

Kitap İncelemesi / Book Review

Book review: the principles of scientific management

Dr. Serdal Günay * ¹

* Republic of Türkiye Ministry of National Education (MEB), Türkiye

ABSTRACT

This study analyzes the structural transformation of industrial labor relations precipitated by Frederick Winslow Taylor's *The Principles of Scientific Management* (1911). In contrast to the traditional production models of the 19th century, Taylor proposed a rationalized system wherein the control of labor processes was transferred from the worker to the management. The paper examines the implementation of time studies and the fragmentation of tasks—developed as countermeasures to "systematic soldiering"—within the context of efficiency and managerial control. While Taylorism standardized production by divorcing planning (conception) from execution, it simultaneously led to the deskilling of labor and the alienation of the worker, particularly when viewed through the critical framework of Harry Braverman. Consequently, the study argues that the Taylorist paradigm remains the epistemological foundation for labor control, persisting from classical stopwatch supervision to contemporary algorithmic management.

KEYWORDS: *Scientific management, Taylorism, deskilling of labor, time study, alienation.*

Eser inceleme: bilimsel yönetimin ilkeleri

ÖZ

Bu çalışma, Frederick Winslow Taylor'ın *Bilimsel Yönetimin İlkeleri* (1911) eseriyle tetiklenen endüstriyel çalışma ilişkilerindeki yapısal dönüşümü analiz etmektedir. 19. yüzyılın geleneksel üretim modellerinin aksine, Taylor, emek süreçlerinin denetiminin işçiden alınıp yönetime devredildiği rasyonelleştirilmiş bir sistem önermiştir. Çalışma, "sistematik kaytarma" sorununa karşı bir önlem olarak geliştirilen zaman etütleri ve görevlerin parçalanması uygulamalarını, verimlilik ve yönetsel denetim bağlamında incelemektedir. Taylorizm, planlama (tasarım) ve uygulama (icra) süreçlerini birbirinden kopararak üretimi standartlaştırmış olsa da; özellikle Harry Braverman'ın eleştirel çerçevesinden bakıldığında, emeğin vasıfsızlaşmasına ve işçinin yabancılaşmasına yol açmıştır. Sonuç olarak bu çalışma, Taylorist paradigmanın klasik kronometreli denetimden çağdaş algoritmik yönetime kadar uzanan süreçte, emek denetiminin epistemolojik temelini oluşturmaya devam ettiğini ileri sürmektedir.

ANAHTAR KELİMELER: *Bilimsel yönetim, Taylorizm, emeğin vasıfsızlaşması, zaman etüdü, yabancılaşma.*

¹ **İLETİŞİM** Serdal Günay ✉ serdalgny@gmail.com

Geliş: 29.11. 2025 **Kabul:** 27. 03. 2026 **Yayın:** 08.04.2026

Atıf: Günay, S. (2026). Book review: the principles of scientific management. *Alanyazın*, 7, 1-6.

© 2026 **Okul Yöneticileri Derneği**

Introduction

The Managerial Void

In the late nineteenth century, it is observed that American industry and the capitalist paradigm based upon it entered a critical juncture characterized by a sharp functional dichotomy. While capital investments and scales of production grew exponentially, internal management on the factory front remained tethered to pre-industrial traditions (Taylor, 1911). As noted in the observations of business historians such as Wren and Bedeian (2018), the management structure of the stated period was bifurcated: alongside the property owners' efforts to maintain strict control over finance and sales, actual production processes were ceded to a "foreman's empire."

Within this environment, the transformation processes of raw material-based production goods were realized through concealed processes based on tacit and guarded knowledge held by skilled artisans, rather than engineering logic. This lack of standardization meant that production processes were managed through methods peculiar to those in worker positions, based on individual characteristics rather than the formation of a centralized corporate strategy. Frederick Winslow Taylor aimed to replace the autonomy of artisans with a regime of calculation and control, attempting to introduce his ideas for a paradigm shift into this very environment of managerial uncertainty. Taylor's seminal work, *The Principles of Scientific Management* (1911), served not merely as a guide for efficiency in production, but as a blueprint for the wholesale restructuring of authority in the workplace and the shifting of power from the axis of the workshop to the center of the planning department. The conceptual framework expressed in Taylor's work emerged in the context of the factory, but it is possible to say that its epistemological reach has permeated the depths of governance dynamics in modern education. When considered within the context of educational administration, it can be argued that Taylor's principles of scientific management serve as one of the fundamental aspects of standardized curricula, accountability, and the structural organization of schools within a historical context. Therefore, analyzing Taylorism is not merely a reading of industrial history; it also serves as a critical lens for understanding contemporary educational realities, particularly the increasing reliance on data-driven performance metrics regarding teacher autonomy, pedagogical authority, and administrative decision-making processes.

