this laboratory successfully is merely printing or writing the necessary description upon the slide with India ink. "Higgin's Waterproof (Black) India Ink," such as is sold at all book and stationery stores, is the ink used; a crow-quill drawing pen completes the outfit. The only necessary precaution to take in its application is to have the writing surface free from oily matter. This is removed simply by breathing on the slide and wiping briskly with a dry cloth.

The label so made is permanent as far as ordinary treatment is concerned. Xylol may be used freely to dissolve any cedar oil or balsam on the mount, with no injury whatever to the label; only a prolonged soaking in water would impair its permanence and such an occurrence would only be accidental.

This form of label has the advantage over that of the etched surface in that it may be as easily removed as applied; the whole label or portions may be changed by removing the unnecessary word, letters or figures with a penknife when the ink is thoroughly dry, or the whole label may be removed by rubbing off with a damp cloth. The India ink label because of its nature is more easily read than any other form of label.

A trial of this method will convince any one of its practical value.

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THE METRIC SYSTEM

TO THE EDITOR OF SCIENCE: The attention of the writer was attracted to an article in a recent number of SCIENCE by A. H. Patterson, of Chapel Hill, N. C., in which he refers to the "wickedly brain-destroying piece of bondage under which we suffer" on account of the system of weights and measures in common use among the American people.

The only thing that the present system has to commend it to general use, if it has any redeeming quality at all, is that it is easier to follow along a beaten path than to make a change for the better.

The metric system is a simple, sensible, scientific and easily operated system of units and the best system that has ever been devised. That the metric system is practicable has been effectively demonstrated, for it is the universal system of scientific laboratories and it is high time that a strong public sentiment be created in favor of its general adoption. No doubt "a great part of the under-weight and false-measure frauds are due to our confused system of units."

It seems that the chief arguments against the adoption of the metric system are: first, the expense to manufacturers and commercial houses in connection with making the change; and second, the difficulty that would be encountered in educating the employers up to a new system. In the opinion of the writer neither of these difficulties is as serious as some people would try to have us believe and it is chiefly "selfish interests which are blocking the way of reform."

The cooperation of all scientists, the various reform leagues, the government bureaus and as many others as possible should be enlisted for the passage of the bill in favor of the metric system at as early a date as possible.

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THE YELLOWSTONE PARK

TO THE EDITOR OF SCIENCE: I have tramped, with knapsack and sleeping bag, more than a thousand miles through the wildest and roughest parts of the Rocky Mountains, camping out in the cheapest and most primitive fashion; and every one will understand, I think, that it is not as a molly-coddle that I say, from my experience during the summer of 1911, that the bear in Yellowstone Park are an outrageous nuisance.

I know of no more flagrant example of detached, red-taped sophistry than this: "A few instances are on record where people have been attacked and injured by bears" but "in all cases where the facts were known the person injured was more or less to blame."[1] In

[1] See letter of Jesse L. Smith in SCIENCE of June 20.

speaking of this as detached I mean that it must have been written either with little knowledge or scant appreciation of the facts.

During the summer of 1911 I traveled with three boys about 300 miles through the country south and southeast of the Yellowstone Park, and one night a man who had been turned away from the Reclamation Camp at Jackson Lake was seen prowling around our wagon, which was at some distance from the tent where we were sleeping. A little biggity talk about guns and shooting was enough to scare the poor fellow away, but if he could not have been scared away he would certainly have gotten a dose of lead.

When we got into the Yellowstone Park we pitched our tent in a good place and proceeded to take in the wonderful sights; but we were warned by a soldier that we must stand guard over our camp after dusk or we would be cleaned out by marauding bear. How would you, curious reader, like to be tied down to guard duty over a side of bacon in Yellowstone Park? We went there for another purpose; but we remembered that we were a long way from a base of supplies!

Our first night in the park we slept with an axe under our pillow, thinking to drive Mr. Bear out of our pantry if he should come in the night; which is precisely the most foolish thing we could have done, Mr. Jesse L. Smith to the contrary notwithstanding. If Mr. Bear should happen to be Mrs. Bear with a cub it would be pretty dangerous business. One of the killings (man killings) we heard of during the summer of 1911 was a three-cornered affair or rather a three-in-a-row affair of this kind, and the man was unfortunately in the middle. Quoting from the park superintendent we would say that this man "was more or less to blame." At any rate we must admit that he was thinking too much of his stock of grub and of his remoteness from a base of supplies. But we would not have been blameworthy if we had shot the poor hobo from Jackson Lake. No, before God, we wouldn't.

Mr. Jesse L. Smith's reference to the frightening of bear with Roman candles reminds me of the crank who proposed to squirt olive oil and phosphorus over the Bastile to set it on fire at the beginning of the French Revolution. Phosphorus was only a chemical curiosity in those days, and probably all that had ever been made would have amounted to less than a pound, and it is extremely amusing to read Carlyle's exhortation to this visionary crank to bring forth his phosphorus and olive oil! The unfortunate but blameworthy man above referred to ought to have had sense enough to have used a Roman candle, or, better still, a hand grenade filled with liquid anhydrous ammonia! He showed his respect for law, however, in not using a bomb containing liquefied prussic acid; that would have killed the bear.

