spikelets at a node of the rachis produce one fertile flower each. In the 2-rowed group the lateral spikelets are sterile and only a single seed is produced at each node. Crosses are easily made between the two groups, and there is no evidence of sterility nor of incompatibility in their appearance. Our recent results indicate that the ease of hybridization and the complete fertility in such crosses may not tell the whole story. The 2-rowed × 6-rowed crosses are inferior in yield to either 6-rowed × 6-rowed or 2-rowed × 2-rowed. This was definitely shown in an elaborate experiment in which essentially all the 378 combinations were made between 28 parents. There were included in the test 149 crosses of 6-rowed on 2-rowed and 209 crosses of 6-rowed on 6-rowed. In 1935, 2,921 selections were made from the 378 crosses. In the years before selections were made the yields of the 6-rowed × 2-rowed crosses were decidedly lower. In 1936 the average yield of the selections from 6-rowed × 2-rowed was only 89 per cent. of that of the 6-rowed × 6-rowed crosses. This percentage would not be so striking were it not for the large numbers involved. There were 1,789 selections of 6-rowed × 6-rowed and 961 of 6-rowed × 2-rowed. Out of the 1,789, 757, or 42.3 per cent., were worthy of further trial, while only 167, or 17.5 per cent., were continued from the 961 selections from 6-rowed × 2-rowed crosses. Even this reduced number was not so promising as were those saved from the 6-rowed × 6-rowed crosses, and contained few outstanding types.

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THE RECRUDESCENCE OF A CONFUSING TERMINOLOGY

UNTIL the beginning of the present century all popular works on botany, and many of the text-books, failed to distinguish clearly between the sexual and non-sexual phases of plants. Indeed, there appeared from time to time discussions in which either the "homologous" or the "antithetic" nature of the alternation of generations was upheld or disapproved. Yet as early as 1851 Hofmeister had made clear that throughout all the higher groups of the plant kingdom there is a definite alternation of gametophyte and sporophyte—sexual and non-sexual generations. But people continued to speak and write of the pistil as the "female generative organ," and they spoke of the stamens as "male" organs and of "male" cottonwood trees and of "female" pine cones.

Largely through the influence of the text-book by Sydney H. Vines in England and through the teaching of Charles E. Bessey and John M. Coulter in America these ancient inaccuracies of expression disappeared wholly or at least in large degree, so that the former confusion of gametophyte with sporophyte seemed a thing of the past. Practically all writings and text-books distinguished clearly the n- and 2n-generations. This happy state of affairs continued for thirty years, although it must be confessed that our horticultural and agricultural friends remained for most of the time somewhat outside the pale of morphological respectability.

But now, when the former confusion had presumably disappeared from serious botanical literature, up bobs the same old trouble in an otherwise most scholarly and excellent text-book (Wilson and Haber: Introduction to Plant Life, published by Henry Holt and Company, 1937). Students have difficulty enough in distinguishing the sexual from the non-sexual; when the subject is confused in their text-book an impossible situation results. It is much to be hoped that in a second edition the authors of this valuable introduction to botany will adopt a terminology in accord with present cytological knowledge and general conceptions of plant morphology.

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HUMAN ARTIFACTS IN ASSOCIATION WITH HORSE AND SLOTH BONES IN SOUTHERN SOUTH AMERICA

WHILE investigating the archeology of the territory along the Straits of Magellan for the American Museum of Natural History, positive evidence of the association of man with extinct horses and sloth was found in two caves. One of these caves is located in the Rio Chico Valley on estancia North Arm, just south of the Argentine-Chilean boundary; the other is about twenty miles east in Dicky Section of estancia Delgado.

In each cave the oldest cultural débris was mixed with fragments of horse and sloth bones identified by Dr. G. Simpson as *Parahipparion saldiasi* and *Mylodon listai*. Many of the bones have been burned and the long bones of the horse broken for the extraction of marrow. In one cave this oldest material had been isolated by slabs of rock and débris fallen from the cave roof. Among the artifacts associated with these bones the most noteworthy, because of subsequent changes, are the stone lance points with long flaring stems and without barbs. However, these points disappear slightly prior to the extinction of the horse and sloth and are followed by a simple bone point.

