

communities for generations, similar studies should be undertaken, distributed as widely as possible over the country, before improved communications break down this isolation. The present observations appear to bear out the author's contention that such a series of records is bound to throw light on the occurrence of rare recessive characters, which are much less likely to occur when random mating is the rule rather than the exception. The village here under study consisted of about fifteen hundred inhabitants. Observations of numerous morbid data extended over a period of years, and led to the conclusion that heredity plays an even more important part in many varied conditions than is generally recognized. Of the many conditions studied, eight were chosen for discussion—hereditary cerebellar ataxia, progressive muscular dystrophy, the lymphatic diathesis, otitis media, hernia, cancer of the bowel, rodent ulcer and hydramnios. Among the more significant points which emerge, it is noted that in progressive muscular dystrophy, the condition is definitely sex-linked. It is transmitted by apparently healthy females in three generations. In three cases it was associated with failure to bleed, a peculiarity not previously recorded in this connexion. The incidence of hernia is curiously restricted. Out of twenty cases, fifteen occurred in two families; and heredity evidently played a part even more important than strain. The possibility of the occurrence of a zygotic lethal factor in the male—a possibility suggested with some doubt by Ruggles Gates—receives support from the study of hydramnios, where there may be a relationship of the cases on the paternal, and not the maternal side.

#### Natural and Synthetic Fibres: Sisal and Flax

INTERESTING information on the development of natural and synthetic fibre industries is published in the *Journal of the Royal Society of Arts* (87, No. 4494). Discussing sisal and flax production in East Africa, Dr. W. H. Gibson maintains that the sisal industry is now well established in Kenya, binder twine and string being at present the chief uses for the fibre. Sisal is also finding a ready market for matting and upholstery filling, and tests regarding rope manufacture are giving satisfactory results. The flax industry in Kenya, on the other hand, has so far been less successful, due largely to the difficulties encountered in the process of retting, that is, the preliminary steeping process during which the fibres are loosened from the woody stem. Experiments recently carried out in the United Kingdom, however, have shown that it is possible to eliminate this process and extract the fibre from the natural flax, and with this discovery the way for the development of the industry in Kenya and other suitable parts of the Empire seems most promising.

THE modern counterpart of these vegetable fibres, namely, the synthetic textiles, are the subject of a paper by Dr. E. F. Armstrong. Artificial silk produced from wood pulp and its more recent development, staple fibre, are well-known supplements to, and competitors with, natural silk, wool and cotton. A new textile called 'Nylon' has, however, recently

been produced by the du Pont Laboratories in the United States. This thread is of an entirely different origin to rayon, as it is a plastic substance derived ultimately from coal tar, with dyeing properties akin to natural silk or wool, and it appears to have a most promising future. Two other types of fibre may be mentioned. The first is 'Lanital', an Italian product made from casein and used as a wool substitute, but as it lacks wet strength, attempts are being made to produce a better product from the protein of the soya bean. The second is spun glass which, though unsuitable for clothing, is used for electrical insulation, gas and liquid filtration and decorative purposes. In spite of the popularity of synthetic textiles, it is noteworthy that in 1937 the world production of these fibres was only in the ratio of 1.8 to 28 of natural spinning materials.

#### Forestry in Finland in 1937

THE annual report of forestry activities in Finland (XVII Metsätalasto Forststatistik—Kertomus Metsähallinnon Toiminnasta 5, 1937. Berättelse över Forstförvaltningens Verksamhet, Ar 1937), published in Helsinki last year, sums up the work of this progressive Forest Department. The great advance made by Finland since the Great War and the position she has taken in European forestry circles may to some extent be attributed to the fact that the Forest Department had a large forest capital at its back already under exploitation. Consequently a variety of problems were presented to the trained forester, from forestry education through sylvicultural management and protection down to the study of utilization, the improvements possible in extraction, statistics and prices, and so forth. The forestry reforms of 1921–23 prescribed the division of the country into four districts containing ten forest inspections and ninety cantonments (subdivisions of an inspection). Each district was administered by a local forestry bureau, under whom were the inspections, each in charge of an inspector. An important outcome of a decree of July 1934 is the gradual replacement of the untrained forest guards by *chefs de travail* or overseers, all of whom will have received training at one of the forestry schools, of which there are six. Considerable progress has been made with working plans and maps required in connexion with their preparation—revision of these plans is undertaken every ten years. The report deals in detail with the commercial activities, since the forests play so important a part in Finnish economy, and the British market is a very valuable one. An interesting point in the report is the policy undertaken by Government of settling a proportion of the population within the large forest areas owned by the State.

