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**PLAYING CHICKEN WITH PEOPLE:
THE OCCUPATIONAL SAFETY AND HEALTH
CONSEQUENCES OF THROUGHPUT *ÜBER ALLES***

Marc Linder

The political-economic and legal analysis of regulation in this article argues that the speed of work on disassembly lines in poultry processing plants, the fastest growing factory employment in the United States, is de facto regulated not by the Occupational Safety and Health Administration, the agency charged with protecting workers, but, perversely, by the U.S. Department of Agriculture. In arrogating to itself the power to set line speeds in connection with its inspection of processed carcasses, the Department of Agriculture has one-sidedly promoted chicken oligopolies' interests by accommodating their drive to produce as much product as quickly and cheaply as possible (throughput *über alles*) and especially without regard to the incidence of repetitive stress disorders associated with high-speed machine-paced manual production. In contrast, the Occupational Safety and Health Administration has failed either to assert its statutory authority over this vital determinant of workers' well-being or to persuade any administrative or judicial tribunal that it possesses such authority. Consequently, the article concludes, the health and safety of 200,000 low-paid and largely unorganized, female, and non-white workers continue to be held hostage to the self-valorization needs of capital and the state's cheap food policy.

Who sets the speed of the disassembly line for 200,000 production workers in poultry processing, the fastest growing factory employment in the United States—the workers themselves, employers, the Occupational Safety and Health Administration (OSHA), or the U.S. Department of Agriculture (USDA)? Although presumably no one is naive enough to imagine that U.S. workers have the right to co-determine the rate at which the life is sucked out of them, even cynics may be mildly surprised to learn that this basic working condition of U.S. poultry workers has never been controlled by the agency charged with protecting the safety and health of workers, but by that charged with certifying the

healthiness of (dead) chickens—in collusion with the firms it is supposed to be policing. How did this regulatory perversion come about?

One of the principal reasons that the speed of the production line has become crucially important for workers' health and safety lies in its impact on the incidence of cumulative trauma disorder. Between 1980 and 1993, repetitive trauma disorders as a proportion of all newly reported occupational illnesses rose from 18 to 60 percent. The poultry processing industry recorded the second highest incidence of repetitive trauma disorders in 1990—696 per 10,000 full-time workers; the highest incidence was recorded in the related meat packing industry. Together these two industries also recorded the highest number of such newly reported illnesses—35,000. In part as a result of these extraordinary rates, poultry processing and meat packing also ranked 6th and 2nd among all industries in total case incidence rates for injuries and illnesses—42.4 and 29.3 per 100 workers, respectively (1, pp. 2, 5, 6; 2, p. 2). In 1991, the latest year for which data have been published, meat packing and poultry slaughtering and processing plants again ranked 1st and 2nd in incidence rates of disorders associated with repeated trauma. This combined industry group accounted for 37,000 new recorded cases of such occupational related disorders in 1991 (3, p. 6).

A health hazard evaluation of the large Perdue Farms processing plant in Lewiston, North Carolina, which the National Institute for Occupational Safety and Health (NIOSH) carried out in 1989, illustrates these dangers. Thirty-six percent of the employees had had work-related cumulative trauma disorders during the previous year, while 20 percent had current work-related disorders. Those working in high-exposure departments such as eviscerating and deboning were four times as likely to have experienced disorders as those in low-exposure jobs such as maintenance, sanitation, and clerical. More than 99 percent of participants in high-exposure positions were black and 86 percent women, compared with 44 percent and 63 percent, respectively, of the low-exposure participants (4, pp. 1, 3, 27). In an industry staffed largely by unskilled and unorganized workers of subordinate race and gender, social-psychological factors may also explain the incidence of musculoskeletal disorders; in particular, “where the influence over the work process is limited, where the work is performed under time pressure . . . , the tolerance to repetitive work can be further reduced” (5, p. 60).

If claims by the National Broiler Council that production is so automated that chickens arrive in stores “almost untouched by human hands” were true, they would imply that only inhuman hands could withstand the pain caused by as many as 40,000 daily repetitions (6, pp. 26–28) of a single defined movement, such as the same knife or scissors cut to slit open carcasses from anus to breast or the same twist of the hand to yank out viscera at a grueling pace, set by a relentless conveyor belt and reinforced by circulating foremen, while the workers are standing in pools of water and grease in temperatures that range from freezing to 95 degrees and being pelted by flying fat globules or dripping blood. The painful

damage to tendons and nerves that can permanently cripple fingers, hands, wrists, arms, and shoulders, and has required thousands of poultry workers to undergo corrective surgery, makes it difficult or impossible for them to perform such simple motions or tasks as raising their arms above their heads, holding things, sweeping, washing dishes, or removing clothes from a washing machine (7–12).

Business Week's characterization of these epidemically spreading injuries as “the first major postindustrial illness” (13, p. 93) must surely have been meant tongue-in-cheek: not even Karl Marx himself could have wished for more fitting material for an update of his analysis of classical industrial exploitation than the methods of speed-up and intensification that prevail in chicken processing factories (14, pp. 431–440). The annual rate of increase in output and output per employee between 1973 and 1991 amounted to a far above-average 7.4 percent and 3.9 percent, respectively (15, pp. 6, 14). Not surprisingly, however, “[i]ncreased mechanization did not lead to safer, more healthful poultry plants” (16, p. 1).

Efforts by workers or the state to regulate the speed of factory conveyor belts meet with massive resistance by the owners and managers of U.S. industrial firms. For the speed and volume of flow, or throughput, lies at the basis of the modern regime of mass production (17, pp. 241, 244):

Mass production industries can . . . be defined as those in which technological and organizational innovation created a high rate of throughput and therefore permitted a small working force to produce a massive output. . . . In modern mass production . . . economies resulted more from speed than from size. It was . . . the velocity of throughput and the resulting increase in volume that permitted economies that lowered costs and increased output per worker and per machine.

Firms individually and the class of owners and investors in general seek to mobilize their considerable structural power to prevail upon the state to refrain from regulatory intervention that would deprive them of what are deemed prerogatives to invest their capital and manage their businesses with as little interference from workers or the state as possible. The USDA and its subdepartments have historically proven themselves to be extraordinarily compliant or captured agencies devoted to serving the interests of agribusiness. Lodging regulation of line speed with the USDA would therefore be optimal from the perspective of the poultry processing oligopolies. OSHA, by way of contrast, has always been a beleaguered agency, unable to serve unimpededly the class interests of the workers whom it is mandated to protect. Capital was, for example, extraordinarily successful during the 1970s in using its political-economic power to defang the radical potential inherent in the broad mandate that Congress conferred on the agency, and transformed it into a virtual captured agency during the Reagan and Bush administrations (18). Nevertheless, for capital, OSHA remains an

untrustworthy agency to be circumvented wherever possible. With regard to line speed, the large poultry corporations have thus far succeeded in avoiding intervention that would interrupt the maximum flow of chickens and the profit they embody.

THE RISE OF THE BROILER INDUSTRY

Two decades passed between the rise of the broiler industry and Congress's action in 1957 introducing in poultry plants the mandatory inspection that it had imposed on meat plants a half-century earlier. During this period, the industry underwent an initial process of vertical integration that made large-scale operations possible by means of manifold scientific and technical advances and the merger of feed manufacturing and poultry raising, processing, and marketing in a form that left farmers who had sought to make a living in this new business extraordinarily dependent on processors (19, p. 4; 20, p. 36). In the area of mechanical and engineering technology, broiler housing design and high-volume mechanized killing and evisceration were particularly important. By the 1970s, "broiler production [was] industrialized in much the same way as the production of cars" (21, p. 125).

In many ways the new broiler industry has mirrored the development of the meat packing industry, which preceded it by a century. At the turn of the century the fledgling meat packing industry prompted the comment that "it would be difficult to find another industry where division of labor has been so ingeniously and microscopically worked out" (22, p. 224). This extreme subdivision of labor enabled the meat oligopolies to deskill the labor force, gain control over and speed up the production process, and reconstitute the labor market.

