Another fact of interest and significance is that there are very few types of Gadids in the Antarctic or cold temperate seas. Their place is taken by representatives of a family of acanthopterygian fishes apparently related to the Chænichthyids and Harpagiferids already mentioned; the Nototheniids, as they are called, are of many closely related species, and in their mode of occurrence and habits appear to be analagous to the codfishes of the north. Their distribution, however, does not throw the least light on the question of an Antarctic continent.

SCIENTIFIC NOTES AND NEWS.

ASTRONOMY.

THE *Astronomisches Jahrbuch* for 1898 has just been issued. It is volume No. 123 of the series, and its preparation has been supervised by Dr. P. Lehman, who was placed in temporary charge of the Berlin computing bureau after the death of Prof. Tietjen.

THE *Astronomical Journal* of February 17th contains a determination of the elements of the orbit of the binary star F. 99 Herculis, by Dr. T. J. J. See. The orbit obtained is very remarkable because of the fact that the inclination comes out exactly zero. It follows that we see the orbit just as it is, instead of its being projected on the sky with more or less foreshortening. Some uncertainty attaches to this interesting orbit, however, because a former orbit by Mr. Gore and one by Dr. See himself agree in making the inclination more than thirty degrees. H. J.

Nature states that at the last meeting of the Royal Astronomical Society, the Astronomer Royal gave some particulars relating to the progress at Greenwich of the international photographic star catalogue. A special staff for dealing with this work has been organized under Mr. Hollis, and already 130 of the plates taken for the catalogue have been measured. It is estimated that 180 plates can be measured, and 160 of them reduced in the course of a year, so that at this rate the section allotted to Greenwich, comprising about 150,000 stars, will be completed in five or six years. Assuming that the other sixteen coöperating observatories are proceeding equally well, the world will soon be in possession of a colossal catalogue, comprising between two and three million stars.

EXTINCTION OF THE BUFFALO.

SECRETARY LANGLEY in his annual report, just issued, makes the following appeal for the preservation of the Buffalo in the National Park:

When the Yellowstone Park was organized it was believed that a permanent place of refuge for the buffalo had been secured, and that out of the natural increase of the hundreds then remaining representative herds would be preserved for future generations. It seems now evident that the condition in the Yellowstone region are such that the extermination of the Government herd of buffalo may be anticipated, and that it may be accomplished within a very short space of time. The superintendent of the Park appears not to have adequate means for their protection, and there are on the border plenty of persons whose respect for law is insufficient to keep them from poaching when the prize is a buffalo head or skin which will readily sell for several hundreds of dollars. The temptation to these men seems to be irresistible, and as the herd diminishes, the value of the animals increases and the difficulty of protection becomes constantly greater.

Since, then, the extermination of the Yellowstone herd seems rapidly approaching, something should at once be done, that this may not mean the extinction of the Government control of the species, with the death of the few specimens now in captivity. Only one course suggests itself as completely efficient—transference of the great part of the now few remaining animals to a region where they can be effectively protected and increase normally under natural conditions, in which case the bison need not vanish from the face of the earth. Two years ago there were supposed to be 200 in the Yellowstone Park. The present estimate is one-quarter of that number. The superintendent reports them as being 'constantly pursued,' and in another year there may be none left. If these animals, or a majority of them, can dur-

ing the next few months be transferred to the National Zoölogical Park at Washington, which affords room and security, they will be safe, and their natural increase in the future can be distributed by exchange with the zoölogical gardens of the various parts of the United States, so that no large city need be without its representatives of the great herds so often referred to in our early history, and now a memory.

GENERAL.

THE *Kansas University Quarterly* announces that a discovery of much interest has recently been made in western Kansas of an extinct species of Bison, the skull having an expanse of nearly four feet. Embedded below the humerus of the skeleton was a small but perfectly formed arrow head. The Bison has not yet been identified with certainty, but seems closely allied to *B. antiquus*, though evidently larger. The formation is apparently the same as that which yielded the skeletons of Platygonus, recently obtained by the University of Kansas. The Bison skeleton, that of a bull, will be mounted shortly in the University museum.

IN the last *Berichte*, G. W. A. Kahlbaum calls attention to the fact that the so-called Liebig's condenser was not devised by Liebig, but by a student of medicine at Göttingen, Christian Ehrenfried Weigel. In his dissertation 'Observationes chemical et mineralogical,' which was defended March 25, 1771, he describes and figures a condenser similar to the ordinary 'Liebig,' except that the upper end of the cooler is open and overflows into a funnel, instead of having a tube to convey away the water. Liebig never claimed to be the inventor of his condenser, but describes it in his 'Handbuch' (1843) as 'der Göttling'sche Kühlapparat,' while Göttling in his 'Almanach' (1794) rightly ascribes its invention to Weigel, who was then professor of botany and chemistry at Greifswald.

