

study not only including the properties of the steel at a particular temperature but also the degree of persistence of these properties at that temperature over long periods of time. In this connexion, details were given of a creep test carried out on a heat-resisting steel maintained under a load of 280 lb. per sq. inch for a period of 10,000 hours at 900° C. With reference to the production of permanent strain at normal temperatures, Dr. Hatfield instanced a test now in progress at the Brown-Firth Research Laboratories. The experiment consists of a strip of cold-worked austenitic steel placed in tension under a stress of 25 tons per square inch. The test was commenced in June 1929, and since that date the extension has been nil within the accuracy of measurement applied, that is, a sensitivity of 1/40,000 of an inch and a gauge length of 8 inches. In discussing the results achieved by the addition of alloying elements, Dr. Hatfield stated that, experimenting upon the basis of the rustless steel composition by modifying the chromium and nickel, and by adding other elements such as tungsten, molybdenum, cobalt or titanium, steels have been produced which maintain a reasonably protective film at temperatures even in excess of 1000° C., besides possessing a useful strength.

Palaeolithic Man in Northern England

ALTHOUGH it is more than sixty years since the late Sir William Boyd Dawkins brought to light evidence of the presence of man during the Upper Palaeolithic period in the north Midland region of England, it was not until Mr. A. Leslie Armstrong's investigations in the cave and other deposits of the area in a series of systematic researches, which began in 1921, that it became possible to establish a chronological succession in human occupation here in the course of the palaeolithic age, and its relation to phases of the Ice Age. The results of these investigations were surveyed by Mr. Armstrong in his Wilde Lecture before the Manchester Literary and Philosophical Society on March 14. In dealing with the earlier evidence of occupation, he pointed out that until three years ago it had not been known that the range of Lower Palaeolithic man extended to the northern Midlands, but intensive research directed to the contents of the glacial drift and old river terrace gravels of the Trent and its tributaries had provided evidence of his presence there in the form of hand-axes of flint and other artefacts, representing all the Lower Palaeolithic cultures. Excavations in the Pin Hole Cave, Creswell, revealed three zones of occupation in Mousterian times, including two cold periods. Mr. Armstrong's Trent Valley researches indicate that the lower terrace gravels of the river approximate in time to the second Mousterian occupation of the cave, and that they were laid down during one, or possibly both, of the cold periods recorded in the cave. Rock shelters in the Creswell gorge and neighbouring valleys and habitation sites on the Lincolnshire cliff, covered by solifluxion deposits, indicate that man lived in these regions while events which mark the final glaciation

of England were active in the east, west and north of the region; therefore human occupation of the north Midland area throughout palaeolithic times can now be demonstrated.

Archæological Finds in the Nile Delta

AN archæological discovery described as "exceptionally important" is reported from the ancient city of Tanis in the Sharkia Province of the Nile Delta (*The Times*, March 20). Prof. Montet of Strasbourg, who has been engaged for some years in excavating on the site, on which both Mariette Pasha and Sir Flinders Petrie carried out archæological investigations, has discovered the first gold coffin to be found in Egypt since that of Tutankhamen, and a silver sarcophagus, the first example in that metal from Egypt. Tanis was the capital of Egypt between the Thirteenth and Eighteenth Dynasties; but the present find was made in excavating a series of funerary chambers of the tombs of kings of the Twenty-first and Twenty-second Dynasties (1100-950 B.C.), the capital of which was Tell Basta, the site of the modern Zagazig. Hitherto there has been no certain knowledge of the residence of these kings. The funerary chambers were empty, but a few days ago a narrow corridor was found leading to a wall which, when pierced, gave entry to an intact chamber of medium size, built of white limestone, and containing a gold sarcophagus. Within this sarcophagus was a second of silver, in which was a mummy. Inscriptions show that it is that of King Shishak. Two human skeletons still wearing ornaments were found on either side of the sarcophagus; and there were many jewels among the remains. In one corner of the tomb were funerary statuettes representing King Cumin, and in another corner a large vase, which has yet to be opened.

Libraries in Technical Institutions

A REPORT on libraries in technical institutions, which has been issued by a joint committee of the Association of Technical Institutions, the Association of Principals of Technical Institutions and the Association of Teachers in Technical Institutions, should be of considerable service to those responsible for providing and maintaining library services in technical colleges (Loughborough: Loughborough College, 1939). In addition to a clear analysis of the aims of such a library service, which should assist in the formulation of sound policy based on well-defined principles, it gives sufficient detail in regard to such matters as accommodation and planning to be of real service in the design of a new library or expansion of existing services. A feature of the report is the inclusion of plans and details not only of three distinct types of library design but also of a number of representative libraries. The basic recommendation of the report is that in every technical institution there should be at least one room of adequate size reserved solely as a library, containing an ample supply of books and periodicals kept thoroughly up to date and covering all departments of work carried out in the institution, and including also a good

collection of books of general interest. Wherever possible there should be a separate reading room, and in institutions doing advanced work small rooms should be provided for individual study and research. To secure full value from the library service, the library should be under the supervision of someone who has had a measure of special training and experience in library work. Alternative methods of recruitment to this end are discussed in the report. It is further recommended that properly qualified librarians employed in technical institutions should always be regarded as equal in status to members of the teaching staff and be paid on the Burnham Technical Scale—graduate or non-graduate—according to qualifications. An annual allocation for the provision of books, periodicals and binding of 3s. per student for the first 2,000 students and 2s. per student for each subsequent student is recommended.

