

The very general objection of the American machinery constructors to the introduction of the metric system is based upon the belief that the capital above referred to would be thereby sacrificed. A curious feature of the case, however, is that it has been, and can at any time be demonstrated that no such sacrifice would be involved, and therefore the serious objection, which comes from machinery-building interests, to the taking of any step toward the introduction of the metric system, is based upon an entire misconception. This misconception is due chiefly to the fact that most machinery manufacturers do not themselves take the time and trouble necessary to look into this matter, but have taken at par the statements of one or two extreme opponents of the present heterogeneity called a system. These opponents have represented and have made many others believe that the change to the use of the metric system would necessarily mean an alteration in the actual dimensions of machinery now built, and of the tools used in connection with that machinery.

The fact that machinery-building establishments in this country are regularly using the metric system, and are applying it to the identical machines previously made to the English system, without any alteration whatever in the machines themselves, or in the tools for making them, seems to have no weight, and because a matter of dollars and cents is involved, and deep-seated prejudices have been aroused, practically no hearing can be obtained for the manifest advantages of the metric system. The columns of the trade journals are practically closed to all discussions of it, and whenever the subject is up for discussion, by a committee of congress, representatives of, or those professing to represent, the machinery-building interests, will oppose any step taken toward progress in this matter.

Even when it was proposed simply that the various departments of the United States government should make use of the metric system, it was strenuously opposed on account of what it was feared it would lead to, although it was evident that whatever of extra

expense might have been involved in the use of the metric system by the government departments would have been borne by the government itself, and would, therefore, have been distributed in such a way as to have been unperceived; even granting that there would have been any extra expense, which is by no means demonstrated and is doubtful.

I mention this matter only to show what the nature of the opposition to the metric system is, and from whence the strength of such opposition comes. It is based upon primary considerations which would be justifiable, or at least quite excusable, if there were any foundation for them. It is my belief that there is practically no foundation for them.

FRED J. MILLER

THE TEACHING OF ENGLISH COMPOSITION

TO THE EDITOR OF SCIENCE: I sympathize with Professor Robinson in his concern over the unhappiness of the teacher of English composition, and approve of all he says; but he does not go far enough. He does not answer his own question: "What are we to do to keep him [the teacher] happy in English composition?"

He divides the men in charge of classes in English into two types: the "educator"—who "draws out" his pupils, reads themes less and plays golf more, and from whom the students draw culture in the vaguer sense, a dissemination of sweetness and light—and the "teacher," whose conference work is "confined mostly to grammar, punctuation and the split infinitive; but in the class he finds nothing to do that he considers worth while."

It is a common fault of teachers and of scientific men that they are always trying to divide things, and men, into types and classes, to put them into pigeonholes and label them. What Professor Robinson should do is to try to discover a man who combines the best characteristics of both "educator" and "teacher" and who can not be put in the pigeonhole with either label. If there is no such man to be found, perhaps one can be made. Start with a "teacher" who "hates inexactness and vagueness," and "loves to enforce a clear

intellectual distinction." Make him drop his conferences on "punctuation, grammar and the split infinitive" (I suppose the last two words refer to the latitude of Boston; the rest of the country does not bother itself about the split infinitive) and let his students "criticize their own compositions and those of one another" on these points, as the "educator" does. Let him "read themes less and play golf more," and let him, like the "educator," disseminate the culture of sweetness and light. Give him the right kind of a text-book, with some logic in it, even with the "Barbara, Celarent"—which is a good thing to have in the text-book for reference, although it need not be memorized.

Why should not such a man be found? A teacher, or an educator, like every other man, is the product of heredity and environment, also of habit and of the kind of boss he has—which last may be considered part of his environment. The heredity of the teacher, in Boston at least, is all right; his environment is fairly good, but his teaching habits are bad and he has not been properly bossed; therefore he is unhappy. He is supposed to be teaching English composition, but he is not; he is reading "themes" and correcting errors of grammar and punctuation; he is doing the work that should have been done in the grammar school. "This man of solid thoughtful mind is the only real teacher." Yes, but he is unhappy, and he needs a boss to direct him how and what to teach, and how to "educate," and how to be happy, though a teacher.

Can a boss be found? Why not? Is there not in Harvard some authority that can get the "teachers" and the "educators" together around a table and say to them: "Show us the results of your teaching and educating. Do your graduates have 'mechanical perfection in technique' and there stick; have they style, or do they 'write with the mechanical regularity of one pumping into a bucket'? What proportion of them write even passable English? If the results are not what they should be, get together, you teachers and educators, and plan a better method. If you

can not plan one, do as the football players do, hire a coach to plan the method, and let him be your boss until you can show results with it."

"Some day there will be a shaking among these dry bones." Why not now?

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UNIVERSITY LIFE IN IDAHO

TO THE EDITOR OF SCIENCE: Permit me to state, in reference to the question of veracity between President James A. MacLean, of the University of Manitoba, and Professor V. L. Kellogg, of Stanford University, that at the request of Professor Kellogg I furnished him with a rather full statement of the facts concerning my recent separation from the University of Idaho. From what I wrote him he prepared his article published by you under the caption "University Life in Idaho." It contains no material statement not furnished by me, and none which I do not at the present time fully believe to be true, notwithstanding President MacLean's denial. In fact, most of the details are matters of common knowledge, which no one could deny in Moscow, Idaho, though it might be done in Winnipeg.

As it is obviously impossible to try the case in your columns, I must be content to assume full responsibility for the essential correctness of Professor Kellogg's article.

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WASHINGTON, D. C.,
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SCIENTIFIC BOOKS

The Space-Time Manifold of Relativity, the Non-Euclidean Geometry of Mechanics and Electromagnetics. By EDWIN B. WILSON and GILBERT N. LEWIS. Proc. Amer. Acad. Arts and Sci., Vol. 48, No. 11. November, 1912. Pp. 120.

Probably the most startling scientific conclusion of the past was the assertion that the earth moved. Even yet, while every one would probably assent passively to this state-