Working in the digital age

The New Ruthless Economy: Work and Power in the Digital Age. By Simon Head.New York, Oxford University Press, 2003, 240 pp., $28/hardback.

The author's essential argument is that the computer and its applications in the workplace renew and refine the industrial culture that had formed the mass production and much of routine white-collar work throughout the 20th century (and had been introduced during the second half of the 19th century). The culture has consisted in the standardization of production and products; the simplification of the work process by transferring, or seeking to transfer, the worker's skill and know-how to the engineer and machine; the measurement of the minimum time needed to perform given tasks; and close monitoring of the process and its operators. Powerfully influencing this culture was the notion of "scientific management," originally defined by Frederick W. Taylor in determining "the one best way" of optimizing efficiency. Time and motion studies of task performance were to bring this about while also eliminating stopgaps (or "soldiering") during work hours.

Henry Ford and his engineers at times denied that they were indebted to Taylor's notions, yet they adopted the idea that management (including the engineers)—not the line workers—be fully responsible for ensuring efficiency of operations. An example was the design and configuration of machinery that reduced the operator's role to a minimum, no particular skill or care being required of him or her. Every machining operation was precisely timed so that the worker had to achieve a standard output each day. Each machined work piece was moved to the next machine by a gravitational slide for the next operation. Thus, the part did not need to be hand-carried, social intercourse between workers was curtailed, and monitoring by the foreman was facilitated.

The concept of the assembly line, while not original with Ford, was applied to a variety of cognate parts and components (of which there were 5,000 in the Model T), the worker being subjected to detailed time and motion norms, and the moving line in effect imposing its own control and discipline. Enormous increases in productivity resulted—as well as unceasing complaints about speedup. "A history of the near 70-year relationship between the United Auto Workers and the Detroit Big Three could be written largely as a prolonged dispute about speedup," writes Head.

Head titles his introductory chapter, "A New Economy?"—the question mark indicating his doubts about the "newness" of what others have held to be a fundamental change in the technology of the workplace. In fact, his entire book questions this assumption. And his thesis and research confirm what Shoshana Zuboff wrote in her authoritative work, *In the Age of the Smart Machine: The Future of Work and Power*: "…[T]he logic that motivated the early purveyors and adapters of scientific management has continued to dominate the course of automation in the 20th century workplace."

In the forefront of Head's concern is the spread and refinement of information technology (IT) into white-collar work, whether done by clerical or professional personnel; and the role of reengineering in reorganizing and formatting such work in adapting it to the computer. Such adaptation, however, is not merely technological but is based on, or is derived from, the principles of "scientific management" as outlined earlier. Those principles were restructured to fit white-collar work by William H. Leffingwell, an admirer of Taylor, who published a path-breaking book on efficient office management in 1925. His studies centered on the mail order business whose core concern was order fulfillment. He devised, for example, the most efficient way of opening mail, reducing the necessary motions of the

task from 13 to 6, and doubling the output so defined to 200 items per hour. Insofar as orders or remittances could not be handled routinely, experts would deal with "exceptional" cases. "For Leffingwell, as for Taylor, the cause of efficiency was best served when the scope for independent decision-making by employees was reduced to a minimum," writes Head.

Unlike the workflow characteristics of the factory, white-collar tasks, except for the more routine clerical work, could not be readily standardized. There was no moving line as in the emblematic factory that inherently regulated the time spent on each task. Analysis of length of telephone calls was cumbersome, as was time spent and monitored in filing a given volume of documents.

These and related problems, according to Head, were solved with the introduction of networked computers and its workflow software. "…Leffington's vision of a white-collar work assembly line subject to the rigorous control of the factory floor was now within reach." Although that vision was rooted in the idea of scientific management, the term was eschewed by business and its consultants; "reengineering" was substituted for it, the practice and culture of Taylorism being continued if transformed by new instrumentalities of measurement, control, and deskilling of the operator.

The 1990s were the decade of reengineering. Some of the most influential works on the topic were published then. Investment in computers soared at an average annual rate of 43 percent between 1994 and 2000, and in software, 18 percent—driving forces in the investment boom of the time.

The computer, to be sure, had been introduced into the white-collar (as well as the blue-collar) work process long before reengineering became technologically feasible. It was designed (or formatted) not only to simplify office procedures but also, as far as feasible, to eliminate "elements of interpersonal

coordination." Shoshana Zuboff, in presenting a number of case studies in the work quoted earlier, writes, "In each case, cost reduction and increased productivity were preeminent goals, which required systems that would simplify transaction processing while substantially increasing the volume of work that could be completed by one clerk. In the case of Consolidated Underwriter Insurance's dental claims operation, this meant reducing the knowledge demands of the task in order to increase the speed with which claims could be processed." She quotes a manager, saying *inter alia*, "A lot of quality issues are now built into the machine. It requires less thought, judgment, and manual interventions. It's designed to let you pump claims out the door."

