

themselves some points of beauty, or are of curious shapes; may know them only by their common or local names, or may take up the subject in a purely scientific spirit, identifying a plant during its flowering stage and finally collecting its seeds when mature, labelling them with both common and scientific names, date of flowering and seedling, and laying away to form a part of what in time may grow to be a collection of real value.

One great objection that may be raised is undoubtedly the difficulty in correctly identifying seeds. There are indeed comparatively few botanists who claim to be able to identify more than a small proportion of the plants they may know, by the seed alone. But this fact only emphasizes the desirability of undertaking just this line of work, and but serves to illustrate the well-known fact that work of real merit may not infrequently be done by the amateur who merely seeks recreation.

GEORGE P. MERRILL.

Washington, Sept. 13, 1893.

#### SCIENCE IN THE SCHOOLS.

In a recent article, that well-known scientist, Dr. Groff of Pennsylvania, stated that "it has long been the dream of scientists that the time would come when the elements of natural history and of the physical sciences would be taught in secondary and primary schools." The college professor would, indeed, welcome a greater familiarity on the part of students entering their departments, with the elements of the sciences; but just where this training should begin is not so clear. There is an organized effort being made in some of our leading educational cities to establish this work in not only the secondary schools, but in grammar and primary grades as well. While science should receive a large share of attention in the high schools, and presumably in the grammar grades, is it not going just a little too far to force such work into the primary grades? It would certainly appear that, with all the modern innovations already introduced into the primary rooms, sufficient diversion is secured, and certainly, for pure "busy work" the ideal seems to have been reached. Then why crowd these little minds with this additional load, unless it is really superior as a means of

education to those studies that are generally acknowledged so essential as a foundation for subsequent work? Again, I submit that in this early formative period, teaching and encouraging children to capture beautiful butterflies, moths, crickets, or, in fact, any other insects, with the purpose of killing them and picking them to pieces, is not inspiring a regard for God's creatures about them, which sentiment should be instilled into these little people rather than crushed out of existence.

But I think that most agree that *somewhere* in the grammar grades the elements of natural history should be imparted. Such, however, is the present crowded condition of the curriculum of our grammar schools that but little, very little, time can be found for it. Nor, indeed, would it be desirable to take much of the pupil's time for such work, in view of the fact that so many studies of more practical importance in life are taught, and rightly, too, in these grades. In our public grammar schools many boys and girls are kept along from year to year at great sacrifices on the part of parents, and they should be allowed to devote their time to such studies as they will most need. It would, therefore, be manifestly unfair to attempt more than the most rudimentary science work in those grades below the high school.

HENRY EDGERTON CHAPIN.

Ohio University, Athens, O.

#### THE IKONOMATIC METHOD.

It is strange how difficult it seems for some writers to understand this early, simple and widespread method of recording sounds.

Dr. Thomas in *Science*, Sept. 8, presents a singular instance of this, when commenting on my explanation of the use of the turtle-sign in the glyph for the Maya month-name Kayab. He says: "A compound of *ak* and *yab* cannot be a derivative of *kay*." Of course not! The nature of the ikonomatic theory forbids it; for this has reference not at all to derivation, but to other word or words with solely homophonic, and not etymologic, affinities.

When there are so many examples of ikonomatic hiero-

### FOSSIL RESINS.

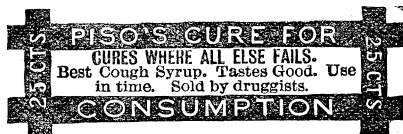
This book is the result of an attempt to collect the scattered notices of fossil resins, exclusive of those on amber. The work is of interest also on account of descriptions given of the insects found embedded in these long-preserved exudations from early vegetation.

By CLARENCE LOWN and HENRY BOOTH.  
12°. \$1.

N. D. C. HODGES, 874 Broadway, N. Y.

**SOFTLY STEALS THE LIGHT OF DAY**  
when filtered through windows covered with  
**CRYSTOGRAPHS,**  
a substitute for Stained Glass that is inexpensive, beautiful, and easily applied.

20c. per square foot. Samples and catalogue, 10c.  
**CRYSTOGRAPH CO.,**  
316 North Broad St., Philadelphia.



**BUILDING BOOKS.**

**DRAWING INSTRUMENTS.**

1893 Catalogue  
of Books on Building  
Painting, and Decorating,  
also Catalogue of Draw-  
ing Instruments and Ma-  
terials, sent free on appli-  
cation to  
**Wm. T. Comstock,**  
23 Warren St., New York.

### RESTORE YOUR EYESIGHT

Cataracts, scars or films can be absorbed and paralyzed nerves restored, without the knife or risk. Diseased eyes or lids can be cured by our home treatment. "We prove it." Hundreds convinced. Our illustrated pamphlet, "Home Treatment for Eyes," free. Don't miss it. Everybody wants it. "The Eye," Glens Falls, N.Y.

"Every reader of 'Science' should subscribe for the

### AMERICAN ARCHITECT,

THE OLDEST AND BEST

Architectural publication in the country. Interesting articles on architecture, Sanitation, Archaeology, Decoration, etc., by the ablest writers. Richly illustrated. Issued weekly. Send stamp for specimen copy to the publishers,

Ticknor & Co., 211 Tremont St., Boston.

### THE AMERICAN RACE.

By DANIEL G. BRINTON, M.D.

"The book is one of unusual interest and value."—*Inter Ocean*.

"Dr. Daniel G. Brinton writes as the acknowledged authority of the subject."—*Philadelphia Press*.

"The work will be of genuine value to all who wish to know the substance of what has been found out about the indigenous Americans."—*Nature*.

"A masterly discussion, and an example of the successful education of the powers of observation."—*Philadelphia Ledger*.

Price, postpaid, \$2.

N. D. C. HODGES,

874 BROADWAY, NEW YORK.