vision is made for the preservation of such perishable collections as dried specimens of insects. Under the present condition of things, it is actually unfortunate for the future of this science, when an enthusiast arises in some local museum whose care for and interest in these objects result in the accumulation of a considerable collection, often containing valuable types. At his death or removal, or possibly the failure to retain his early ardor, the chances are ten to one that the collection will be ultimately destroyed. Even our best endowed institutions have failed to make any proper provision for the preservation of their collections of insects and stuffed animals, — the two departments of a natural-history museum which require eternal vigilance.

There are many valuable entomological collections in the hands of specialists in this country, which would find their way by gift, or by sale on easy terms, to the National museum at Washington, were any reasonable inducement held out to them. These collections contain material especially valuable for the future of descriptive entomology in this country. Within a few years many such collections have been sold, either to other private collectors, or perhaps to parties out of the country, to find their place in European museums, where they are insured perpetual care. It is only within three years that there has been even a nominal curator in charge of the collection of insects at the National museum; and the paltry collection of the department of agriculture was all the authorities at the national capital had to show for an entire department of natural history, and one abounding in its wealth of varied forms. The present curator has but an honorary office, and is without funds for the support of an assistant. Until provision is made for the proper conduct of this immense department of natural history at the national capital, the appointment of an honorary curator is worse than useless. It only deceives those who know no better, into the supposition that collections sent to the museum are insured proper care. They are not.

LETTERS TO THE EDITOR.

*** *Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.*

Verification of predictions.

THE vulnerable point about Mr. Doolittle's measure of success (given under 'Proceedings of societies' in this number of *Science*) seems to me to be his combination of the two differences of probabilities, —

$$\frac{c}{o}-\frac{p-c}{s-o} \text{ and } \frac{c}{p}-\frac{o-c}{s-p}.$$

It appears clear to me that either of these differences may be taken alone, with perfect propriety, as the true measure, according as our concern is to test occurrences for successful prediction, or to test predictions for fulfilment. If we allow an importance n to the former test (limits of n, 0 and 1), so that an *ad valorem* change of δ in this measure produces an *ad valorem* change of $n\delta$ in i, and similarly an importance $1-n$ to the latter test, these two quantities will enter as exponents, and

$$i=\left(\frac{c}{o}-\frac{p-c}{s-o}\right)^n\left(\frac{c}{p}-\frac{o-c}{s-p}\right)^{1-n}.$$

In my opinion, the value of i is not discoverable unless the value of n is given; and this is a subjective quantity. Assuming $n=\frac{1}{2}$, we have for i an expression equal to the square root of that given by Mr. Doolittle, and without the fault of giving no negative values to answer to perverse predictions.

HENRY FARQUHAR.

The microscope for class-room demonstration.

The following adaptation of the use of the microscope as a sort of magic-lantern for class demonstration has been found so extremely useful, cheap, and practical, that it is illustrated here.

A large common kerosene 'duplex' lamp is the illuminator. Superfluous light is cut off by a piece of six-inch stove-pipe, which fits over the lamp-chimney, and rests upon a horizontal collar, *C*, of stove-pipe metal. The collar prevents the pipe from shutting down too far upon the lamp, which would cause the kerosene to become dangerously hot. The lamp is filled at *F* with a curved glass funnel; and the two flat wicks, an inch and a half broad, are turned by their separate keys outside of the pipe. The pipe has two elbows, which conduct heat and smoke away, and completely cut off the light from the top of the flame. These elbows may be rotated into any convenient position. Opposite the lamp-chimney a third short elbow, *E*, is inserted, closed by a movable cap. Through this elbow the chimney can be removed, the wicks trimmed, and a concave glass or tin reflector, *M*, four inches and a half in diameter, may be placed behind the flame. The flat of the wicks should be parallel to this mirror. Opposite the mirror, and directly in front of the flame, a plano-convex lens, *X*, two inches in diameter, is inserted in a hole in the pipe. The light reflected from the mirror, *M*, passes through this lens, and falls upon the reflector of the microscope, whence it is made to illuminate the object upon the glass slide in the ordinary way. The object is magnified by a one-fifth inch or one-half inch objective; the eye-piece of the microscope is removed; and the image is projected upon a ground-glass screen, *G*, a foot and a half square, which is placed from one to four feet in front of the microscope. The screen is supported by a perpendicular iron rod and cork-lined clamp, such as is in use in every chemical