

and the corresponding apparent magnitude at the time of observation.

NEW DOUBLE STARS.—Forty-two newly-discovered double stars are described by the Rev. T. E. Espin in a catalogue which appears in No. 7, vol. lxvi., of the Monthly Notices (R.A.S.).

The stars are all situated between 30° and 40° N. declination, and the author gives in the catalogue the position (for 1900), the separation, the position-angle, and the magnitudes for each pair.

THE INTERNATIONAL CONGRESS OF ANTHROPOLOGY AND PREHISTORIC ARCHAEOLOGY.

THE International Congress of Anthropology and Prehistoric Archaeology held its thirteenth session at Monaco, on the generous invitation of H.S.H. Prince Albert, "Protecteur" of the congress, on April 16-21. The place of meeting was the Grande Salle of the beautiful and now nearly completed Museum of Oceanography in course of erection by this Royal savant. More than 400 members, of whom upwards of thirty were British, assembled under the distinguished presidency of Prof. Hamy, of the Institute of France. To the sincere regret of all the members, the Prince was prevented by illness from opening the proceedings as he had intended, and, indeed, from being present at any of its meetings. He was, however, represented by his son, the Crown Prince, who, accompanied by the high officers of the Principality, attended at the opening seance and read the address which his father was unable to deliver, and from which we quote the following sentences:—"Je me félicite de ce que mes efforts pour le développement de l'anthropologie m'aient permis de réunir, sur ce point de l'Europe où les vestiges de l'Humanité remplissent la terre, une assemblée comme la votre choisie entre les savants de plusieurs pays avancés. Je suis certain, d'ailleurs, que votre Congrès laissera au domaine scientifique, des notions importantes sur l'histoire de notre espèce, car les travaux tout récents de MM. Boule, Verneau, de Cartailhac, de Villeneuve suffisent à lui constituer un monument. . . . C'est dans le Palais de la mer que l'Anthropologie trouve accueil aujourd'hui; et l'union de toutes les sciences alliées contre l'ignorance . . . que l'Océanographie peut déjà relier certaines conquêtes de la Science. Car l'étude des lois physiques et chimiques de la mer conduit à l'explication des remaniements géologiques de notre planète et des luttes successives entre les continents et les mers. Les progrès de la Biologie et de la Zoologie marines permettent d'utiliser les révélations de la Paléontologie pour constituer l'échelle des transformations infiniment nombreuses par lesquelles une force que nous appelons la vie a fait passer la matière organique. Et la Météorologie, si intimement liée avec l'Océanographie par des rapports incessants, nous aide à comprendre les fluctuations, les migrations, et la distribution géographique des êtres, y compris celle de l'homme. Parmi les Congrès précédemment réunis ici même, il en est un, celui de la Paix, dont j'évoquerai le souvenir aujourd'hui, parce que la Science et la Paix sont inséparables et que l'Anthropologie, comme tous les Sciences, doit contribuer au bien-être des hommes. . . ." The congress was formally welcomed also by H.E. M. Ritt, the Governor-General of the Principality, in a most courteous speech, which was acknowledged by representatives of the foreign delegates, Sir John Evans replying on behalf of Great Britain. The inaugural address of the president on the objects of the congress, the importance of its work, and the present position of prehistoric archaeology concluded the first day's proceedings.

By an ordinance of the congress, French is the only language permitted in verbal or written communications, a restrictive regulation, we believe, enforced at no other international convention. A proposition was, however, early submitted to the council at Monaco that other languages should be admissible, but it met with favour only so far as regards written communications, which, it was resolved, may now be presented also in English, Italian, or German. All verbal communications, however, must

still be in French. This change concedes practically little; for while it may be easy to prepare and read a paper in a foreign language, it is extremely difficult to express on the spur of the moment, in a language with which one is not very familiar, exactly what one wishes to convey. The chief privilege of members is the right to express their views on questions before the congress, but this rule practically disfranchises all those unable to speak French. Considerable dissatisfaction was felt at the severity with which the regulation was enforced. Indeed, many foreigners thus compelled to speak in French were less intelligible even to those acquainted with that language than if they had been permitted to use their own tongue! It is sincerely to be hoped that at the next session, which has been fixed to meet in Dublin in 1909, this harsh by-law will be entirely abrogated, and that members of all countries may be allowed, equally with their French colleagues, to address the congress in their own language.

