February 9, 1894.

LETTERS TO THE EDITOR.

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

On request in advance, one hundred copies of the number containing his communication will be furnished free to any correspondent. The Editor will be glad to publish any queries consonant with the character of the Journal.

**Cats Hunting Snakes.**

It was a novel idea to the writer, that of our domestic cat appearing in the capacity of a serpent-killer; but as two independent accounts have recently come to his knowledge, from competent observers, this note is sent to Science, partly for its interest and partly in the hope of eliciting further evidence.

A family living in a small New York city have a cat, not large or powerful, but very lively and active, that has been in the habit of going off to the woods and returning with dead snakes of different species, up to three or four feet in length. After dragging it home, she would proceed to eat the snake and was often interrupted and the prey taken from her by members of the family, who were horrified at the proceeding. On one occasion, a violent flurry among the hens was noticed, and it was found to be due to the approach of a black snake, fully a yard long. The cat had reached the spot, however, before the family, and her *modus operandi* was witnessed. She attacked the snake by repeatedly springing upon it, and endeavoring to seize it with her teeth, immediately behind the head. After a few such assaults, the cat killed it, and in due time proceeded to eat it, as usual, although it was then removed.

On relating this incident in a company of scientific friends it was generally regarded as novel; but one gentleman described a precisely similar action witnessed by him in Harlem, N.Y. A disturbance was observed in the rear garden, and the large family cat was found making just such attacks upon a garter-snake between two and three feet long. The snake was partly protected under a dense clump of rose bushes, and the cat had difficulty in seizing it, but kept snaring at the neck, as in the other case. The gentleman, at once interested, approached the reptile with a stick. But it would seem from these instances that snake hunting is a habit with some cats. Is it so with many? Perhaps some readers of *Science* can help us to judge how far it is familiar.

D. S. MARTIN.

**The American Box Tortoise.**

PERMIT me to call the attention of those interested in zoology to the North American box tortoise or *Terrapene* (*Cistudo*). In working over the material so far collected I have noticed no mention of material from Georgia, Tennessee, Alabama, Kentucky, the Dakotas, New Mexico or western Texas. Neither are specimens reported from Mexico excepting Mexico City. Specimens are vaguely reported to have been found in Canada, but no specimens seem to be preserved and no authentic records are known. It is commonly supposed that the *Terrapene* (*Cistudo*) does not exist west of the Rockies. If any person has evidence to the contrary we would like to know it. We would request all who can give us aid on any of these points to write us. If possible we would like to receive specimens from any locality whatever. The comparatively fixed habitation of this genus renders a large collection including many localities highly desirable. Persons who may have any of these specimens on hand, but do not care to part with them, would confer a good favor by lending them. Favors rendered in this way would be fully appreciated and remembered. All packages or communications should be addressed to undersigned, Walker Museum, University of Chicago, Chicago, Ill.

W. E. TAYLOR.

**BRAIN WORKERS.**

HORSFORD'S ACID PHOSPHATE is recommended by physicians of all schools, for restoring brain force or nervous energy, in all cases where the nervous system has been reduced below the normal standard by overwork, as found in lawyers, teachers, students and brain-workers generally.

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Beware of Substitutes and Imitations.

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**EXCHANGE.**

*Free of charge to all, if of satisfactory character.* Address, N. C. H. Hodges, 654 Broadway, New York.

**TO EXCHANGE.—Herbarium specimens. Address, H. P. Chandler, Beaver Dam, Wisc.**

**ROSE CLUMP.**

**FOR SALES.**—Small collection of bird skins, containing 125 specimens of New England species, most of which are in good condition and all have full data. Recently collected in the Connecticut valley in Massachusetts. Price, $50. Address, H. L. Clark, 355 Fifth Avenue, Pittsburgh, Penna.

**FOR SALE.**—Price $25, cost originally between $30 and $40, a microscope and following accessories: Adventurers (No. 1), stand and tripod, $4; Couch, one-diaphragm condenser and objective, $2; Teller, four-stands slides; £2; Teller amplifiers, $1; Brach and Lamb, half solid eyepiece, $1; Bauch and Lamb, acromatic, $6; Hartrott, Polarizer, $1; Hartrott, polarizer, $6. Hartrott, camera lucida, $10. D. T. Marshall, Metuchen, N. J.

**TO EXCHANGE.—Works on entomology, botany and palaeontology for works on Indians and archaeology. Address, H. Justin Ruggles, Middletown, Pa.

