tion of the work treats of the superior systematizations of the brain, comprising visual, auditory, tactile, olfactory and gustatory innervations. The chapter on language and ideation, together with the cerebral localizations of language and of the aphasias is particularly noteworthy. The phenomena of sleep, hypnotism, dissociations of personality, spiritualism and other topics belonging to the borderland between physiology and psychology are briefly defined in terms of physiological functions.

The work embodies the latest real advances in our knowledge of the nervous system without being burdened by superfluous references to trivial points of controversy. Each chapter is followed by a fairly extensive classified bibliography and the translator's work is practically faultless. The illustrations have been selected with care and are neither too few nor too many in number. The work will surely commend itself to both the physiologist and the practical neurologist.

Edw. Anthony Spitzka.

SCIENTIFIC JOURNALS AND ARTICLES.

The July number (volume 7, number 3) of the *Transactions of the American Mathematical Society* contains the following papers:

M. Mason: 'On the boundary value problems of linear ordinary differential equations of second order.'

M. W. Haskell: 'The resolution of any collineation into perspective reflections.'

L. E. Dickson: 'Linear algebras in which division is always uniquely possible.'

J. E. Wright: 'Correspondences and the theory of groups.'

E. Kasner: 'The trajectories of dynamics.'

R. Morris: 'On the automorphic functions of the group $(0, 3; l_1, l_2, l_3)$.'

R. G. D. Richardson: 'Improper multiple integrals.'

The opening (October) number of volume 13 of the *Bulletin of the American Mathematical Society* contains the following articles: 'Criteria for the Irreducibility of Functions in a Finite Field,' by L. E. Dickson; 'On the Theory of Equations in a Modular Field,' by L. E. Dickson; 'Notes on the Variation of the Definite Integral,' by N. J. Lennes; 'A Note on Transitive Groups,' by W. A. Manning; 'Differential Geometry of n Dimensional Space' (Review of Guichard's Systèmes triplement indéterminés et Systèmes triple-orthogonaux), by L. P. Eisenhart; Shorter Notices (Macfarlane's Bibliography of Quaternions and Allied Systems of Mathematics, by H. E. Hawkes; Echol's Elementary Text-book on the Differential and Integral Calculus, by M. W. Haskell; Cattell's American Men of Science, a Biographical Directory, by G. A. Miller); Notes; New Publications.

The American Naturalist for September contains the following articles: 'Histogenesis of the Retina,' by A. W. Weysse and W. S. Burgess; 'Notes on Marine Copepoda of Rhode Island,' by L. W. Williams; and 'Lichens of Mount Monadnock, New Hampshire,' R. H. Howe, Jr. The first paper is based on a study of the retina in the chick, is fully illustrated, and shows, among other things, that there is a large amount of individual variation in the rate of development of the retina as a whole, and also of its component parts. Mr. Williams, in his paper, records twenty-six species of copepods, three of which are described as new. Mr. Howe records no less than seventy-one species of lichens from Mt. Monadnock.

The Museums Journal of Great Britain for August contains an abstract of the Bristol meeting and a detailed history of the Bristol Museum and Art Gallery, by Ald. W. R. Barker. The next meeting of the association will be held at Dundee.

DISCUSSION AND CORRESPONDENCE.

CATS AS PLANT INVESTIGATORS.

It has taken half a lifetime for Americans to discover the delicious qualities of the pomelo, but it has taken the cats of Boston only six months to appreciate a new cat delicacy.

Professor Sargent, of the Arnold Arboretum, near Boston, imported from Central China a new vine, only a few plants of which were securable. As the species (*Actinidia polygamia*,

gama) was a rare one and had never before been introduced into this country, the plants were put in the greenhouse and carefully watched, but before they had made much growth the propagator, Mr. Dawson, observed that some animal was eating their tender shoots. There were no rats, as a cat was kept constantly about and Mr. Dawson was puzzled to discover what new kind of pest he had in his greenhouse. The thought that the damage was done by cats never occurred to him, until, after the plants were severely injured, when he discovered some cat hairs on the half-eaten branches, and, watching more closely, he caught the hothouse cat eating not only the small tender shoots, but the large woody twigs as well.

In the spring he set out over a hundred small vines in a cold frame but, to his surprise, after removing the protection which the sash afforded, the cats of the neighborhood destroyed the whole bed, eating the plants to the ground. They were not just nibbled, as are catnip or valerian, the only other plants known to be eaten by cats, they were completely destroyed—gobbled up—even to stalks as big as a lead pencil.

No place in the arboretum is now concealed enough to be safe from ravage, and the few two-year-old vines in it are completely protected by wire nettings. Every leaf or twig on these caged vines which is near enough the wires to be within reach of claws is scratched and torn to bits. In a few months time this entirely new plant from the interior of China has become the most relished vegetable which our American cats have ever tasted.

The plant has no odor that we can detect, neither has it any distinct taste. Did the cats scent it, or do cats, which are carnivorous animals, make a practise of tasting every new plant that comes within their ken? If they do, they certainly excel in investigative faculties the most civilized races of human beings. Then too, how did the news spread so that in a few months after its introduction all the cats of the neighborhood knew of it? Did the greenhouse cat communicate his discoveries to his friends, or did each cat make the test independently?

The whole story throws an interesting sidelight on cat instinct and intelligence and starts a score of questions. It is difficult to see how there can be here an instinct inherited through long generations of ancestry, for the plant has been unknown in Europe and America until a few years ago. It seems to show an alertness of cat intellect which is most remarkable and which is in sharp contrast with the reluctance of the average human being to taste new things.

DAVID FAIRCHILD,
Agricultural Explorer.
DEPARTMENT OF AGRICULTURE.

SPECIAL ARTICLES.

EVIDENCES OF SEVERAL GLACIAL AND INTERGLACIAL STAGES IN NORTHEASTERN NEW ENGLAND.[1]

WHILE conducting an investigation of the underground water resources of northeastern New England during the present field season, the writer has had occasion to visit many parts of northeastern Massachusetts, southeastern New Hampshire and southern Maine, and has incidentally noticed numerous cuts and exposures which throw light on the differentiation of drift in this long-neglected section of the country. There seems to be no longer any doubt that in northern New England, as elsewhere, there have been at least three distinct ice advances, separated by interglacial stages; and when more evidence has been obtained it will probably be possible to definitely correlate them with those of southern New England.

The writer hopes in the near future to publish a detailed account of his observations and conclusions. In the meantime a brief statement of the formations observed and their possible correlations with deposits in other sections may be of some interest.

1. *Pre-Pleistocene (Probably Tertiary) Clays.*—A deep boring made in Boston in 1905 penetrated over 100 feet of a fine light gray to white, very pure clay, underlying all glacial deposits. This clay appears to be of

[1] Published by permission of the director of the U. S. Geological Survey.