



Ancestor-Hunting

See Front Cover

CORN has long been one of the greatest of botanical riddles. Nobody has known where it came from. Wild forms of most other grains are known, but corn has remained a botanical orphan. Not only does it lack any identified ancestors, but it has only two cousins in the Western Hemisphere: teosinte, which is a Mexican fodder plant, and a wild grass named *Tripsacum*.

Now come two Texas scientists, Dr. P. C. Mangelsdorf and Prof. R. G. Reeves, with strong evidence that the ancestor of corn is corn—a primitive type of grain known as pod corn, in which each grain is covered with a tiny individual husk of its own. Pod corn is unknown in the wild state, but even as a cultivated plant it has certain definitely “wild” characters.

One suggestion that has in the past had the support of some botanists, namely that teosinte is the ancestor of corn, they dispose of very neatly by adducing good genetical evidence that corn is one ancestor of teosinte, the other being the related grass *Tripsacum*. They hold that teosinte originated as a natural hybrid, probably when the migrating Mayas, about A.D. 600, carried corn into the natural range of *Tripsacum* in Mexico.

One difficulty about the wild pod

corn hypothesis is that the Peruvian Indians, who without much question originated corn culture, are the only ones who do not grow pod corn at all. But, reasoned the two scientists, not unlikely the Peruvians had carried their agriculture to such an advanced stage that they discarded pod corn long ago, while less advanced Indians still used it.

So they leafed through old manuscripts, examined effigy pottery from the

very earliest known Peruvian culture levels. Finally, at the Peabody Museum of Yale University, they found a faithful replica of a prehistoric ear of pod corn.

They do not feel that the wild form of corn is necessarily extinct. It may still exist, they think, in the little-explored unforested lowlands of southwestern Brazil, Bolivia, or Paraguay.

Science News Letter, September 17, 1938

AGRICULTURE

Research and Education Remedies for U.S. Soil Ills

UNCLE SAM, in the persons of Secretary Wallace and his fellow-scientists of the Department of Agriculture, look long and thoughtfully at the fields that raise America's food and clothing, in the new Yearbook of the U. S. Department of Agriculture. The whole book concentrates on one subject: the soil and problems arising out of its neglect and abuse. There is about its contents that which suggests a group of physicians in consultation.

Erosion by wind and water, the invisible erosion that is fertility exhaustion, too large crops and too low prices, share-cropping, pauper tenancy, overload of debt—these and other ills that have received much attention in public discussion are looked upon as symptoms behind which they are trying to go, seeking fundamental causes that may be treated with basic remedies.

The causes suggested are many, and most of them interlock—like concurrent pathological conditions in the human body. Our traditional land-tenure policy, like most of the rest of our national economic life, has been a natural outgrowth of eighteenth century liberalism—laissez-faire on the land. As an extension of that principle, we have been content to let every farmer work his land any way he pleases, with the idea that if he does so badly or ignorantly he takes the consequences. The trouble, however, has been that resulting bankruptcy hits not only the farmer but the soil itself, and thus becomes a matter of public concern.

Another contributing cause of sickness of the soil has had its focus in the pocketbook. Our systems of farm financing and land taxation have tended to bear more heavily just when they should have been lightened, so that the harassed owner and the still more harassed tenant

have been pressed into mining the soil, and plowing up sodlands that they usually knew should have been left unbroken, in order to meet fixed charges.

These are only a few of the symptoms looked at in the new yearbook. But the Department researchers are concerned even more with the search for remedies.

Characteristic of Secretary Wallace's perennial insistence upon the value of scientific research is the No. 1 position given to research and education in the list of things that need to be done. More facts must be found, even where the known facts stare one in the face like a clay-hill gully or a dust storm. Out there in the dark, beyond the horizon of things we know, may lie keys to difficulties that now baffle us.

But with facts discovered and told to the people through all educational means, the bridge to recovery may still be lacking. Just as it would be of no use to tell a tubercular patient to eat eggs and drink milk when he hasn't even the price of cornmeal, so it can be of little assistance to the farmer to tell him what's wrong and how it can be righted if he lacks the means to put good doctrine into practice.

Here is where the economists have their innings. Needed treatments they outline range all the way from quick palliatives in the form of direct monetary aid, through assistance in the enhancement of soil fertility and the stabilization of slopes, to programs for the long pull such as gradual retirement of submarginal lands and restoration of ecological balance to regions that have been indulging in maladapted cultivation practices.

