

11. "I consider 1916-1917 the most profitable years for me, but 1918-1919 has consumed a greater part of 1916-1917 savings." (*Pattern Maker*)
12. "Will say that by referring to grocery bills, three and four years ago, it averaged for each week about \$4.00. Now it is about \$10.00." (*Laborer*)
13. "Owing to the high cost during 1918 and clothing being so high, we just purchased what we absolutely had to have. I haven't as pleasant a house to live in now as I did in 1917, and am paying \$30.00 per month now, and was paying \$15.00 then." (*Store Keeper*)
14. "We cannot afford to buy butter at 65c per pound, and have to live on butterine. Groceries in general are on the upward tendency. Working shirts in pre-war time were sold at 50c and are now \$1.35. Clothing and shoes are greatly in advance. As a matter of fact, since peace has been declared there has been no lowering of prices." (*Laborer*)

C. REFERENCES

1. Byington, M. F. *Some Unconsidered Elements in Household Expenditure*; Annals of the American Academy of Political and Social Science, July, 1913.
2. Gibbs, Winifred Stuart. *Minimum Cost of Living*; a study of families of limited incomes in New York City.
3. Louck and Stricker. *Conditions of Labor in American Industries*.
4. National Industrial Conference Board. *War Time Changes in the Cost of Living*; Research Report No. 9, August, 1918. Boston, Mass.
5. National Industrial Conference Board. *War Time Changes in the Cost of Living*; Research Report No. 14, February 1919. Boston, Mass.
6. Nearing, Scott. *Financing the Wage Earner's Family*.
7. United States Bureau of Foreign and Domestic Commerce: *Statistical Abstract*.
8. United States Bureau of Labor Statistics; *Wholesale Prices in the United States and Retail Food Prices in the United States*. Monthly Review.
9. United States Bureau of Labor Statistics; *Unemployment in the United States*; Bulletin No. 195.
10. United States Department of Agriculture; *Farmers' Bulletin* No. 142.
11. Veiller, Lawrence; *Housing Reform*; a handbook for use in American cities.

CORRESPONDENCE

SCIENTIFIC MANAGEMENT IN FRANCE

Translation of a letter from Henri Le Chatelier

Miribel les Echelles, Isère, August 11, 1919.

My dear Mr. Cooke:

Thank you very much for your pamphlet "An All-American Basis for Industry," which it has given me pleasure to receive. Your plan of an "Industrial Institute" is interesting, but it is nevertheless somewhat vague. In order to judge how it might work, further details and a more precise exposition are essential.

The brothers Michelin, who have a large plant manufacturing rubber products at Clermont-Ferrand, have just taken the initiative in an interesting enterprise. To promote the teaching of Taylor principles in our higher technical schools, they have made avail-

able a fund of 100,000 francs per year for the technical schools of the Ecole Polytechnique; that is, for the schools of mining engineering, roads and bridges, marine engineering, artillery, and of state manufactures; also 40,000 for the Ecole Central.

The application of these funds to these technical schools is made by the Société des Amis of the Ecole Polytechnique, in accordance with plans of a committee consisting of Mr. Charles Laurent, President, and Messrs. Michelin, Ferrand, President of The Normand Works and Chief Engineer of Naval Artillery, Bourgoin, Manager of the cannon works at Ruelle, Chappy, Production Manager of the works of the Société de Chatillon, Commeny and Neuves Maisons, and Mr. Le Chatelier. The secretaries are Mr. Nicholas, Assistant Engineer of Roads and Bridges, and Mr. Arène, Assistant Naval Engineer, attached to the steel works at Gurérier.

Two amounts of 15,000 francs have already been allotted to the School of Mines and the School of Naval Engineering. They are used to defray the expenses of sending certain students to these schools, to provide prizes for the best studies of the Taylor system, to provide lectures on the subject and to procure for the libraries of these schools collections of books and pamphlets relating to the Taylor system. We expect requests for allotments from other schools.

Lectures have been delivered at the School of Mines by Mr. Nusbaumer, and at the Ecole Central by Mr. Victor Cambon. The opening lecture was given by Mr. André Michelin. At the School of Naval Engineering the lectures are to be given by the professor of administration, whose name I do not this moment recall. He expects in the near future to come to the United States to bring himself up to date in Taylor practice, and I shall take the liberty of recommending him to you.