At the bottom of the layer containing the bone points are the last of the large extinct animals, after which, for a time, the people subsisted largely on birds and foxes. Among the fox bones are some identified as *Pseudalopex avus*, believed to be extinct at the present time.

In the successive layers, the following culture changes occur: above the bone points are artifacts of

a people who used bolas weights and made stemless triangular stone lance points. They, in turn, were followed by people who used the first points which can positively be identified as intended for arrows. These have stems and barbs and are accompanied by broad, stemmed, hafted knives. Then appear small arrow points, identical with those used by the Ona Indians of Tierra del Fuego. Although the two types of arrow points are found together at the surface of the refuse our work at other sites indicates that they are typical of two distinct groups and that the Ona type is not derived from the early one, at least in this region.

Late historic, horse-using, Tehuelche material is almost totally lacking so that the last occupation of these caves was presumably prior to this historic period. Pottery and polished stone work are lacking from all levels.

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QUOTATIONS

THE PROPOSED IRRIGATION TUNNEL UNDER THE ROCKY MOUNTAIN NATIONAL PARK

WHEN any group tries to put through legislation in a hurry, by unusual means and without full opportunity for the opponents to bring forward their arguments, the public has a right to be suspicious. It happens that this is just the fashion in which the plan to drive a power and irrigation tunnel under the Continental Divide and through the Rocky Mountain National Park has been handled in Congress both this year and last.

Last year the project was tacked on to the Interior Department Appropriation Bill on the floor of the Senate, was slipped through and was killed only because strenuous opposition in the House developed during conference. This year a separate bill was regularly introduced by Senator Adams, of Colorado, reported favorably by the Committee on Irrigation and Reclamation, but passed without public hearings or debate. The House has now announced a hearing, but there is danger that the bill will again be hooked on to the Interior Department Appropriation Bill, which has already passed the House, and that it will thus be jammed through without the consideration it deserves. The parliamentary procedure so far used certainly does not reflect confidence on the part of the measure's supporters that it will stand close scrutiny.

There are, indeed, arguments in its favor, as may be learned from the report of Senior Engineer Porter J. Preston, who directed the preparation of preliminary plans and estimates with the aid of a $150,000 PWA allotment. There is little doubt that the ranchers in the Big Thompson Valley on the east side of the divide could make profitable use of the water. There is not much doubt that the hydroelectric power which the scheme would produce could be sold. But the probability that some persons would gain is not a conclusive argument. Some persons would gain, perhaps, if Central Park were taken over for low-rent housing, but certainly the general public would lose.

Whatever the arguments for the project, which will cost anywhere from $24,800,000 for irrigation facilities alone to between $43,000,000 and $60,000,000 if there is a full power development, they should be subjected to an exhaustive public inquiry before they are accepted. Unless they are far more convincing than they now seem to be, the project ought to be dropped. It is not certain that it will be worth while to add to irrigation facilities in the Big Thompson area—or for that matter in any area under present conditions of agriculture. And it is certain that we ought not to add to them at the risk of setting a precedent which will lead to the despoliation of our national parks.—*The New York Times.*

SCIENTIFIC BOOKS

ADVENTURES IN BIRD PROTECTION

Adventures in Bird Protection. An autobiography. By THOMAS GILBERT PEARSON. Pp. xiv + 459. Appleton-Century, N. Y. $3.50.

IMPORTANT as the topic is yet one may rightly say that this book is far more than its title implies. Its opening chapters paint a vivid picture in plain colors of the early life of a Quaker boy reared under simple circumstances in the South and struggling against adverse conditions to win an education and at the same time follow up the study of birds on which his heart was set. Out of this grows the story not merely of bird protection but even more that of wild life conservation, which has assumed such large proportions in the last fifty years.

Many men see opportunities, but few grasp them. Probably others have recognized as clearly the value of college museums, but he sold the idea to the president of a struggling institution and built up the first college museum in North Carolina. Deeply impressed by the unrestrained slaughter of song birds he appealed alone