

closes the fact that Yuang Chuang, the pilgrim monk, who, in the seventh century A.D., returned after sixteen years' wanderings in India, brought cats with him to protect his collection of Sanskrit Buddhist books from rats. That account, however, is somewhat invalidated by an anecdote of Confucius, who is related to have one day seen a cat chasing a rat. These conflicting statements are from authoritative sources, and it is impossible to offer a satisfactory explanation. Possibly the cat of Confucian times was only a partially domesticated wild cat. There must have been some ground for the statement of the cat having been brought from India, as it is hardly likely that in all the long period of Chinese history it should be named but twice as a domestic animal. He quotes from Chinese folk-lore on the subject of cats. As cruelty to cats and other animals is followed by retribution, so services rendered to them meet with supernal recognition. As anciently the tiger was sacrificed to because it destroyed wild boars, so the wild cat was worshipped because it was the natural foe of rats; boars and rats being the natural enemies of husbandry. At the commencement of the Sui dynasty (A.D. 581), the cat spirit inspired greater terror than the fox did subsequently. The hallucinations of cat spirit mania prevailed, forming a remarkable episode in Chinese history, only to be likened to the fanatical delusion of witchcraft that frenzied Europe a thousand years later. It was believed that the spirit of a cat possessed the power of conjuring away property from one person to another, and inflicted through incantations bodily harm. The popular belief was intensified and spread like an epidemic, until every disastrous affair that took place was ascribed to cat spirit agency set in motion by some mischievous enemy. Accusations were lodged against suspected persons, and, the slightest evidence sufficing for conviction, the malicious were encouraged to trump up charges against the innocent, until the country became a pandemonium. No one was safe, from the Imperial family down to the humble clodhopper. Even a magnate of the reigning house, who enjoyed the titular distinction of Prince or King of Szechuan, was executed for nefariously employing the agency of cat spirits. In this manner several thousands were immolated before the delusion was dispelled. Happily the period appears to have been of brief duration: incentives such as kept up the witch mania for centuries were wanting in China. Coming down to our own times we find a cat-craft delusion prevailed over a great portion of Chékiang. "In the summer and autumn of 1847 frightful wraiths appeared throughout the departments of Hangchow, Shaohsing, Ningpo, and Taichow. They were demons and three-legged cats. On the approach of night a fœtid odour was perceptible in the air, when dwellings were entered by something by which people were bewitched, causing alarm everywhere. On detecting the effluvia in the air, householders commenced gong-beating, and the sprites, frightened by the sonorous noise, quickly retreated. This lasted for several months, when the weird phenomena ceased." Well did he remember, said Dr. Macgowan, the commotion that prevailed in Ningpo throughout those months of terror. Every gong that could be procured or manufactured for the occasion was subject to vigorous thumping through the live-long night, maintained with vociferations by relays of zealous beaters. This deafening din was but a recrudescence of what had occurred a few generations before—a panic which was only exceeded by that which subsequently prevailed over the entire empire.

With regard to sheep, Dr. Macgowan said the ancient mode of writing the character for *yang*, goat, was ideographic—four strokes on the top to represent horns, two horizontal strokes representing legs, and a perpendicular one to represent body and tail. The modern form gives an additional parallel stroke, like the word for horse; it is a simple not a compound character, and when sheep came to be known, instead of making a new character, the sheep was called the "Hun-goat," thus indicating its origin and affinity. *Yang*, goat, is often translated sheep, the earliest instances being found in one of the Odes, wherein the Court habiliments of Wen Wang are called "lamb-skins and sheep-skins." This was about 1160 B.C., but it is doubtful if these robes are really the skins of sheep. It is not certain that such was the case, for the skins of goats were used then, as now, for clothes. Hun-goats are not named before the period of the Tang dynasty, say the seventh century A.D. The goat was one of the sacrificial animals, as at present, and was at the first selected for sacrifice when sheep were unknown.

