempts to provide a portrait of the McDonaldized processes in swine production.

Literature Review

Ritzer's (1993, 2002) thesis is intended as a critical assessment of structural change in the economy and society and its consequences for society as well as the individual. Building upon Weber's work on rationality, he articulates the modern form of instrumental rationality, thought rooted in logical, means-ends appraisal and systemized as standing apart from emotive-driven thought and action, through the lens of the fast food giant McDonalds.™ McDonaldization is:

the process by which the principles of the fast-food restaurant are coming to dominate more and more sectors of American society as well as the rest of the world (Ritzer 1993:1).

What is this process that typifies the fast food industry and has become so pervasive that it is rapidly diffusing into other sectors of economy and society? Ritzer identifies four dimensions that characterize McDonaldization – efficiency, calculability, predictability, and control through nonhuman technology. The insight captured in Ritzer's metaphor goes beyond the dimensions of the process. It demonstrates the formulaic nature of McDonaldization, which has become an organizational template that many firms from different sectors of the economy have adopted to model their own would-be empires after the fast-food global icon. The combination of these four traits have allowed McDonalds™, and other

latter adopting firms, the opportunity to maximize output while minimizing input in a fashion that has literally transformed much of the economy in late modern society. As a result, Ritzer contends that tradition, creativity, innovation is lost, and like Weber, he sees modern individuals as “disenchanted” and trapped as a result of this structure.

Let’s look more closely at these four dimensions. Efficiency refers to the process of minimizing labor and production time to achieve a goal. As Ritzer (2002:16) says, “it stresses “the optimum method for getting from one point to another.” Steps in efficiency can be achieved for both consumers and workers. For the consumer, the superior efficiency of fast food becomes clear when we weigh the time and energy involved in securing a fast food meal relative to other food service outlets or home-based meal preparation (Ritzer 1993). For the firm, efficiency is most often manifested in the manner in which work is organized. Efficiency is promoted through processes of standardization and regularization, as well as functions that minimize time given over to pursuits not directly related to productivity (such as the time needed for animals to fatten) and, hence, profitability. Just as consumers can move from hunger to satisfaction in a minimal number of steps, so too can workers move directly from point A to point B.

The reduction of labor and production time in agriculture has been a vibrant theoretical debate in agricultural sociology over the past two decades. Mann and Dickinson (1978:472) drew our attention to the inherent difficulties in agricultural systems for reducing labor and production time by emphasizing the time required to relinquish labor time to the “sway of natural processes.” The non-identity of production time and labor time acts as an obstacle to capitalist development thus explaining the persistence of family farming. Assuming the legitimacy of Mann and Dickinson’s thesis would mitigate much of the thesis of this paper because over-coming the non-identity of production and labor time are central to establishing a more efficient mode of production.

Mooney (1982:280), however, has provided a needed corrective by challenging the Mann and Dickinson thesis and showing that capital can strip away the obstacles to development found in nature by “devis[ing] subtle and devious means of establishing new forms of production in the process of smashing the old forms.” These “new forms” are organizational schemas designed to bypass the efficiency obstacles inherent in biological systems. For Mooney, these organizational strategies which take the form of detours to capitalist development include debt, contract production, tenancy, and off-farm employment. “These social relationships are exploitative in nature and potentially antagonistic in the extraction of surplus value and the subversion of the autonomy of the ‘independent farmer’” (Mooney 1982:289). As Mooney would predict, in the case of swine production, we will encounter many of these ‘detours’. Swine production is characterized by the growing presence of hired labor, debt, and contract production. The growing use of antibiotics to reduce disease and feed additives laced throughout swine feed rations is another illustration of efforts to overcome obstacles embedded in nature. Paylean,TM for example, is a feed supplement added in swine rations that purports to raise average daily weight gain, carcass leanness, and feed efficiency (Miller, n.d.).