**FOR SALE.—A Zetmarisk new model U. S. Army Hospital monocular stand, cost $100. H. C. Wells, 132 Broadway, New York.

**WANTS.**

**WANTED.—A young man to canvass for advertisements for *Science*. The usual combination of thirty cent per cent will be paid. Apply in person at Science Office, 654 Broadway, New York.**

**DOUBLE honor graduate in Science and Philosophy desires any suitable work in science, of the nature of teaching preferred. Address, Miss A. H. Beckett, Trinity College, Toronto, Ontario.**

**WANTED.—To exchange for F. D. C. specimens, the usual combination of thirty cent per cent will be paid.**

**WANTED.—A young man to canvass for advertisements for *Science*. The usual combination of thirty cent per cent will be paid. Apply in person at Science Office, 654 Broadway, New York.**

**WANTED.—Three hands books on osteology, embryology, and comparative anatomy. Send list, stating condition and cash price. Can offer a few good sets of birds' eggs if desired. R. C. McGregor, Palo Alto, California.**

**WANTED.—A copy of Chapman's *Flora of the Southern United States*. I have on hand for sale or exchange sets of the *licea of this vicinity. List furnished on application.* Address, C. F. Maxwell, Box 24, Dublin, Tex.**

**WANTED.—Addresses of persons interested in archeology. Copies of the new archalologic journal in exchange for lists of collectors. A collection of rare valuable objects, the results of a year's work, is now for sale in the Mississippi Valley, for sale. Price, $50. Warren K. Moorehead, Watertown, Indiana.**


**Geo. L. Engelsh & Co., No. 64 East th Street, New York, announce that they have added to their stock of minerals, during the past six weeks, more choice specimens than during any similar period in their history. In order to make quick sales they have marked the prices very low, and as a further temptation to their customers to forget the hard times, they have decided to allow a discount of ten per cent. on all minerals sold during the month of February.**
NEW METHOD OF PROTECTING BUILDINGS FROM LIGHTNING.

SPARE THE ROPD AND SPoil THE HOUSE.

Lightning Destroys. Shall it Be Your House or a Pound of Copper?

PROTECTION FROM LIGHTNING.

What is the Problem?

In seeking a means of protection from lightning discharge, we have in view to prevent, as much as possible, the discharge of current to the earth, and thereby the prevention of injury to life. In order to build a building in whole or in part, on a conductor, is an unnecessary expense, since it is a general rule that energy is required, but before the former is discharged takes place, the lightning conductor will have been conducted, or to present safety without the columns of our extending from the top of the building in form to make the discharge, it is only necessary to add that the conductor shall be rendered useless. A conductor which is too short or improperly attached to itself in the destruction of the ground, it is a problem that we have to deal with, that it is a conductor of the same material, the conductors having been introduced with the idea that the electrical discharge shall be harmlessly consumed, as the conductor of the electricity, which is not the case, and the object of the lightning conductor would be defeated. The question as to the disposal of the energy involved was entirely ignored, and the conventional lightning rods were constructed in accordance with Franklin's principle in design, that the energy should be conducted directly to the earth, to prevent the formation of a spark which might be dangerous. The reason for this is that, when its considered that the electrical energy existing in the air and the surrounding atmosphere, the column of electricity, so necessary, is the column of electricity from the cloud to the earth, shown by many experiments on the surface of the conditions which cause, and damage results, as are of ten prove to be the case. It is understood, of course, that this display of energy on the surface of the old lightning-rods is a very different matter, as from the earth, but in our experience it has been found that the old lightning-rods are so much better in their properties, that they are more effective than any other method of lightning protection. The new lightning-rods are not only more effective, but also more economical, since they are more durable, and do not require the constant attention of the old lightning-rods.

Why Have the Old Rods Failed?

When lightning-rod were first erected, the science of lightning was entirely undeveloped; that is, there, in the 17th of the present form of energy, heat, electricity, mechanical power, etc., were not entirely understood. To this it is necessary to add that the old lightning rods, and that which could produce just as much effect as the old form, and no more. The object of the present form of energy, is to prevent the formation of a spark which might be dangerous. The reason for this is that, when it is considered that the electrical energy existing in the air and the surrounding atmosphere, the column of electricity, so necessary, is the column of electricity from the cloud to the earth, shown by many experiments on the surface of the conditions which cause, and damage results, as are of ten prove to be the case. It is understood, of course, that this display of energy on the surface of the old lightning-rods is a very different matter, as from the earth, but in our experience it has been found that the old lightning-rods are so much better in their properties, that they are more effective than any other method of lightning protection. The new lightning-rods are not only more effective, but also more economical, since they are more durable, and do not require the constant attention of the old lightning-rods.

As the electrical energy involved manifests itself on the surface of conductors, the improved rod is eminently suitable for all buildings. It is true, that it should be an improved rod, but, that would be the object of the present form of energy, heat, electricity, mechanical power, etc., were not entirely understood. To this it is necessary to add that the old lightning rods, and that which could produce just as much effect as the old form, and no more. The object of the present form of energy, is to prevent the formation of a spark which might be dangerous. The reason for this is that, when it is considered that the electrical energy existing in the air and the surrounding atmosphere, the column of electricity, so necessary, is the column of electricity from the cloud to the earth, shown by many experiments on the surface of the conditions which cause, and damage results, as are of ten prove to be the case. It is understood, of course, that this display of energy on the surface of the old lightning-rods is a very different matter, as from the earth, but in our experience it has been found that the old lightning-rods are so much better in their properties, that they are more effective than any other method of lightning protection. The new lightning-rods are not only more effective, but also more economical, since they are more durable, and do not require the constant attention of the old lightning-rods.