Large poultry farms have faced fewer obstacles in their transformative project. The broiler industry (and the widespread custom of eating chicken) did not even exist before the mid-1920s. Prior to the 1930s, chicken as meat was either an incidental by-product of egg production (23, p. 3) or derived from small "backyard" flocks. It was only a decade later, when the Delmarva Peninsula still accounted for two-thirds of total U.S. broiler production, that processing plants were first established. Since chickens were sold uneviscerated until after World War II, the technology was primitive; not until 1941 was processing automation introduced in the form of manually operated mechanical poultry pickers to rough off feathers (24, pp. 3, 25–28, 41–42; 25–27). Finally, because broiler chickens are much smaller and have been much more amenable to physical standardization through genetic engineering than cattle or hogs, the disassembly process early on attained much higher speeds than meat packing has ever achieved (28, pp. 36–45; 29, pp. 13–35).

The initial target of vertical integration was formally independent farmers. Production contracts were the pivotal points that enabled the feedgrain oligopolies such as Ralston Purina, Cargill, Continental Grain, and Pillsbury to take control of

chicken production in the late 1950s and early 1960s (30, pp. VI-4–VI-5; 31, pp. 304–307). Broiler production contracts between processors and farmers “basically are devices used by contractors to lease production facilities and hire labor owned by the contract producers” (19, p. 15). Under this contract production system, the integrators are relieved of much of the investment cost whereas the farmers’ income often sinks below the equivalent of the minimum wage. From 1950 to 1965, for example, according to USDA calculations, returns to operators and family labor on broiler farms in the key state of Georgia ranged between 54 cents and 1 cent per hour (32, p. 21).

One of the chief economic advantages that favored the shift of the center of the broiler industry to the South in the 1950s was the region’s lack of “alternative opportunities for labor” (33, p. 1197). As a result, particularly in the South, “[t]he problem . . . is the weak bargaining position of the grower.” The farmers’ vulnerability was exacerbated once they had committed \$10,000 to an investment in buildings, equipment, and land that “has scarcely any value in alternative uses in the absence of a broiler contract.” A grower was therefore “reluctant to complain about what he considers to be unfair or offensive trade practices” for fear of being “labeled a ‘problem’ producer”—which included anyone who even “attempted to obtain a written copy of his contract” (32, pp. v, 3, 26, 34, 63).

Today’s typical vertically integrated broiler producer “is analogous to a single, large factory converting raw materials (feed ingredients) into finished product for the consumer (poultry products)” (34, p. 3). In the course of this transformation of producers from a quasi-home industry into a multibillion dollar business exposed to antitrust liability (35, 36), the broiler industry experienced explosive growth in total production and per capita consumption. From 1934 to 1993, broiler production in live weight increased 315-fold while per capita consumption rose 137-fold. The number of broilers produced during this period rose almost 200-fold—from 34 million to 6.7 billion. In 1992, for the first time, per capita consumption of broilers surpassed that of beef (37, pp. 8–9; 38).

This atypical growth in consumption and output has, despite labor-saving capital investment and productivity, generated a strong increase in employment. In the broader poultry industry, the number of employees rose from 22,000 in 1947 and 60,000 in 1958 to 226,000 in 1994, while the number of production workers increased from 19,000 and 55,000 to 200,000 (39, p. 14; 40, pp. 344–345; 41, p. 75). For the years between 1983 and 1993, the last decade for which comparative data are available, poultry slaughtering and processing exhibited the greatest relative increase in employment of all four-digit SIC (Standard Industrial Classification) manufacturing industries—66 percent; the absolute increase of 86,000 ranked second. For the 20 years ending in 1993, the absolute increment of 110,000 employees ranked second and the 103-percent relative increase fourth (42).

As the United States has become by far the world’s largest producer, consumer, and exporter of broilers (43, pp. B-8–B-9; 44), the poultry industry has grown

increasingly concentrated and oligopolized in tandem with increases in firm and plant size. In 1960, the four largest firms slaughtered 12 percent of all broilers (37, pp. 22, 24). By 1989, the four largest firms, Tyson, ConAgra Poultry, Gold Kist, and Perdue Farms, controlled almost half (48 percent) of total production, Tyson alone accounting for one-quarter of all production in 1994 (45, p. 34-4; 46-48). As an indicator of the scale of recent growth: in slaughtering about 27 million broilers weekly in 1994, Tyson attained a volume triple that of the largest firm a dozen years earlier (49, p. 28; 50, p. 79). As a result of vertical integration and centralization of capital, a number of firms have become “enormous commodity conglomerates. . . . ConAgra, for example, in addition to being the nation’s number one flour miller and number two broiler processor and beef packer, is also the number one slaughterer of lambs and turkeys, the number two hog slaughterer . . .” (51, pp. 427-428).

As the world’s largest producer, Tyson’s annual output exceeds that of all countries except Brazil and China, and equals that of the eight largest European firms; Tyson is also the leading U.S. exporter, accounting for more than 60 percent of total exports of the five largest firms (52, p. 1; 53; 54, pp. 23, 62-63). That market position in an industry facing uninterrupted growth in demand—the market has grown by 5 percent annually over the last two decades (55)—enabled Tyson to be the number one ranked Fortune 500 firm in terms of the growth rate in total returns to investors for the period 1976 to 1986, while ConAgra was ranked fourth (56, p. 384). For every ten-year period during the last decade, Tyson has ranked between 1st and 7th among the Fortune 500 largest industrial firms in total return to investors. For the decade ending 1993, Tyson ranked 4th in total return to investors and 7th in growth in earnings per share (57, p. 17; 58, p. 252).

The location of poultry plants in small rural southern towns depressed by high unemployment (59) and the hiring of large numbers of nonwhite women, and especially of single mothers without other options, have fostered conditions under which “poultry’s Pashas” could profit from the gap between productivity and prices on the one hand and wages on the other: whereas output per worker nearly tripled between 1960 and 1987, wages rose only half as quickly as chicken prices (8, 60). In 1991, with almost half of poultry processing workers concentrated in the four low-wage and anti-union states of Alabama, Arkansas, Georgia, and North Carolina (16, p. 1), average annual payroll per employee in the industry amounted to \$14,858—only slightly more than half of the average for all manufacturing (61, pp. 1-28).

THE LEGISLATIVE HISTORY OF POULTRY PLANT REGULATION

When Congress required the USDA in 1959 to inspect the carcass of each bird processed as human food, its chief objective was, to be sure, the protection of the health and welfare of consumers. Nevertheless, consumer well-being was not

Congress's only concern. As several of the chief legislative sponsors of the bills that ultimately became the Poultry Products Inspection Act (PPIA) repeatedly stressed, the federal government's intervention, sparked in part by deaths among poultry processing workers who had handled diseased birds, was also designed "[t]o protect the health of persons engaged in the processing and distribution of poultry and poultry products." All interested parties, including consumers, public health officials, the USDA, poultry worker unions, and poultry industry groups, "agreed on the need for adequate inspection to protect consumers and laborers in the processing plants." Senator Humphrey echoed this view in arguing that inspection was "a major protection for poultry workers against industrial hazards" (62, pp. 2744–2746, 11121–11122).

Labor unions' support of various inspection bills was predicated on the understanding that they would protect both consumers and poultry workers. Representatives of the Amalgamated Meat Cutters and of the AFL-CIO, who stressed that the poultry industry consistently showed the third highest injury frequency rate in U.S. manufacturing, adopted this position repeatedly in their congressional testimony (63, pp. 99–100; 64, pp. 124–128; 65, pp. 144, 210). Continuity in the understanding of the statute as subsidiarily protecting poultry workers emerged in 1968 when Congress held hearings on amendments to the PPIA. At that time the legislative representative of the Amalgamated Meat Cutters testified that the union was persisting in its efforts on behalf of consumer-protective regulations in part out of "self-interest . . . : Our members working in poultry plants are protected from illness if the plant is clean and the product is wholesome. Federal inspectors can assure this protective cleanliness and absence of disease far better than can the union grievance machinery" (66, pp. 154, 158).

THE USDA AND THROUGHPUT *ÜBER ALLES*

How thoroughly the USDA would disappoint Congress's original intent and labor's expectation soon became clear. One of the first consequences of the advent of mandatory inspection was the modernization of production facilities (67, p. 3) resulting in an exacerbation of the already realized potential for overproduction. Because some plants were too outdated to meet new sanitary requirements, the normal process of moral obsolescence was accelerated by the need to meet regulatory deadlines. In the course of building new plants to comply with the USDA regulations, firms increased capacity by introducing the latest high-performance automated processing equipment; within a year to 14 months, total processing capacity rose by about one-third: "If an automated processing plant, with its high capital investment, is to make a return, it has to run chickens. Heavy pressure was on the industry to increase production" (26, p. 190). Thus mandatory inspection almost immediately reinforced the forces inherent in capital accumulation to increase the rate of throughput and to concentrate and centralize production

in fewer firms (68, pp. 25–26). If in 1960 the 19 largest processing firms slaughtered 30 percent of the total poultry inspected by the USDA, by 1964 only nine firms accounted for the same share (32, p. 8).