A second dimension of McDonaldization is calculability. This “is an emphasis on the quantitative aspects of products sold (e.g., portion, size, cost) and services offered (the time it takes to get the product)” (Ritzer 2002:16). Again, we can see that calculation occurs on the part of both consumers and the organization. As our lives become increasingly programmed, consumers are attracted to the speed of fast food, but the organization is also motivated to quantify aspects of the business. Reducing the size of the product offered and incrementally increasing the price is one example. In such highly rational systems, quality takes a backseat to quantity and the “bigger is better” logic infiltrates management practices and consumer ideology.

Ritzer’s third dimension of predictability draws our attention to elements

of homogenization across space and time. Predictability refers to the constancy of product and service quality. It allows consumers the opportunity to participate in a 'no-surprise' market exchange across geo-political boundaries (Ritzer 2002). There is also predictability constructed in the organization of work. For example, hog producers have a relatively routine work culture in that certain tasks are required to be fulfilled on a regular basis.

Lastly, the McDonaldization process exerts control over humans. This can happen through the enforcement of rules and regulation embedded in the employee training programs or through the consumer norms of behavior. Ritzer saves his harshest criticism for technology which can be used to replace human decision making in accomplishing tasks, for surveying employee activity, or for expediting tasks. In either case, the result for those in such systems is often a denial of innovation and agency which can lead to de-skilling and changing value systems (Ritzer 1993).

These four dimensions are helpful in thinking about the larger process of McDonaldization, but they are not discrete functions. Efficiency, calculability, predictability, and control are interrelated dimensions that cannot be clearly analytically separated. These tasks, taken together, sustain and reinforce each other in a discursive fashion and only collectively do they constitute swine agriculture. To analytically separate these dimensions is to extract them from the context in which they are embedded and strikes me as an example of 'McDonaldized scholarship'. The dimensions must be embedded in their socially appropriate context. For example, the swine industry has segmented the division of labor into a series of discrete tasks often taking place at different locations in order to maximize efficiency. Yet it also has the consequence of appropriating a great deal of control over the producer as they lose considerable managerial autonomy by being denied the discretionary authority that impacts their livelihood. This leaves me with the dilemma of how to analyze these functions without perpetuating an atomized, asocial, and non-

relational interpretation of swine agriculture. By attempting to separate relational attributes we lose part of the complexity and embeddedness of social life. I have elected to provide a narrative of swine production organization, pointing out along the way the various McDonaldized forms where appropriate. Hopefully, this approach will avoid creating artificial categories and will paint a richer, more descriptive portrait of where and how this sector of our food system is McDonaldized.

Structural Change in Swine Agriculture

The economic, political, and cultural organization of animal agriculture has increasingly been an effort in altering the critical factors of production (e.g, capital intensity, labor reduction, and high technology) resulting in declining numbers of farms, the concentration of market power, vertical and horizontal integration, and accelerating scale of production (Buttel and Jackson-Smith 1997). There remains diversity in this organizational pattern, but the Fordist style production system of controlling production through highly industrialized and coordinated alliances is similar regardless of place or commodity. This process began over a century ago and has largely matured in the post-WWII era, although it is more recent in animal agriculture.

Early settlers who moved westward were likely to find a few head of hogs to be particularly advantageous for providing meat for the family or for accessing quick cash in lean times. Hence, the reliability of hogs soon earned them the title of 'mortgage burner.' In the early 1970s hogs began to disappear from the rural landscape. "Confined swine production technologies moved hogs from pastures and partial shelters to enclosed facilities specially designed to control each step of the production process" (Thu & Durrenberger 1998:5). In this model, production became more industrialized, "typically tended by specialized labor using routine methods" (Rhodes 1995). Such control or manipulation of nature was believed to reduce the risk and uncertainty associated with factors related to animal growth and hence, profitability. In

short, over the past quarter of a century, capital has gradually stripped away obstacles to swine agriculture inherent in nature by forging detours through industrialization to extract profit (Mooney 1982).

