

Friedrich von Gottl-Ottlilienfeld, “Fordism. On Industry and Technical Reason” (1926)

Abstract

The economist Friedrich von Gottl-Ottlilienfeld (1868-1958) was one of the most influential theorists of rationalization in Germany in the 1920s. He taught at the universities of Heidelberg, Munich, Hamburg, Kiel and Berlin, among others, and wrote several works on the relationship between the economy and technology. As a great admirer of Henry Ford, he began using the term “Fordism” in his work in 1924 to describe the production methods and labor policies of the American automobile manufacturer, who was considered a pioneer of assembly line production. In this excerpt from the third edition of his book on Fordism published in 1926, Gottl-Ottlilienfeld first distinguishes Fordism from Taylorism. Taylorism, whose “scientific management” precisely controlled work processes with the aim of maximum efficiency and broke them down into small, isolated tasks, was the underlying principle of industrial production at the Ford factories. However, Fordism went beyond this by making “technical reason” the guiding principle of all work processes.

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While the creativity of Fordist methods is manifest on the level of immense systems of plants taken together, the Taylor system is meant for exclusive application to single plants that have already been established and organized. The goal of the latter is to improve plant operations in a single, one-sided fashion—namely, through technical refinements in the way work is performed, that is, in the execution of jobs in the plant. The basic idea of the system derives from its focus on regular drudge work: loading iron ingots, shoveling ore, etc. The story of Schmidt, the valiant ore shoveler, continues to circulate through the world making propaganda for the Taylor system.

For [Frederick Winslow] Taylor, the point of departure lies in plant management. That is always an important matter. A plant can be organized in this way or that and as a consequence be capable of greater or lesser productive potential, since everything finally depends on how able the directors and employees are in getting something out of it; or, more precisely, on what the administration and the workforce are able to wring from the plant once they seriously get down to work. That obviously depends on the output potential of human action, on how it is integrated in its manifold types and forms into the chain of effects represented by the plant. Now Taylor attempts to get the most out of it from the outset by aiming at the highest possible performance, toward which end those involved are expected to give their best. Maximum performance, however, is a goal that can be pursued in a wide variety of ways. The Taylor system represents only one of them! This striving for maximum performance, a very significant goal, I have called Taylorism, and it has filled the soul of every capable plant manager since long before Taylor. Taylor, however, has worked more effectively in its favor than anyone before; above all he has sharpened the critical eye focused on plant operations and preached the necessity of a regular stock-taking to management. No one but he, that is, can claim to have cultivated a science of work, the promotion of which is incumbent upon those branches of scientific research where the forms of expertise associated with the discipline intersect.

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Maximum performance reaches its peak in the plants of the Ford Motor Company. I do not mean so much the mathematical success that can be measured in the output potential of the individual worker, which may still be subject to increase by Taylorism. But the completely different approach adopted by Ford is infinitely more fruitful in terms of overall success. Here that “supreme individual potential,” of which Count [Ferdinand] Degenfeld-Schonburg speaks in his instructive book, is transmitted to the whole plant; it is transmitted down from the top—which in this case is Henry Ford. [Hugo] Münsterberg’s representation of the “spirit of individual initiative at the margins” as one of the characteristic features of Americanism is well known; and the Ford plants themselves do in fact “Americanize” their numerous acquisitions, or they get rid of them—both principles quite contrary to Taylorism. But what radiates more strongly from the top—in absolute contrast to Taylorism—is the vital spirit of the personality! It blows through the whole gigantic operation and draws every last worker into its wake.

There are, for example, no departments at Ford, nor any permanent, titled positions. Someone needs only to deliver the proof that he, in some way or another beneficial to the indefatigable completion of the whole, knows how to produce a result, and he has obtained a position for himself and will be better paid for it. Departmental responsibilities do not exist; no one, however, not even the last drudge worker, is deprived of the purely human responsibility for what he does and does not do. There is no coordination of the lines of command of any kind, not a trace of the drab horror of a conventional office; a personnel office serves as the registry for the plant and that is all. Only the top management has a staff, such as the executive general staff for the really big issues. The only ones who hold their own up there are those who do not turn into narrow-minded experts; for what Ford wants to say, wants to believe, is this: that people already have the best solutions for everything in their heads. Nor could a more unpardonable offense to the spirit of the Ford plant be conceived. Nothing is already or ever will be fully developed and perfect in Henry Ford’s eyes! He is dynamism personified. It is truly as if this most American of all industrial organizations were the intellectual embodiment of activism, of, strictly speaking, the meliorism of William James.

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It is no mere distance but a profound and purely intellectual contradiction that separates Ford from Taylor! What Taylor accomplishes through his ingeniously thought-out system of management Ford achieves as well, but through the completely different, thrilling verve of leadership. To judge by the many interesting examples Ford cites from the concrete world of his plants, the output potential of a Ford worker is scarcely inferior to that of a Taylor worker. It is only that this amounts to the whole of Taylor’s success, with the question remaining of how much his direction detracts from it. Meanwhile it represents only a partial success for Ford when his workers owe the plant nothing in the way of honest performance, and this concerning a plant to which he lends such grandiose form quite independently of questions of individual output! For Ford plays not only the role of the watchmaker simply “mending” the flaws in plant operations; he is also the mighty forger who hammers the plant into shape in the red-hot glow of stormy transformations.

I scarcely believe that anyone would have to struggle harder than myself against the temptation of following in Ford’s footsteps precisely in the context of his incomparable example of the administration of technical reason. I will content myself with a single example, which, however, is equally singular in kind. This example, incidentally, also blesses the quite numerous family of my *Principles of Technical Reason* with a new member: it falls, namely, under the principle of the “unitary linkage of all processes through intersecting pathways”—a highly gifted offspring of my principle of “properly linked execution”!

Every Ford automobile is composed of more than 5,000 parts, all of them interchangeable, so that each part would fit in its assigned place on every car. Even though this number naturally includes many of the same parts, and even though the numerous machines devoted to their manufacture operate in concert (accomplishing much while demanding little in the way of operator movements, little in the way of

labor), about 8,000 different functions still result.

Every worker is devoted to only one function, but the same function is often assigned to several and even many workers, for in all Ford employs not 8,000 but 50,000 workers, the majority of whom are continually occupied operating machines. Ford calculates that it would take 2,000,000 trained workers, specialists of all sorts, if one were to match the production of his plants by traditional toolmakers' means; he is obviously presupposing optimum organization and the highest level of desire on the part of the workers, so that given production in artisanal style these millions would have to be further multiplied. In any case, it is necessary to distribute properly in space not only the workers but also the machines they are to operate. Expressed more precisely, the various processes themselves, which are at the same time the specific acts in the production process, must be arranged properly in space. For that there is only one law: that productive functions be organized into an ideal succession; and this ideal of a closed, unified production process—for the processes in fact are accomplished in separate locations—simultaneously generates an ideal arrangement of processes, that is, of machines and workers. For a product as complex as an automobile does not result from a linear process, but from the coordinated march of interwoven tasks. At first they march separately, that is, the parts are conducted through to completion individually from station to station; then they are put together one after the other, that is, “assembled” (in that, for example, a wheel is made up of a rim, hub, and spokes); likewise must the chassis be put together, and the motor, and finally the automobile as a whole. It is also always necessary to conceive of these assembly procedures as a succession of operations, so that here too an organized march results: from the basic part, for example, a wheel rim—to which the spokes are attached one after the other and then the latter connected in succession to the hub—to the point of final completion.

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