In connection with the congressional mandate to perform a post mortem inspection of every bird produced for commerce, the USDA established various maximum inspection rates depending on the configuration of the production line and the number of inspector stations on the line. Conflating its inspectional duties with its myriad other activities as facilitator of agribusiness welfare, the USDA immediately began conducting studies to help processing companies increase the speed at which they pushed their workers. Within two years of the onset of federal inspections, the USDA launched its first Tayloristic time-and-motion studies showing employers how to reduce labor requirements on the labor-intensive evisceration line. These studies revealed, for example, that reducing the time required to “[r]each for the next bird” enabled a worker to remove the oil gland of 36.8 birds/minute rather than a mere 33.0. The USDA also discovered that a slicing cut with a 6-inch knife enabled a worker to make an opening cut on 45 birds/minute or 2,700/hour in contrast with only 28.7 birds/minute or 1,722/hour with a stabbing cut. Indeed, because the longest work cycle on the eviscerating line was only 6 seconds and because the workers were so crowded together that it was difficult to observe their hand movements, the investigators were forced to use motion picture cameras rather than stopwatches (69, pp. 9–10, 17–18, 53). Without pausing to relate whether the affected workers expressed their gratitude for these helpful tips on how to fill in the “time-pores” of their leisurely working day more densely (70, p. 307), the USDA proceeded to a similar analysis of its inspectors’ activities (69, pp. 22–25).

The USDA investigation culminated in two tables displaying the labor requirements for evisceration at production levels ranging from 30 to 90 birds/minute: “The plan in establishing the most economical line speeds for labor utilization is to arrive at the production level where the most birds possible are processed properly per man-hour of labor expended” (69, p. 41). Rates per worker varied from a mere 11.7 birds/minute for gizzard removal to 78.8 birds/minute for removal of necks with a knife (achieved by a worker snipping simultaneously on two lines). These rates were not even “the maximum that can be achieved by a worker, but rather the rates that average workers can maintain throughout a day. . . . Even an average worker can be expected to increase his output by 15 to 20 percent for short periods of time without decreasing the quality of workmanship” (69, pp. 39, 41–44, 53). How much longer than a workday workers could sustain this pace and what impact it had on their physical and mental health, the USDA did not bother to investigate. Rather, what the USDA deemed crucial was “[g]earing line speed to methods and equipment yielding the highest production rate per worker” (69, p. 52). The purpose of the calculations was to determine how close to these rates workers performing the various functions along the line could come at varying line speeds and at what break points it was profitable to add

another worker. In time, firms would pressure the USDA to acquiesce in their throughput *über alles* strategy, which, to be sure, would also push individual workers' rates to maximum levels. In an industry in which "[e]conomy of scale is everything" (71), the firms' interest was palpable: by the late 1950s, a plant could, by increasing the rate of throughput from 150 to 10,000 birds/hour, reduce its processing costs from \$5.13 to \$2.64 per 100 live pounds (72, p. 6).

By 1968 the USDA undertook, by means of linear programming, to determine the time required to conduct federal poultry inspection and the influence of line speed, bird spacing, and other factors on the inspectors' productivity in order to help management attain 100 percent (and even 110 percent) inspector and worker "utilization." The USDA established inspection rates ranging from 18.5 to 22.7 birds/minute for differently configured lines (73, pp. 1, 8, 9). By the mid-1970s, USDA officials were inspecting on average 23 birds/minute; a two-inspector configuration thus permitted slaughter line speeds of 46 birds/minute (74). However, when "the development of automated evisceration equipment as well as improvements in genetics . . . allowed the poultry industry to present uniform lots of birds to inspectors faster than inspectors could properly inspect the birds," the USDA developed a new inspection procedure in 1978 which "permitted the poultry industry to take advantage of these new technologies and production improvements" (75, p. 42,551).

Because interpretations of the "informal guidelines" for inspection rates varied, however, inspection rates differed from one region to another (76, p. 22,047). The intra-industry struggle "for supremacy in the booming broiler market" between the ascendant producers in Arkansas, Georgia, and Alabama and the older Delmarva producers prompted the former to complain that the USDA was unfairly favoring the latter by permitting them to operate at higher speeds. The "strong impact on . . . profits" that a 300-percent increase in line speeds from 18 to 70 birds/minute could exert was clear when "even a 1 per cent increase in line speed could net [a firm] \$400,000 a year" (71). In response to a suit filed by the Arkansas Poultry Federation against the USDA for enforcing inspection rates discriminatorily, the U.S. District Court for the Eastern District of Arkansas in 1979 enjoined the USDA from enforcing disparate rates and to use nationally uniform rate standards (77, 78).

The USDA immediately issued a final rule, "Young Chicken Slaughter Inspection Rate Maximums" (79). The previous so-called traditional inspection procedure had been "satisfactory" to the agency and "the poultry industry for many years" (75, p. 42,551). "Line speeds for traditional inspection were based on work-measurement studies and were set at the limit at which an inspector could carry out the organoleptic examination [which requires use of at least three senses] and manipulation of each carcass presented for inspection. Also, industry was not capable of producing birds at a higher speed and therefore, these line speeds were acceptable" (80, pp. 35,639–35,640). Presumably, the USDA meant that the speeds were acceptable to "the industry," by which it has always meant firms'

output and profits. That the USDA never orients its line speed decisions toward workers' needs for longer lives less plagued by physical pain and disability is suggested by its admission that it sets the workload of its own employees, the inspectors, "at the limit."

The new regime ushered in by the judicial injunction included two different responses to the throughput-productivity-profit bottleneck imposed on firms by the government's minimal food safety standards. The first created a national maximum line inspection rate merely by increasing the traditional inspection system rates in effect in the Southwest region by 5 percent. Depending on the production line configuration, the number of birds per inspector per minute varied from 25 to 15.5. As a result of this change, 44 plants with 136 lines (or 25 percent of all chicken lines nationally) would be required to lower line speeds if they continued to operate the same configurations under the traditional inspection system. A total of 122 plants with 379 lines were then authorized to operate at higher line speeds (76, pp. 22,047–22,049).

Poultry companies filed comments characterizing the newly increased rates as too low, especially since the USDA had itself acknowledged that some plants were already operating at higher rates. Firms supported this claim by reference to the inevitable development of new technology that would render "the present maximum inspection rates . . . even more obsolete." The USDA then announced that it "recognizes the relationship between improved technology and faster line speeds and also recognizes the price benefit which consumers would realize from an increased poultry supply. USDA will make every effort to identify new and improved inspection techniques which are designed to increase industry productivity" (79, pp. 10,319–10,320).

The real innovation of the late 1970s, however, was the introduction of the second or modified traditional inspection system, which held out the promise of alleviating production problems for the 44 plants that were required to reduce their speeds. The modification involved the introduction of a greater division of labor among inspectors. Whereas under the traditional system inspectors devoted almost half of their time to positioning the carcass, the alternative system reduced the number of motions required of an inspector by dividing the work between two inspectors. One inspector inspected only the exterior of a prepositioned carcass, using a mirror to see surfaces not directly visible; company employees then repositioned the carcass and the viscera attached to it for the other inspector, who examined the interior and viscera. By achieving a maximum inspection rate of 70 birds/minute for three inspectors, modified traditional inspection (MTI) was designed to increase inspection while saving manpower. The USDA justified this innovation by reference to the relentless drive for ever greater output: "Traditional inspection of a young chicken can be accomplished in approximately 3 seconds. Even so, because of the increased production each year, in some cases, the rate of our inspection has become the limiting factor in the speed of a production line. . . . Industry will gain from the increased productivity of their existing production

lines. The 70 birds per minute maximum line speed will be higher than any line speed currently in effect” (76, pp. 22,049–22,050).