THE February number of *Science Progress* contains a translation of Prof. Ostwald's address on scientific materialism of which Prof. Remsen gave a full account in a recent (February 14th) number of this JOURNAL.

GUSTAV FOCK, of Leipzig, offers for sale several valuable libraries including the chemical library of the late Prof. Lothar Meyer. This library contains about 10,000 volumes and dissertations and is offered for sale at the moderate price of M. 7,200.

REV. J. J. THOMPSON has announced a paper to be read before the Royal Society of London on February 13th, on the discharge of electricity produced by the Röntgen rays and the effects produced by these rays by dielectrics through which they pass.

THE *Botanical Gazette* states that the *Pharmaceutische Rundschau* has changed its name to the *Pharmaceutical Review*, and is hereafter to be published chiefly in English, though not to the exclusion of German articles. The veteran editor, Dr. Fr. Hoffmann, retains his connection with the *Review*, but has associated with himself Dr. Edward Kremers, Director of the School of Pharmacy of the University of Wisconsin. The direct coöperation of seven of the leading pharmacists and chemists has been secured, and their names appear upon the title page. The place of publication also changes from New York to Milwaukee, where the Pharmaceutical Review Publishing Co. has charge of all business matters.

TWO yew trees on the new grounds of Columbia College, said to be about one hundred years old and the finest in America, were in the way of the approach to the library and are being moved. The roots have been carefully excavated while the earth is frozen to them. It is curious that these trees were presented to the Bloomingdale Asylum by the trustees of Columbia College when they acquired the Hosack Botanical Garden, which is now the estate from which the College receives a large part of its income.

IT is stated in the last issue of *Nature* (February 13) that "calcic carbide is already made at Spray, North Carolina, at a cost of 20 dollars per ton, by the alternating electric current passed through a mixture of powdered coke and lime. Works have been erected at Niagara which will produce the calcic carbide at 10 dollars a ton, beginning about the middle of this month." This cost seems to be that given by those in-

terested in selling franchises. Some calcic carbide has been made at Spray, but that hitherto used, we believe, has been imported from France and Switzerland and the price quoted in Paris is fr. 25 per kg.—in the neighborhood of $200 per ton. The cost can probably be reduced to $50–100 per ton, and at this price it is said that acetylene would still be cheaper than ordinary illuminating gas or electric light.

The joint commission of the scientific societies of Washington has adopted a resolution opposing the legislation proposed by Senate bill 1552, entitled 'A bill for the further prevention of cruelty to animals in the District of Columbia;' and urging that in the opinion of the commission the proposed legislation is unnecessary, and would seriously interfere with the advancement of biological science in this District of Columbia.

At the first ordinary meeting of the London Society of Engineers on February 3d, Mr. S. Herbert Cox, the new President, delivered his inaugural address, which was devoted to a review of the gold mining industry from an engineering point of view, and the developments and improvements in systems of treatment which have been brought about since the discoveries of gold in California in 1848.

The department of physical geology and mineralogy of the University of Kansas expects to publish about the 1st of April the Volume I. of the University Geological Survey of Kansas, which will be devoted almost exclusively to the stratigraphy of the carboniferous area of Kansas.

The London *Times* states that the late Mr. Henry Seebohm, who, during his lifetime, was a most liberal benefactor to the natural history branch of the British Museum, has, by his will, left the whole of the ornithological collections in his possession at the time of his decease to the same institution. These have now been transferred from his house in Courtfield Gardens, and are found to consist of more than 16,000 bird skins and 235 skeletons. It is, therefore, one of the most important accessions that this department of the Museum has ever received, especially as it is particularly rich in European and north Asiatic species, the representation of which was hitherto not equal to that of other parts of the world. It comprises a series of almost every known species of game bird, including many rare and costly specimens. The collection of thrushes, a group upon which Mr. Seebohm was preparing a monograph at the time of his death, is the finest ever brought together. Of the wading birds, especially the plovers and snipes, Mr. Seebohm had already presented many hundreds of specimens, but the 1,140 skins which he retained in his possession until his death comprised the best of his collection and formed the material upon which he founded his great work on the geographical distribution of the group. Besides the many types contained in the collection, and large series from localities whence the Museum had not hitherto had the opportunity of obtaining specimens, there are also many historical collections, such as Swinhoe's Chinese birds, Pryer's Japanese birds, Anderson's Indian birds, a nearly perfect set of the birds of Mount Kini Balu in Borneo, and the invaluable series obtained by Mr. Seebohm himself in the Petchora and Yenisei Valleys.

