

the village decorated memorial poles are erected. In the example described by Mr. Lorrain, one of the poles bore the horsehair plume denoting that the deceased had taken heads and the tail-feather of a cock denoting that he had carried off another man's wife, while on another pole was the skull he had taken. A third small pole showed projecting points, each representing a slave he had carried off when making raids. The animals which had fallen to his spear in the chase were represented by stones round the foot of the poles. A large, flat stone was possibly a sacrificial slab. On one side was placed a row of flat staves representing the deceased's wives.

Great value is attached to the heads of animals taken in the chase and to the heads of human beings taken in tribal wars and raids, as the possession of such is believed to give the owner not only power over the victims in the "world to come," but also ensures a permit into Paradise after the death of the one who has obtained a full set of heads. Sometimes the marriage price of a maiden consisted in part of a number of such heads of human beings, and this led to young men entering into raids upon their near or distant neighbours.

By religion the Lakhers are animists, but it would be more correct to say that they appeased rather than worshipped these spirits, which are believed to be the authors of all evil. A large tree in the centre of the village was held to be the abiding place of the most powerful spirit. At the foot of this tree was the sacrificial stone upon which cocks and pigs were sacrificed.

In the discussion which followed the paper Mr. Lorrain, in replying to certain queries raised by Col. Shakespeare, stated further that there were well-marked social distinctions between the clans. The headship of the village could be held only by the members of about six clans. Next in grade to these were the aristocratic clans, also about six in number, who could not hold the headship of the village. The lower classes comprised two grades, an upper of ten to fifteen clans and a lower of about thirty clans. Below these were the slaves. The headship of the village descended from the father to the youngest son of the chief legitimate wife; other sons became headmen of outlying villages. Mr. Lorrain had not found any regular institution of feasts similar to those held among the neighbouring Lushai, which, when given in a certain progression in the number and character of the victims, bring the giver honour in this world and favour in the world to come. He had found, however, one instance of a house in which the door had a rounded instead of a square top. The exact significance of this he had not been able to ascertain beyond that it was a privilege connected in some way with a special sacrifice.

### Meteors of the Season.

THE November meteors are due to return on November 14 and 15, and, though no abundant display may be expected, Mr. W. F. Denning thinks that the shower is likely to prove fairly conspicuous. The parent comet of the meteors must have been in aphelion in 1916, and is now situated between the orbits of Saturn and Uranus, so that whatever meteors may appear this year must be at a vast distance from the cometary nucleus of the shower. The whole orbit, however, contains meteoritic particles, and observations during last century prove that this system re-appears annually at the middle of November. It is fortunate that the moon will be absent from the sky after the rising of the Leonid radiant, which occurs at about 10.15 p.m.

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on November 15. Probably the meteors will be far more abundant after midnight, when the radiant at  $150^{\circ}+23^{\circ}$  has attained a fairly good altitude.

These November meteors belong to the swift class, moving at the apparent velocity of 44 miles per second, and, like the Perseids of August, they include flashing fireballs of the largest kind intermingled with the smallest shooting stars.

An abundant shower of meteors was observed between October 30 and November 5, and quite a large number of fireballs were seen. The meteors belonged to a radiant point in Taurus and a few degrees southwest of the Hyades, at about  $59^{\circ}+12^{\circ}$ . There was also another shower situated in Aries at  $43^{\circ}+22^{\circ}$ , which furnished a considerable number of meteors. These were slow-moving, brilliant objects, and have usually traversed long flights.

Both these showers were well observed by Miss A. Grace Cook from Stowmarket during a series of careful and prolonged meteoric observations between October 30 and November 4. Mr. F. Sargent at the University Observatory, Durham, also witnessed the fall of a number of meteors on October 30 and November 5. At Bristol Mr. Denning saw some of the meteors, and one of them, on October 30, about 7.14, was also observed by Mr. F. Sargent. The real path of this object was from about 77 to 55 miles in height, and its luminous course 110 miles at a velocity of about 24 miles per second. The radiant point was at  $60^{\circ}+14^{\circ}$ .

A very brilliant member of the same shower appeared on November 4 at 6.11, and came under observation by Miss A. Grace Cook at Stowmarket and by others at Bristol and Ilford. It had an extremely long path, and afforded a grand spectacle to many observers in the south of England. This was also a Taurid, and it traversed a horizontal course of about 235 miles at a height of about 63 miles from over the sea, about 40 miles east of Southwold, to over Somerset about 20 miles south of Bath. This shower of Taurid meteors is well known, but its recent display, like that on November 2, 1886, was of a rather exceptional character.

### Heredity and Social Fitness.

DR. WILHELMINE E. KEY has made (Carnegie Institution, Washington, Publication 296, 1920, pp. 102) a careful study of differential mating in a Pennsylvania family. The study comprises 1822 individuals, nearly half of whom are in the direct line of descent from two pairs of German immigrants of more than a century ago. The remainder were considered in connection with the strains into which the descendants of these couples married. The research began with four young people, patients at the Institution for the Feeble-minded of Western Pennsylvania, and was followed into intricate networks of stocks. Some of the general results may be outlined. (1) The behaviour in inheritance of such qualities as far-sightedness, perseverance, and push indicates that the occurrence of these traits is due to a segregation of their determiners. (2) There was a decided decrease in fecundity in all lines, but not more marked in the socially inefficient than in the efficient. On the other hand, the survival ratios increase for the successive generations of the efficient lines, while they decrease for the inefficient lines, thus illustrating Nature's method of eliminating the unfit. (3) In migration the more efficient push into new areas, the less efficient tend to settle down. (4) The reactions of the degenerate members show that the variations in efficiency are due not to adverse conditions, or to

isolation, or to lack of opportunity, but to native inability and to the mating of defective with defective. (c) Individual immigrants of high potentiality tend to marry with the better native stocks, while those of low potentiality gravitate towards inferior native stocks. The whole history emphasises the usefulness (a) of segregating the markedly defective, (b) of some colonisation scheme, together with sterilisation, for certain types of the socially unfit, and (c) of some expert board of control with authority to prohibit marriages of a cogenic sort. There is danger in ameliorative methods which allow the markedly unfit to multiply and counteract natural agencies for the selection of fit strains. More positively, public opinion requires to be educated towards a keener realisation of the possibilities of establishing strong strains of efficient citizens.

