



BIOLOGY



Diverse Wings

ONLY THREE groups of backboneed animals have ever become true fliers: birds, bats and the extinct pterosaurs, or flying reptiles. They all learned to use their forelimbs as flying organs, but they all used them quite differently.

The pterosaurs and the bats hit upon the same general idea, of stretching a sail of skin between the forelimb and the side of the body, sometimes involving the hindlimbs as well. But bats involved all but one of their fingers in the web, saving that one as a clinging and occasionally scratching claw, whereas the flying reptiles kept all but one of their fingers free, depending solely on an enormously elongated little finger to give their skin-sail its extremest extension. It would seem that the bats have the better of the argument, for the elongated fingers stretched down their wing-membranes must certainly make them both stronger in flying and more manageable when folded.

Birds depend on a totally different arrangement. Birds alone have evolved what were apparently originally skin-scales into the enormously extended and complicated and mechanically highly successful structures called feathers. Instead of enormously extending their fingers, as bats and pterosaurs did, they extended their feathers into the stiff-quilled, wide-vened "primaries" of the wings, keeping the forelimb narrow, reducing the number of fingers and changing them almost beyond recognition as such. There is a web of tissue between forelimb and body, to be sure, but it is almost nothing when compared to the wide sails of the other two fliers.

In birds that have given up the flying habit, the feathers and even the wing-foundation itself have degenerated from

flying fitness. Ostriches have plumes wider than those of the eagle or condor, but much weaker. Their very ornamental curliness is a sign of their disuse. In the flightless birds of Australia, this degeneration has been carried still further: the emu has feathers so lax and long that they seem almost like hair, and the little apteryx has no external wings at all!

In flightless or near-flightless birds of other habits, even the size of the degenerated feathers is diminished. The penguin, for example, keeps vigorous wings but uses them as swimming paddles instead of flying organs. Naturally, one cannot get along very well with long fringes on a swimming suit, so the penguin has dispensed with all but the very shortest and closest-fitting feathers, which keep him dry and warm but do not interfere with his movements.

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BIOGRAPHY

## Dr. John Dewey Selected As First of American "Aristoi"

DR. JOHN DEWEY, the philosopher, is the first of America's "Aristoi." Nine other living American men, judged by a jury of the Aristogenic Association to be greatest in service to mankind, have been selected and their identity will be announced later.

Careful and extensive measurements and records are being made by the Aristogenic Association of the bodies and minds of these ten "Aristoi," Dr. C. Ward Crampton, president of the association, explained in telling of success in obtaining data on Dr. Dewey.

Fifty years ago Dr. J. McKeen Cattell, the pioneer psychologist, made psychological tests on a number of men who later became leaders in their chosen work. Dr. John Dewey was among them, as were W. H. Burnham and G. Stanley Hall. Dr. Cattell has just placed these records at the disposal of the Aristogenic Association.

Since the Aristoi have made their great contributions to humanity in years past, it is sometimes difficult, Dr. Crampton explained, to obtain adequately complete records of their lives, labor, preparation and service. The association is attempting to gather such records as may have been made in the past. They are seeking records of the Aristoi from schools, colleges and libraries but the

METEOROLOGY

## Ships To Be Asked For Hurricane Data

HURRICANE warnings issued by the U. S. Weather Bureau this year will have the advantage of news direct from the sea areas where these terrific tropical storms are in the making. Under a new plan worked out by E. B. Calvert, chief of the forecast division, ships at sea in regions known or suspected to be brewing hurricanes will receive radio requests from suitably located shore stations for up-to-the-minute data, which will be incorporated into the announcements sent out.

In this work, the Weather Bureau will have the cooperation of the Radiomarine Corporation and the South Puerto Rico Sugar Company.

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records have been few and hard to find.

The Aristogenic record consists of careful and extensive measurement of both the physical condition and mental attributes of the individual.

"In addition to anthropological data, X-rays, sound films, handwriting, finger prints, casts of the face and hands, etc.," Dr. Crampton explained, "the association will file other records when available, such as phonograph records of Science Service."

"The Association suggests that records similar to the Aristogenic record might well be instituted in the colleges, and data recorded, first from men of distinction in the Alumni, in the faculty or recipients of honorary degrees. Secondly, abbreviated records to be refreshed each decade might be made of all students. Some of these records might very possibly be needed fifty years hence for the Aristogenic file. All such records will, however, serve as control data and will provide immensely valuable information for the medical and social sciences.

"The Association suggests the propriety of all persons keeping their own life record, for the service they will render to themselves in the guidance of medical care and life management. . . ."

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