

research, and others deal with various aspects of science descriptively. Such a society is a centre of beneficial influence, for it encourages investigation, affords facilities for the communication of facts and ideas, and promotes the friendly intercourse which broadens the views and sympathies of workers in different fields.

INCREASING interest in physical chemistry is shown by the fact that Prof. Walker's "Introduction to Physical Chemistry" (Macmillan), which was published towards the end of 1899, is already in its second edition. The book, which contains a full discussion of the chief principles of modern physical chemistry and shows their application to ordinary laboratory chemistry, has already been noticed in these columns (vol. lxii. p. 76, May 1900). Among other new matter in the new edition are accounts of "Berthelot's method for determining exact molecular weights from the limiting densities of gases, Traube's volume researches, and the position of the recently-discovered atmospheric gases in the periodic system."

IN the current number of the *Berichte*, Messrs Pictet and Rotschy give an account of the isolation of three new alkaloids from tobacco. Up to the present only a single organic base, nicotine, has been found in tobacco. In most plants producing alkaloids several bases usually occur together, and as it appeared unlikely that the tobacco plant should prove exceptional in this respect, a large quantity of tobacco extract was worked up, with the result that three new bases were discovered, to which the names nicotine, nicotellin and nicotimin are given. Of these, the last is associated with the crude nicotine, with which it is isomeric, differing, however, in being a secondary base and forming a nitrosamine by means of which it can be separated from the nicotine, in spite of the fact that it is present in very small amount in the crude base. The nicotine contains two atoms and the nicotellin four atoms of hydrogen less than nicotine.

THE additions to the Zoological Society's Gardens during the past week include a Patas Monkey (*Cercopithecus patas*) from West Africa, presented by Mr. H. Plange; a Diana Monkey (*Cercopithecus diana*) from West Africa, presented by Mrs. Yorke; a Bonnet Monkey (*Macacus sinicus*) from India, presented by Mr. W. K. Edwards; a Common Otter (*Lutra vulgaris*), British, presented by Mr. W. Radcliffe Saunders; a Maximilian's Aracari (*Pteroglossus wiedi*) from Brazil, presented by Mrs. J. Rose; a Common Viper (*Vipera berus*), British, presented by Mr. G. Leighton; two Spanish Cattle (*Bos taurus*) from Spain, a Black-faced Kangaroo (*Macropus melanops*) from Tasmania, a Yellow-footed Rock Kangaroo (*Petrogale xanthopus*) from South Australia, a Grevy's Zebra (*Equus grevyi*) from Southern Abyssinia, three Zebras (*Bos indicus*) from India, two Nubian Goats (*Capra hircus*) from Nubia, five four-horned Sheep (*Ovis aries*) from St. Kilda, two Somali Ostriches (*Struthio molybdophanes*) from Somaliland, deposited; a Kestrel (*Tinnunculus alaudarius*), British, presented by Mr. F. Layer.

OUR ASTRONOMICAL COLUMN.

THE SPECTRUM OF NOVA PERSEI.—Prof. Vogel, in a recent communication (*Sitzber. d. k. Akad. der Wiss. zu Berlin*, March 21, xvi.), gives the results of a discussion of the Potsdam observations of Nova Persei. Prof. Vogel considers that the spectrum can only be explained on the hypothesis of Wilsing. The immense perturbations in the star give rise to great differences of pressure in the layers of the materials composing the Nova, and these differences account not only for the presence of the bright and dark lines, but their great breadth. Prof. Vogel does not think that there is any reason to assume that the apparent great displacement of the dark lines is the consequence of a large motion deduced on the principle of

Doppler. This displacement he accounts for on the supposition of the overlapping of the broad dark band over the bright band, the great pressure of the substance giving the bright band being more strongly developed on the red side, thus allowing the dark band to appear more prominent on the violet side.

STONEHENGE AND OTHER STONE CIRCLES.

TWO interesting papers on stone circles, by Mr. A. L. Lewis, have recently been published by the Anthropological Institute. One dealing more particularly with the stone circles of Scotland occurs in the *Journal of the Institute* (vol. xxx. New Series, vol. iii. 1900), and the other, on the damage recently sustained by Stonehenge, appears in *Man*—the monthly record of anthropological science published under the direction of the Institute. We reprint the latter paper, with the two illustrations accompanying it, and are glad to acknowledge the courtesy of the Institute in permitting us to do so. And here it will not be out of place to remark that both the *Journal* and *Man* are full of papers and notes of interest to every one devoted to the study of the human race in its many aspects. When one considers how little encouragement is given to the science of anthropology in this country, it is really astonishing to see the large amount of excellent material published under the auspices of the Anthropological Institute. The U.S. Bureau of Ethnology have funds to publish magnificent volumes showing the results of ethnological investigations carried on by its officers, but here there is no similar department for the preparation and distribution of such contributions to science, and anything that is done represents the result of private efforts for the advancement of natural knowledge. Even if no assistance is given to systematic anthropological inquiries in our colonies and dependencies, every facility ought to be provided for the publication of facts obtained by observers interested in the characteristics and customs of the races of men.

Mr. Lewis describes, in the *Journal* already mentioned, the observations made by him of stone circles in various parts of Scotland. The condition of some of these monuments of antiquity is deplorable, many of the stones having been shifted and used for all kinds of purposes. At Clava, for instance, we notice that one stone has been shifted to be parallel with a road running across the circle, and another has been placed to form the end of a stone wall. From an examination of a large number of stone circles in Scotland, Mr. Lewis concludes that they may be divided into different types each of which has its centre in a different locality. The types are (1) the Western Scottish type, consisting of a rather irregular single ring or sometimes of two concentric rings. (2) The Inverness type, consisting of a more regular ring of better-shaped stones, surrounding a tumulus with a retaining wall, containing a built-up chamber and passage leading to it, or a kist without a passage. (3) The Aberdeen type, consisting of a similar ring with the addition of a so-called "altar-stone" and usually having traces of a tumulus and kist in the middle. There is reason to believe that most of the circles of these three types were used for burial, if, indeed, that were not their chief purpose, but as there is evidence that all have not been so used, it cannot have been their only purpose. In addition to these three types of circles, there are what Mr. Lewis calls sun and star circles, with their alignments of stones, and apparently proportioned measurements. The stone circles of England appear to refer to the sun and stars more frequently than those of Scotland, where, however, more similar circles may yet be found. The Stonehenge group of stones seems almost to form a class by itself, and Mr. Lewis's description of it, reprinted below from *Man*, describes the present condition of this unique monument.

"The end of the nineteenth century has been signalised by—amongst other things—the fall of a part of Stonehenge, a misfortune which may not be without its compensating advantage if it should be the cause of the necessary measures being taken to preserve what is left of this unique monument in an intelligible condition.

"Stonehenge, it will be remembered, consists of a number of comparatively small stones standing in the form of a horse-shoe with the open end to the north-east, outside which were five "trilithons," or sets of two upright stones, each supporting a huge cross-piece; these were the largest stones of all, and only two sets of them remain complete, the last great change at