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In the discussion which followed, the conclusions of the paper were not accepted by all the speakers; and it was agreed that the subject was one worthy of scholarly investigation.

HAINAN.

THE great island of Hainan, off the south-eastern coast of China, is but little known to Europeans, although since 1877 there has been a treaty port there. Mr. Parker, the Consul at Kiungchow, the port in question, lately made a short journey in the interior of the island, of which he gives some account in a recent report. He travelled about sixty miles up the Poh-Chung River, to within a mile or two of Pah-hi, which is, at most seasons of the year, considered the limit of navigation for all but the smallest craft. He walked round the walls of Ting-an city, one of the disturbed districts during the recent rebellions, on New Year's Day (February 9); they are just one mile in circuit, and differ little from those of other Chinese cities. Wherever he had an opportunity of walking diametrically across lengthy curves of the river he found the inclosed area to be extremely well cultivated; though not so flat, its general appearance recalled many features of the Tonquin delta, especially in its great wealth of bamboos. The productions of the soil are much the same, the papaw, areca-palm, sweet potato, turnip, ground-nut, orange-tree, &c.; but a peculiar Hainan feature is the cocoa-nut palm. Another peculiarity of this region is the ubiquitousness of the dwarf *Pandanus*, probably the same as the *P. odoratissima* of Fiji, the fibre of which is used in the manufacture of grass-cloth, and is usually known to foreign trade here as hemp. Much of the land was under sweet potato cultivation, and every household seemed to possess a few pigs, of the very superior and stereotyped Hainan variety, black as to the upper and white as to the lower part of the body, with a dividing line of grey running along the side from the snout to the tail. These wholesome-looking pigs are fattened on the sweet potato, and do not rely for sustenance upon precarious scavenging, as is the case with the repulsive and uncleanly animals of North China. Land contiguous to the river is irrigated by enormous wheels, forty feet in diameter, of very ingenious construction, moved by the current, needing no attention, and discharging perhaps one hundred gallons of water in a minute into the trough above, day and night without intermission. He passed several large pottery establishments; but as at the New Year all business and cultivation are suspended for a few days, the opportunity was not a very good one for gathering precise information. The temperature during the week ranged between 50° and 60° F. Game seemed plentiful everywhere, and he mentions that a German resident has recently made a very fine collection of about 400 Hainan birds, embracing 154 species, which will shortly be on their way to a Berlin Museum. One of the commonest birds in the river is a spotted white and black kingfisher of large size. Amongst the trees which attracted his attention was one locally called the "great-leafed banyan," which looks remarkably like the gutta-percha tree; the natives seem to use its gum mixed with gambier, in order to make that dye "fast"; but there is some doubt whether it is not the sap of the real banyan-tree which is used for the purpose. A very strong silk is made from the grub called the "celestial silkworm," or, locally, "paddy-insect." This grub is found on a sort of maple. When full-grown it is thrown into boiling vinegar, on which the "head" of the gut, or "silk," appears; this is sharply torn out with both hands drawn apart, and is as long as the space between them, say five feet; it is so strong that one single thread of it is sufficient to make a line with which to catch the smaller kinds of fish.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

OXFORD.—The Chancellor of the University, acting as Visitor of Pembroke College, has appointed the Rev. Bartholomew Price, M.A., F.R.S., Senior Fellow, and Vicegerent of the College, Sedleian Professor of Natural Philosophy, to be Master of the College in the place of the late Dr. Evans. Prof. Price, whose contributions to mathematics are well known, has long taken a leading part in University business, and his appointment to the Mastership of the College, of which he has been a Fellow since 1843, will be warmly approved.

Postponement of Full Term.—A meeting of the heads of the Colleges and Halls was held under the authority of the Vice-Chancellor at the residence of the Regius Professor of Medicine, Sir Henry Acland. A report having been presented by the medical officer of health as to the great prevalence of influenza in Oxford, and the difficulty of procuring nursing and medical attendance for the patients, it was unanimously resolved to recommend the Colleges and Halls, and the delegates of the non-collegiate students, to postpone the attendance of the undergraduates to the end of the first week in February, being a fortnight later than the time originally fixed.

