

lucky, finding a *better* way than the reigning one. Scientific management, as Taylor insisted over and over again, implied a mental revolution in management and men, and often a physical revolution in plant. It meant functional instead of military shop organization, a central planning department, higher overhead costs to gain lower direct costs; it meant turning the works into a laboratory for a greater or lesser length of time, suspending production, rebuilding, rearranging, educating labor in new habit patterns; it meant increased capital outlays, no immediate profits, deferred dividends. It meant in brief doing the job right.

The rage of "practical" executives under the circumstances is perfectly understandable. They are raging still, but on the whole the clamor grows less. As Taylor's followers—men like Gantt and Thompson and Cooke—carry on, and, it must be admitted, modify and amend, a steadily increasing number of concerns, both here and abroad, are coming in whole or in part to an adoption of the principles of scientific management. The "mental revolution" grows.

Scientific management will endure, for it is not built on sand. But it will need important modifications in its approach to the worker. With the unions Taylor fought a pitched battle to the day of his death. As a result the two words are anathema to the average laboring man. There is no complete system of scientific management in any union shop. Taylor was not a philosopher. He never glimpsed the very real factors implicit in the struggle between owners and workers. He believed with a charming logic that labor and capital were cooperators and should act as cooperators. He never saw the bitter agony and the stark necessity out of which the labor movement was born. He never took into adequate consideration the phenomenon of businesslike sabotage on the part of an absentee owner. In brief he was no economist, no psychologist, but an excellent engineer looking at the social ellipse with all the impatience of a mind which moves in straight lines. Some method accordingly must be found for reconciling the labor movement to scientific management based on more than "extraordinarily high wages for 100 per cent performance," before the movement can secure the headway it deserves.

In the locomotive repair shops of the Baltimore and Ohio Railroad, the International Association of Ma-

chinists and the shop crafts unions, in cooperation with the management, are now conducting an experiment which may provide the technique for healing this breach. In this experiment the unions have retained their own engineer, Mr. O. S. Beyer, Jr., and under his direction the men are taking more responsibility, and giving more intelligence and interest than was ever contemplated in Taylor's original plan. And not the least interesting phase of the experiment, is that it is being conducted by the very union which fought Taylor the hardest! The hue and cry which has been raised as to the disastrous effect on the worker in respect to "speeding up," monotony, fatigue and the "dead level of uniformity," leave us unimpressed. Taylor repeatedly held that if the standard set up made for over-fatigue, the planning department had bungled its job. Scientific management, he said, did not become genuinely scientific, until men were content to work under it. This was a cardinal principle in Taylor's mind. Granting machine production, it is difficult to see how Taylor's position can be attacked on this score. There is little possibility of craftsmanship, there can be little release of the creative instinct in machine tending. Better to face the fact un sentimentally, prescribe the habit patterns which will give the maximum of output with the minimum of fatigue; and trust to an ultimate shorter work day to right the outraged biological balance. In other words this particular attack on scientific management turns out to be an attack on the machine age in general—which is another story.

Finally it must be remembered that while scientific management provides a most admirable technique for the elimination of waste, and has great promise in the direction of increasing production and real wages therewith, it is not yet yoked up to any such social goal. It is concerned solely with speeding up the output of a given product—whether that product be whole wheat flour or Tono Bungay. It has the potentiality of all these things, but it has equally the potentiality of increasing the fixed charges of industry on the wayfaring man. Like Giant Power, it comprises a sound and magnificent technique, but it is a technique which may be used either for liberation or exploitation. And so far as the record runs, no man can yet say whether it is liberation or exploitation which will prevail.

Taylor the Creative Leader

An Analysis of Taylor's Contribution to the Problem of Human Welfare

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THE HISTORY of the world is but the biography of great men," said Carlyle. "For, as I take it, universal history, the history of what man has accomplished in this world, is at bottom the history of the great men who have worked here." In that work of the world every man has his share, and more intriguing than any novel, more emboldening than any romance are the stories of the share which this man or that man has taken. "We cannot look, however imperfectly, upon a great man, without gaining something by him," continued Carlyle; and Frederick Taylor himself echoed the same thought,—"I think no book is more stimulating than the history of a devoted and successful life."

This thought of Frederick Taylor is mine as I read Frederick Taylor's own life.

I turn over the last pages of this book, and, as I read of that simple grave on a hill, above the Schuylkill River, I try to seize upon my main impression. Through many pages I have followed the growth of a man and of a movement. I have seen childhood, youth and manhood; work and pleasure; difficulty and success; home life and public life, in the story of one man. I stand where this buoyant, restless, indomitable stream runs into the inscrutable sea, and I look back. I trace it from its source in Germantown. I see it widening and deepening as it flows through Midvale and Bethlehem and anon the pleasant greenery of Boxly, till it meets the incoming tide. I try to weld my chasing thoughts into some unifying impression, and it is this—that, in the intimacy which these pages have afforded me, I have been treading a pathway in the rare company of the man who hewed it out—a footpath broadening into a highway which leads on further than the lights of this mortal city of mine. I see a man building a road, and the road outstrips all sight. Some men are great, for the

fruits of their work are spread for all the world to applaud. Frederick Taylor is great, for the fruits of his work have yet to be garnered. The potentiality of it all is what strikes me most. The greatness of a man is normally associated with the movement in which he played a leading part. Great as was Frederick Taylor, greater still is the movement of thought which he has inspired.

I have seen a purposeful and tenacious mind toiling, through the hard school of experiment and the clanging uproar of day-to-day living, towards a philosophy of which it was not yet aware; I have seen it boldly developing systems which gave that philosophy an actual, workable life; I have seen it pounce upon the various facets of that philosophy, as the light glinted from the stony surface of reality and revealed a principle; I have seen each facet, each principle fitted into its place, like the pieces of a mosaic pavement—and the philosophy is greater even than the thought of him who pieced the stones together. As the philosophy of Rousseau, in the body politic, was greater than Rousseau, so is the philosophy of Taylor, in the body industrial, greater than Taylor. It is, indeed, the privilege of great men, the pioneers and builders of human thought and progress, to be immersed in the movements which they have originated or furthered.

It is well, however, that we should, from time to time, fight our way back to the original work and constructive effort of those who have done outstanding service in any field of progress, that we may know and admire the source of that which we inherit. For, if a great movement is greater than the life of any who served it, yet does such a life inform the movement with something tangible, and bring it within the compass of every day affairs. No great movement but has its great men, and in their lives are hidden the keys which open the doors of understanding. Philosophies are intangible; men are real. The life of the man brings the philosophy closer to the things we know, gives it substance, makes personal the impersonal. And truly, the life of Frederick Taylor,

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