Carol Tucker Foreman, the Assistant Secretary for Food and Consumer Services in the Carter administration, was a key figure in making possible the increased line speeds of the late 1970s: “Processors wouldn’t have been able to rev up their lines if the inspection service in 1978 hadn’t started allowing companies to wash, instead of tediously trim, contaminated birds. . . . ‘I never should have approved washing’” (81). As she admitted to Congress, “the real result of [her] bad decision . . . was to allow lines to run much faster with no loss of product to the poultry plant” (82, p. 47). USDA officials during the Reagan–Bush period also conceded that once that procedure had been implemented and “the industry’s current high productivity [was] based on the use of this equipment . . . a requirement that contaminated tissue be condemned might cost the firms hundreds of millions of dollars a year in lost output” (83).

Of crucial significance here is the direct worker–consumer linkage. The same throughput *über alles* approach that injures workers by forcing them to perform the remaining manual motions to keep up with automated operations also endangers consumers: high-speed eviscerating machines often spill feces all over the surface of the body cavity, which inspectors may fail to detect (84). As a former USDA meat and poultry inspection chief observed, with the lines “running so fast, they are just unable to produce a clean product” (85).

By the beginning of the 1980s, firms’ increased capacity and improved processing equipment prompted them to request the USDA to increase line speeds yet again (74). When in 1980 “the industry” submitted comments suggesting that “even higher rates may be achievable,” the USDA gave recognition to “the price benefit which consumers would realize from an increased poultry supply and will make every effort to identify new and improved inspection techniques which are designed to permit increased industry productivity.” To that end, the USDA announced that it would conduct further tests “to determine if a higher maximum rate can be achieved consistent with the public health” (79, pp. 27,917–27,918). At the same time, the USDA acknowledged the heightened risk of injury to workers. In order to implement the MTI, the USDA had issued regulations requiring modifications in the production facilities; in particular, firms were required to provide 4 feet of horizontal line space for each inspector and helper (76, p. 22,050). In response to firms’ comment that less space would be adequate, the USDA observed that “the inspectors’ helpers work with sharp knives and scissors. If they work too close to the inspector, the possibility of an injury is increased” (79, p. 27,919). Production workers, too, “[p]acked tightly and working quickly with knives and scissors, . . . often cut themselves and others” (10, p. A8).

What the USDA failed to make clear was that the “facilities” and “lines” from which the agency was enabling, entitling, and even compelling poultry firms to secure greater productivity were in fact human beings—namely, their employees.

Here a perverse inversion of one of the original purposes of the PPIA lies hidden. For whereas Congress intended to protect firms that sought to maintain some hygienic standards against rogue competitors who operated at speeds and under conditions guaranteed to depress the welfare of consumers and workers, two decades later the USDA depressed the entire industry's standard by imposing nationally uniform but higher line speeds on all firms. Indeed, the USDA stated that although it wished to give firms a choice between the traditional and MTI systems, in compliance with its obligation to spend tax money most efficiently, it arrogated to itself the power, in certain instances, to "require the procedure which will result in increased inspection efficiency" (76, p. 22,050).

By 1984, the USDA fulfilled its promise to the chicken oligopolists to devise a method for authorizing the broiler line to run even faster. In that year, the Reagan administration promulgated the final rule for its New Line Speed (NELS) inspection system. The USDA justified the innovation by reference to the re-emergence of a throughput-productivity-profit bottleneck caused by its own inspection methods (75, p. 42,551; emphasis added):

Since the implementation of MTI, the poultry industry has continued to make significant technological advances. Consequently, many establishments can present uniform lots of birds to inspectors faster than 70 birds per minute. This has been made possible by the increased use of further refinement of automated equipment. . . . In such cases, *the inspection process* has again become a limiting factor in establishment productivity, and *restricts the return on investment on the development and installation of modern innovative equipment and facilities*. Merely expanding the use of current inspection procedures would not alleviate this restraint given the limits on the line speeds attainable under traditional or MTI inspection procedures.

The basis for the breakthrough was devolution of the state's inspectional duties to the private profit-making firms themselves. In plants that relied on the USDA to provide quality control, inspectors had to assume "a burdensome quasi-supervisory role" that the agency deemed statutorily inappropriate. By transferring such responsibilities to the firms, the USDA was able to free up some of the post-mortem inspectors' time. This devolution is predicated on the implementation of a quality control program, a statistically based sampling system, which is supposed to enable an inspector to monitor and review data, and sample product at critical points on the eviscerating line. Under NELS the maximum line speed has become 91 birds/minute (75, p. 42,551).

Although the inspector in charge has the authority to reduce the line speed when birds are not presented properly or the health of a particular flock dictates more extended inspections (86, sect. 381.67) and thus "can quicken or slow the pace of profits in a plant," he or she "engages in a perpetual jousting with plant officials

looking for new ways to enhance their profits" (30, p. III-2). When a plant manager screams at a line inspector who has just pushed the button to slow down or stop the line that this interference is costing the company \$500 per minute, then, as a former Food Safety and Inspection Service (FSIS) plant veterinary supervisor who is currently the chief of the Sanitation Branch conceded, "you have to take that into account" (87).

The enormous pressure to which inspectors are subject not to hold up the line has run the gamut from management's deliberately creating a hostile environment to wear down inspectors to arranging forcible assaults (30, p. III-11; 88). Instances in which the FSIS has overridden interventionist inspectors and restored de facto control over line speed to management or yielded to firms' demands that strict inspectors be transferred ultimately hardened into a perceived policy, which has made it that much more difficult for any inspectors to assert their independence (30, p. III-18; 89-91). Vigilance is especially undermined by the USDA's practice of stationing inspectors at one plant for many years. The social-psychological barriers to maintaining a vigorous adversarial relationship over such long periods of time are so overwhelming as to have prompted even the inspectors' union to call on the agency to remove some of its own members from certain plants for flagging vigilance (91).

Still not satisfied with the speed-ups that it had effected, the USDA in 1986 announced an interim emergency rule to be implemented in plants that were operating under the MTI system. The Streamlined Inspection System (SIS) required one or two inspectors and a program for evaluating acceptability of the final product. Although the USDA expected that "the industry" would realize productivity gains "by maintaining optimal line speeds" (92, pp. 3569-3570) and even "maximum speed" (86, sect. 381.76(b)(3)(ii)), in addition to savings from reduced costs for inspectors' overtime stemming from a reduced number of inspectors per line, this change was depicted as driven by the agency's own personnel and budgetary shortfalls caused by the Reagan administration's hiring freeze and cutbacks. While the state demanded that the agency make do with less, poultry companies demanded more (92, pp. 3569-3571).

Implementation of SIS in MTI plants offered an incentive to plants operating under the traditional system to increase their output by converting to MTI/SIS. In MTI plants, however, conversion to SIS was not voluntary. The FSIS explains the speed-up to 70 birds/minute for a two-inspector team (92, pp. 3572-3573) as resulting from the recommittal to private firms of responsibility for detecting quality defects rather than burdening the government with such tasks (93). The president of the inspectors' union observes that because SIS failed to introduce any physical changes in facilities, inspectors are merely working faster without being able to detect disease (94). And the Government Accountability Project adds that: "SIS means that instead of examining each bird, inspectors just glance. In reality, SIS has been the Streamlined Infection System. . . . Damn the public and full line speeds ahead" (95).

As of 1994, 263 chicken plants operating 581 processing lines were subject to USDA inspection. The SIS system accounted for 53 percent of all plants and 63 percent of all lines; NELS accounted for 17 percent of plants and 20 percent of lines; and the traditional system accounted for 30 percent of plants and 17 percent of lines (80, p. 35,647).

Unsurprisingly, the state fully accepts the companies' position that slowing line speed is out of the question. This parallelism is to be expected from an agency that has authorized firms since 1961 to sell chicken that has soaked up as much as 8 percent of its weight in chill-tank water (86, sect. 381.66(d)(2); 96–98) that critics call "fecal soup." The USDA has approved a process that a government microbiologist has likened to "soaking birds in a toilet" because the alternative European method of chilling birds with blasts of cold air to avoid cross-contamination would frustrate the throughput speeds on which U.S. firms insist (98). In spite of the USDA veterinarians' acknowledgment that air chilling is superior to water chilling (99) because it "[i]nvariably . . . is less likely to cause cross-contamination" (100, p. 206), the agency, in the words of an official of the National Association of Federal Veterinarians, "enables the sale of hundreds of thousands of gallons of water at poultry meat prices—a profit the industry is unwilling to forego" (81). Tyson alone, it is estimated, would lose \$40 million if the waterlogging and cross-contamination were eliminated by sealing carcasses in plastic bags while moving them through the chiller (101). European food safety officials' belief that the U.S. system, which by the mid-1990s was costing U.S. chicken consumers more than a billion dollars annually for contaminated water (102–104), is "insane" and rooted in poultry firms' political influence was confirmed by the Clinton administration's accommodation of Tyson's opposition to a program of zero-tolerance for fecal material (101, p. 44).