The countryside in much of the Midwest and Great Plains is dotted with confined animal feeding operations (CAFO's) which are characterized by long narrow steel buildings with slatted floors and automated feeding systems (Thu and Durrenberger 1998:5). Adjoining the facilities are typically earthen pits for storing waste referred to as lagoons, conjuring up visions of tropical breezes and crystal blue inviting waters, rather than cess pools holding tons of liquidified animal manure. At the same time, the traditional barns whose stately architecture announced its owner's ethnicity, are now crumbling under disrepair and neglect (Wright et al. 2001). These changes in the landscape signal the homogenization of rural cultural and built environments. They also are a visible reminder of the movement toward industrial-like restructuring of swine agriculture. This restructuring process is best characterized by significant consolidation and coordination throughout the commodity system having notable implications for profit and managerial autonomy over the organizational elements of farm work (Flora et. al. 1999).

This restructuring process has resulted in fewer farms producing larger numbers of hogs. Hog farming peaked in 1940 with 3,768,000 operations. Today, only 81,130 operators are engaged in hog production in the U.S. The number of farms selling hogs declined 43 percent just between 1992 and 1997 alone (U.S. Census of Agriculture 1997). Consolidation of farm-level production closely mirrors a similar process restructuring the swine-slaughter sector. The four largest slaughter firms now control 50 percent of this market, up from 33 percent in 1975 (Welsh, Hubbell, Carpentier 2003).

The result has been a geographical concentration of swine agriculture in the U.S., found by Welsh et al. (2003) to be propelled by concentration in the slaughter sector and weak state policy on corporate farming. While this

overview has painted with a broad brush the structural changes that have taken place in the swine sector, it is the intent of this paper to look inside the modern swine facility to uncover the character of McDonaldized pork production.

Myth v. McDonaldization

On our mythical farm, farmer MacDonald allowed the hogs under his¹ care to graze at their leisure. They ate a healthy diet of green lush grass supplemented with grain and maybe some 'slop' recycled from the kitchen. After a lazy day of grazing and co-mingling they might take a dip in the nearest water hole to cool down, or maybe meander over to a shady spot for a nap. After about three to five months of this routine, they had gained sufficient weight to be considered marketable hogs, around 240-260 pounds. This method of hog production is now referred to as the pasture-raised method of producing hogs. It is quite distinct from the more modern McDonaldized, or highly industrialized, method that emphasizes material inputs to overcome the energy and natural obstacles needed for nature to fatten the animal. It is also curiously referred to as an "alternative model" although it, and not the industrialized model, is historically embedded in rural communities and traditional production processes.

Standing opposed to this "alternative" and multi-functional farming system is possibly the most noticeable trend to take hold of swine production – the segregation of constitutive production processes. "Whereas production historically occurred at a single site, production has shifted to more specialized operations, where farrowing, nursing, and finishing are conducted at three separate sites" (Martinez 1998:2). "More and more operations (firms) produce hogs at multiple sites; these sites number into the hundred for some of the largest producers" (Rhodes 1995:107). This structure closely resembles the franchise structure honed and diffused by McDonalds.

A second noticeable change has been shifts in the ownership and control over the decision making in the operation (Heffernan 1999). While farm

operators sign a contract agreeing to produce hogs for a given firm, increasingly they are finding that the decision making authority is retained by the contractor, or integrator, as they are sometimes referred. This, of course, is the chief delineating aspect that sets McDonalds™ corporate success apart from earlier franchisees (Ritzer 2002). Contracting of hog production has created a new division of labor that has fragmented ownership and craftsmanship into two (or more) separate entities. A typical contract relationship looks something like this. Contractors/integrators typically own standardized genetic livestock and release them to the farm operator to raise in his facilities until they are ready for market. The contractor provides feed, medication, transportation, and technical services. The facilities (confinement barns) and land are owned by the producer. Often the facilities have been built to specification laid out by the contractor and modifications are occasionally required to up-date the facility. Highly automated buildings may hold over 1,200 animals as opposed to the traditional farmstead that was typically home to about 30-50 animals in a very low-tech operation. Confinement operations that are especially large often employ an entire team of specialists – nutritionists, genetic supplies, veterinarians, and financial lenders. Investment funding is typically received from local lending agencies or from the contractor. The contractee or farmer is paid per pound for each hog delivered to market weight. Hogs that die prematurely are the farmer's responsibility. For examples of typical production arrangements found in swine contracts see Flora et al. (1999).