The dominant subject of the second seance was the genuineness of the implements known as "eoliths." A series of mill-modelled flint nodules was exhibited, among which there was certainly a number closely resembling many Prestwician types, but conspicuous by their absence were the decidedly purposeful and rationally usable Kentian forms. A small collection exhibited by Prof. Girod, obtained near Aurillac, affirmed to be out of a bed of Tortonian (Miocene) gravels containing Hipparion, underlying a massive stratum of basalt, contained at least one "eolith" unquestionably of human manufacture. The occurrence was vouched for, by M. Rutot, of implements of a particular silex identical in form with those from Kent in pre-Glacial beds in Belgium in which no other silex pebbles of the same character and composition were present, and the manufacture and introduction of which could be due only to man. Prof. Ray Lankester submitted that he had recently placed on exhibition in the British Museum a considerable series of specimens selected from Prestwich's collection, all borer-like in form, too identical in shape and so obviously of rational utility for any possibility of their being the result of fortuitous natural collisions. The congress was, however, divided in opinion on the subject. At a later meeting a telegram from Prof. Schweinfurth, in Egypt, was read announcing full confirmatory evidence of the occurrence of eoliths in the Nile Valley. The most important part of the day's programme was the visit paid to the Grimaldi caves at the Red Rocks, between Mentone and Ventimiglia, the inspection commencing with the most easterly—the Grotte du Prince. This cave has been most systematically and scientifically explored by a trio of distinguished archaeologists, Prof. Marcellin Boule, the Abbé de Villeneuve (director of the Archaeological Museum of Monaco), and Prof. Verneau. With much trouble and no little risk to limb, the grotto-walls had been marked by labels and lines of paint to indicate the limits of the various horizons in correspondence with those on a diagram of a longitudinal section of the cave distributed to members. From an elevated crag the Abbé de Villeneuve gave an account of the method of excavation and of the discoveries made at the various levels, while Prof. Boule detailed the sequence of events from the geological and palæontological point of view. So lucid were both these demonstrations that no one could fail to carry away a perfectly clear comprehension of the original contents of the cave, and form their own opinion on the evidence for man's antiquity in this region afforded by its exploration. No human osseous remains were met with in this grotto, but worked implements occurred in abundance from the lowest to the highest layers. Those from the lowest beds, which were roughly worked and chiefly Mousterian in type, occurred in association with bones of *Rhinoceros merckii*, *Elephas antiquus* and hippopotamus, and with specimens of *Cassia rufa*, an Indian Ocean mollusc which may perhaps have been acquired by barter. The contents of this cave have been transported to the Archaeological Museum in Monaco, and arranged with such care by the Abbé de Villeneuve in the order of succession of the various strata, and so accurately labelled, that it is impossible to overestimate the importance to anthropological science of this comparatively small collection.

The Barma (=Grotte) Grande next claimed attention

under the special guidance of Prof. Verneau, by whom the greater part of its exploration had been carried out. As is well known, this cave yielded several human skeletons, all of the Cro-Magnon type, the most deeply interred lying in association with bones of the reindeer. Several of these have been left *in situ* preserved under glass; while in a small museum erected, close by the mouth of the grotto, at the expense of Sir Thomas Hanbury, are arranged the bones and other objects discovered in it. After a hasty visit to the Grotte du Cavillon the congressionists proceeded to inspect the famous Grotte des Enfants under the same excellent guidance. The two celebrated skeletons from the lowest *foyer* of this cave, the types of Verneau's negroid *Race Grimaldi*, are safely preserved in the Monaco Museum. These discourses *sub divo* were necessarily succinct, but they were supplemented by fuller addresses of extreme interest during the following forenoon by the Abbé de Villeneuve, Profs. Boule and Verneau, and M. Cartailhac, under whose joint authorship a beautifully illustrated volume on the results of their exploration of these caves will shortly be published by the generous provision of the Prince of Monaco.

The next day's programme was reserved specially for papers on the engravings and frescoes on the walls of prehistoric caverns. The Abbé Breuil presented a communication on the process of the evolution of art during the Reindeer age, a *résumé* of a large work on which he is engaged, resulting from his laborious copying of the wall pictures of many caverns in collaboration with his colleagues Cartailhac, Capitan, Peyrony, and Bourrinet. The most important as well as most attractive item, however, was the exhibition by Dr. Capitan of a long series of lantern-slides of mural, engraved, and polychrome pictures—the latter in colour—most carefully copied by himself, the Abbé Breuil, and their associates named above, under the most trying and difficult conditions in the grottoes—more frequently than not far in their dark, damp, and cramped recesses—of Mas-d'Azil, Combarelles, Marsoulas, Bernifal, Les Eyzes, de Freye (Dordogne), la Mouthe, Altamira, Font de Gaume, de Teyjat, La Greze, and others. The number and variety of subjects depicted indicates powers of accurate observation and a mastery of hand in the arts of sculpture and drawing at that early age which are really astonishing, and it is evident that this wonderful capacity for art was the common heritage of Palæolithic man in all parts of Europe. *Rhinoceros merckii* and some dozen other extinct quadrupeds appear to have been his favourite studies. *Bison priscus*, however, was the species most frequently and most characteristically represented, being perhaps the commonest or the most dreaded member of his fauna. The human figure was less frequently, and always rudely, portrayed, and usually with monstrous or grotesque faces, suggesting that actors in some ceremonial were intended to be depicted in masks, recalling the dance-masks of the Chiriqui and Arizona Indians. Further papers on the same theme occupied also a great part of the following morning's sitting, at which the most interesting exhibition was a series of burins and scrapers of flint from the Grotto of Eyzes, exquisitely manufactured of every degree of fineness—some of them worked at both ends—to serve the manifold purposes of the artist. They were unquestionably the very tools by which the wall pictures beside them had been executed. With the exception of a short note by Dr. Arthur Evans (who on rising was very warmly greeted by the congress), on the Ægean, Minoan, and Mycenaean epochs, the remainder of the communications on the day's programme dealt with the Bronze and Iron age in Europe.