The effort embodied by reengineering is a major theme of Head's book. He notes, for example, that so-called expert systems have been created at such companies as IBM and American Express, which—according to *Reengineering the Corporation* by Michael Hammer and James Champy, whom he cites—allow "relatively unskilled people to operate at nearly the level of highly trained experts." Numerous tasks, hitherto performed by numerous workers, are now compressed; specialists are readily replaced. Software facilitates monitoring by managers.

Management's drive to incorporate employees' skill or know-how or the knowledge distilled from experience in the computer seems relentless but also stymied by the idiosyncrasies of the relationships the computer, when used in certain work processes, is meant to convey. Head's discussion of the call center industry, which basically serves business in its customer relations activities, suggests the tension between that drive and some of the factors hobbling it.

The knowledge required to respond to customer queries is, in theory at least, incorporated in the computer. The call center agent need merely follow a script that he or she must follow; he or she is

in effect reduced to a conduit of information, not its originator. A host of software systems monitors strict abidance by the rules. It measures time spent on each call, as well as the number of calls within a given time span and the agent's bathroom breaks. Head titles the pertinent chapters as "The Customer Relations Factory" and "The Digital Assembly Line." These workplaces, he writes, "are ruled by the grim values of Taylorism."

He also notes distinct weaknesses that inhere in the system and that evidently cannot be resolved by computerization. For example, customers will often raise questions or explain their problem to which a response has not been "scripted," or to which the agent feels an unscripted response is necessary. Clearly, call center agents should be thoroughly trained and be knowledgeable about a company's products and services; and where this has been the case, Head reports, employee turnover has been low and their companies' success rate high. But if heavy pressure is exerted on employees to abide by the rules, working conditions remain unsatisfactory. Turnover consequently is exceptionally high. Head concludes that, "The call center workforce is one of the first proletariats of the digital age, with the empowered computer and its software imposing the discipline and control that, in the mass production plant, has always been the task of the assembly line and the automatic machine."

Reengineering as idea as well as practice has likewise been introduced into medical care. The introduction has been associated with the emergence of managed care organizations (MCOs) or, perhaps more accurately, with the transformation of medical care into a service organized on business principles. Efficiency in service delivery thus became a primary goal, pursued by managers who did not necessarily have any medical training but entertained operating philosophies similar to those of other business enterprises. "The language of

reengineering … pervades the manuals of managed care," Head writes. Service delivery to the patient is simplified and speeded. Patients' complaints may be diagnosed over the telephone. The call taker, after guiding the patient through questions pertinent to the complaint, may cull the corresponding symptoms from software. One large MCO in California has given bonuses to its phone clerks if they could limit patients' appointments to less than 35 percent or limit average phone time to 3 minutes and 45 seconds.

Speedup, moreover, has greatly reduced MCO physicians' time spent with patients. Examining 30 patients per day became the norm during the 1990s, far higher than in earlier years.

The core of the effort to impose "scientific management" upon the physician's work, Head believes, has lain in the formulation of treatment protocols derived from data banks which in turn are compiled from detailed clinical, treatment, and outcome records. The patient ceases to be "unique," his or her care is no longer individualized, the encounter between physicians and patient goes the way of the house call, replaced by digital technology. The judgment of the physician is minimized: the MCO's medical director, responding to the physician's telephoned narration of symptoms, allocates these to a subgroup, and tells the physician "what can and cannot be done."

Yet, these tendencies are being resisted by patient dissatisfaction surfacing in some State legislation that limits certain controls that MCOs exercise. Setting limits even more starkly "is a basic truth of medicine: The discipline does not yield a body of unequivocal rules and guidelines that can then be used to surround the physician with the regulation and control of managerial medicine." The profession strongly resists such regulation and control, impeding the advance of "scientific management."

Head is not quite clear on this matter; elsewhere he states that industrialization of medicine has failed. It may well be,

however, that the lower income population will be subject to the "scientific management" tendency of medical care, while better-off patients will benefit from the more usual, individualized diagnosis and treatment.

In concluding his book, Head emphasizes the need to resist speedup, particularly in service industries, such as call centers and healthcare, and he advocates the formation of trade unions. He lauds the United Autoworkers as having prevented or mitigated "management by stress," as has been the case, he writes, in Japanese automobile factories (to which he devotes a substantial section). He recognizes, however, the weakness of the American labor move-

ment and of its political stature in its relation to employers. He notes that some service industries, such as wholesaling, are susceptible to "Taylorist" controls, and that truckers and deliverymen/women of express delivery services can be monitored by satellites and sensors.

The power and originality of Head's argument lies in his ability to link reengineering and computerization of service industries to an industrial culture that—as David Hounshell has shown in his classical work, *From the American System to Mass Production, 1800–1932*—characterized the development of manufacturing during the 19th century. Its tendency to deskill the worker and to diminish the mental and

intellectual acuity he or she would bring to the job was rationalized by Frederick Taylor and, in reference to the white-collar employee, by William Leffingwell, Taylor's disciple. That culture evolved into the emblem of the 20th century with Henry Ford and his engineers. Head's treatise expresses resistance to the mindless pursuit of routine and speedup to which large numbers of workers are subjected. It greatly contributes to an understanding of today's reengineered workplace.

—Horst Brand

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