

mala; and several in Yucatan, of which Uxmal and Chichen Itza are the most famous. It was very remarkable that all these ruins, evidently the work of one particular and highly-civilised race of Indians, should only be found in a very limited area. None exist in South America, and none in that part of the continent commonly distinguished as North America—they all lie within the tropics, between the 14th and 22nd parallels of north latitude, and were chiefly adjacent to the Mexican and Honduras Gulfs, or in the plains on the west of the Cordilleras of Central America. On the eastern or Pacific slopes and plateaux, within the same parallels, are also remains of ancient fortifications and sacrificial altars, but these are of a less elaborate type, and are allied to the Aztec structures of Mexico. The paper went on to give an interesting account of a journey undertaken by the writer across the continent, in the spring of last year, from the Pacific, through Guatemala to the Atlantic, to enable him to examine in detail the mixed populations and conditions of the lands between the Cordilleras and the Pacific, the central plateaux, with their aboriginal Indian races and ruins, the region—almost entirely unknown—inhabited by those unbaptised Indians called the Candones, near which lie the ruins of Ocosingo and Paleque, and finally concluding the journey by traversing Yucatan, visiting the strange ruins with which the country abounds, and emerging on the northern coast of the peninsula at Sisal.

### SCIENTIFIC SERIALS

*The Journal of Anatomy and Physiology.* Conducted by G. M. Humphry, M.D., F.R.S., Professor of Anatomy in the University of Cambridge; and William Turner, M.D., Professor of Anatomy in the University of Edinburgh. No. VIII. May, 1871 (Macmillan and Co.).—This number is quite up to the standard of its predecessors, but the papers it contains are so numerous that we can do little more than indicate the subjects of most of them. Mr. Perrin heads the list with a couple of papers on muscular variations observed in the dissecting room of King's College, London, during two winter sessions; and Mr. Wagstaffe, demonstrator at St. Thomas's, Mr. Bradley, of the Manchester Medical School, and Mr. Cameron contribute similar papers, and thus illustrate one great use of the journal, for without it such observations would probably go unrecorded.—Mr. W. A. Hollis gives an account of the so-called salivary glands of the cockroach, and seems to show satisfactorily that they are really part of the tracheal system of the insect, and not glandular at all.—Dr. Wickham Legge contributes some observations on the physiological action of hydrochlorate of cotarnamic acid, a derivative of narcotine obtained by the late Dr. Matthiessen; the most interesting points about the new poison are the length of time (often several days) which elapses before its effects show themselves if it be administered by the mouth, and the great diminution of blood pressure and the paralysis of the cardiac branches of the vagus which it produces.—Mr. Garrod, of St. John's College, gives an account of a very simple cardio-sphygmograph which appears likely to prove useful, and also a description of the telson of *Schyllus arctus*, in which he endeavours to show that it is not a mere azygos appendage as it is usually supposed, but is a true body segment, possessing appendages of its own.—Dr. Wilson Paton has a paper on the influence of certain drugs, of diet, and of mental work, on the urine; one of his most important results being that neither the infusion, alcoholic extract of alkaloids of broom tops, have any effect in increasing the quantity of any of the constituents of the urine, at least in health, although they are so commonly regarded and prescribed as diuretics.—Prof. Cleland gives an account of a case occurring in his practice which showed that the trapezius plays an important part in keeping the bones of the shoulder joint in contact; he also describes a case of epispadias.—Prof. Rutherford describes a modification of Stirling's section machine, which is especially fitted for getting microscopic sections of frozen tissues, and also gives some experiments on the excitability of the trunk of a spinal nerve which go to negative Pflüger's "avalanche" theory.—Dr. Kennedy contributes an account of a young Aino cranium; and Prof. Turner concludes the original articles of the number with papers on the "Two-headed ribs of whales and man" and on the "Transverse processes" of the seventh cervical vertebra in *Balaenoptera Sibbaldii*. The review of the recently published works bearing on the natural selection theory is peculiarly full and interesting, and the reports on the progress of anatomy and physiology during the preceding three months,

which conclude the number, are drawn up with their usual completeness.