Variations to the above scenario exist as do the variations in the managerial control of fast food franchises, but for our purposes it is sufficient to note the “general substitution of capital for labor” provided by the contractee (Rhodes 1995:110) and, thus, the separation of labor from decision making. In the ideal highly coordinated system where a small number of mega producers supply hogs to a large processing facility, industry ‘experts’ foresee a scenario where “today’s pork volume could be supplied by twelve plants and about fifty

producers” (Hurt 1994:11). This organization shows us a great deal about how operations are modeled to enhance efficiency, predictability, calculability and as a resort, exert control over the producer.

It is imperative to remember that the objective of modern swine production facilities is to generate pork – not to raise hogs – and to do so as efficiently as possible. Therefore, the care and the feeding of swine is not a primary goal, only a functional necessity to generate a sufficiently fit animal healthy enough to produce the maximum amount of pork. A focus on calculability can be seen in a number of processes undertaken in the production of pork. The enhancement of breeding stock to maximize the growth rate of the animal, reproductive performance (litter size), feed rations, and meat quality of the animal are all examples that emphasize precise calculability. This also creates a highly predictable routine for animal maintenance.

As noted above, the objective of large scale confinement operations is to provide as many hogs for the production of pork as possible and to do so by overcoming the time inherent in the biological production process. This begins with the birthing and housing of the animals. Typical confinement facilities house birthing sows in a narrow 2'x7' crate for the duration of gestation and until the new pigs are weaned. This crate affords little wasted space as the sow is denied the room to walk or turn around. For this reason, it is said that confinement operations are intensive land use systems as opposed to the more traditional, extensive model of utilizing more space per animal due to outside grazing. Indeed, one of the on-going claims about individual crate gestation is that this system more often affords a higher rate of successful pigs weaned per litter than other systems. Since the sow is not allowed to move freely, the danger of doing injury to her young is reduced. High numbers of pigs weaned is so critical to enhancing productivity that we find in wage data that employees may receive incentives based on the number of pigs weaned per sow along with feed efficiency (Hurley n.d.). This practice helps ensure the predictability of live birth

rates which also enhances calculability and efficiency as well.

After the animals are weaned they are moved into housing pens of about 20'x20' in size which they share with approximately 40 other animals. This is where they will remain until market unless they become ill at which time they will be segregated from healthy animals. Typical confinement units house about 1200 animals in about 30 pens. This high concentration of animals in such a small area creates confinement systems which are efficient, predictable, and are more easily controlled.

Processes that expend physical or emotional labor on the animal detract from the efficiency and predictability of this system. For example, one veterinarian recommends that in order to increase longevity and decrease sow mortality, producers should "move animals as little as possible. Every move comes with the potential for injury. Moving is stressful because the sow gets new neighbors and a change of environment" (Schlosser 2002:1). Farmer MacDonald expended emotional labor on his hogs by naming them and developing familial type bonds. Modern swine production scientists frown on this. Hog identification is now achieved by cutting the ear of the animal in a unique sequence of notches.

In order to maintain 'quality' livestock free of disease, diet and sanitation are also critical factors in herd health. Animals are typically fed a diet of rations that is essentially a formula specifically designed for the life cycle of the type of hog. In highly rational systems, employees who come into contact with the animals are expected to take precautions to prevent spreading disease. Some operations have policies stating that employees not visit other farms within a specified period of time as to avoid potentially spreading disease from farm to farm. Others require that clothing and boots be changed before entering barns and sanitized clothing worn in the presence of the animals. Still others require that the employee take a shower upon entering the anterior of the facility. These practices enhance the predictability of a disease-free herd.

