

Paul Stroobant contributed a large section dealing with the progress of astronomy during the year 1912. This section has now been issued in a small book form, and will be found very handy and useful for reference.

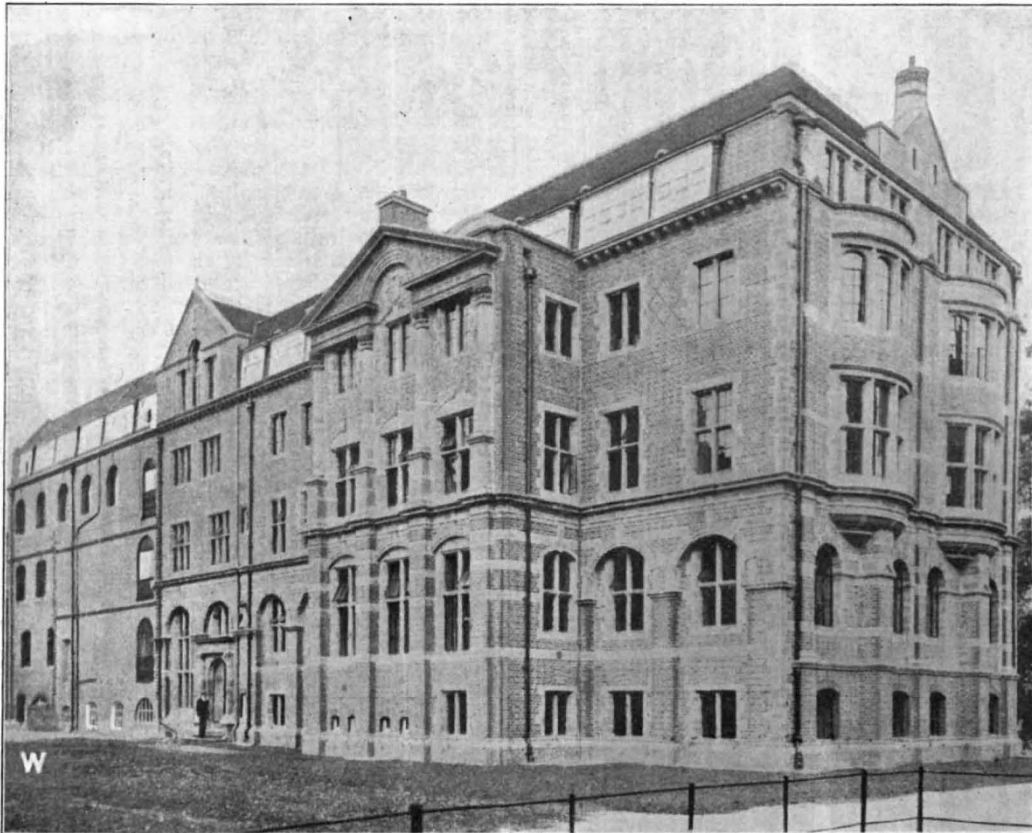
NEW PHYSIOLOGY SCHOOL AT CAMBRIDGE.

ON June 9, H.R.H. Prince Arthur of Connaught opened the new physiological laboratory erected by the Drapers' Company, and presented by it to the University of Cambridge. A comparison of the old laboratory with the new illustrates the remarkable increase in complexity that has taken place in recent

and the current can be taken direct from this when arc lamps are in use

Compressed air is supplied to the research rooms, at a pressure of 25 lb. to the sq. in.; the compressor has an automatic switch which starts the motor when the pressure drops to 12-15 lb. to the sq. in. The compressed air, besides its other uses, is employed for aerating the water in the tanks of a small room fitted up as an aquarium. Some of the tanks contain sea-water for marine animals, and by the method employed, the sea-water only requires renewal about once in three months.

There is a special boiler for supplying hot water to the sinks, and a destructor for burning animals killed in the laboratories. On the ground floor is a refrigera-



New Physiology School, Cambridge. View from N.W. The large lecture room and the biochemical department w.l form a wing on the E. side of the entrance door.

years in physiological investigation. The old laboratory, the last part of which was built in 1891, was for some years amongst the best in the country, yet it had no electrical supply, and the research rooms simply afforded space without any adaptation for special purposes. The following account of the chief features of the new laboratories will show how the conditions have altered. The building is 162 ft. long and 44 ft. broad. The eastern half consists of five storeys, the western half has the fourth and fifth storeys thrown together to form one large room with a gallery. Electric light is throughout. The rooms are supplied with 4-volt and 110-volt current from a storage battery, and in many of the rooms the current can be taken from plugs hanging from the ceiling. The battery has a capacity of 480 ampere-hours; it is charged from an external power station,

tor plant keeping a small room above it on the first floor at $0^{\circ}-3^{\circ}$ C.

Two rooms are fitted up for research in electrophysiology each having a dark room, so that photographic records of the electrometer, and string galvanometer, can be taken. These are on the ground floor, which is 5 ft. below the surface; the stone slabs on which the instruments rest are practically devoid of vibration. Two rooms on the same floor are arranged for thermo-electric research, and a continuous record can be taken of the heat given out by small animals over a period of several days. Two communicating rooms are designed for surgical operations; one of these, and some of the experimental rooms, have a special arrangement of hot-water pipes for heating to 75° C. Adjoining these are experimental rooms with kymographs. There are three dark

rooms, one for developing photographs, one for visual observations, and one for X-rays. The ordinary table for X-ray observations has been modified for work on anaesthetised animals. An ultra-microscope is installed in the room devoted to research on colloids. On the north side of the second floor are rooms for microscopic and experimental neurology. Three rooms are specially fitted for blood gas analysis. The laboratory also contains a large library well supplied with physiological books and periodicals.