*Symon's Meteorological Magazine* has now reached its fifth yearly volume, and it maintains its character of being a useful monthly medium for the interchange of meteorological jottings, which are not of sufficient importance to form papers for scientific societies. It contains, in addition to reviews and abstracts or reprints of papers published elsewhere, some valuable notices of special investigations carried on by private observers, such as a discussion on solar radiation temperatures, conducted by the Rev. F. W. Stow and Mr. Nunes. The tornado of October 19, and, of course, the aurora of October 24 and 25, find a place in its pages. The standing portion of the magazine, however, consists of monthly rainfall returns and notes on weather from about fifty stations, and thus forms a sort of supplement to the annual volume, "British Rainfall," brought out by the same author.

*Journal of the Chemical Society.*—The last number of this journal contains the "abstracts of chemical papers" which have been already noticed in our columns, and two papers read before the Society, the first being "The Action of Heat on Silver Nitrite," by Dr. Divers. The author finds that when silver nitrite is submitted to the action of heat it is decomposed, the products of the action consisting principally of silver nitrite, metallic silver, and oxide of nitrogen, but that the relative proportions of these vary according to the conditions of the experiment. When the nitrite is heated in an open dish, the result may be represented by the equation  $3\text{NO}_2\text{Ag} = \text{N}_2\text{O}_3 + \text{Ag}_2 + \text{NO}_3\text{Ag}$ , but if it is heated in a vessel nearly closed, so that the gaseous products may be kept in contact with the undecomposed nitrite, the loss of weight is less, and the amount of nitrite formed is greater, the hot silver nitrite apparently reducing the higher oxides of nitrogen to nitric oxide. When the nitrite is freely exposed to a moist atmosphere, and heated, it tends to yield only metallic silver and nitrogen peroxide. Mr. Gill, in "Laboratory Notes on the Examination of Glucose containing Sugars," after remarking on the effect produced by the use of an excess of lead subacetate in decolouring sugar solutions for optical examination, the action of inverted sugar on polarised light being greatly altered by the presence of this reagent, proposes the use of a strong solution of sulphur dioxide as a satisfactory method for removing the lead.

In the *Journal of Botany* for August the most interesting article is a "Flora of Hyde Park and Kensington Gardens," by the Hon. J. L. Warren. This apparently unpromising field for botanising yielded to a careful search no fewer than 190 species of indigenous flowering plants, some half-dozen of them by no means common plants, and the list might probably be considerably extended. A hundred years hence this list will be of considerable interest to the botanist of the future. The other original articles in this number are of a more technical character.

### SOCIETIES AND ACADEMIES

#### BRISTOL

Observing Astronomical Society.—Observations to July 31.—*Solar Phenomena.*—Mr. T. W. Backhouse, of Sunderland, observed a large spot in the sun's south hemisphere from the 12th to the 22nd of July. He obtained the following measures of its dimensions:—

Date.	Penumbra. Length. Miles.	Umbra. Length. Miles.	Breadth. Miles.
July 12 9.12 a.m.	—	20,000	about 10,000
July 15 9.15 a.m.	36,000	17,000	—
July 18 7.45 a.m.	37,000	22,500	14,500
July 20 7.55 a.m.	41,000	27,500	18,000
July 22 9.15 a.m.	—	22,500	7,500

"It was comparatively small on July 9. The umbra was one of the largest I have ever seen."

*Comets I. and II., 1871.*—Mr. John Birmingham, of Tuam, reports that he "had several observations of Comet I., from April 22 to May 8, but under very unfavourable circumstances, caused by the state of the atmosphere and strong twilight and moonlight. Still notwithstanding its faintness a nucleus was easily detected, and the comet seemed in general to present a granulated appearance. On April 22 it was not visible in the finder, but bore magnifying up to 126 very well. There was a slight elongation in the normal direction of a tail. By the best