CAMBRIDGE.—The *University Reporter* of January 19 contains an official notification by Prof. Liveing, F.R.S., Chairman of the Council of Cavendish College, that the College ceased on January 15 to be a recognized Public Hostel of the University.

Mr. Buchanan, University Lecturer in Geography, announces for the present term a course of lectures on the development of land surfaces under climatic and other agencies.

The Special Board for Physics and Chemistry propose to establish two new special examinations for the ordinary B.A. degree, one in chemistry, including certain papers in heat, electricity, and magnetism, and another in physics, including papers in dynamics, elementary chemistry, and more advanced electricity and magnetism. The examinations will include practical work in some of these subjects.

Mr. W. N. Shaw, F.R.S., has been elected a member of this Board, and Mr. S. F. Harmer a member of the Board for Biology and Geology.

SCIENTIFIC SERIALS.

In the *Journal of Botany* for December 1891, Mr. W. West describes a collection of Freshwater Algæ from Maine, including several new species and varieties; and we have also Mr. W. Carruthers's Report of the Department of Botany in the British Museum for 1890, recording important additions to the herbarium and collections, by purchase, exchange, and gift; among the more interesting being the late Mr. J. Ralfs's type-specimens for his "British Desmidiæ."—Dr. D. H. Scott gives a detailed account of the life and writings of the late Prof. Carl v. Nägeli.

In the *Botanical Gazette* for November 1891, Mr. E. J. Hill describes the remarkable propulsive power possessed by the "sling-fruit" of *Cryptotania canadensis*, belonging to the Umbelliferae, by which the seeds are thrown out to a distance of at least 5 feet; and Prof. Byron D. Halsted, a bacterial disease which is exceedingly destructive to the melon crops and other Cucurbitaceæ in America.—The most important article in the number for December is by Prof. Douglas H. Campbell, on the relationships of the Archegoniatae, under which term he includes the Gymnosperms, as well as the Muscinæ and Vascular Cryptogams. As in previous essays, Prof. Campbell traces the phylogeny of all the higher forms of vegetable life to the Hepaticæ; both Gymnosperms and Angiosperms having probably been derived through the Ophioglossaceæ, Marattiaceæ, and Isoëtæ.—Prof. C. V. Riley describes the new insect-pest which is committing great ravages on dried plants in herbaria—the larva of *Carphoxera ptelearia*, belonging to the Geometridæ.

SOCIETIES AND ACADEMIES.

LONDON.

Zoological Society, January 5.—Prof. A. Newton, F.R.S., Vice-President, in the chair.—The Secretary read a report on the additions that had been made to the Society's Menagerie during the months of November and December 1891. Amongst these attention was called to four Spotted-billed Pelicans (*Pelecanus manillensis*), received from Calcutta, and to a second specimen of the Formosan Fruit-Bat—a species originally described from an example received alive by the Society in 1873.—Dr. E. C. Stirling exhibited some specimens of the new Australian Marsupial (*Notoryctes typhlops*), and gave a short account of the habits of this remarkable animal, as observed in a specimen recently kept in captivity by one of his correspondents.—An extract was read from a letter received from Dr. F. A. Jentink, calling attention to the recent acquisition by one of his correspondents in Java of additional specimens of the