We lost all of our grub at the Canyon, and we ate at the hotels during the remainder of our trip; a very pleasant change after eight weeks of rough and tumble camping, but extravagantly expensive from a teacher's point of view. We knew directly of several small camps besides our own that were raided during our five or six days in the park. Greenhorns, Mr. Smith would say. Yes, they were greenhorns in the park under the fatherly care of the superintendent and his company of cavalry; but it would not have been healthy for man or beast to have gone very far on that assumption outside of the park.

We heard incessant talk about marauding bears; just as we hear incessant talk about the weather in Kansas, without fear, but with deep concern. And we heard circumstantial accounts of at least two campers who were seriously hurt in trying to save their grub. Their midnight sallies were not like "routing a neighbor's cow from a garden patch," to quote Mr. Smith.

The simple fact is that either ninety-five per cent. of the Yellowstone Park bears must be killed off or soldiers must be placed on all-night guard around the chief camping places in the park. Mr. Smith, and to some extent also the park superintendent, make themselves ridiculous in looking at this matter in the spirit of complacent statisticians unmindful

of the cold fact that the exceptional cases are absolutely not to be tolerated.

"I would not have a single person," says Mr. Smith, "miss the great fun and superior advantage of camping out during the tour of the park because of the fear of the bears." Mr. Smith is pedantic in his choice of words. It is purely a question of vermin. And Mr. Smith, who boldly routs marauding bear with Roman candles, perhaps, if properly armed, he would not be afraid even of a bed bug.

W. S. FRANKLIN

SCIENTIFIC BOOKS

An Illustrated Flora of the Northern United States, Canada and the British Possessions from Newfoundland to the parallel of the southern Boundary of Virginia, and from the Atlantic Ocean westward to the 102d Meridian. By NATHANIEL LORD BRITTON, Ph.D., Sc.D., LL.D., Director-in-Chief of the New York Botanical Garden, Professor in Columbia University, and HON. ADDISON BROWN, A.B., LL.D., President of the New York Botanical Garden. The descriptive text chiefly prepared by PROFESSOR BRITTON, with the assistance of specialists in several groups; the figures also drawn under his supervision. Second edition, revised and enlarged. In three volumes: Vol. I., *Ophioglossaceae* to *Polygonaceae,* Ferns to Buckwheat (pp. xxix + 680); Vol. II., *Amaranthaceae* to *Loganiaceae,* Amaranth to Polypremum (pp. iv + 735); Vol. III., *Gentianaceae* to *Compositae,* Gentian to Thistle (pp. iv + 637). Octavo. New York, Charles Scribner's Sons. 1913.

Nearly seventeen years ago the writer of this review had the pleasure of making a notice[1] of the first volume of "a new manual of systematic botany," the same being the first edition of the book now before us. Two sentences in that review may be reproduced here.

> It is in every way a new work—new in its plan, new in its descriptions, new in its illustrations. . . . It will give renewed life and vigor to systematic botany, and doubtless will be the means by which many a student will be led to the study of the more difficult families.

Less than two years later in a notice of the third volume[2] the writer commented upon the "Rochester nomenclature" of the work, and said:

> It is inevitable that one result of its publication ["Illustrated Flora"] will be that the number of those actively opposing these modern features will rapidly grow less. It will soon be much easier to follow the modern innovations along the plain highway here made than to continue in the less and less frequented paths of the conservatives.

These prophecies have long since come to pass, and their quotation now enables us to see how far we have traveled since they were written. When the original volumes were written they seemed very radical, and almost revolutionary, but now as one runs them over they have lost their radicalness, and do not appear at all revolutionary. In their latest version, in this second edition, even the conservative reader finds little that will shock him. In these years we have moved very far in our notions as to systematic botany, and the "Illustrated Flora" has been a potent force in bringing about this change. The authors are to be congratulated for the part they have played in this revolution in systematic botany.

Comparing the present edition with the first we find that the whole number of species has risen from 4,162 to 4,666, while the genera have increased from 1,103 to 1,229, and the families from 177 to 194. Of the grasses (*Gramineae*) the first edition contained 371 species, while in the second there are 466. So the species of *Carex* are increased from 205 to 242. The *Compositae,* in the wider sense (including also *Cichoriaceae* and *Ambrosiaceae*) are increased from 569 to 625.

The treatment of *Crataegus* in the two editions may well be contrasted. In the first edition 15 species are recognized as occurring within the range covered by the "Flora," and the remark is made that "four or five others

[1] *Am. Nat.,* October, 1896.

[2] SCIENCE, August 12, 1898.