A major source of the fecal cross-contamination in the chill tank is precisely the high-speed automated evisceration facilities introduced during the 1970s. As the National Research Council, in a report commissioned by the FSIS, concluded: "The new equipment often malfunctions . . . and the gastrointestinal tracts are frequently broken so that feces . . . contaminate the surface of the birds. . . . Decreased line speeds might eliminate many of these shortcomings, but such speeds would have to be substantially slower than those used in traditional inspection." The FSIS's obsession with Tayloristic studies of "the effects of accelerated line speed on inspection" in order to decrease the duration of a bird inspection to less than a second (105, pp. 146–147) augured poorly for a slowing down of the line merely to reduce contamination.

The Clinton administration's policy reveals continuity with that of the Reagan and Bush administrations in that the USDA has continued to promote "deregulation of poultry processing" by deputizing profit-making chicken companies as self-inspectors (106). Under this new Poultry Enhancement Program, which critics regard as "a corporate honor system" (107), the company workers who would sort carcasses for the inspector would assume even greater responsibility

than the helpers currently bear because they would play a greater part in detecting disease and abnormality (80, p. 35,642). The head of the union of the USDA's own inspectors characterizes this proposal as "nothing more than a gift to the poultry industry" precisely because company employees "'are not going to condemn meat' if their supervisors tell them not to" (108).

Under the more recent Hazard Analysis and Critical Control Point systems (109) not only would firms' self-policing be extended further, but the deemphasis of hands-on inspection and the heightened importance attached to detection of pathogenic microorganisms may eventually trigger yet another wave of line-speed increases. Sounding more like a lawyer than a veterinarian, the assistant deputy administrator of the FSIS during the Reagan administration insisted that even at 180 birds/minute (110) the agency would comply with its statutory obligation to inspect each bird: "The inspector will in fact be looking at each bird, but much quicker than ever before" (89, p. 10A).

The USDA acknowledges that an alternative method would also achieve its objectives of greater food safety. The possibility, however, that plants operating under the NELS or SIS system might "have to operate their lines at less than optimal speeds . . . because the post-viscera-harvest inspector cannot effectively inspect more than 35 birds per minute" meant that the agency had to reject the alternative procedure under which the NELS lines would have to run at only 70 rather than 90 birds/minute while the SIS line speed would decline from 70 to 35 birds/minute. At "such slow [*sic!*] rates . . . there could be a negative effect on productivity of \$5.2 billion . . . during the first year of operation." Making such "substantial demands on the regulated industry" is unthinkable to the regulator, which regards as "severe" an impact that might act as "inducement for the industry to install additional poultry slaughter lines" to maintain output (111).

The agency's entire analysis and cost calculations underscore the profoundly pro-capital bias that has always characterized the USDA's approach: "optimal" speeds are those that increase firms' profits, whereas speeds as "slow" as 1.2 birds/second—which might reduce somewhat the incidence of repetitive trauma syndrome among the low-paid and largely female and nonwhite workers whose shortened work lives form the basis of the poultry corporations' profitability and the federal government's cheap food policy—are automatically rejected as "unacceptable" (80, p. 35,650). Thus when food safety officials at the USDA observe that "[w]e just don't want to be the cap on productivity," the subtext is that "an extra bird-per-minute or two can mean a difference of hundreds of thousands, or even millions (for the largest plants) of dollars in profits" (112).

The FSIS's biased regulatory approach does have two virtues: openness and consistency. The agency's spokespersons do not have to be coaxed into conceding that the agency has never taken into account costs associated with the adverse impact of its authorized increase in line speeds on the health and safety of the workers (113), in spite of the fact that even *Time* reports that the incidence of repetitive motion disorders will not be significantly reduced "until the work pace

is slowed down” (60). This malignant neglect conforms to employers’ interests in an industry in which labor is the main cost component, which firms were able to compress from 62 percent in 1955 to about 50 percent in the early 1980s (and 46 percent in the South) (37, pp. 44, 46; 114, p. 24).

In the abstract, the USDA’s authorization of increased line speeds of 70 or 91 birds/minute, while creating, through the forces of competition, nationally uniform rates of throughput for all firms, does not necessarily mean that individual workers’ work loads must rise commensurately. In a plant with a very strong local union workers can persuade the management to equalize working conditions on the faster and slower lines through increased staffing, reconfiguration, or rotation (115). For the 75 to 80 percent of poultry workers who have no union, however, firms are much more likely to use the opportunity created by USDA-authorized line speed increases to intensify individual workers’ loads as well. Workers who once sliced every fourth bird soon find themselves cutting every other bird (6, p. 26). Union claims that increased line speeds are accompanied by reductions in line staffing are made plausible by the view of the OSHA ergonomist during the Bush administration, who confirmed that the repetitive stress syndrome that is caused “by just pushing workers harder and harder and harder” could in large part be eliminated by slowing down production lines (8).

Several statistical indicators underscore the key role of the USDA’s line speed policy in strengthening poultry management’s position vis-à-vis its work force. Once the significant productivity gains stemming from the wave of labor-saving automation—of such operations as killing, defeathering, evisceration, and deboning—had been realized by the end of the 1970s (20), the trend away from labor-saving and toward labor-using technological change became associated (116, p. 596) with productivity increases that “were achieved without extensive investments in technical innovations. In fact, the poultry industry’s capital expenditures on equipment per employee averaged 45 percent below the per employee average for all manufacturing throughout the 1980s.” To be sure, the chicken producing oligopolies’ “[i]ncentives to invest in technical innovations are lessened by the comparatively low average hourly earnings in poultry” (117, p. 32).

By 1983, the USDA’s Economic Research Service was warning that “productivity gains may come more slowly than in the past . . . in production. . . . [M]achines and energy have become more costly substitutes for labor; major economies of scale have already been realized, as have the economies from coordination of the production-marketing functions” (118, p. 23). It was precisely this temporary lag in labor-saving mechanization and automation that presumably prompted the oligopolies to pressure the USDA during the 1980s to devise methods for further increasing line speeds. Thus, productivity in the industry, aided, abetted, and enforced by the USDA’s “streamlined” inspection procedures, could, for the time being at least, continue to rise merely by making workers with few alternatives work faster and faster within a minute division of labor requiring

an above-average proportion of unskilled labor (20, pp. 35–36)—until they are disabled and replaced by fresh recruits in an industry that experiences annual turnover rates as high as 500 percent (10, 119). “To keep pace on poultry production lines moving twice as fast as a decade ago, the human components of the highly automated poultry processing machinery . . . must move their arms in quick staccato fashion to slice, wrap, cut, and . . . rip apart raw chicken with their hands” (9).

It is this link between productivity, profits, and wages on the one hand and the USDA’s compliant inspection and line-speed policies on the other that has enabled the large firms to record phenomenal growth rates while crippling thousands of impoverished workers. “The high rate of occupational injury in poultry processing derives most directly from the constant pressures to increase or maintain high line speeds. . . . This pressure underlies not only high injury rates but also creates an environment in which control over workers’ time and movement is central to production” (120, pp. 176–177). What is particularly ironic about the nationally uniform line speeds imposed by the USDA is that, given the negligible levels of imports (20, p. 35; 45, pp. 34–35), the state could set lower speeds without exposing the firms to competition from lower-wage countries.

By around 1990, new technology for automating broiler production began to be introduced by the larger firms. One reason adduced for the renewed onset of automation is an increase in competition as the industry moved toward more expensive specialties such as boneless chicken breast, the retail price of which is much closer to sale-priced steak than is the case for standard processed chicken. From 1962 to the mid-1990s whole birds as a share of total processed broilers declined from 87 to 12 percent (121, p. 28; 122, p. 15). Tyson, for example, which owns 18 of the 73 further processing plants in the United States, sold almost 95 percent of its broiler output in cut-up form by 1995 (49, pp. 29–30; 123, p. 58). This specialization is, to be sure, linked to the success of the firms’ strategy to export to Asia and Europe the parts such as feet, drumsticks, and dark meat that yuppies do not buy (54, p. 51).