rare Bush-Rat (*Pithechir melanurus*).—Mr. Ernst Hartert exhibited a series of eggs of the Common and other Cuckoos, mostly collected by himself and trustworthy friends, and made remarks on the question of the similarity of the eggs of the Cuckoos to those of the owners of the nest in which they are deposited.—A communication was read from Dr. J. Anderson, F.R.S., containing notes on a small collection of Mammals, Reptiles, and Batrachians made during a recent visit to Algeria and Tunisia.—Mr. F. E. Beddard read a paper upon the Earth-worms collected by Dr. Anderson during the same expedition. Amongst them were examples of a new species of the genus *Microscolex*. A second new species of the same genus, based on examples collected by Mr. E. B. Poulton, F.R.S., in Madeira, and proposed to be called *M. poultoni*, was also described.—A communication was read from Mr. R. I. Pocock on some Myriopoda and Arachnida collected by Dr. Anderson during the same expedition.—Mr. M. F. Woodward read a paper on the milk dentition of *Procapra (Hyrax) capensis*. The author showed that Lataste's canine has a counterpart in the lower or mandibular series, and he described for the first time two small vestigial upper incisors. He concluded that the teeth named belong collectively to the first or milk set, and that the formulation of the incisors of this genus as $\frac{2}{1}$ is probably due to the occasional persistence of the second upper milk-incisor.—Mr. Oldfield Thomas gave an account of the species of the Hyracoidea, of which order he had lately examined a large series of specimens. The author recognized fourteen species of this group of Mammals, all of which he proposed to refer to one genus (*Procapra*). Besides these, four geographical sub-species were recognized. A new species was described as *P. latastei*, from Senegal.

Geological Society, January 6.—Mr. W. H. Hudleston, F.R.S., Vice-President, in the chair.—The following communications were read:—On a new form of *Agelacrinites (Leptodiscus Milleri, n. sp.)* from the Lower Carboniferous Limestone of Cumberland, by G. Sharman and E. T. Newton.—The geology of Barbados; Part II. The oceanic deposits, by A. J. Jukes-Browne and Prof. J. B. Harrison.—*Archæopneustes abruptus*, a new genus and species of Echinoid from the oceanic series in Barbados, by J. W. Gregory. This genus belongs to a group of Echinoidea which has given some trouble to systematists, owing to the union of the characters of the orders Cassiduloidea and Spatangoidea; the other genera belonging to the group are *Asterostoma*, *Pseudasterostoma*, and *Palæopneustes*. The evidence of the new Echinoid throws light upon the affinities of these genera. The main points suggested by a study of the new species are: (1) the abandonment of the name *Pseudasterostoma* as a synonym of *Palæopneustes*; and (2) the inclusion of the true *Asterostoma*, *Palæopneustes*, and *Archæopneustes* in the Adete Spatangoidea, whereby the Plesiospatangidæ are left as a more homogeneous family, though bereft of the chief interest assigned to it. A tabular summary of the nomenclature of the group is given. The best-known fossil species of *Asterostoma* and *Palæopneustes* occur in Cuba, in deposits referred to the Cretaceous owing to the resemblance of these Echinoids to the common Chalk *Echinocorys scutatus*. The new genus includes a species from the same deposit, which is probably of the same age as the Bissex Hill rock from which the new species was obtained; this is at the top of the oceanic series, and belongs to the close of the great subsidence. After the reading of this paper, there was a discussion in which the Chairman, Dr. Blanford, Prof. Sollas, Prof. Harrison, Mr. J. W. Gregory, and Mr. W. Hill took part.

DUBLIN.

Royal Society, December 16, 1891.—Prof. A. C. Haddon, President of the Scientific Section, in the chair.—Mr. E. W. L. Holt read a paper on the eggs and larval and post-larval stages of Teleosteans, obtained during the Society's survey of fishing grounds on the west coast of Ireland. Thirty-three species, chiefly food-fish, are dealt with. The eggs of *Gadus esmarkii*, *G. pollachius*, and *Rhombus megastoma*, are described for the first time; those of *Hippoglossa platessoides* (the long rough dab), *Scomber scomber* (the mackerel), and *Caranx trachurus* (the scad), are also described. The development of the long rough dab, turbot, brill, and several other species of flat-fish, is traced upwards, to the assumption of the adult characters, with more or less continuity. The paper concludes with a series of tables containing an artificial classification of the pelagic eggs of British marine Teleosteans for purposes of easy identification.