

been more lying about storage-batteries in general, during the last few years, than about any other commercial scheme before the public. Thus far, these batteries do not appear very prominently in this country. In view of the novelty and importance of the subject, both scientifically and commercially, it is to be hoped that the competing systems may be submitted to thorough tests by the boards of examiners of electrical exhibitions.

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.*

Minerals near Philadelphia.

PERMIT me to call Philadelphia mineralogists' attention to a new locality for garnets and green muscovite. The garnets are found in a small quarry of talcose rock, about one mile below Lafayette station, on the Pennsylvania and Susquehanna valley railroad. The quarry is a short distance below the soapstone quarry, and on the edge of a small stream. The garnets are very fine in color and shape. Green muscovite occurs plentifully a few hundred feet below the garnets in the side of the railway-cut.

JOSEPH T. MEEHAN.

Philadelphia, Oct. 6.

The Delaware estuary.

In your notice (No. 86) of the 'Estuary of the Delaware,' you erred in the authority for the surveys. The hydrography upon which the study was based was executed by H. L. Marindin, Lieut. H. B. Mansfield, and Lieut. E. B. Thomas, assistants in the coast and geodetic survey.

J. A. SULLIVAN.

Boston, Sept. 27.

[We thank our correspondent for calling our attention to what was an accidental omission in our notice of the recent report of the coast-survey study of the 'Estuary of the Delaware.' — ED.]

American pearls.

I beg leave to ask the assistance of the readers of *Science* in gaining information regarding the finding of American pearls in either fresh or salt water; also the weight, color, lustre, and value of the same, with the name of the mollusk in which they were found, and date of finding.

A preliminary paper on this subject was read at the Philadelphia meeting of the American association. The paper will be published in full by the U. S. fish-commission. Due credit will be given for any information.

GEORGE F. KUNZ.

With Tiffany & Co., New York, Oct. 6.

A wider use for scientific libraries.

I noticed in the last number of *Science* a proposition to render the libraries of the various scientific societies more useful by circulating the books somewhat by mail, among persons located in small towns.

If those having charge of those libraries knew what

a blessed boon such an arrangement would be to a man situated as I have been for a few years, I am sure they would heartily second the proposition. Colleges are often located in small towns, and are very poorly supplied with the means for scientific study or investigation. Professors in such institutions would be delighted with any arrangement, not involving *very great* expense, which would give them access in any way during term-time to a good scientific library. Would not some such arrangement as this be a wise one? — Require a person wishing for the privilege of taking books from the library to give bond for a sum sufficient to meet all possible liabilities, and charge to his account all the actual expenses incident to packing and mailing or expressing books to him, and also any books not returned. Charge him, also, a small annual fee for the use of the books. In that case, he would pay only the actual expenses, and for the use of the books.

I earnestly hope our scientific societies may consider this question, and give to those of us who are isolated from the rest of the world, in small colleges and small towns, the benefit of the wealth of learning idly hoarded up in their libraries.

W. Z. BENNETT.

Wooster, Wayne county, O.,
Oct. 7.

Systematic earthquake observation.

The mention of my name in several recent articles in your columns and elsewhere may excuse the seeming egotism of the proposal which is the object of this letter.

I am much interested in the recent suggestions of *Science* looking toward the closer intercourse of those who are interested in practical seismology. We have not in the United States, at least in the eastern part, any such promising field for observational work as that occupied by the Seismological society of Japan; and the number of persons at present interested in the study is not large, perhaps too small to make advisable the formal organization of a seismological society. But my records, kept now for a dozen years, make it quite evident that earthquakes, even on the Atlantic seaboard, are by no means such infrequent phenomena as is generally supposed; and I am convinced that systematic instrumental observation would largely increase the number by the detection of minor shocks and tremors which now pass entirely unrecognized and unsuspected.

As to the second point, also, it is quite probable there may be more persons interested in the subject, and willing to do some work for it, than are known to me. In the effort to find out the number and the names of such persons, I am quite willing to serve as the medium of communication for the present; and I would therefore venture to suggest that all such persons communicate with me, either through your columns or by mail directly, with the view of ascertaining whether we are sufficiently numerous to make concerted observational work possible and desirable.

