

hardly shining; color pale red-brown, varying to whitish. Female with very numerous waxy filaments projecting from the surface; gland-orifices minute, circular. Antennæ 8-jointed, the last joint very short, and bearing a few straight hairs, as in *P. dendrobii*. Third joint variable, sometimes rather longer than the second, sometimes decidedly shorter. Legs absent. Anal ring apparently without hairs, but with a strong chitinous projection on each side. Mouth-parts well developed.

On boiling the insects in soda, the scale was entirely dissolved, and the insects became colorless and transparent.

T. D. A. COCKERELL.

Agricultural Experiment Station, Las Cruces, New Mexico, Aug. 29, 1893.

#### A SMALL TRAGEDY.

In contrast to the "snake story," given in *Science* (Jan. 20, '93), the following incident may be of interest:

Several months ago a small spotted snake was captured and placed in the "snake box;" it is thought to be a common "milk snake," and is, perhaps, twelve or fourteen inches in length. It was somewhat injured when captured; the boys say its back was broken. It is quite evident that it was hurt, from the depression or deformity at one point, and, from this portion to the extremity of the body, it had great difficulty in shedding its skin. For days and days it was, as it were, half dressed, or undressed, as we may choose to consider this condition.

A few days ago another snake was placed in the same box—what kind it was I am unable to say—but it was a small (not more than eight or ten inches in length), agile, quite slender little thing, of a plain slate or dove color.

What was our surprise when it was discovered that the spotted snake was in process of swallowing the smaller one. It was horrible, and yet we could not refrain from observing it. In a very short time the little snake entirely disappeared, even to the tip of the tiny tail, and the spotted snake appeared to have enjoyed the meal. The boys claim that it has eaten several small toads; it is now in company with a snake considerably larger than itself. They seem disposed to be "friendly," thus far, and no doubt enjoy each other's society.

Mrs. W. A. KELLERMAN.

Columbus Ohio.

#### THE CACKLE OF HENS.

It is claimed that the cackling of hens "is very liable to attract the attention of any ovivorous bird or beast to the probable presence of an egg."

It is quite probable that ovivorous birds or beasts may understand that the hen's cackle is the announcement of the presence of an egg, but the hen is wise even in her apparent imprudence. She lets it be known that an egg is somewhere, but she does not tell where. How many, many times she sends the farmer's wife or children on a hunt for eggs they fail to find. Of course, when hens are well cared for, and ample and sufficient nests are provided, they lose their cautiousness, but when they are left to take care of themselves they will "steal" their nests, as the people say; that is, they will go off in the weeds, or seek some sheltered spot, and there make a nest. When an egg is laid, in a "stolen," nest, the hen makes a quick run, quite a distance from her nest, before she makes a sound, so that her cackle would not discover her eggs to any enemy, for one gropes, as in the dark, in search of stolen nests, no matter how loud may be the cackle.

Mrs. W. A. K.

Columbus, Ohio.

#### THROWING STICKS.

I HAVE just made a discovery that has given me great pleasure. In the Anthropological Building at the World's Columbian Exposition is a Cliff Dweller's Exhibit, exposed by the State of Colorado. Other loan exhibits are in the building from that region, and outside is an attractive realistic representation of the industrial products of the same people. In looking carefully through the Colorado State alcove I discovered two examples of the Mexican atlatl or throwing stick. The shaft is a segment of a sapling of hazel wood. At the distal end is a shallow gutter and a hook to receive the end of a spear shaft. At the proximal end or grip, in the more perfect specimen, about four inches from the extremity is a loop on either side of the stick, one for the thumb, the other for the fore-finger. The remaining three fingers would be free to manipulate the spear shaft. These loops were made by splitting a bit of raw hide, sliding it down the proper distance on the

## JUST PUBLISHED.

Imp. 8vo., Cloth, 430 pp. By Kegan Paul, Trench, Trubner & Co., London.  
Price, 31s. 6d. (less discount.)

Comparative Philology of the Old and New Worlds in its Relation to Archaic Speech. By R. P. GREG., Esq., F. S. A., F. G. S.

With an introduction on Race and Language, giving a resume of the opinions of many of the principal writers on those subjects, accompanied by copious vocabularies and numerous tables of comparison for similar words and their cognate forms as for most of the chief families of languages, both ancient and modern, conveniently arranged for purposes of comparison.