The sitting of the forenoon of Saturday, April 21, was given up chiefly to the archæology of northern Africa. The most important communication was M. Flammaud's, on his discovery in the Sahara of megalithic monuments of new shapes and of peculiar sculpture, and on the numerous evidences he had obtained of contact between the interior of Lybia and Egypt in the Neolithic age. The afternoon was spent on an excursion through beautiful scenery *via* the well-known *Tropæa Augusti* at La Turbie to the mysterious prehistoric entrenchments occupying the summit of Mont Bastide, as that of many of the other foot-hills of the Maritime Alps. The congress assembled on Sunday afternoon for the formal closing ceremonies usual on such

occasions, the Prince of Monaco being again represented by his son, who, at the palace previous to the meeting, had, on his father's behalf, conferred the decoration of St. Charles on the presidents, the secretaries, and several of its more distinguished members, of whom Sir John Evans received the cross and ribbon of the Order.

Several social entertainments were given during the week "en l'honneur des congressistes," including, besides a reception at the palace, an evening performance of *Méphistofêles* and a *matinée* concert, both in the beautiful Casino Theatre.

For those—and they proved a goodly company—who could spare the time, a whole-day excursion, under the able leadership of M. Paul Goby, to the prehistoric monuments—dolmens, tumuli, and entrenchments—in the neighbourhood of Grasse was arranged by the excellent committee of organisation as a pleasant termination to a very successful and profitable session of the congress.

SUMMER TEMPERATURES OF THE NORTH SEA.

THE "Bulletin Trimestriel" of the International Council for the Exploration of the Sea, for the period July to September, 1905, has just been issued. As the observations are for the summer months, they are naturally more numerous than in other seasons of the year, and an immense amount of material is dealt with. The increase in the number of surface observations, and the extension of the area from which they have been obtained, are specially noteworthy; a plate of nine charts showing the variations of mean temperature in the North Sea for ten-day periods, from July 1 to September 30, 1905, is added to the usual quarterly maps. These charts have been prepared by dividing the area into squares of 1°, and $\frac{1}{2}$ ° close to the coast, and the results checked by mean values from Dutch observations, worked up by a different method.

The sections drawn from the observations of the special steamers sent out by the different countries are very numerous in the narrower seas, forming a close network in the Baltic and the North Sea. A line north-eastward from Scotland defines the conditions across the northern entrance to the North Sea, but it is unfortunate that, except for some very useful lines running seaward from the coast of Ireland, and one section from Iceland to Færøe, information from the western section of the area is somewhat deficient, notably in the Færøe-Shetland Channel. It would be a great matter if observations in the depth could be carried further seaward to the south-west of the British Isles with the view of ascertaining the precise limit to which waters of Mediterranean origin penetrate northward, and in this connection an increase in the number of gas samples analysed would be of value.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

OXFORD.—The following is the text of the speech delivered by Prof. Love in presenting Prof. J. Milne for the degree of D.Sc. *honoris causa* at the Encaenia on June 20:—

In terrae motibus cognoscendis nemini profecto cedit Ioannes Milne. Hic ille est qui nova eademque plurima quaerendi instrumenta commentatus, quibus vim terrae motuum longinquis in locis redundantem emittitur, ostendit tribus quibusdam momentis rem agi: duobus enim tremoribus medium terrae globum concutientibus succedere tertium latius patentem et in summo volitantem, sicut undam mare supereminentem. His repertis illud etiam consecutus est ut interioris terrae naturam et compagem certius cognosceret. Nullas profecto regiones non peragravit vir acerrimus, dum telluris superficiei studet, praecipuum vero laudem adeptus est quod rei publicae Iaponicae viginti annos inservit, Geologiae doctor insignis, fodinarum publicarum curator peritissimus. Ibi etiam sexcentas stationes disposuit omnia quae ad terrae motus pertinent et observantium et litteris mandantium. His etiam diebus patriae redditus in insula Vecti tale labor-