The class-rooms occupy the fourth and fifth floors; there are two large experimental rooms, one for elementary and the other for advanced work, and a histology room with places for 150 students. Adjoining is a small demonstration room, holding about fifty, and on the first floor is a larger demonstration room, holding about eighty. This latter room has dark blinds, moved up and down by a motor, which can be set in action from the lecturer's table. It is fitted with epidiascope and with kinematograph.

The architect of the building is Sir Thomas Jackson. In the wing to be built later on the north side will come the large lecture room and some additional rooms and offices.

ORNITHOLOGICAL NOTES.

TO the February number of *British Birds* the Rev. F. C. R. Jourdain and Mr. Clifford Borrer contribute an article on erythristm in the eggs of British species, that is to say, eggs in which the normal type of colouring has been replaced by one in which the markings are of various shades of red or reddish-brown; in other words, those in which the pigment consists solely of oörhodein; but the range of colour-variation in the species includes eggs coloured with bile-pigment (biliverdin), either alone or with other pigment, to form the various greens and blues. For this reason the eggs of the Accipitres, which, although really erythristic, seldom show traces of other colouring matter, are excluded. As might have been expected, the erythristic variation generally extends to the entire clutch. Whether individual birds which lay erythristic eggs in one season, do so always, is a point to which no reference is made.

In the *Selborne Magazine* for February members of the Committee for the Economic Preservation of Birds direct attention to species of which the plumage may be used without involving any destruction other than would normally occur, as in the case of game-birds, or without any destruction at all, as in the case of the ostrich, rhea, and, it is said, the peacock. On the other hand, it is urged that the slaughter of mischievous species, like many of the grain-eating parrots, is justifiable, and therefore that their plumage may be worn.

The feature of the winter number (1913) of *Bird Notes and News* is a coloured plate by Mr. Lodge of some of the species most severely persecuted by the plumage-trade. Statistics of the numbers of skins of various species offered at the London auctions are given, in connection with the Plumage Bill.

Bird-Lore (D. Appleton and Co., Harrisburg and New York) for January and February is a good number, containing two coloured plates, and the fourteenth annual census of the local migrations of well-known American species. One of the results is to show that during the past season "chickadees," which seldom come so far south as Massachusetts, reached Rhode Island, Connecticut, and Rhinebeck.

From a paper by Mr. H. Victor Jones in the February number of the *Zoologist* on certain para-

sites of birds, we learn that while rooks and the diurnal birds-of-prey—probably owing to the strength of their gastric juices—are practically free from intestinal infestations of this kind, curlews show, on the average, no fewer than 49.5 per head. As there seems to be a connection in many species between the numbers of external and internal parasites, it is suggested that some of the former may serve as hosts for the latter during the earlier stages of their development.

As one of the results of bird-protection, there are hopes that kites may soon be seen in districts from which they have long since disappeared. During the last few years these birds have increased considerably in numbers in Wales, and it is probable that the pair recorded by Messrs. Hale and Borrer in the March number of *British Birds* to have bred in Devonshire in the spring of 1913 were emigrants from that colony. Kites are also recorded in the same issue, on more or less satisfactory evidence, to have been seen during 1913 in Somersetshire, Derbyshire, and Buckinghamshire.

According to the January number of the *Emu*, it is expected that an Act for the reservation of 300 acres to serve as a bird-sanctuary in Kangaroo Island will be passed by the Commonwealth Government next session. Lyre-birds, formerly abundant in very similar country in the Blackall Ranges, would probably flourish there. It is also recorded that at the annual congress of the R.A.O.U. a resolution was unanimously carried calling on the Government to pass a local Act on the lines of the British Plumage Prohibition Bill.

In the *Field* of March 28 Mr. Seth Smith directs attention to the remarkable cry uttered by the king penguin in the Zoological Gardens. The bird is shy of going through the performance, but if gently stroked on the throat by its keeper will gradually raise its head and stretch its neck to the utmost, then, throwing out its chest, it emits a series of loud, trumpeting sounds which last for some seconds; the bird on the utterance of the last note suddenly drops its head, as if bowing to the audience. The "song" and the concluding gesture are probably the "display" of the penguin, for in bowing it exhibits to the best advantage the brilliant golden patches on the sides of the head. As these patches are not confined to the male sex, it is probable that both sexes "display."

The feeding habits of the South African ground-hornbill (*Bycanistes buccinator*), as exemplified in a pair of tame specimens, form the subject of a note by Mr. C. F. M. Swynnerton in the *Journal of the South African Ornithologists' Union* for December, 1913. Their extreme voracity, the lightning-like rapidity with which they would seize rats in a barn, and the small size of many of the insects upon which they fed, were some of the most noticeable features of these great birds. After devouring half a score of rats at one meal, these birds would be ready for a second meal an hour later; and they would seize and eat house-flies with the same apparent zest as they devoured rats.

The beaks of crossbills are not always crossed in the same manner, the upper half in some individuals crossing to the bird's own right, while in others the reverse condition obtains. Examination of 171 specimens has enabled Mr. Miller Christy to state, in the April number of *British Birds*, that, so far as this evidence goes, the numbers of the two types are approximately equal—eighty-four of one type and eighty-three of the other, with four specimens indeterminate. This, it is suggested, is an indication that the crossing of the beak is of recent origin, and therefore probably not a Mendelian feature.