An immense number of words are given, and especially for Turanian (including Chinese, Accadian and Egyptian), as well as for African and American ones.

The general results tend to show that there still exists in most languages, whether dead or living, a certain element of what may be called an Archaic Residuum, more or less common to all.

## You Ought to Read

The Popular Science News and  
Boston Journal of Chemistry.

Only one dollar till July, 1894.

A scientific newspaper for unscientific readers.

Address POPULAR SCIENCE NEWS CO.,

5 Somerset St., Boston, Mass.

**PISO'S CURE FOR**  
CURES WHERE ALL ELSE FAILS  
Best Cough Syrup. Tastes Good. Use  
in time. Sold by druggists.  
**CONSUMPTION**

**ABOUT**  
**MAGIC LANTERNS**  
ASK US  
WE MAKE THEM.  
**J. B. COLT & CO.**  
16 BEEKMAN ST. 189 LA SALLE ST.  
NEW YORK CHICAGO, ILL.

**BUILDING BOOKS.**  
**DRAWING INSTRUMENTS.**  
1893 Catalogue  
of Books on Building, Painting, and Decorating, also Catalogue of Drawing Instruments and Materials, sent free on application 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.

## THE WINNIPEG COUNTRY;

OR,

## ROUGHING IT WITH AN ECLIPSE PARTY.

BY

A. ROCHESTER FELLOW.

(S. H. SCUDDER.)

With thirty-two Illustrations and a Map.  
12°. \$1.50.

"This is a sprightly narrative of personal incident. The book will be a pleasant reminder to many of rough experiences on a frontier which is rapidly receding."—*Boston Transcript*.

"The picture of our desolate North-western territory twenty-five years ago, in contrast with its civilized aspect to-day, and the pleasant features of the writer's style, constitute the claims of his little book to present attention."—*The Dial*.

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

THE CHEAPEST AND BEST  
**Photo ENGRAVING CO.**  
67 PARK PLACE, NEW YORK  
ENGRAVING FOR ALL ILLUSTRATIVE AND  
ADVERTISING PURPOSES

stick, forming loops less than an inch in diameter by bringing the projecting ends of the rawhide and seizing it fast to the shaft. Just below these finger loops or stirrups were a long chalcedony knife or arrow blade, the tooth of a lion and a concretion of hematite seized by a plentiful wrapping of yucca cord. If the readers of *Science* will recall the Bourke example from Lake Patzcuaro, with its long, barbed spear with shaft of cane, he may follow me further and believe that a bit of cane and a spear head of chalcedony attached to a tang or foreshaft of wood lying in the same case, and pointed out to me by Mr. C. C. Willoughby, belonged to the same outfit. This is the first instance of finding the ancient atlatl, figured in the codices and described by Mrs Nuttall. It also connects the Cliff dwellers with the Mexican peoples.

Sept. 3, 1893.

O. T. MASON.

#### WATER ANALYSES.

FEAR of cholera has caused waters to pour in floods into some of the analytical laboratories of Europe, and it is more interesting than reassuring to observe the methods followed in dealing with this accumulated work.

In the laboratory of one public analyst, the writer saw a large collection of water samples, as yet unopened, from various localities.

These samples, some of which were weeks old, had been collected in a variety of vessels, principally claret and whiskey bottles, and the corks employed were often old ones.

When one considers the excessive care required for

water sampling, the thought that the above lot were doubtless taken by inexperienced hands, with the aid of vessels certainly old and probably unclean, does not increase one's faith in the value of the analytical results.

Much to my surprise, I also saw in one laboratory the old writing-paper packing for connecting the retort with the condenser, a method of union long since discarded for something more reliable. It is so easy a matter to ruin a water analysis by indifferent attention to the proper setting up of the apparatus for the "albuminoid ammonia" process that modern practice discards, as inefficient, several recommendations made by Wanklyn, the originator of the method, and among them the paper packing mentioned.

In short, without wishing to be over-patriotic, my observations here lead me to the belief that Americans do not have to go abroad in order to gather information as to the most suitable methods for making an examination of potable water.

WILLIAM P. MASON.

Stuttgart, Germany, Aug. 9.

THE New York Shakespeare Society has begun to reprint, in its Bankside edition, the archaic texts of the seventeen plays first printed in the Heminges and Condell Folio of 1623. The first of these plays, *The Tempest*, will leave the press in a few days. Of these new volumes but 500 copies are printed, as before, hand numbered to correspond with the 500 sets of the prior twenty volumes, with which they are of course uniform in style, size, price, etc.