The book bulks to more than 1200 pages, so that more than the sketchiest hint of its temper and drift can not be

• Radio

Every Friday at 7:30 p. m. EDT, 6:30 p. m. EST, 5:30 p. m. CST, 4:30 p. m. MST, or 3:30 p. m. PST, Science Service cooperates with the Columbia Broadcasting System in presenting over the Columbia coast to coast network a new series of “Adventures in Science” presenting dramatizations of important scientific advances and discussions by eminent scientists.

given in a short review. In limiting itself to the full discussion of a single large topic, it is following the lead established in the preceding two yearbooks, which thoroughly worked out the subject of agricultural genetics.

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PSYCHOLOGY

Few Recreation Interests Are of Life-Long Value

CHURCH-going still leads as a leisure-time activity, if a sample of the Missouri population may be considered as typical of Americans in general.

And church-going is one of the few interests that do not fall off with increasing age, according to a survey conducted by Dr. Eugene S. Briggs, of Phillips University, Enid, Okla., and reported to *School and Society*.

Old age and increasing enforced leisure seem inevitable, unless one is to escape through death. Yet it is surprising how many of our recreational interests are those that do not appeal to the aged.

Even the movies fail to hold the elderly, those who never attend increasing steadily from 18 per cent at 20 years to 50 per cent at 40 years, 72 per cent at 60 years and 100 per cent at 90 years, Dr. Briggs found.

Card playing, dancing, radio listening, and even the entertaining of friends lose interest as we grow older, it seems.

Age does not affect concert or lecture attendance.

Hobbies are enjoyed by only 39 per cent of adults, but appeal particularly to men and women between 65 and 75 years of age, 95 per cent of whom ride a hobby. Hobbies hold the better educated and the city dweller, Dr. Briggs discovered.

Athletic sports are not participated in much by adults, even if horse shoes are included, Dr. Briggs said. Only one in ten country folks play athletic games as often as once or twice a week. Here again the interest wanes with increasing age.

Of all adults who read newspapers, 40 per cent find recreation in so doing. A similar percentage find recreation in reading magazines.

Books are not very popular, for 60 per cent have read no books in the past six months. And if you think that books are neglected only by those remote from libraries, you are due for a surprise. The greatest number of non-readers of books were born in the city.

Science News Letter, September 17, 1938

\$1000 AWARD FOR BIOGRAPHY OF THE UNBORN

by MARGARET SHEA GILBERT

IN COMPETITION with men from all over the world, Mrs. Gilbert won the \$1000 award offered by the publishers for the best manuscript on a science subject for general reading. Incidentally she won the contest just a month after her first baby was born.

The committee judging the anonymous entries consisted of:

LYMAN BRYSON
Columbia University

HARRY HANSEN, Book Review Editor
New York World-Telegram

JOSEPH WHEELER
Enoch Pratt Library, Baltimore

DAVID DIETZ, Science Editor
Scripps-Howard Newspapers

Life Begins

at an unfelt, unknown, and unhonored instant, when a minute wriggling sperm plunges headlong into a mature egg.—After twenty-five days the first heart beat—A simple brain—First kidneys to be lost again—An increase of 8000 times in weight.

Then—

A face, limbs, much of muscles and a bit of skeleton—The liver starts secreting. Kaleidoscopic changes in the sexual organs—Vocal cords ineffective like broken violin strings—The fetus thrusts arms and legs—Hair, nails and a wrinkled skin—The descent of viscera explains a puzzling waste of nerve growth.

Finally—

The eyelids, fused shut since the third month, reopen—Nervous system and brain develop—Fat is formed, the old-man look is lost—The fetus has hicoughs, may suck his thumb—Exodus and adjustments.

Read This Biography

The stream of life flows more swiftly here than ever after. Half a lifetime is lived during the first two months, if time is measured by internal events and changes.

Harry Hansen thus expressed his opinion: "I have never encountered the story of human life in such intelligible and exciting terms before, and I believe the author has succeeded in everything she set out to do. No one who reads it can help being interested in this high adventure of being born."

Illustrated, 142 pages, Glossary, index. \$1.75.

"Highly recommended" by the Scientific Book Club as an especially fine piece of expository writing.

THE WILLIAMS & WILKINS COMPANY, Baltimore