You will be interested further in a series of noteworthy lectures before the Society for the Promotion of National Industry, by Messrs. Charpy, Compagnonx, Nusbaumer, Levéque, etc., on the contributions made by engineers during the war. They are being printed in the bulletin of that society (44 rue Rennes). These lectures, instead of indulging in generalities, presented concrete cases of successful practice. They had a great success and contributed to an expansion among us of confidence in your great compatriot.

Please accept, dear Mr. Cooke, the expression of my highest regards.

H. LE CHATELIER.

ON MR. SCHULZE'S DEFINITIONS

Philadelphia, Pa.
Sept. 3, 1919.

To the Editor of the Bulletin:

Much unnecessary writing and some loose thinking will be avoided if we actively join in the discussion of the standardization of the terminology of management begun so ably by Mr. J. William Schulze in *Some Definitions* in the August issue. In his apparent conclusion as to the wisdom of dropping the word *executive* I fully concur. It has always seemed to me to resemble the word *worker* in its applicability to every one from the president who is the chief *executive* down to the office boy or the scrub-woman who likewise *executes*, even though their tasks be humble ones.

I am tempted to disagree with Mr. Schulze as to the wisdom of making the word *organization* include the plant, and other material things, such as forms and other mechanisms of management. To assume *plant* as a part of the *organization* would be like assuming that the carpenter and the machinist are non-existent except as they are equipped with tools. This was the old conception of the mechanic. But we know now that the most proficient work can be done by mechanics who have tools supplied to them. Again it seems wise in all our thinking and doing to emphasize the importance of the human and intangible factors and to soft-pedal *things*. The latter have held the center of the stage too long.

Again I would not include in the *organization* all the personnel; only the "necessary human beings . . . brought together in systematic and effective correlation." A man hired almost without conscious thought only to be dropped in an equally unconscious manner some time later cannot be considered as ever having really "belonged" to the living, sentient, effective entity which the word *organization* signifies to me. We must guard against being both too inclusive and too definite. To be carried on the pay-roll seems to afford a very superficial basis for being included in the *organization*. It is only as I am "systematically and effectively correlated" with the balance of the personnel "in the accomplishment of some desired object" that the validity of my claim to be a part of the *organization* becomes established. The same point comes up in the matter of the *plant*. If everything that a concern owns is to be considered *plant* the term loses much of its significance. Only such things as may fairly be considered as "used and useful" in the

accomplishment of the "desired object" may rightly be considered *plant*. Buildings, machinery, etc., which are not "used and useful" may quite as easily be liabilities as assets. The chances are that an individual who has not been "systematically and effectively correlated" is not only not a part of the *organization* but leads his parasitic life entirely outside of it.

In executing any such commission as the one you assigned to Mr. Schulze one is necessarily confronted with two difficulties. In the first place there is every incentive to retain a nomenclature sanctioned by current usage rather than to suggest new terms no matter how appropriate the latter may be. A far more serious problem, however, is involved in our attitude towards the institutions, the practices, the procedures which we seek to define through the most appropriate terminology. The combination of these two difficulties does not, of course, make our task hopeless but should give us pause. While recognizing the importance of grappling with the problems involved we should be fully on notice that there are no easy solutions ahead.

Without attempting to go too much into detail at this time, I want to suggest that as the only technical society specializing in such matters, we cannot afford to take current institutions—industrial and otherwise—too much for granted as to the efficiency of their forms of organization. If this be our situation then, in desiring a nomenclature descriptive of what is, we must seek to have it one that can be readily adjusted and adapted to that which we believe is to be.

John H. Williams, a member of this Society, has said that any great enterprise comprises three stages: (a) seeing the vision (b) getting the direction and (c) taking the first step. Viewed from a somewhat different angle human undertakings seem to consist of: (a) ideas (b) the plans for carrying them out and (c) the execution of these plans. Any scheme for the organizing of industrial enterprises to be of continuing value must certainly take cognizance of such truth as underlies these two essentially equivalent statements. Therefore it seems clear that in the industry of the future we must have a place in the organization for those who will be *entirely* occupied with "spying out the land," with ideas rather than performances, and with the formulation of principles rather than in the accomplishment of results. We should constantly bear in mind that the introduction of imagination and the long look ahead into the affairs of men is one of the major tasks of our profession.