Much of the restructuring of the swine sector has been an effort to provide highly uniform and inexpensive pork products to attract consumer loyalty. This 'no-surprise' predictable system guarantees a shopper that they will find in their supermarket a uniform product. Available data does not make it clear that today's pork is safer than that produced by pasture raised methods. Critics of this model have claimed that pork quality, while good, has declined in recent years and what you can expect from your local supermarket is a uniform, but rather bland cut of pork.

Part of the predictability of pork production can be seen in the admonishments of swine industry leaders and some nutritionists. For example, they tell us that American consumers want lean pork because many of us are health conscious and desire a diet low in fat and cholesterol. Swine industry leaders appear to be convinced that consumers want lean pork, they in turn persuade farmers to produce lean meat. As a result, it is difficult to find a variety of pork on supermarket shelves. The cuts may be diverse to attract a wide variety of preferences but there is increasingly an industry standard toward leanness. In some cases, niche markets have emerged to cater to the special interests of the Japanese pork consumer who has a growing amount of disposal income and prefers marbled or 'fatty' meat. It is claimed that the efforts to reduce lipid fats from pork have resulted in a uniform, or bland product that is missing the flavor of old style (fatty) pork. The result is that consumers experience a relatively predictable product.

There is much debate over whether consumers are really the driving force behind this trend as 'market' driven analysts would contend. There is evidence to suggest, however, that other sectors of the commodity chain have captured control through a "stream of innovational profits in production" (Rhodes 1995). Clearly, production contracts fly in the face of a 'free market' ideology by limiting the free entry and exit of participants from the marketplace. Non-production sectors of the commodity chain have a vested interest in the

uniformity of the hog carcass and the production process. Consolidation in the slaughter sector has been found to increase the demand for leaner and uniform carcass (Jackson-Smith and Buttel 1998). Grey (1998), for example, found, while studying a meatpacking industry in Iowa, that packers were able to increase the speed of slaughter with a uniform, lean carcass. The insistence of swine industry representatives and swine scientists that consumer demand is driving structural change in the swine sector has been overtly atomistic and asocial and as a consequence has depolitized the differential power interests embedded in the swine commodity system. By reducing this structural change to simple issues of market push/pull forces, many farmers and rural communities have fallen through the cracks of an ideologically driven system.

The use of labor has long been a volatile issue in agriculture and swine operations are not immune to this general pattern. Like many other highly rational systems, workers in swine systems are often poorly paid and only able to use limited skills due to the highly automated nature of the work. A study by the National Pork Producers Council (NPPC) and National Hog Farmer found that while improvements have been made throughout the 1990s, the average annual wage was six percent (\$29,726) below that of the 'average' civilian worker. In addition, trends between 1995-1999 show a decline in medical, dental, and life insurance coverage (Hurley n.d.). Workers put in longer days, often working six days a week. Increasingly, family labor has been substituted for hired labor. Many immigrants new to the Midwest are recruited to this type of work.

The modern McDonaldized system has also changed the language we use to talk about hogs and the process of pork production. Farmers who continue to rely on the pasture raised method usually speak of 'raising hogs or pigs.' The effort by large scale integrators, university researchers and extension specialists to remove the unpredictable element of farming from the equation and construct an industrial-like production system can also be seen in the transition in

language. Experts and large farmers alike now claim to prefer the term 'producer' to that of farmer representing another step to remove farming from its context and locate the process of pork production in a sterile environment more closely resembling an assembly line than a farm.

The National Pork Producers Council (NPPC) is a commodity organization concerned with the promotion of the pork industry. This includes advertising, lobbying for favorable public policy, and industry regulation. Part of the promotional aspects of the NPPC's work includes their efforts toward crafting a positive image of its industry by providing a script for personnel and employees to guide them in discussing the swine industry. In the same way McDonalds™ employees are taught to interact with customers through pre-patterned dialogue (e.g., "May I take your order?", "Would you like fries with that shake?"), farm and industry personnel are provided with scripts for communicating with the media, consumers, and the general public. Sample statements are provided to give industry personnel concrete examples of how to construct an image of the industry as environmentally and socially conscious. For example, the scripts indicate that the statement, "Waste removal takes place once a year," is inadvisable. It has the potential to impress upon the listener waste removal problems that plague large scale confinement systems and have become so divisive in many rural communities. The NPPC recommends that the sentence be substituted for one that leaves an environmentally responsible image with the listener, such as, "We manage nutrients as a way to fertilize our crops." This phrase confounds causality by failing to communicate to the listener that crops may be produced to function as irrigation fields in order that the farmer will have an outlet for the abundance of waste. Manipulating or neglecting this causal relationship is precisely why the industry is often seen as a bad actor, and thus needs to take pains to craft a positive image for itself. For other examples recommended by the NPPC as "words to avoid" when trying to verbally construct an image of pork production see Table 1.

