Along the North Saskatchewan, about three miles southwest, or up river from Edmonton, are the gravel pits from which are taken much of the road and construction gravel used in the city. Reports of the occasional occurrence of bones in the gravels prompted an examination which resulted in the recovery of eight more or less fragmentary and waterworn unfossilized horse bones of a large and a small species, a section of unidentified antler and several artifacts. With one exception the bones had been removed by the workmen, who report that they are found haphazardly scattered at any depth in the gravel, apparently none of them articulated.

The artifacts found *in situ* in the pit walls consist of a large quartzite core, two large quartzite flakes, one seemingly retouched into a rough sidescraper, and pieces of petrified wood and chalcedony. The core lay near the bottom of a gravel-streaked clay pocket in the terrace surface, the other pieces in the upper portion of the gravel. Professor P. S. Warren, of the department of geology, University of Edmonton, kindly inspected them before they were moved and agreed that they were not intrusive; that the overlying material indicated that they had been buried by the action of the river while it was still at the level of this terrace. Apparently, the natives had sought stones suitable for tools and weapons at periods of low water, the scrap material left behind being covered by subsequent flooding. A search of the loose, disturbed gravel produced two roughly flaked waterworn quartzite cobbles and several questionable pieces.

In his study of the glaciation of this area Professor Warren has prospected the source of the terrace gravel, an exposed bank of boulder clay capped with glacial lake silt, for bones or fossils. He has seen nothing to indicate that the bones commonly found in the gravel were derived from that source, which may mean that they are remains of animals dying in the valley at the time the terrace was forming.

At present we have no means or data for computing the age as indicated by the change in river level, a drop of about eighty-five feet (measurement by aneroid).

A similar situation apparently exists along the Peace River. In the course of railroad and highway construction a large pit has been excavated in an old terrace, one hundred feet above present water level, at the west end of the bridge crossing from the town of Peace River. Unfortunately, the three or four roughly flaked waterworn quartzite cobbles which can be classed as artifacts were all found in loose or disturbed gravel; their association with the formation depending partly on their condition. The one bone secured, a metatarsal, is from an animal comparable in size and form to *Cervus canadensis,* and was down about eighteen feet in the gravel.

Although these things tell us nothing of the former inhabitants of Alberta, they do help to define the ground where we may ultimately find their history.

Junius Bird
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A NEW OUTLINE MAP OF NORTH AMERICA FOR PHYTOGEOGRAPHERS

During the preparation of a series of distribution maps showing the geographical ranges in North America of several hundred species of bryophytes, some of nearly all the available outline maps issued by various publishers were tried out, one after another. Each one of them was found to be unsuitable in some way, at least for my purposes. The map which was most nearly satisfactory, and which was found to reproduce very well, was one lithoprinted in Ann Arbor as No. 21B in "The Geographical Institute's Series of Maps and Graphs," under the sponsorship of Professor Robert B. Hall, of the department of geography, University of Michigan.

As this map went out of print just as it was becoming most useful to me, Professor Hall very kindly agreed to prepare a map specifically designed to meet my needs and those of phytogeographers in general. For help and advice in the selection of what such a map should show, I am very grateful to many botanists, especially H. H. Bartlett, E. T. Wherry and F. J. Hermann; also to G. M. Stanley, of the department of geology, University of Michigan.

The new map has just appeared as "North America–205C" in "Hall's Series of Maps" published by John Wiley and Sons. It is printed from copper plates on $8\frac{1}{2} \times 11$ inch stock and presents a combination of features of various kinds not found on other outline maps. For instance, the Aleutian Islands and the Lesser Antilles both appear, as well as the entire Arctic American Archipelago and all Greenland (Bonne's projection). With the exception of the Arctic Circle and the Tropic of Cancer, which are indicated separately, latitude and longitude are indicated at ten-degree intervals. The most important drainage systems are shown, yet not enough in detail to clog when the map is reduced one half to two thirds in publication. Further features, very important in the light they shed on geographic distribution of plants, are (1) the Fall Line (after Loomis[1]), (2) the total extent of Pleistocene glaciation (after Antevs[2] and Daly[3]) and (3) the maximum extent of the Wisconsin stage of the Pleistocene in eastern North America (after Leverett and Taylor,[4] Leverett[5] and Antevs[2]).

[1] F. B. Loomis, "Physiography of the United States," viii + 350. New York, 1937.

[2] E. Antevs, *Bull. Geol. Soc. Amer.*, 40: 631–720, 1929.