## Indigestion

### Horsford's Acid Phosphate

Is the most effective and agreeable remedy in existence for preventing indigestion, and relieving those diseases arising from a disordered stomach.

**Dr. W. W. Gardner**, Springfield, Mass., says, "I value it as an excellent preventative of indigestion, and a pleasant acidulated drink when properly diluted with water, and sweetened."

Descriptive pamphlet free on application to  
**RUMFORD CHEMICAL WORKS, PROVIDENCE, R. I.**

Beware of Substitutes and Imitations.

**For sale by all Druggists.**

#### EXCHANGES.

[Free of charge to all, if of satisfactory character. Address N. D. C. Hodges, 874 Broadway, New York.]

For a rare chance to get a first-class microscopic outfit write for full particulars to box 125, Sellersville, Bucks Co., Pa.

For sale or exchange.—A fine collection of Lepidoptera, native and exotic. For particulars address Addison Ellsworth, Binghamton, N. Y., care Republican.

For sale or exchange for works on entomotraca. Wollé's "Desmids of the U.S.," Hentz "Spiders of the U.S.," The Amer. Entomologist & Botanist, Vol. 2, The Amer. Entomologist, Vol. 1, Harris's "Insects Injurious to Vegetation," colored plates copy formerly owned by Townend Glover. C. Dwight Marsh, Ripon, Wis.

"The Conchologist: a Journal of Malacology." Vols. 1 and 2, with wood cuts and plates, value 12 | will exchange for any works or pamphlets on American Slugs or Anatomy of American Fishes. W. E. Collinge, Mason College, Birmingham, England.

I wish to exchange a New Model Hall Typewriter, price \$30, for a Daylight Kodak, 4x5 preferred. George A. Coleman, Dep't. Agric., Div. of Ornithology, Washington, D. C.

Exchange—The undersigned is desirous of obtaining correspondents interested in macro-lipidoptera, in Alaska, the far Western, Southwestern and Southern States. Will also exchange rare lepidoptera for entomological literature. Levi W. Mengel, Reading, Penn.

Wanted to exchange—Medical books, Obstetrical Transactions, London, Works of Sir J. Y. Simpson, Beck's Medical Jurisprudence. Handbook for the Physiological Laboratory, by Burnton, Foster, Klein and Sanderson, Quain's Anatomy, and about fifty others. Catalogues given. Want Geological, Botanical and Microscopical books in exchange. Dr. A. M. Edwards, 11 Washington St., Newark, N. J.

#### Wants.

FOR SALE.—Volumes V. and VI. of the "Explorations for a Railroad Route from the Mississippi River to the Pacific," 1857, half calf, in good condition; a large number of colored and uncolored plates of Mammals, Birds, Fish, etc., etc. On receipt of \$7.00 will send to any ordinary point in the U. S., express paid. These volumes are now rare. Address Dr. Shufeldt, Takoma Park, Dist. of Columbia.

A YOUNG woman who has been an assistant for a literary and scientific man desires a similar position. Is an experienced and accurate stenographer and typewriter, thoroughly educated, and sufficiently familiar with literary work to write, independent of dictation. Has some knowledge of the Spanish language. Will go to any part of the United States. Address, Box 147, Ravenna, Ohio

A GRADUATE of an American Polytechnic institution and of a German University (Göttingen), seeks a position to teach chemistry in a college or similar institution. Five years' experience in teaching chemistry. Address Chemist, 757 Cary St. Brockton, Mass.

WANTED.—A position as teacher of Biology, by an experienced teacher, a college graduate with four university post-graduate courses in the Sciences. Good endorsements, and eighteen years' experience. Address A. N. Somers, La Porte, Ind.

WANTED.—Assistant in Nautical Almanac office, Navy Department. The Civil Service Commission will hold an examination on August 15 to fill a vacancy in the position of assistant (computer) in the Nautical Almanac office. The subjects will be letter-writing, penmanship, trigonometry, rudiments of analytical geometry and calculus, logarithms, theory and practice of computations, and astronomy. Each applicant must provide himself with a five-place logarithmic table. The examination will be held in Washington, and if applications are filed in season, arrangements may be made for examinations in the large cities. Blanks will be furnished upon application to the Commission at Washington.