Table 1. How to Talk Pork with the Public

<i>Good Phrases</i>	<i>Bad Phrases</i>
Baby Pig Care	Piglet Processing
Sanitary Flooring	Slats, Gutters, Pits
Individual Sow Housing	Crates, Stalls, Decks
Segregated Weaning	Early Weaning
Community Nursery	Co-mingled
Prescription Medicine	Drugs
Pen Space	Pig Density
Health Status/monitor	Slaughter Deck
Pork Producers	Factory Farms
Networking/alliances	Industry
Environmentally Controlled Housing	Confinement
Productive	Throughput
Health Control	Disease Control
Nutrient Management	Waste Removal
Market Pork	Load Hogs
Deliver Pigs	Haul Pigs

Source: Minnesota Pork Producers Association, 2001

Perhaps the most insidious aspect of this control of human agency is not through technology, but through our culture as represented in the above discussion. The socialization into confinement hog culture can begin very early. The Minnesota Pork Producers Association works hard to socialize young children into the culture of pork. Children are given specially designed packets chock full of pig memorabilia such as a colorful stickers, a 'pigtionary', and coloring books. Even the classic *Ole MacDonald's Farm* children's book has been replaced by *Welcome to Our Farm*, a children's book that introduces youth to the world of monoculture row crops and confined animal feeding systems, presenting contested biological and sociological information as scientific fiat.

Costs of McDonaldization: The Irrationality of Rational Pigs

The innovation of late modern science that took as its objective the control and coordination over hog production and the hog itself now have sprung back on us to create a new host of challenges. Industrialization, for example, was supposed to reduce risks for farmers by providing stable markets; for processing

firms it was supposed to have regularized raw material inputs. It was intended to make the commodity system more certain and predictable. But it has had the opposite effect when, as a consequence of the industrialization of agriculture, we have endangered delicate ecological systems (Jackson 1998) and diminished the social and human capital vital (DeLind 1998) to the reproduction of people and rural communities. As a result, waste lagoons, pollution plumes, groundwater levels of ammonia nitrogen, and irrigation fields are common daily problems for many who live in the vicinity of industrial swine facilities, causing some to experience eye infections, respiratory problems, gastrointestinal diseases, depression, nausea, and other ailments. Price discrimination among integrators creates unfair obstacles to market entry and exit for producers and farm families search for yet another way to cling to a dwindling way of life. A study of swine producers found that 44 percent feel that their future in pork is severely threatened (Cox n.d.). Other data indicate that animal livestock restructuring has had profound impacts on community well-being (Wright et al. 2001). Among the growing strains they note are declining civic culture, lack of trust, cohesiveness, impediments to human capital, a widening social gap between expansion and non-expansion farmers, a disruption of family consumption levels and stability, strains on ability to meet family reproductive needs, sense of uncertainty and loss of control and fatalism among farmers. Now, more than ever before, confined animal agriculture production systems demonstrate to us the irrationality of a rationalized system of pork production.

At the heart of this rationalized system are some economic assumptions increasingly questioned by many hog farmers. Those who have begun to question the irrationality of this system tend to be motivated less by profit and more by issues of lifestyle and affinity. Make no mistake, these farmers want to make a profit, they may even want to expand the family operation. But their motivation is rooted in achieving a quality of life that will allow them to pursue their values, whether that be free time with family, passing the farm onto

children, or the enthusiasm of seeing nature come alive. Increasingly, this option is more difficult as farmers tell us they are more likely to experience hog farming as impeding this option to autonomous work, more like an 'iron cage' of swine systems.