[3] R. A. Daly, "The Changing World of the Ice Age," xix + 271. New Haven, 1934.

[4] F. Leverett and F. B. Taylor, U. S. Geol. Surv. Monogr. 53. Pp. 1–529. Washington, 1915.

[5] F. Leverett, *U. S. Geol. Surv. Prof. Paper* 154-A: 19, Fig. 5, 1929.

In its preparation, the new map was designed not only for manuscript notes, but for reduction to at least half-size in publication, and full permission is generously given by Dr. Hall and the publishers for the reproduction of this map to illustrate geographical distribution of plants (or animals) in scientific publications.

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MECHANICS OF INDEXING

THE "Easier Method for Making an Index" (SCIENCE, March 10) is extremely rapid and simple in comparison with the method described in the issue of January 20, but it involves perforated sheets, which are not always available; tearing off the slips takes time, and perforated edges do not facilitate filing. In this department we have used a slightly different method. Typewriter paper is marked off in rectangles, ten of which may be used on a sheet if entries are brief. After writing a few sheets, the typist becomes familiar with the spacing, and guide lines are unnecessary. When the typing is completed, all the sheets, whether 50 or 500, are sheared (in one operation) with a paper cutter to the dimensions of the original guide lines. This procedure was used here in 1936 in indexing a bibliography ("Non-Metallic Inclusions . . ." by McCombs and Schrero) with 2,136 items, and three or four times that number of entries in the index.

For an index which is to be printed, rather heavy paper should be used. A compositor expects his copy on sheets, and sometimes does not welcome slips. We use a rack or "gadget" which holds several hundred slips directly in front of the compositor. If the paper is not too flimsy, this works very well. Before going to the printer all slips, including cross references, should, of course, be consecutively numbered with a numbering stamp. After all, this mechanical work of recording and filing entries is only a very minor part of making a good index.

E. H. MCCLELLAND
CARNEGIE LIBRARY OF PITTSBURGH

SCIENTIFIC BOOKS

ASIATIC BOTANY

A Bibliography of Eastern Asiatic Botany. By ELMER D. MERRILL and EGBERT H. WALKER. Sponsored by the Smithsonian Institution, Arnold Arboretum of Harvard University, New York Botanical Garden and Harvard-Yenching Institute. Quarto. Pp. xlii + 719 (double column), 2 maps. Jamaica Plain, Mass.: Arnold Arboretum, 1938. Price, $12.50.

ALTHOUGH most large bibliographies defy "reviewing" in the ordinary sense, such an ambitious undertaking as that cited above should certainly be brought to the attention of all botanists and scientific libraries. It is the type of work whose every page betrays many hours of careful and persistent searching, note-taking and checking, not to mention the arduous task of proofreading and rechecking the numberless details for which none but the authors can be responsible.

Work on this bibliography of eastern Asiatic botany covered a period of ten years, beginning at the Smithsonian Institution in 1928 when Mr. Walker, engaged in identifying material at the United States National Herbarium, found it necessary to familiarize himself with the literature of the plants of China. The project grew in scope until the area finally covered by the bibliography comprises China, Japan, Formosa, Korea, Manchuria, Mongolia, Tibet and eastern and southern Siberia. In addition, the major published papers pertaining to adjacent areas, such as the Philippines, Indo-China, Siam, Burma, India and central and northern Asia, are included, "because of their importance in the study of the plants of eastern Asia, and because through them the subsidiary literature on these areas can be reached."

The bibliography proper (occupying 550 double-column pages and printed in a compact but very readable style of type) contains more than 21,000 titles listed by author. The majority of the entries are briefly annotated, and there are hundreds of cross-references.

Following the main section is an appendix consisting of (1) a list of older Oriental works, many of which have not been heretofore mentioned in botanical literature; (2) a reference list and index of Oriental serials, with titles given in English, in Chinese or Japanese characters and in transliteration; (3) reference lists of Oriental authors (also with the Chinese or Japanese characters); (4) a subject index (in three parts—general, regional and systematic); (5) a family index of generic names of vascular cryptogams and seed plants; and (6) an index of the principal geographic names used in the subject index. In addition, the bibliography is prefaced by a reference list of more than 1,200 serial publications that are cited, with their complete and abbreviated titles. These various indices and appendices render the work extremely usable, though the labor of their compilation must have been great. Fortunately, both Dr. Merrill and Mr. Walker have worked in the Orient and were familiar with many problems, such as the need for careful translation and uniform transliteration of Chinese, Japanese and Rus-