The Secretary of the Interior has approved and forwarded to Congress the recommendation of the Commissioner of Education that $45,000 be appropriated this year for the purchase of reindeer, to be distributed among the missionary stations and white settlements of Alaska.

According to the *Lancet* 199 medical journals are published in Paris, the number having been increased by 22 journals during 1895.

The editorial staff of the *Journal of Comparative Neurology* has recently been increased by the addition of Dr. Oliver S. Strong, of Columbia College. Prof. C. L. Herrick is editor-in-chief as hitherto. Business communications should be addressed during 1896 to the managing editor, C. Judson Herrick, at Denison University, Granville, Ohio. Editorial communications may be sent to any one of the three editors.

Garden and Forest states that, on the 5th of February, Mr. Frank H. Nutter read a paper at Taylor's Falls, Minnesota, in which, after discussing in a general way public parks and reservations, with their history and treatment, he gave a preliminary report on the proposed interstate park at the Dalles of the St. Croix,

where something like four hundred acres of land, partly in Minnesota and partly in Wisconsin, have been acquired as a public reservation. The Falls proper are not high, but the Dalles, with their lofty and precipitous rocks on either side, stained with brilliant colors from oxides of copper, or painted with Lichens and Moss, make a most interesting passage of natural scenery.

CHRISTOPHE NEGRI, the Italian economist and geographer, died in Florence on February 18, aged 86 years.

DR. ZELLE, of Brandenburg, has exhibited before the Emperor of Germany specimens of his work in photographing in colors.

THE House Committee on Military Affairs has heard arguments in support of the bill of Mr. Fairchild, of New York, appropriating $500,000 for the establishment of a national military and naval park embracing the Palisades on the Hudson River.

GINN & Co. will publish at once, in their 'Classics for Children' series, *White's Natural History of Selborne*, edited, with an introduction and notes, by Prof. Edward S. Morse.

THE New Jersey Library Association met at Newark, January 30th. The main topic was the relation of the State to libraries, with a view to establishing a New Jersey Library Commission. The two plans chiefly discussed were those of Massachusetts and of New York with its system of traveling libraries. The Massachusetts plan was presented by S. S. Green, of the State Commission, and that of New York by W. R. Eastman, Library Inspector.

ACCORDING to the *British Medical Journal* the Orphanage School of St. Margaret's, in the town of East Grinstead, has been recently visited by diphthera; two of eleven cases proved fatal. Every method was adopted for ascertaining the predisposing cause of the outbreak, but with no success so far as the buildings were concerned. But at length the health officer had the drains outside the institution exposed, when he found that the house drain in its length of communication with the sewer crossed the playground; this length was in a most deplorable state. The communication pipe was only a few inches below the surface, was an old land drain, uncemented at the joints, and these gaping an inch or two; the surrounding soil, whereon the children played, was saturated with sewage. The matter was, of course, put right, but only after human life had been sacrificed, and many children had been sufferers. Moreover, the school inmates had for some time prior to the outbreak been noticed as looking pale and ill, the result, no doubt, of constantly playing in so unhealthy a situation.

IN notes presented before the Paris Academy of Sciences, on January 27th and February 3d, M. Gustave Le Bon claimed that he had demonstrated by photographic effects that ordinary sunlight and lamplight are transmitted through opaque bodies, and states that the body might be a sheet of copper 0.8 mm. in thickness. His experiments have however been questioned by M. Niewenglowski, who states that he has obtained the same effect in complete darkness, and attributes them to luminous energy stored up in the plates.

The Physical Review for March-April will have among the principal articles ones on the Viscosity of Salt Solutions by B. E. Moore; on the the Theory of Oscillating Currents by Steinmetz; on Induction Phenomena in Alternating Currents Circuits by F. E. Millis; on the Magnetic Properties of Cylindrical Rods by C. R. Mann, and a Photographic Study of Arc Spectra by Caroline W. Baldwin. There are several interesting Minor Contributions and a number of Book Notices.

UNIVERSITY AND EDUCATIONAL NEWS.

PRESIDENT JOHN M. COULTER has resigned the presidency of Lake Forest University to become head professor of botany in the University of Chicago. It is understood that part of the money recently given to the University by Miss Culver has been used to endow this chair.

PRESIDENT ELIOT has for some time advocated the reduction of the collegiate course of Harvard University from four to three years. The *Boston Transcript* states that at a recent meeting of the Harvard faculty an informal vote on the proposition showed fifty in favor of the plan and thirty-five against it. Several years ago the faculty formally approved the