

to send experienced field workers on collecting and recording expeditions to obtain information when so much detail is being lost almost daily. A voluntary panel of Museum correspondents gives much assistance and again it is stressed that the Museum is not in competition with other institutions having collections of rural material, but is seeking rather to increase the total amount available for study. Miss Anne Sheppard contributes an illustrated article on traditional dairying which includes a catalogue of the Museum material on this subject. It is emphasized that the rapid increase in milk-production during this century, and the policy of supplying an ever-increasing population with milk and its products, have stimulated scientists and engineers to produce methods and machines far removed from the original crafts.

New Principle in Weaving

THE first new basic principle in the weaving of woollen and worsted cloth to be introduced since the Middle Ages has recently been announced by the Wool Industries Research Association (Wool Industries Research Association. Report of the Director of Research for 1959. Pp. 39. Publication No. 214. Headingly, Leeds: Wool Industries Research Association, 1960). Since foot-power looms were first used, the warp threads have been raised and lowered according to the pattern required; the weft has been shot across and beaten into place by the 'reed' and the selvages of the cloth have been maintained at their proper width by the 'temple'. Ever since that time—particularly since the introduction of power looms at the end of the eighteenth century—the strain on the warp threads due to beating-up of the reed has been a common cause of the threads breaking. The new invention is the full-width temple of the Wool Industries Research Association, which not only maintains the width of the cloth during weaving, but also virtually relieves the warp threads of all extra strain due to the beating of the reed. The new temple holds the cloth firmly across its whole width about a quarter of an inch behind the place where each new pick is inserted. The essential principle is that the weft is forced into its proper place by means of a reduction of the tension in the cloth rather than an increase of the tension in the warp threads.

The Library Association

BESIDES its reference to approaches made by the Library Association to the Minister of Education, requesting the introduction of legislation to implement recommendations of the Roberts Report, the annual report of the Association for 1959 deals with several matters of interest to the scientist and technologist (pp. 27. London: Library Association, 1960). A deputation met the Secretary and other officers of the Department of Scientific and Industrial Research in July to press the Association's proposals regarding the scope and organization of the National Lending Library for Science and Technology. It was urged that the professional staff of the Library should be chartered librarians, and further representations on the issue of staff were afterwards made to the Consultative Committee for the Library set up by the Department later in the year. A strong protest was made to the Department regarding the composition of that Committee. Criticisms and suggestions regarding the draft regulations for borrowing facilities

at the Library were also made at the invitation of the Department. Representations were made to the Publishers Association regarding an increase in the number of imperfect copies, and evidence was submitted to that Association; and in protesting to the American Chemical Society following the large increase in the subscription rates of *Chemical Abstracts*, the Association urged that the concessional rates of subscription granted to teaching institutions should be available to public libraries also. The report records a total membership of 12,536, of which 1,164 are institutional and 3,601 Associates and 1,601 Fellows on the Register at December 31, 1959.

Bibliographical Citation

A SECOND edition of the articles by C. C. Barnard, "Bibliographical Citation", first published in *The Librarian* in 1950, has now been issued to facilitate even wider circulation (Bibliographical Citation. By Cyril C. Barnard. Second edition. Pp. ii+20. Reprinted, with revision, from *The Librarian*, May, July and August 1950. London: James Clarke and Co., Ltd., 1960. 2s. 6d. net). These notes embody the results of Mr. Barnard's own long experience and of his critical study of what has been written on this subject. The purpose of lists of references, bibliographies and of reading lists is clearly distinguished, and citations of manuscripts of printed books and of periodicals are likewise discussed separately. On the subject of abbreviations for periodicals, Mr. Barnard writes cogently and logically, and for this section alone his pamphlet merits attention by every scientist who is concerned with the citation or location of such references. Elementary as the four canons enunciated by Mr. Barnard appear to be, they are not always observed even by learned and professional societies, particularly those canons relating to ambiguity and to the order of words. These canons prescribe that the abbreviation should be: (1) readily intelligible without the use of a key; (2) free from ambiguities; (3) full enough to enable a reader to find the full title in an alphabetical list of periodicals; and (4) follow the same order of words as the original title. Finally, Mr. Barnard gives some guidance to authors on the arrangement of citations in lists. This scholarly pamphlet could well be widely used in technical colleges and universities to check the widespread habit of imperfect and incorrect citation which all too many graduates appear to acquire as students and maintain uncorrected in their professional life.

A Revised Geological Time-Scale

THROUGHOUT the past year, in the columns of *Nature* and elsewhere, there has been keen discussion on the geochronology of the fossiliferous formations. Until recently the geological time-scale established by Prof. Arthur Holmes in 1947 found world-wide acceptance; but much new evidence on the ages of rocks, deriving principally from argon/potassium and rubidium/strontium datings, consistently demands an extension of this chronology, with the beginning of the Cambrian period carried back from 520 million years to about 600 million years. The full arguments favouring "A Revised Geological Time-Scale" have now been presented by Prof. Holmes (*Trans. Edinburgh Geol. Soc.*, 17, 183; 1960; preprint, price 3s. 6d., published by Oliver and Boyd, Edinburgh). On this scale the geological periods open at the following dates: Cambrian, 600 ± 20; Ordovician, 500 ± 15; Silurian, 440 ± 10; Devonian,