#### The Phenological Survey

THE new phenological forms distributed by the Royal Meteorological Society to its six-hundred-odd observers for 1939 have a further reconstruction of selected specimens of fauna and flora on a much more scientific basis. A noticeable feature is a considerable increase in the number of Lepidoptera selected for special observation, there being fifty selected



indigenous Lepidoptera the appearance of which is to be recorded, and three immigrants. This has been at the expense of a considerable reduction in the bird migration list, as many of those subjects had been reported on continuously for many years. There has been an extension in the selected observations on trees, chiefly in regard to leafing times. The modern system of Latin bird names is now used, although observers are warned that the old system is still used in some reference books. Particular stress is laid on the importance of recording the effects of abnormal weather upon the vegetation, etc. Spring and early summer appearance dates of the peacock and red admiral butterflies should help gather additional information regarding the question of their hibernation. A valuable addition to the recording of flowering of plants and leafing of trees is the recording, as well as the date, of the sheltered or open position of the plant. On the whole, the amount of observation called for has been considerably increased, but individual phenologists are encouraged to send in returns of any one group if they wish.

#### Norman Lockyer Observatory

*Bulletin* No. 2 of the Norman Lockyer Observatory, Sidmouth, recently issued, contains an appreciation of the late Sir Robert Mond, chairman of the Observatory Corporation for twenty-one years and a generous benefactor to the Observatory. A further note of a personal nature gives an account of the unveiling of the memorial to the late director, Dr. W. J. S. Lockyer, at which Sir Robert Mond presided just three months before his death. Part of the memorial alluded to is the Oxford microphotometer, a description of which is given in the present *Bulletin* by the director, Mr. D. L. Edwards, together with illustrations of representative tracings of stellar spectra and of several line-contours, obtained with the instrument. Mr. D. R. Barber contributes two papers. The first is a detailed account of the magnificent auroral display of January 25, 1938, which appears to have been visible over practically the whole of Europe and the North American continent. The second paper deals with the objective prism-spectra of Finsler's Comet obtained at its apparition of 1937. In a preliminary investigation (*N.L.O. Bull.*, No. 1), Barber had found that a visual comparison of the intensities of the cometary bands at 4700 and 3880 Å. due to C(IV) and CN(IV) radiation respectively indicated that the former was about  $2\frac{1}{2}$  times stronger than the latter, a result in the opposite direction from that deduced from slit spectrograms secured at the Mt. Wilson and the Lick Observatories. The Sidmouth spectrograms have now been analysed by means of the new microphotometer, and Barker confirms his first result with, however, a reduction of the ratio of relative intensities from  $2\frac{1}{2} : 1$  to  $1\frac{1}{4} : 1$ .

#### Literature for Adult Education

An important factor in the success of discussion groups or public lectures as a means of education for citizenship is the provision of books and other

suitable material for reading. A pamphlet, "Printed Page and the Public Platform", which has recently been issued by the Office of Education, United States Department of the Interior (Washington, D.C.: Gov. Printing Office, 20 cents), analyses the different factors involved and gives an account of experiments and experience in the United States which should be highly useful to those interested in adult education in Great Britain. The necessity for close co-operation between libraries and such discussion groups is emphasized, and a number of practical suggestions are detailed to facilitate co-operation. The scope and functions of reading lists are critically discussed and the importance of having the reading material as accessible as possible to those taking part in the discussions or attending lectures is recognized. Equally important is the suitability of the material, and while the criticism is not specifically directed at scientific literature, it applies equally to that intended for the general public. Able exposition is a first condition of success, involving an understanding not only of the subject handled but also of the readers to whom the book or article is addressed, and if pamphlet literature admittedly presents special difficulties, the problem is one which deserves greater attention because of its greater appeal to many readers in spite of the distribution difficulty.

#### The International Seismological Summary

THE I.S.S., compiled at Oxford, is a work which increases in volume and range as it progresses. The volume for January, February and March 1933, which commences the sixteenth volume, has just appeared, and deals with 165 epicentres, 67 being new and 98 repetitions from old epicentres. Nine of the earthquakes mentioned have foci which are below normal. The epicentres have, in general, been determined from observations of *P* alone, instead of by the old method of using *S*-*P* differences. This is said to make very little difference in the case of well-observed earthquakes, but is greatly to be preferred on theoretical grounds. During the last five years, the range of numbers of earthquakes with determinable epicentres recorded in the I.S.S. has been from 569 in 1932 to 653 in 1930. It appears, therefore, that notwithstanding the greater number of stations sending readings, and the greatly improved registration, the numbers of such earthquakes have reached a probable limit. In this volume, stations which send additional readings to the usual *P*, *S*, *L* and *M* are thanked especially, and for the future all are requested to classify wherever possible their *L* readings into *LQ* and *LR*, and to state whether the initial *P* reading is compressional or dilatational.

#### The Medical Press and Circular

THE issue of January 25 of the *Medical Press and Circular* is a centenary double number. This journal is, as the name suggests, the combination of two, namely, the *Dublin Medical Press*, founded in Dublin in 1839, and the *Medical Circular*, founded in London in 1852, the union taking place in 1866. Prof. Rowlette of Dublin contributes a short history of the journal during the hundred years, with biographical