About the Book

Book Title: The Principles of Scientific Management

Author: Frederick Winslow Taylor

Publisher: Harper & Brothers
Publishers Place of Publication: New York & London

Year of Publication: 1911

Number of Pages: 144 pp.

The Diagnosis: Systematic Soldiering and Economic Rationality

It appears that Taylor's theories were constituted of empirical features and derived based on his direct observations at the Midvale Steel Company. His rise from a machine shop laborer position to the position of chief engineer provided him with an insider's perspective on labor-based relations; a process rigorously documented in Kanigel's biography, *The One Best Way* (1997). Taylor identified a significant barrier to productivity as "soldiering"—or, in other words, the deliberate restriction of output by workers.

However, it can be stated that Taylor's analysis of soldiering contained a crucial nuance that is often overlooked. A distinction was determined between what Taylor termed "natural soldiering" (the desire for ease, which he viewed as a universal human tendency) and "systematic soldiering." The latter was defined as rational economic behavior within a flawed system. Taylor (1911) argued the fact that under existing piece-rate wage systems, workers correctly calculated that increasing productivity would inevitably lead to management reducing the piece rate. Therefore, it was stated that workers restricted output not out of laziness, but to provide protection regarding their long-term earnings.

In his studies, Taylor realized that this impasse could not be resolved through moral persuasion; he stated that this situation required a structural revision wherein the speed of work and its determination were taken entirely from the worker and placed into the hands of the management mechanism (Taylor, 1911).

The Methodology of Control: Atomization of the Task

To break the workers' control over production processes, Taylor developed the time study, acting as the epistemological anchor of Scientific Management. Through the separation of complex work processes into their most basic movements, the timing of these movements, and the elimination of unnecessary ones, Taylor attempted to establish an objective "one best way" for every operational situation. The implementation processes of this methodology were best exemplified in the pig iron loading experiments at Bethlehem Steel. Taylor's approach to this task—the process of lifting iron ingots weighing 92 pounds (approximately 42 kg)—was entirely physiological. He performed calculations indicating that a selected "first-class man" could increase daily loading from 12.5 tons to 47.5 tons (Taylor, 1911). To demonstrate this situation, Taylor hired a worker referred to as "Schmidt." Kanigel (1997) interprets the Schmidt case study as a prototype for the subject in modern industry: physically capable but divested of will. Schmidt was given instructions to follow precise commands regarding when to work and when to rest; this situation enabled him to function effectively as a biological extension of the machine. It was noted that although Schmidt received a 60% wage increase, the surplus value generated by his increased labor vastly exceeded his compensation; this pointed to Taylor's

formula regarding high wages for the individual and low unit labor costs for the firm.

Parallel to Taylor's focus on the phenomenon of time, Frank Gilbreth was advancing in this field with motion study. In his work *Motion Study* (1911), Gilbreth analyzed the work of bricklaying and, through the redesign of scaffolding and material handling processes, succeeded in reducing the number of motions required to lay a brick from 18 to 5. Although Gilbreth focused on the geometric state of motion and Taylor on the temporal dimension of the task, it is possible to state that their combined legacy forms the foundation of modern ergonomics and work standardization.

The Structural Pillars of Scientific Management

Taylor codified his methodology in his 1911 treatise as four interconnected principles requiring combined application. According to Taylor, the primary objective is the development of a "science of work." This involved the processes of systematically gathering the traditional knowledge possessed by artisans, classifying it, and reducing it to rigid laws and formulas, thereby transferring the monopoly of knowledge from labor to management.

In this case, the scientific selection of the worker and their progressive development were combined. Unlike the criteria of the previous era where workers selected and trained themselves, Taylorism stated that management must study the physiological and psychological profile of every employee and assign them to the task for which they were most suitable. This generally required that skilled workers be removed from complex tasks to perform repetitive, specialized functions.

More importantly, the system relied on the division of labor between management and the worker. Taylor argued that the burden of production had previously rested entirely on the worker. Under the Principles of Scientific Management, planning, preparation, and analysis were centralized within the management structure. This revealed a distinct separation: while management focused on the role of designing (thinking), the worker was reduced to the role of executing (doing). Taylor termed the process of implementing these standards "heartily cooperation"; this was a covering effort used for a compulsory adherence to production quotas based on new, scientific specifications.