C. G. ROCKWOOD, jun.

Princeton, N.J., Oct. 10.

The prime meridian.

Permit me to add to your remarks in No. 88 of *Science*, concerning the present confusion resulting from too many initial meridians, a few facts from a recent German periodical. The 'nautical almanacs' published by England, Germany, France, and the United States, refer, in part at least, to the meridians

of Greenwich, Berlin, Paris, and Washington, respectively.

In German geographical maps the meridian of Ferro is used, for the most part, while this meridian does not pass through the *island* of Ferro at all. The so-called meridian of Ferro is assumed to be exactly 20° west from Paris, while the island is only 17° 50' west from Paris.

The new topographical maps of the Prussian land-survey are based on the assumption that the Berlin observatory is 31° 3' 41.25" east from Ferro meridian, while more recent telegraphic determinations place the Berlin meridian 11° 3' 27.9" from Paris.

It is to be hoped that the result of the conference will not be a new international meridian, inconvenient at first for all nations alike.

HORACE ANDREWS.

Albany, N.Y., Oct. 11.

PSYCHICAL RESEARCH IN AMERICA.

THE adjective 'psychical' has come, through the use made of it by the English Society for psychical research, to be the label for a special class or group of phenomena, which to the unthinking are outright marvellous, even awesome, and to the thoughtful, either interesting or incredible, according to the individual mental cast. A few English scientific men believed that behind all the jugglery and deception of spiritualism there lurked a foundation of reality, perhaps grossly misinterpreted, but still of reality. That belief led to the formation of the active society named above, the work of which has already been noticed in *Science* (iv. 40).

The evidence published by this society goes to show that there are a number of more or less rare psychological effects which are most singular, and so unlike what the orthodox psychology of the day admits, that no explanation of them can yet be offered. The effects are mysterious not only as to their cause, but also as to their nature. One of them, hypnotism, was still scoffed at by the sensible until within a few years, but is now by common consent admitted even into the society of the best phenomena. Another of them, thought-transference, is still begging for a general acknowledgment of its good standing, for there are those who avow their own wisdom through the announcement of an unreasoned disbelief in the transmission of thought from one person to another by any except the ordinary channels: if the transmission appear to occur, it

is to be explained by some trickery, — so say these persons, and they have done with the matter. Now, among others of less prejudiced opinion are a number of American scientific men of acknowledged ability and unquestioned integrity, who maintain that the evidence in regard to this and other psychical phenomena cannot be thus set aside by a vague general accusation, but calls for further and more rigid investigation.

Prompted by the enthusiasm and suggestions of Prof. W. F. Barrett, one of the most active members of the English society, and supported by their conviction of the serious nature and value of psychical inquiries, the gentlemen alluded to above have decided to form an American psychical society to promote systematic study of the obscure and abnormal facts alleged to exist by trustworthy observers.

They join in this enterprise cautiously, having previously satisfied themselves that the testimony is so good that it must be received as raising a series of problems, to settle which would be interesting and important. The occurrence of thought-transference is naturally met at first by sober minds with incredulity; but, now the evidence on the subject is published, mere incredulity no longer suffices: either to prove or to disprove the reality of the transference would be equally desirable. If it be an error, it should be unmasked: if it be a reality, the discovery must appear to us momentous. In any case, there is a plain and interesting scientific duty to be performed.

Psychical research is distasteful to some persons; for it touches upon spiritualism, and to them seems akin to it. Now, spiritualism is an evil in the world, — in America it is a subtle and stupendous evil; a secret and unacknowledged poison in many minds, a confessed disease in others, — a disease which is sometimes more repulsive to the untainted than leprosy. Spiritualism has two supports, — the first trickery and deceit, the second the obscurity and inexplicableness of certain psychological processes and states. It is rational to hope that the first support without the second would soon lose its influence. The strength