Chicken capital and its journalistic supporters would have the world believe that processing is no longer arduous: “Of course, the modern chicken processing plant is now almost fully automated, with 210 live birds a minute going in one end and fully cooked fried chicken pieces coming out the other” (124, p. 42). On the contrary, it is precisely the incomplete process of automation that has intensified work and increased injuries. The worst and most grueling job is held by live-hangers, who shackle by the legs 25 birds/minute while the chickens “scratch, peck and defecate all over them” (10, p. A8). While workers back up malfunctioning machines on automated lines, workers on less modern lines continue to slit birds open and remove innards manually (125). Although automation has reduced many of the workers on the eviscerating line to positioning the carcasses for the machine and to back-up positions monitoring and correcting errors of ever faster machine operations, those errors are so frequent that two workers backing up a

70-bird/minute eviscerating machine may be working at a furious pace; when, as not uncommonly occurs, the machine breaks down altogether, management expects the workers to maintain the machine-forced rate of throughput (126). Those managerial expectations are reinforced by the deployment of “a chief supervisor and two or three line supervisors . . . to assure a constant flow of product at a maximum line speed” (7, p. 26).

Despite automation on the slaughter and evisceration lines, overall poultry processing employment has continued to rise as a result of the expansion of the so-called further processing line, which has been less intensely mechanized. The shift of workers from evisceration to such operations as cut-up and deboning, which also exist in more and less labor-intensive and automated versions (4, p. 2; 127, pp. 71, 74, 80), reflects the aforementioned shift in output to premium-priced and higher-profit products, which as early as 1985 accounted for more than 55 percent of Tyson’s products (128, 129). When Don Tyson asserts that with such products his firm is “really selling time” (47), he means that he is selling (with the “mark-up” that makes his firm so profitable) the labor time to which his oligopsonistic labor market attaches very low value.

CHEAP FOOD AND CHEAP EMPLOYERS: CLASS-BIASED COST-BENEFIT ANALYSIS AND ADMINISTRATIVE LAW

The USDA denies all legal responsibility for the safety and health of poultry production workers (113). Although the legislative history of the PPIA shows that Congress regarded worker safety as a subsidiary objective of the act, the USDA argued in the aftermath of the fire that killed 25 workers at the Imperial Food Product’s poultry plant in Hamlet, North Carolina, in 1991 that its inspectors, as quasi-guests on private property, lacked the authority even to override management’s decision to lock exit doors in order to prevent theft of chickens. Yet the FSIS requires firms, when seeking agency approval of their construction plans, to provide numerous “welfare facilities for plant employees” including some as mundane as lockers with sloping tops (130).

Just as the USDA disclaims all responsibility for worker safety, with alacrity firms avail themselves of the USDA’s norm-setting as a defense in litigation. When employees at Perdue Farms plants in North Carolina, where as many as 36 percent of workers suffered from cumulative trauma disorders, requested that the state OSHA, to which federal OSHA has devolved its authority, order the company to slow down the production lines, Perdue’s lawyer defended on the ground that: “Our approach is as long as the USDA allows these speeds, we’ll stick to that” (131).

In setting production line speeds, the USDA has, in addition to pursuing—albeit with questionable success—its statutory goal of ensuring that poultry products will not make consumers sick, devoted itself exclusively to the financial health of

the poultry oligopolies. At the same time, the USDA's practice of neglecting the costs that its regulations impose on workers in the form of increased incidence of injuries and shortened work lives has contributed a new chapter to the federal government's cheap food policy by reinforcing a chicken pricing strategy that fails to reflect this major component of the cost of production. Yet Congress did not authorize the USDA in the course of carrying out its food safety mandate to enrich poultry companies at the expense of poultry workers' health. This skew is, even from the standpoint of the agency's own statutory mandate, dysfunctional, since "excessive line speeds often cause workers to accidentally rupture the intestinal sacks and other internal organs of birds, increasing the rate of salmonella contamination" (132). A question therefore arises as to the lawfulness of the USDA's regulatory actions.

During the 1980s, when the USDA was most intensively concerned with maximizing rates of throughput, the department, like all other federal agencies, was subject to President Reagan's Executive Order 12291, which was designed "to reduce the burdens of existing and future regulations." In pursuance of the Reagan administration's deregulatory program, the Executive Order required that "[r]egulatory action shall not be taken unless the potential benefits to society for the regulation outweigh the potential costs to society" (133, pp. 13,193-13,194). That even market-knows-besters intended the scope of the Executive Order's mandatory cost-benefit analysis to encompass costs and benefits to affected workers was made unambiguously albeit maliciously clear by a remarkable step taken by the Office of Management and Budget (OMB) during the Bush administration. OMB informed the U.S. Department of Labor in 1992 that a proposed OSHA air contaminants standard was not ripe for review under Executive Order 12291: OSHA's accompanying regulatory impact analysis was deficient because it "omits consideration of the effect of the rule's compliance costs on workers. The analysis is limited to a description of the effects of compliance on firms' sales and profits." Although OMB in this particular case was seeking to make the extraordinary claim that OSHA had failed to take into account that the absence of health and safety measures makes it possible for employers to pay workers higher wages, which in turn enables the latter to live longer (if they are not killed at work), the interpretive principle entailed that what is regulatory sauce for the OSHA goose is regulatory sauce for the USDA gander (134).

President Bush's director of OMB, Richard Darman, hardened the point by issuing guidelines that agencies were required to follow in providing estimates to OMB in compliance with Executive Order 12291. In explicating the scope of "[s]ocial benefits and costs," Darman emphasized that they (135, p. 53,521):

can differ from private benefits and costs as measured in the marketplace because of imperfections arising from:

(i) External economies or diseconomies where actions by one party impose benefits or costs on other groups that are not compensated in the marketplace;

(ii) Monopoly power that distorts the relationship between marginal costs and market prices. . . .

Both intangible and tangible benefits and costs should be recognized.

Significantly, even the anti-regulatory Risk Assessment and Cost-Benefit Act of 1995 proposed by the market-knows-best 104th Congress expressly defined “costs” to include “the direct and indirect costs to . . . wage earners” (136, sect. 4(1)).

The USDA line-speed regulations impose precisely the kind of social costs on chicken processing workers in the form of an increased incidence of injuries that the Executive Order and OMB guidelines require regulators to take into account. These external diseconomies, including the “pain and suffering due to . . . work-related musculoskeletal disorders of the lower back, upper extremity and lower extremity” (80, p. 57,141), are frequently or perhaps even typically not captured or recorded by the marketplace because poultry oligopolies are also labor market oligopsonists able to sustain their competitiveness by means of locating their plants in low-wage southern “one-horse towns” (137); consequently, they are well-positioned to extract labor without having to indemnify their employees for impairments of the value of their labor power. The systemically and blatantly discriminatory manner in which the USDA has regulated line speed may, overall, be so arbitrary and capricious as to undermine the validity of the FSIS regulations under the Administrative Procedure Act (138).

OSHA’S BELATED AND FECKLESS EFFORTS TO REGULATE LINE SPEEDS

If it has now become clear how and with what disastrous consequences the USDA came to regulate line speeds for human beings in the chicken processing industry, the question still remains as to why OSHA has not intervened in this crucial determinant of workplace health and safety, which would seem singularly to belong to its jurisdiction. In a very few instances OSHA has sought to regulate line speed by issuing citations (139) to employers for violations of the so-called general duty clause of the Occupational Safety and Health Act, which provides that: “Each employer shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees” (139, sect. 654(a)(1)). Thus far, however, OSHA has failed to secure any adjudicator’s authority for an order to slow down production lines as a means of abating a hazard.

Obstacles emerged in an early case brought against Perdue Farms by the North Carolina agency, to which OSHA had devolved its powers (139, sect. 667), involving citations for ergonomic hazards. While the fines that the agency had imposed against the company were under review by the state review board,

workers at the plants intervened to request interim relief in the form of a reduction in line speeds. The administrative law judge (ALJ) and the North Carolina Safety and Health Review Board ruled that they both lacked a legal basis to order an interim reduction in line speed until a court determined that the company was violating work safety standards (140). This outcome, foreshadowing the legal strategy that employers would soon pursue, was at least in part triggered by the plaintiffs' failure to satisfy the adjudicators' request to specify a line speed at which the ergonomic hazards would be abated (141).