The growing financial outlays needed for operating confinement animal feeding operations and public outcry about the environmental, human, and social costs of swine production have caused producers to examine alternative housing systems and consider producing animals in a more humane fashion that coincides with low inputs for farmers, a more active role in daily decision making, increased community tolerance, and a reduced imprint on ecological resources.

The irrationality of the knowledge community is also a consequence of McDonaldized systems. The fragmented nature of the swine systems removes people from the production, consumption process making room for ahistorical, de-politicised and atomized conclusions that, in turn, are used to drive the industry forward. For example, swine scientists at the University of Minnesota Swine Center have attributed recent changes in the McDonalds™ fast food restaurant purchasing practices to changes in the pork industry. McDonalds™ has announced that it will begin to increase purchases of 'humanely produced' animals. Some see this as a causal influence that will trickle down to the production sector which will initiate "proactive development of welfare SOP's" [standard operating procedures] (Deen 2002). It seems unclear how proactive producers can be if they are reacting to the changing demands of their consumers such as McDonalds Restaurant.™ Furthermore, it is difficult to imagine corporate consciousness at work given that the fast food giant expressed little interest in animal welfare until it suffered a public embarrassment when the British court ruled that McDonalds Restaurant™ was responsible for the cruel treatment of animals. This landmark case was quickly followed by an assertive campaign on the part of People for the Ethical Treatment of Animals (PETA) to

improve slaughter house standards that have been found to be responsible for animal suffering. In light of this political pressure, McDonalds™ began to show outward concern for animal care. We must remember that it is not only in their political interests to be concerned with animal welfare, but in their economic interests as well. Members of McDonalds'™ slaughterhouse inspection program comment that "their job is made easier by scientific evidence that shows tangible economic benefits when animals are treated well. Meat from abused or frightened animals is often discolored and soft, and it spoils more quickly due to hormonal secretions in the final moments of life" (Warrick 2002:4). Recall that at the core of swine research carried out in land grant universities is the goal of maintaining the highest possible reproductive performance of sows (Honeyman 2002). This single-minded attention to productivity above all else may be partly responsible for this fragmentation of knowledge.

More recently, McDonalds™ has agreed, in an out-of-court settlement, to pay ten million dollars to religious and vegetarian groups for deceptively marketing their French fries as vegetarian when, in reality, they were cooked with natural beef flavor. The firm issued a full apology on its website and convened an advisory board to counsel it on vegetarian matters (Buncombe 2002). Lawsuits in Britain, the U.S., and attacks by Hindu groups in Bombay all paint a picture of a reactionary firm responding to mandates by politically motivated groups more than a socially conscious and proactive industry leader concerned for environmental and animal welfare.

Summary

This paper has challenged the traditional myth of swine agriculture. I have drawn a picture of a highly rationalized relationship to pork by specifying several elements in the production process. From this perspective, ole MacDonald's farm is now highly industrialized through its focus on efficiency production, calculable inputs and outputs, predictable production and

consumption experiences, and the control of animals, farmers, and consumers. In this paper I have also made explicit the considerable overlap of these concepts and the difficulty in trying to analytically separate social relations embedded in production and consumption. This research points to the further utility of the McDonaldization thesis for understanding organizational change in society. Future work should apply this model to other sectors of the food system for deeper understanding of modern food systems and their consequences. The integrity of our food system has recently been questioned with the events of September 11, 2001. There has never been a more immediate need for such study. We would also be well served to ask ourselves why the nature-centered, non-rationalized view of pork production remains such a powerful myth in our collective consciousness. To what extent do our myths stand in the way of food security and rural and ecological sustainability?

Acknowledgements

I am grateful to Jerry Stockdale for his insightful comments on an earlier version of this manuscript.

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1 I use the masculine pronoun to remain true to the traditional myth of family hog farming. The contributions women make to swine agriculture are absent from this myth in American collective memory.