

factor *H* is lacking. Therefore horny, sugar and waxy endosperm should be represented in the proportions, actually found, 9:4:3.

To test for the presence or absence of the factor *H*, here suggested, in sugar-corn a cross should be made with homozygous waxy. Three kinds should be found, the first (*HHwwSS*) yielding horny endosperm only, the second (*HhwwSS*) yielding 50 per cent. horny and 50 per cent. waxy and the third (*hhwwSS*) yielding waxy only.

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#### THE YELLOWSTONE PARK

TO THE EDITOR OF SCIENCE: In a letter relating to Yellowstone Park which appeared in the issue of SCIENCE for March 21, 1913, there were some statements concerning the experiences which tourists camping out in the park ("sage-brushers," they are usually called) have with the bears, which are certainly astonishing to those who can speak for the sagebrushers if not for the bears. The "cleaning out of sagebrushers' camps by marauding bears" was spoken of as a "nightly occurrence" and it was stated that "three or four sagebrushers are killed nearly every summer in attempting to drive bears out of their camps." My experience as a sagebrusher is that bears will indeed attack the vulnerable part of the camp—the locker containing the store of bacon and the lard can—but even in the vicinity of the Canyon of the Yellowstone, where bears are most numerous, the repelling of an attack on the larder took on much the nature of a midnight sally to rout the neighbor's cow from one's garden patch. There was the same spontaneous rallying against the invasion, the violent laying about with whips and clubs, the resort to loud and picturesque language, and the same clumsy and precipitate retreat of the culprit. Once only we thought it necessary to resort to extreme measures which was to play upon the invaders with a Roman candle. This was completely effective. I would not have a single person miss the great fun and

superior advantage of camping out during the tour of the park because of the fear of the bears.

A statement from Lieutenant Colonel L. M. Brett, acting superintendent of the park, under date of April 5, 1913, should certainly reassure all who contemplate a camping trip. I quote as follows:

As a matter of fact, no tourist or other person has ever been killed by a bear in the park, so far as is known in this office. Our regulations prohibit feeding or meddling with bears, but it is a great temptation for every one to feed them and make pets of them, and the regulations are sometimes violated. Otherwise, there would seldom be any bad bears in the park. As it is, we have instances where the bear becomes dangerous to life and property, and it is necessary to dispose of it. This is done by capture alive and shipment by express to some city zoo, when there is a demand for a bear, and in case there is no demand for it, it is shot. A few instances are on record where people have been attacked and injured by bears. One of these was a tourist; the others were employees of hotels, etc., in the park. In all cases where the facts were known, the person injured was more or less to blame for his own misfortune.

JESSE L. SMITH

#### THE METRIC SYSTEM OF WEIGHTS AND MEASURES

TO THE EDITOR OF SCIENCE: I agree with all that Professor A. H. Patterson says regarding the greater simplicity and general desirability of the metric system of weights and measures, but there is, perhaps, something that may be profitably said concerning his reference to "those selfish interests which are blocking the way of reform."

Chief among these interests, perhaps, are the machinery-making concerns of the country, and if Professor Patterson were responsible for the conservation of the capital invested in measuring tools, gauges, fixtures, etc., based upon the present system of measurement, and if he believed that a change to the metric system would make it necessary to discard these tools and gauges, he would, I fear, be strongly tempted to object to the introduction of the metric system, notwithstanding his perception of its superiority.

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