

opportunity is offered periodically for taking account of progress and of bringing up to date our information as to the state of the science and the art.

The opportunity of renewing old friendships vies with the pleasure of making new acquaintances. It was delightful to meet again our good friend M. de Fréminville, one of the first and most zealous advocates of Scientific Management in France, a valued friend of Mr. Taylor, and an authority on the early indications in French industry of scientific predetermination and procedure.

Also, Professor Adamiecki of Poland, whose research along similar lines was contemporaneous with that of Mr. Taylor, the tragedy being that at a time when neither had any intellectual companionship in his pioneer work, they were not in touch with each other personally.

And here is another good friend, Mr. Spacek, who seems to find the reading of an able and interesting paper before the Domestic Science Section of the Rome Congress an easy task after his indefatigable labors in directing the successful Prague Congress.

Last but not least, our own General Crozier, who hastened back from Peking to show his unflinching loyalty to the cause. Moreover, at the earnest solicitation of Professor Adamiecki, General Crozier is planning a visit to Warsaw, where the Scientific Management torch is already burning brightly, to offer any help possible from his valuable book of experience. As this means foregoing a long planned trip to Constantinople, we have evidence not only of the persuasive eloquence of Dr. Adamiecki but also of the type of devotion of which Scientific Management adherents are capable. A number of charming entertainments were arranged by our Italian hosts for their guests. They included an afternoon reception at the Governor's Palace, on behalf of the Governor of Rome, a luncheon at the International Institute of Architecture by its hospitable President, a dinner at the Excelsior Hotel by Signor Benni, President of E.N.I.O.S., and a tea at the Pincian Gardens by the same delightful host. There were also evening cinema entertainments, the picture of Mr. Taylor

on the screen evoking prompt and spontaneous recognition.

The cockles of our hearts were also warmed by a luncheon to the American delegation given by Professor Adamiecki and the Polish delegation. There were about fifty present, Mrs. Taylor being the guest of honor. A striking Polish crayon portrait sketch of Mr. Taylor presided over the spirit of the gathering and was held in Mrs. Taylor's hand, at Professor Adamiecki's request, as she stood by him in a luncheon group photograph which he had taken as a souvenir of a delightful occasion.

In conclusion, too much cannot be said of the kindness and cordiality of our hosts in Rome. We salute them again from afar and only regret that we cannot use their own beautiful words to express our gratitude for an experience which we shall always cherish in our hearts, and I am sure that when they come to the United States there will be more than one red, white and green flag to wave with the red, white and blue in hearty welcome!

The best things in congresses, as in life, are the imponderables. Of these one becomes increasingly aware as the more objective features assume their proper values. Mr. Taylor said that Scientific Management was not so much a system as an attitude of mind.

If men and women of good will continue to meet, not to discuss mine and thine, but to search hand in hand for the common thread that will lead them out of their several labyrinths of traditional thinking about even so material a thing as livelihood, may not the whole fabric of the world's mind be changed thereby to something more capable of handling without bias all the delicate, controversial subjects that beset the round table of the nations?

One of the finest of the many indirect ways to contribute to this end is the uniting of the nations in just such friendly, intimate contact as was made possible by the Third International Management Congress at Rome.

The heightening of the individual consciousness by staging such serious deliberations amid scenes of beauty and splendor has a suggestion for us Anglo Saxons which we would do well to ponder.

Standards¹

Successful Development and Operation of Scientific Management Call for the Establishment and Maintenance of Standards

By H. K. HATHAWAY
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Introduction

THE *Century Dictionary* defines a "standard" as "that which is set up as a unit of reference; a form, type, example, instance or combination of conditions accepted as correct and perfect and hence as a basis of comparison; a criterion established by custom, public opinion or general consent; a model."

The above definition, almost but not quite, gives the significance of the word "standard" as it is used in connection with scientific management. If we change it to read: "*That which is set up as a form, type, example, or combination of conditions accepted as correct; a criterion, established as a result of scientific investigation,*" we should have a better definition of the term in the limited sense in which it is used in this paper. Inasmuch as it is the destiny of mankind to constantly advance and improve I would add, parenthetically, "*for the time being,*" or "*representing the present stage in the development of the art.*"

We may classify the standards of scientific management under the following headings:

Equipment: Including machines, tools or implements, facilities for handling, transporting or storing materials.

¹Paper presented before a meeting of the Taylor Society, New York, December 6, 1919, and reprinted from the *Bulletin of the Taylor Society*, Vol. V, No. 1, February 1920.

The writer wishes to disclaim any personal credit for the advantageous results cited as illustrations of standardization, in those cases where the work was done under his direction. While much credit is due to the men who conducted the investigations and worked out the problems, credit is almost equally due to the operators whose work was studied and who assisted in making the studies, as well as to the principal people in the management of the concerns in which the work was done.

It is mainly, however, to Taylor and his teachings that credit should be given, as the results were the inevitable

Materials
Methods
Accomplishment
Product

Standards of accomplishment are dependent upon standards of equipment, materials, methods and product.

In 1895, Mr. Taylor said in closing the discussion of his paper on "A Piece Rate System," in which he first described elementary time study as well as his differential piece rate system of pay: "I am surprised and disappointed that elementary rate fixing (scientific analysis and time study of work) has not received more attention during the discussion. No better evidence could have been produced, however, of the crude and elementary state in which the art now stands, of determining the *time to do work* and of fixing rates, than that only one member should have most briefly referred to the matter while thirteen engineers have discussed at length the less important matter of *what kind of piece work to use.*"

The blame for that, of which Taylor complained, lay largely at his own door; he committed a serious error in the selection of the title for his paper; perhaps had he called it "The Establishment of Standards as a Means to Increased Production" or "The Study of Elementary Time Units for Doing Work Under

outcome of the application of scientific methods to everyday industrial problems, and of the desire to work out in practice what Mr. Taylor stated as the first principle of scientific management—"the development by management of a science in place of rule-of-thumb or traditional knowledge and method."

In addition to those individuals mentioned in the text of the paper the writer wishes to accord due recognition to Col. W. H. Eaton, Maj. M. C. Herrmann, Mr. Charles Hoffman, Mr. Arthur Holmes, Dr. Ralph Langley, Mr. Wilfred Lewis, Mr. L. S. Tyler and Capt. D. J. Walsh, for the part they took in bringing about the results cited in this article, and to a host of others who took part in the work.