Although NIOSH, based on its health hazard evaluation of the Perdue plants at Lewiston and Robersonville, offered as its first recommendation for reducing highly repetitive movements a slowing down of the main conveyor or a provision of "diverging conveyors off the main one so that tasks can be performed at slower rates" (4, p. 18), the final settlement of the case failed to include such measures (142). Nevertheless, the initial costliness of the resolution of the matter induced Perdue to break ranks with the other chicken oligopolists and to embark upon an ergonomic program. Perdue became obligated to "institute feasible engineering controls in an effort to make the job fit the person." The company agreed "to explore . . . engineering solutions" such as automated processes "to eliminate excessive exertion and awkward postures and to reduce repetitive motion." Perdue also agreed to investigate "feasible" administrative controls designed "to reduce the duration, frequency and severity of exposures to ergonomics stressors." The North Carolina OSHA entrusted to Perdue's discretion the choice of such controls, including rest pauses, increasing the number of workers assigned to a task, job rotation, and job "enlargement" (143, pp. 6–8). Despite these changes, Perdue workers still insist that "the most effective way to reduce repetitive motion injuries would be to slow down the lines or add more people" (144).

Perdue's safety and health director has stated that Perdue has been able to finance the costs of the program alone through the reduction in the costs incurred in workers' compensation claims, which amounted to 70 percent (145); reduced turnover and enhanced productivity of healthier employees represent additional savings. The director believes that other firms have failed to join the ergonomics movement because they have been misadvised by short-sighted production-oriented managers to seek to extract the most from their employees for the least. Although Perdue purportedly advocates an ergonomic standard because it wants competitors to be required to undertake the same expensive changes that it has implemented, why Perdue would want them to introduce reforms that will increase their profitability is puzzling (146, 147).

One reason that firms may not be impelled to reduce their workers' compensation costs is that they may have been successful at intimidating workers with claims into not filing or pursuing them (148, p. 37). Thus Bo Pilgrim, the owner of Pilgrim's Pride, the fifth largest poultry processor in the United States, who complains that "[w]orkers' comp eats up half of our company's profits" (149, p. 161), has been more partial to non-workplace-related methods of lowering such

costs. On the one hand he brazenly handed out \$10,000 checks on the floor of the Texas Senate to induce (successfully) members to vote in favor of a pro-employer reform of the state workers' compensation system; on the other hand, his company has been charged with intimidating employees into not filing compensation claims (149, 150). Punishment of workers who complain about work-related injuries has also been alleged at Tyson and Perdue, where preventive medicine and rehabilitation have consisted of daily dispensing of bandages, Bengay, and Tylenol by company nurses (60, 151, 152).

OSHA's most prominent attempt to lower line speed has thus far been directed at the now defunct Downington, Pennsylvania, cookie factory of Pepperidge Farms, a subsidiary of the huge food producer, Campbell Soup Corporation. Some of the workers at the plant slapped the tops onto the bottom of cookies as they came along a conveyor belt at 1,500/minute; others picked up the finished cookies and put them into little paper cups. Among these cappers and cuppers "an epidemic of carpal tunnel syndrome" raged: of the 69 who suffered cumulative trauma disorders, 33 required surgery. The incidence of carpal tunnel syndrome, 7 percent of full-time cookie-line workers, was 41 times higher than among the general population (153).

The Pepperidge Farms case illustrates how defendant-employers' use of the multiple possibilities of due process can inordinately delay state intervention. In this case, 7 years after the first worker complaint about carpal tunnel syndrome triggered an OSHA investigation in 1988 (154, p. 1), the Occupational Safety and Health Review Commission has still not reviewed the decision handed down by the ALJ after the longest trial in the history of OSHA.

The nub of that decision was that the Department of Labor had failed to demonstrate that a reduction in line speed was a feasible means of abating the hazard of carpal tunnel syndrome and other repetitive trauma disorders. The ALJ was impressed that the government's expert witnesses could not quantify the amount of repetition that would cause carpal tunnel syndrome or "testify at what speed the problem would be abated nor how many employees would have to be added to a line in order to abate or materially reduce the hazard" (154, pp. 417, 422, 450). The ALJ held that: "To force an employer to experiment in order to bring about abatement requires a standard. Under [the general duty clause], an employer cannot be forced to experiment." Ironically, the ALJ faulted the Department of Labor's proposal to rotate workers from more to less stressful jobs for overlooking that "there do not appear to be sufficient jobs with less stress" (154, pp. 451, 456).

Perhaps more trenchant than any learned jurisprudential critique of the ALJ's decision was the reaction by one of the affected workers: "He seemed to say we had (the injuries), but that there was no means to prevent them. . . . Well, they could've slowed down the lines or hired more girls. But that costs money, so that's not a means" (153).

In many instances where firms have settled with OSHA rather than risk expensive litigation contesting citations for violations (155), the agency has diluted the agreed-upon ergonomics plan by permitting firms to begin with job rotation instead of proceeding to the more effective measure of engineering controls that directly restructure the work itself. Instead of providing a rest for workers' hands, job rotation may actually lead to a greater incidence of cumulative trauma disorders in poultry plants, in which almost all jobs are similar and require 10,000 to 20,000 cuts a day (156–158). OSHA has entered into settlement agreements with other poultry processors similar to that in the Perdue case. Its agreement with Cargill, for example, was notable for the candor with which it faced the proposed solutions of job rotation and job “enlargement”: “Caution shall be used in deciding which jobs are used because different jobs may appear to have different stressors, but actually pose the same physical demands as the previous job” (159). In other words, assigning workers seriatim to a number of body-numbing and mind-rotting operations rather than just to one may not contribute to alleviation of any ergonomic problems.

While *Pepperidge Farm* was pending, a coalition of 31 labor unions led by the United Food and Commercial Workers, which organizes poultry processing workers, petitioned the Secretary of Labor in 1991 to issue an emergency temporary standard on ergonomic hazards to protect workers from cumulative trauma disorders (160). Although the Secretary of Labor has statutory authority to issue such regulations “if he determines (A) that employees are exposed to grave danger from . . . new hazards, and (B) that such emergency standard is necessary to protect employees from such danger” (139, sect. 655(c)(1)), she denied the petition on the ground that the epidemic of crippling cumulative trauma disorders did not meet OSHA’s traditional guideline that “only conditions that pose life-threatening, incurable, or fatal injury or illness”—such as cancer or irreversible kidney damage—“are grave dangers warranting” an emergency temporary standard (161).

In 1992 OSHA finally published an Advance Notice of Proposed Rulemaking requesting comments and information on an ergonomics standard. Spurred by data showing that repetitive trauma disorders had tripled during the previous 8 years, the agency recognized that: “Most ergonomic hazards and related disorders appear to be due to changes in production processes and technologies resulting in more specialized tasks with increased repetitions and higher assembly line speeds. In many cases these changes have not concomitantly included integration of ergonomic technologies” (162). The lack of a standard means that employers are in the first instance effectively free to inflict pace-based repetitive trauma injuries on their employees; only after the fact, then, is OSHA even theoretically in a position to cite employers for violating the general duty clause—until now, to be sure, without success.

Progress toward state intervention may be blocked for the time being by the advent of a majority unabashedly promoting a pro-business agenda in Congress.

Senator Kassebaum, the new chair of the Senate Labor and Human Resources Committee, has stated unequivocally that she will oppose any effort by OSHA to promulgate an ergonomics standard because the financial imposition on employers would be too great (163, 164). If congressional market-knows-besters prevail in suppressing issuance of an ergonomics standard, and the Occupational Safety and Health Review Commission and the courts uphold the ALJ's ruling in *Pepperidge Farm* that OSHA must prove that slower line speeds will reduce the incidence of repetitive trauma syndrome rather than impose experiments on employers, then poultry plant workers may be left without legal protection against further overreaching by employers in collusion with the USDA.

Increasing line speed may not be the only factor that increases the number of repetitions performed by workers, but it has a threefold crucial impact on the incidence of cumulative trauma disorder. The faster pace "almost invariably" creates more repetitions (165, p. 291). Speed can also affect muscular tension in two ways: the more rapid motions associated with higher speed can require greater accelerations and decelerations, thus producing larger peaks of muscular activity; increased pace can also contribute to the "resting level of muscular tension" and thus to "higher overall levels of muscular activity" (166, p. 868; 167, p. 53). The fact that ruthlessly fast disassembly lines undermine workers' mental and physical health and safety also in ways unrelated to repetitive stress disorders explains why groups such as Poultry Workers in Action have demanded slower line speeds as a central element of their struggle against exploitation (168).