Uniformity of Mycological Terms

THE Plant Pathology Committee of the British Mycological Society has addressed a circular letter to organizations in the British Isles which use the scientific names of fungi causing plant diseases. It is suggested that an agreement to use the names from a standard list of plant pathogens would be of great convenience, and would strengthen attempts to secure international uniformity. The proposed standard names are those included in the "List of Common Names of British Plant Diseases" (published for the Plant Pathology Committee of the British Mycological Society by the Cambridge University Press, 1934). Mycological nomenclature is greatly in need of any authoritative lead such as the one now proposed. It would, in fact, be very gratifying if the present modest suggestions should not only find immediate acceptance, but would also be extended later. A universally acceptable standard of naming for all fungi is urgently needed. The British Mycological Society has, moreover, always maintained a proper balance between all the branches of its study. It should, therefore, be accorded the full support of all mycologists of Great Britain. The Society has accepted its Committee's suggestions on nomenclature for all papers on pathogenic fungi, which will be published in its volumes of *Transactions*. Provision has been made for any desirable criticisms to be advanced against the actual list of names, and it is proposed to issue periodical revisions. Further particulars of the scheme may be obtained from the Secretary of the Plant Pathology Committee, Dr. G. C. Ainsworth, Experimental and Research Station, Cheshunt, Herts.

Horticulture of the Amaryllidaceæ

"HERBERTIA", the fifth year-book of the American Amaryllis Society (From the Editor, Mira Flores, Orlando, Florida, U.S.A., 1938) maintains a proper balance between needs of the grower, the scientific worker and the teacher, and attains a human interest in addition. The present volume is dedicated to Ernst H. Krelage (Holland), about whom an

interesting autobiography appears. Classification of the Amaryllidaceæ is somewhat difficult, but a series of papers by Dr. H. P. Traub and J. C. Th. Uphof clarifies some obscurities and makes possible a tentative revision of the genus *Amaryllis*. Cytological studies have also been used by Walter S. Flory to re-establish the genus *Habranthus*. Experiments by W. M. James upon vernalizing seed of *Leucocoryne Ixioides* indicate the possibility of much faster production of flowering-size plants. I. W. Heaton reviews the possibilities of growing hybrid amaryllids with culture solutions instead of compost, and preliminary experiments suggest a useful and extremely economic method of culture. The section on harvesting, storage and forcing contains two mutually complementary papers by Dr. John Grainger (England), who describes the scientific principles underlying the production of early bloom, and by Prof. E. van Slogteren (Holland), who considers the practices for early forcing. "Herbertia" has also the usual descriptions of regional activities and garden culture. It is comprehensive, and succinct yet adequate. The policy of Dr. Hamilton P. Traub, its editor, presents the requisite blend of new and established knowledge which is essential for progress in modern horticulture.

A Doctors' Peace Manifesto

THE Balkan Medical Union (Athens, Belgrade, Bucarest and Istanbul) has addressed an appeal to medical men of all nations to take active measures to awaken public opinion on the horrors of war, and the terrible sufferings it inflicts upon the civil population of open towns. The Union believes that "only enlightened international opinion can make plain the imminence of the danger, and the uselessness, even for the victor, of war-time atrocities. The immutable truth that hate breeds only hate, and atrocity breeds vengeance, must be impressed on everyone". The Balkan Medical Union, founded in 1931, is essentially a scientific organization; but it also aims at bringing together the intellectuals of different countries so that they may know one another, and come to a mutual respect and understanding, whereby the misunderstandings that engender hate and disastrous struggles between nations may be dispelled.

The League of Nations

A REVISED edition of the "Aims, Methods and Activities of the League of Nations", which first appeared in 1935, has now been published (Geneva: League of Nations; London: George Allen and Unwin, Ltd., 1938. 2s.). Like the first edition it consists of four parts, the first including a historical account of international organization followed by a description of the nature, aims and methods of the League. The second part attempts to describe and assess impartially the achievements of the League, and although eminently readable and not overburdened with detail, gives a good comprehensive account of its work, which at the same time indicates some of the causes of its success and failure. The chief criticism that can be advanced of this section,