Atlantic universities and a like number to those of the East North Central States."

Very few women are included among the starred scientists. In 1937, nine women were starred—three zoologists, two geologists, and one each in anatomy, astronomy, botany and psychology.

But if you think of these eminent savants as ancient graybeards, you are mistaken. The average age for receiving the coveted star is only 43 years. Mathematicians and physicists are much younger, averaging only 36, and chemists average but 41. Psychologists are close to the general average, 44, while biologists are 46, pathologists 48 and geologists 49.

Industry gives employment to exceedingly few of America's most eminent scientists. Educational institutions support 76 per cent of them. Research institutions can claim only one-twelfth. Government employment takes in one-fifteenth. Less than a sixteenth are in applied or commercial science.

Science News Letter, February 18, 1939

AERONAUTICS

Reversible Pitch Propeller To Be Tried as Brake

Flying Boat Designers Recognize Need of Future Pilots For Some Means of Slowing Their Craft at Landing

AIRPLANE propellers as brakes? Sounds odd, when you're used to thinking of whirling blades speeding a plane instead of stopping it. But it may soon be tried to aid in maneuvering the still bigger flying boats for transoceanic air services of future years.

Flying boat designers at a plant near Washington have asked a nearby experimental firm to test this paradoxical idea, it was learned, and thereby show once more that the unusual can and often does happen in aviation. Basis of the experiments is the fact that reversing the pitch or twist of the propeller blades reverses the direction of the airstream and slows the plane.

The designers, taking a look at available waterways where transoceanic airliners of the future will have to land and take off, base their request for action on the belief that future planes will give many a pilot a maneuvering headache. This does not, however, apply to the biggest today; the engineers are thinking of ships still on their drawing boards.

Propellers with reversible pitch blades can do the trick and will be manufactured for the test, it was stated. Such propellers, with the blades twisted oppositely to their usual position, would reverse the direction of the airstream they create. Instead of slipping it back past the wing, it would blow it forward, slowing the plane.

This scheme — which isn't so new, since, like many other things aeronautical, it has been thought up and even tried several times before—is intended only for planes on the water or on the ground. If you lose speed in the air, you don't stay up very long.

The whirling brakes would help in maneuvering big flying boats with four or more engines by enabling a pilot to use one or two of his motors producing their reverse effect, while running the others as usual. He would be able to turn quickly—like an oarsman pulling his oars in opposite directions. In addition, all four motors could be used as brakes to come to a quick stop.

Two other possible uses are foreseen. Landplanes, which now have wheel brakes, might use propeller brakes. Dive bombers developing enormous velocities —which, by the way, are not desirable despite the general impression to the contrary—could use the reversible pitch propellers to slow their descent to a paltry 200 or 300 miles an hour.

Science News Letter, February 18, 1939

CHEMISTRY

Japanese Report Mucilage Made Out of Seaweed

CHEMISTS of the Osaka Industrial Experimental Laboratory of Japan's ministry of commerce and industry have developed a process for manufacturing mucilage from seaweed.

An output of 10,000 pounds monthly has already been achieved. While details of the process are secret as yet, washing the seaweed to remove salt is an essential step in the process.

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