Although the complexities of the interaction of the various factors that bring about the onset of repetitive trauma syndrome in individual workers may render it impossible to quantify precisely the threshold of repetitions below which no worker will be injured, ergonomists can state emphatically that fewer rather than more repetitions, less rather than more forceful motions, and less rather than more uncomfortable postures will reduce the incidence of cumulative trauma disorders. Formulation of a usefully precise standard for line speeds in industries in which heterogeneous commodities are produced in widely varying processes and configurations may be difficult (169). The chicken processing industry, however, may be an exception because the USDA has already set the line speed at a rate that clearly contributes to the repetitive traumatization of the workforce. After all, reflecting the received ergonomic wisdom, OSHA's unofficial Draft Ergonomic Protection Standard singles out as a signal risk factor the "[p]erformance of the same motions or motion pattern every few seconds for more than two hours at a time" (170). Guidelines based on the most recent overview of the international ergonomic literature go even further in characterizing work cycles of less than 30 seconds repeated for more than an hour as "strongly related to disorders of the forearm and wrist" (167, p. 52). The combination of uniform line speed, extreme division of labor that reduces workers to the performance of as little as one motion executed every second or more frequently, and the absence of breaks stamps chicken plants as an industry deserving of special and prompt attention. This

conclusion is hardened by the fact that NIOSH has carried out Health Hazard Evaluations in several chicken plants, which have underscored how rife repetitive trauma disorders are (4, 171).

POWER AND THE DIVISION OF LABOR

An important albeit positivistic truth inheres in the claim that: "The prevalence of repetitive tasks in the modern workplace is the natural consequence of advanced industrial technology. Increasing specialization in the production process requires that each worker perform an ever-decreasing range of tasks more and more often" (172, p. 2079). This claim obscures the possibility that production and consumption can be organized and coordinated differently to make work life less hazardous and tedious. The owner of one of the large integrated broiler firms has posed this issue even more sharply: "[P]rocessing chickens is an inherently unpleasant task. . . . Short of total plant automation . . . implementation of which would result in displacement of thousands of employees, we know of no alternate method of providing the world with a steady supply of clean, healthy, low fat chicken" (173).

Even assuming that chicken has been a low-fat, protein-rich, positive contribution to nutritional standards of broad strata of the population (174), this industry apologia leaves two questions unexplored. First, would consumers have conferred so much effective demand on this seemingly cheap commodity had its price reflected the lifetime impairment of the value of the producers' labor power in the form of the physical and mental pain and suffering that the largely atomized worker-producers have been unable to project into their wages? And second, could society have achieved the same nutritional outcome by production methods less destructive of the physical and emotional health of the direct producers? Apart from the issue of whether alternative sources of amino acids such as legumes would have been and remain a superior nutritional component and would reduce the loss of usable energy by rendering unnecessary the addition of an animal trophic level to the food chain (175, 176), the answer might be that it would indeed have been impossible to achieve the same high level of output at the same low prices by any more humane production methods.

It is possible that only the ruthlessly minute division of labor and relentless driving of workers at ever faster speeds can deliver the enormous volume of throughput within a relatively short period of time. The chief cause of the extremely debilitating work in the poultry industry is the speed at which workers are driven to perform highly repetitive motions manually in order to keep pace with a partially automated production process. If the slaughtering and eviscerating processes could be automated, perhaps the industry should confine itself to mass producing the whole chickens that are the end-products of those operations. The further processing lines, which now constitute the central source of repetitive trauma disorders, produce the most profitable commodities at the greatest cost to

deboners and other workers. Consumers buy deboned chicken because it is cheap—just as some hire others to do other kinds of dirty work because that labor comes cheap. If personal servants were expensive, few people could afford to slough off this work on to them. So, too, with regard to impersonal servants: perhaps products such as boneless chicken breasts should be converted into luxuries by paying deboners as much as plumbers or lawyers or by slowing down the line to a leisurely pace that enabled workers to chat and take frequent breaks.

Boneless chicken breasts represent neither a new product nor one—such as an automobile—that no normal consumers could produce for themselves and that even the mechanically inclined could not create without heroic efforts. The availability of cheap boneless chicken breasts merely converts consumers into little Louis XIVs with enough money to pay remote servants to perform tasks that suddenly become beneath their dignity. The prevalence of such low-paid jobs in the United States, whether performed in the home or externalized to factories, underscores how underdeveloped the welfare state is. For one major impact of advanced welfare states such as Sweden “is that people will increasingly have to provide common labor services for themselves: wages will have risen too high, because the level of minimum state provision is high, to permit a large servant class” (177, p. 127). The point is not to abolish the division of labor or to forego its benefits, but to encourage all people to perform as much of the unpleasant but unskilled work that virtually all nonhandicapped people are capable of doing rather than using their financial power to induce those whose meager assets force them to accept low reservation wages to devote their whole lives to harmful and unchallenging tasks.

An example that illustrates the possibilities of organized worker–consumer cooperation involves the same union that organizes chicken processors. After United Food and Commercial Workers members who work as checkers in supermarkets in St. Louis complained about repetitive strain injuries, a NIOSH study found that reaching and unloading heavy items from carts caused extra strain. The union then negotiated a change in working conditions so that in the future customers unload for themselves as is the case in most supermarkets. As NIOSH observed: “It’s important for the public to realize that they’re doing a real service to the cashiers” (178).

An instructive counterpoint to the throughput *über alles* broiler industry stems, unsurprisingly, from two self-consciously unorthodox capitalists. Because the products produced by Ben & Jerry’s Homemade, Inc., involve many hand operations, its workers incurred repetitive strain wrist injuries. After redesigning machinery and processes and partial automation failed to eliminate the problem (179), the firm “closed down the Brownie Bar line . . . due in part to concerns about ergonomic stresses inherent in the manufacturing process” (180, p. 20). Although “[t]here were protests from customers about the disappearance of the ‘brownie ice cream sandwich’ . . . according to Mr. Cohen, until there is a

machine to replace the repetitive motion that threatens to injure operators' arms, continuing production is 'not an option'" (181).

Lest it be thought that Ben Cohen and Jerry Greenfield are socialists in disguise, it is noteworthy that their version of "Caring Capitalism" was compatible with threats to summon the police when a union tried to leaflet one of their plants (182). Moreover, not only did Cohen "demand . . . that the ice cream be packed in a way that was brutally tiring and repetitive for his early employees" (183), but workers continue to be exposed to a high injury rate in general (184) in part because "the Company's need to manufacture more product through existing lines has pushed aside a long-term commitment to a risk management program" (180, p. 20). By the same token, however, the very fact that even an extraordinary exemplar of capital with a hemidemisemi-human face had to enforce its decision in the teeth of consumer resistance suggests how unlikely voluntary emulation by a self-professed "customer-driven business" such as chicken processing would be (122, p. 27).

A reduction in the length of the working day of poultry processors is, to be sure, even more urgently needed than for the working class as a whole. Yet a redistribution of labor, which would modify if not abolish the caste-like relegation of millions of workers to a lifelong attachment to a single operation devoid of possibilities for individual self-development, though even further removed from public debate in the United States, is as necessary as a redistribution of income, wealth, and power. The only logically consistent refutation of this position would argue that the federal government's longstanding "cheap food policy" is designed to vindicate Engel's law—that food as a proportion of a family's budget (or macroeconomically, of a society's income) declines as income rises—in large part by having racial and ethnic minority workers such as migrant farm workers and, more recently, female chicken processors subsidize the food expenditures of consumers at large in the form of low wages and uncompensated injuries. Rather than hiding behind what they laud as the advances in productivity achieved by the poultry industry and redounding to the benefit of the country as a whole, the USDA, OSHA, the judiciary, Congress, and the President would at least create clear lines for struggle if they admitted that a group of workers has been singled out to bear these costs.

It is a telling commentary on the power of capitalism to colonize the mind and efface the imagination of a different world that the mainstream public policy universe is exhausted by the dual notions that ever greater throughput in the service of lower prices is the supreme goal of economic life and that the best fate for poultry workers is the destruction of their jobs and livelihood by automation and their consignment to some similarly debilitating and mentally unchallenging labor. Only by demanding an end to a mode of production that ruthlessly subordinates all human development to the sole criterion of profitability can workers begin creating an alternative future in which the division of labor will cease to enslave the many and enrich the few.

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