

no sign of subsequent submergence. Both topography and the distribution of the high-level gravels emphasise the long period which elapsed between middle palaeolithic times and the arrival of the Fayum flint-workers.

It would appear that both the geological evidence and the evidence of culture—unless we are to revise entirely our conception of the culture attainable by a palaeolithic people—preclude the attribution of a very high antiquity to this civilisation of the Fayum. In so far it has failed to support the early dating of the analogous culture found at Badari, where too it must be remembered that it has been stated that copper beads were found, not, it is true, in the settlement, but in a grave in the adjacent cemetery.

Animal Breeding and Genetics.¹

THE report under notice contains the record of a series of most interesting researches, not by any means all of which deal with what may be termed genetical problems, for a considerable number consist in studies of abnormal development. Thus the Director, Dr. F. A. E. Crew, has studied the so-called 'bull-dog calf.' These calves are born dead, and their anatomy shows a close resemblance to the so-called achondroplasia in human dwarfs. Dr. Crew maintains that the tendency to produce such offspring is hereditary and 'mendelises' when crossed with the type. He attributes it to the retardation of the coming into action of the pituitary gland; this may be so, but the immediate mechanism is doubtless as it is in human dwarfs, amniotic pressure, *i.e.* a too closely clinging amnion.

Mr. Nichols investigated a cross between Leicester and Cheviot sheep, the result of which had been stated to produce a hybrid of stable character. When the F₂ generation was raised, however, it was found that whereas 64 out of 103 resembled their F₁ parents, 18 approached the Leicester type and 20 had mixed characteristics of both Cheviot and Leicester. This result does not, as Mr. Nichols imagines, prove Mendelian segregation in the proper sense of the word. It is a result always obtained when two natural races are crossed; every conceivable intermediate turns up, but the attempt to express the result in 'factors' leads to interminable confusion. The number examined (100) is far too small to warrant any statistical conclusions.

Mr. Blyth has been engaged in a microscopical survey of the various types of wool raised in the British Islands. Four types are distinguished, namely, mountain long wool, lustre (also long wool), mountain short wool, and short wool (Down breeds). There are two main types of hairs making up the fleeces, namely, (a) long coarse hairs with reticular scale markings, and (b) short, fine hairs with coronal markings. Type (a) is found only in the long wools, type (b) in varying proportions in all the breeds. Short coarse fibres called 'Kemp,' frequently shed, are found in all the breeds. This and type (a) are regarded as equivalent to the primitive hair of the wild progenitor, whilst type (b) represents the original wool.

Mr. Greenwood has been following the fate of grafts of gonads implanted in fowls. This is especially interesting in view of the claim of Zawadovsky to have changed a cock into a hen by two operations, (a) cutting out the testes, (b) implanting an ovary. Mr. Greenwood finds that the ingrafted ovary frequently assumes a testicular structure by the ingrowth of sex-tubules from its periphery, and that sometimes the

removal of the ovary stimulates the development of the vestigial right gonad. This gonad in one case was testicular in structure, in another ovarian, but with ingrowth of sex-cords indicating that it was being transformed into a testis.

Mr. L. Tamura is engaged in investigating the sex dimorphism of the suprarenal gland, which, as a result of previous work, he asserts, is different in the two sexes, the gland of the female showing a wide zona reticularis, whilst this region is vestigial in the male gland. It was found that when the male was castrated the suprarenal underwent enlargement, which was entirely due to the appearance of a wide zona reticularis. A sterile Dingo bitch which was investigated showed an infantile vagina and uterus with degenerating ovaries whilst the teats were normally developed, but not only the suprarenal but also the thyroid and pituitary glands showed obvious and gross signs of degeneration.

In conclusion, we should like to congratulate Dr. Crew on the variety and interest of the researches which are being carried on under his supervision.

E. W. M.

University and Educational Intelligence.

THE Brighton Technical College in its calendar for 1926-27 is able to offer substantial evidence of the efficiency of their instruction in engineering subjects, six of the students having gained directly from the College the B.Sc. (Engineering) degree of the University of London in 1926. The College has a flourishing school of pharmacy, and provides courses of building, architecture, commercial subjects, and domestic science, as well as in arts and pure science subjects.

The Technical College, Bradford, gives particulars in its prospectus for 1926-27 of diploma courses in textile industries, arranged with special reference to the needs of the worsted industry, chemistry, dyeing, civil, mechanical and electrical engineering, physics, and, exceptionally, biology. In recognition of the importance to students in all branches of technology of a knowledge of the fundamental principles of economics, courses in the department of commerce and banking have been developed in relation to those in the various other departments of the College, and particularly to those in the department of textile industries. Conversely, a special course for merchants has been established to equip those students who are to be engaged in the distributive side of the industry with a sufficient knowledge of dyeing and textile subjects.

FROM the Czech Academy of Sciences and Arts, Prague, we have received an "Almanach" for 1924. It is beautifully printed on 240 pages and is embellished with a large number of remarkably fine portraits accompanying biographical notices. It is printed throughout in the Czech language without any summary or abstracts in more widely known languages, and it was with some difficulty that we ascertained the purport of even the title-page. One of the recommendations made by the Directors of National University offices at their recent reunion at Paris was that the official publications of universities should, if printed in a language the use of which is not widely diffused throughout the world, have appended to them abstracts in one of the languages in more general use. The adoption of this recommendation is no doubt impossible in many cases without a certain sacrifice of *amour propre*, but it is

¹ Animal Breeding Research Department, the University, Edinburgh. Report of the Director for the year April 12, 1924, to March 31, 1925 (being the Fifth Annual Report). Pp. 21. (Edinburgh.)