Discussion and Conclusion

Critical Perspectives: Deskilling and Alienation

Although Taylor positioned his system within a perspective of an arrangement containing reciprocity and benefit for labor and capital, critical sociology has emphasized the serious human consequences of this situation.

Harry Braverman, in his work *Labor and Monopoly Capital* (1974), offers a significant critique by arguing that the ultimate function of Scientific

Management was the "degradation of work" (deskilling). It is emphasized that by separating the process of task design from its execution, Taylorism effectively "deskilled" the workforce. It is stated that an artisan who has mastered the holistic production process possesses autonomy like a lever; whereas a worker confined to a single repetitive motion is easily replaceable and devoid of bargaining power.

Furthermore, the "science" forming the basis of these methods generally functioned as a mechanism of intensification. Critics have stated that, according to Taylor's pig iron experiment, quotas were established based on the performance of the most athletic workers but applied as general standards. As expressed by Wren and Bedeian (2018), this situation led to widespread accusations that the system was designed to "consume" workers by viewing them as biological machines rather than social beings.

Braverman (1974) defines this separation emerging between hand and brain as a profound process of alienation; at this point, he notes that the worker is severed not only from the product of their labor but also from the intellectual bond with the work itself. Taylor's defense in this direction was that the worker was generally incapable of understanding the science of the task, serving to institutionalize the process of class stratification within the industrial enterprise. The implications of the separation of planning and implementation, as described, can have powerful repercussions, particularly in the field of education. As educational thinkers such as Michael Apple and Stephen Ball have extensively discussed (Apple, 1986; Ball, 2003), the fundamental principles and characteristics of Taylorism are often manifested in modern schooling through the heavy standardization of curricula and the rise of performance-based regimes. When curriculum design and assessment mechanisms become heavily centralized and imposed from above by administrative authorities, teachers face a profound process of de-skilling (Apple, 1995). Similar to industrial workers whose craft autonomy is taken away, educators are gradually transformed from intellectual designers with pedagogical experience into simple technicians who implement pre-packaged instructional materials. This dynamic not only erodes professional autonomy but can also lead to the institutionalization of a rigid hierarchy between educational administration and teaching staff.

Conclusion: The Persistence of the Algorithm

When evaluated within the scope of this study, regarding the continuity of the algorithm; although Frederick Winslow Taylor passed away in 1915, the epistemological foundations of his work continue to serve as the cornerstone of contemporary management practices. The stopwatch, which became visible in the early 20th century, has given way to invisible algorithms in the 21st century. It is possible to state that the transition from the "black box" of the Victorian workshop to the "transparent" surveillance in modern fulfillment centers represents an evolution of Taylorism rather than its rejection. Modern iterations

of this philosophy become evident in environments where digital tools track "time off task" with great precision, stripping employees of decision-making autonomy and leaving it to algorithmic directives. In contemporary educational settings, the Taylorist legacy is seen to be transformed and transferred to the digital realm. The modern equivalent of the traditional worker timer is found in today's Learning Management Systems (LMS), algorithmic teacher evaluation models, and standardized test metrics. Gert Biesta's (2010) criticism of over-measurement in education focuses on this point: the rigid quantification of pedagogically sound digital control mechanisms and the prioritization of easily measurable outputs over holistic and normative goals in education. In this context, algorithmic management, which is becoming increasingly dominant in schools, fully continues the principles underlying Taylor's foundations (Biesta, 2010). The aim is to maximize the quality of administrative control and minimize the autonomous, unpredictable elements of human interaction in teaching. Recognizing this historical continuity is a crucial requirement for school administrators striving to manage the tension between organizational efficiency and teacher professional autonomy.

In this context, it can be said that *The Principles of Scientific Management* was more than a technical manual; it was a cultural intervention redefining the nature of work. It stripped work and labor of their traditions and mysteries, replacing them with calculated efficiency and rationalizing production. According to this change, while the productive forces necessary for the conditions of the 20th-century consumer economy were unleashed, this was realized at a significant sociological cost. As Braverman (1974) and Kanigel (1997) suggested in their analyses, the legacy of Taylorism is stated to be a world of material abundance obtained through the systematic sacrifice of professional autonomy and the fragmentation of human labor.

References

- Taylor, F. W. (1911). *The principles of scientific management*. Harper & Brothers Publishers Place of Publication: New York & London