### University and Educational Intelligence.

CAMBRIDGE.—Mr. R. A. Fisher and Mr. A. R. MacLeod have been elected to fellowships at Gonville and Caius College, and Mr. R. O. Street, Mr. W. H. Bruford, and Mr. G. E. Briggs to fellowships at St. John's College.

LONDON.—A course of nine lectures on "A Historical Review of Meteorological Theory" will be given at the Meteorological Office, South Kensington, S.W.7, by Sir Napier Shaw, reader in meteorology in the University, on Fridays at 3 p.m., beginning on January 21 next. The course is intended for advanced students of the University and others interested in the subject. Admission is free by ticket, to be obtained on application to the Meteorological Office, South Kensington, S.W.7.

The informal meetings at the Meteorological Office for the discussion of important current contributions to meteorology, chiefly in Colonial or foreign journals, began on Monday, November 1, and will be continued on alternate Mondays, with the exception of December 27, until March 21, 1921.

DR. A. FULTON, hitherto lecturer on engineering in Dundee University College, has been appointed to the chair of engineering in the same institution.

THE Cambridge University Calendar for 1920-21 has been published by the University Press, price 20s. The volume contains lists of University officials, professors, lecturers, etc., and the regulations for prescribed courses, degrees, and prizes. The Tripos lists from 1911-20 are given, and also the list of degrees conferred during the year 1919-20. Some three hundred pages are devoted to notes on the individual colleges, which give all the essential information about the constitution of these bodies, the regulations for admission, scholarships, etc., together with the lists of fellows, graduates, and undergraduates attached to them. The volume is supplied with a general index, and also with a complete index to members of the University.

THE Calendar for the session 1920-21 of University College, University of London, has been received. In it will be found complete details of all the faculties of which it is composed, together with time-tables for all the courses provided and lists of the scholarships, prizes, etc., available. There is also an account of the assembly held on July 2, when the American Ambassador, Mr. John W. Davis, took the chair. The Provost of the college made his report for the session 1919-20, and mentioned that during that period the college had been the recipient of two gifts from the United States: one of 1,250,000l. from the

Rockefeller Foundation for the promotion of medical research, and another, a collection of books on American literature, history, and institutions, from the Carnegie Endowment for International Peace. Other benefactions which were mentioned included a gift of 10,000l. from Lord Cowdray for the extension of the engineering school, and a grant from the Carnegie United Kingdom Trust which had made it possible to institute a school of librarianship.

DETAILS of the French Budget for 1920 are given in the *Fortnightly Survey of French Economic Conditions* of September 1. For the Ministry of Public Instruction and Fine Arts a sum of 1,067,328,770 francs is provided which will be allotted in the following way: For public instruction, 994,335,476 francs; for the fine arts, 44,008,800 francs; and for technical instruction, scholarships, etc., 28,984,494 francs. Of a total of 3,280,247,620 francs provided for the Ministry of Public Works, 128,650,830 francs is devoted to section 11, which deals with aeronautics and aerial transportation. In the section of the Budget dealing with extraordinary expenditure which is not provided for by taxation the Ministry of Public Instruction and Fine Arts is credited with a further sum of 109,175,400 francs. The Ministry also receives 129,762,000 francs for the reconstruction of schools, etc., which will be recovered under various peace treaties which have been signed; while the Ministry of Agriculture will be credited with 5,812,000 francs from similar sources for the purposes of reforestation and the reconstruction of fences protecting State forests.

TEACHERS' Leaflet No. 9 of the Bureau of Education, Washington, illustrates the earnest endeavours now being made in the United States to place instruction in civic rights and duties upon a firm foundation. The leaflet, prepared under the direction of the Bureau's specialist in civic education, describes a series of lessons in civics for the three primary grades of city schools. Each lesson is based upon some situation of civic significance in which the child is normally to be found. The typical situations include: Riding in public conveyances; visiting public places; an accident; a fire drill; arrival of a new pupil or visitor to the school; the walk to school; the arrival of the mail; and contact with a sick person. In conversation style the children are led to give their observations and experiences, and through the teacher's interpretation and enlargements the civic significance is induced. The syllabus is replete with suggestions, dramatisation without material being especially recommended. Similar situations are dealt with in each grade, the instruction being cumulative and concentric. The proposed enlargement of the syllabus and its adaptation to the requirements of the intermediate higher grade will constitute an interesting and important experiment in civic training.

THE Department of Aeronautics in the Imperial College of Science and Technology announces an extensive series of lectures for the year 1920-21. Two full-time courses have been arranged: (1) Design and Engineering and (2) Meteorology and Navigation. The former course includes lectures on aerodynamics by Prof. Baird, with practical class-work under his direction; a special course of mathematics for students of aerodynamics; design lectures and drawing-office work under Prof. Baird and Mr. F. T. Hill; and lectures on the construction and strength of aircraft by Mr. A. J. Sutton Pippard. Engine design is dealt with by Mr. A. T. Evans, the theory of the internal-combustion engine forming the subject of a series of lectures by the director of the department, Sir Richard Glazebrook. A special