

BOTANY

Flowering Plants Evolved

► **CONTRARY** to accepted opinion, today's flowering plants, the angiosperms, didn't just suddenly appear but gradually developed during millions of years.

Thus another textbook theory was exploded by Dr. Daniel I. Axelrod, associate professor of geology at the University of California at Los Angeles, who spoke before the Cordilleran section meeting of the Geological Society of America at the University of Southern California, Los Angeles.

Dr. Axelrod said that some angiosperms—such as sassafras, sycamores, laurels, palms and some oaks—have remained unchanged throughout their 100 million years of dominance in lowland regions.

These and other flowering plants have generally been considered to have appeared with bewildering suddenness during early Cretaceous time.

The U.C.L.A. geologist pointed out, however, that these plants had a developmental history similar to the other great floras which had risen to dominance.

His studies show that flowering plants which became dominant 100 million years ago, took fully 50 million years to reach dominance.

"What has been considered 'one of the most remarkable phenomena of biological evolutionary history' (the sudden appearance of flowering plants) thus has no scientific basis," said Dr. Axelrod.

"The history of the angiosperms is not unique, but is paralleled by most other groups of vascular plants. They are not 'miracle plants'."

Science News Letter, March 31, 1951

PHYSICS

Machine Can Produce Any Color Desired

► **COLOR** synthesizer that can produce or repeat any color desired with great accuracy has been developed by Prof. Jozef Cohen, psychologist of the University of Illinois. It creates colors in a way never before utilized.

With this machine Prof. Cohen can mix together any combination of wavelengths he wishes to create a color. Better color television will probably result from experiments with this device, as will more fundamental information concerning color.

The device was inspired by a spherical shaving mirror. A light is focused upon a diffraction grating, which splits the light into a spectrum. He selects the color or colors wanted and lets them hit the spherical mirror, which recombines them. A plastic tube carries the resulting beam to the viewing spot.

The viewer looks through a binocular-like eyepiece into a sphere the size of a big bowling ball. Inside the white sphere he sees a disk the size of a telephone dial. Here is where appears one or two colors, as the disk can be split vertically to show a different color on each half.

Science News Letter, March 31, 1951

AERONAUTICS

Greater Range for B-47 With Aerial Refueling

► **SUCCESSFUL** refueling in the air of America's fast bomber, the six-jet-engine B-47, made recently greatly increases the range at which this war plane can be used, it was predicted by engineers of Boeing Airplane Co., manufacturers of the plane.

In the tests, another Boeing plane was used as a tanker. It was the giant Strato-freighter designated as the KC-97A. The two planes made repeated refueling contacts. The system used employs a telescoping metal pipe to transfer fuel from the tanker to the receiving plane. Pressure is used on the fuel to decrease the time required for refueling.

The KC-97A tanker airplane is a convertible version of the standard C-97 Strato-freighter. Flying boom tanker equipment can be installed or removed from the airplane in a day's time.

The B-47A Stratojet, the newest version of the Stratojet, which is called the fastest bomber in the world, is being built at the Wichita, Kansas, Boeing plant. It was one of the earlier B-47 planes that flew 2,289 miles across the continent in 1949 in less than four hours, averaging 607.8 miles per hour. Many details concerning it are still secret, but it has sweptback wings to permit high speed, and is equipped with six General Electric turbo-jet engines, each rated to have a 5,200-pound thrust. It can carry a ten-ton load of bombs.

Science News Letter, March 31, 1951

RADIO

Singing Commercials Cut From Radio by Device

► **SINGING** commercials as well as "talk" are eliminated automatically from radio programs by a device demonstrated before the Institute of Radio Engineers by Dr. R. Clark Jones of Polaroid Corporation, Cambridge, Mass.

Its advantage over older devices to eliminate the commercials on the radio program is its ability to distinguish between singing commercials, whose words are very clearly sung, and opera whose words are often far less clear. New refinements in the "ears" of the discriminator are responsible.

The device is a small four-tube set which looks like a midget radio. In use, it is connected to the radio receiver. It is entirely automatic. It works because there is a fundamental difference between music and speech.

Speech is full of extremely short pauses or silences, which occur much more frequently in speech than in music and also are more abrupt.

In effect, Dr. Jones' device listens for the pauses, measures their abruptness, remembers the pauses during the preceding few seconds, and makes its decisions accordingly. One or two syllables of speech is enough to silence the radio. About one second after the speech is over the radio comes on again.

Science News Letter, March 31, 1951

ARE YOU SAYING "I CAN'T AFFORD TO RETIRE"?

You can retire young enough to enjoy it —if you know where it costs less to live and where you can earn an extra income from a part-time job or small business.

One of the best things about *Where to Retire on a Small Income* is that it selects out of the hundreds of thousands of communities in the U. S. and its island territories only those places where living costs are less, the surroundings are pleasant, and you can add to your income through a part-time or seasonal job or from a small business.

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The book covers cities, towns, and farms throughout America—from New England south to Florida, west to California, and north to the Pacific Northwest. It includes Hawaii, Puerto Rico, and the Virgin Islands. Some people spend hundreds of dollars trying to get information like this by traveling around the country. Frequently they fail—there is just too much of America to explore. Yet "Where to Retire on a Small Income" costs only \$1. "Should be one of the season's most popular books," says *Pathfinder Magazine*.

No matter what you are doing today, prepare now to retire while still young enough to enjoy it. Simply tear out ad, print name & address, and mail with check, money order or \$1 bill (we guarantee its safe arrival). Money back, of course, if you're not satisfied with book. So write today to Harlan Publications, 137 First Avenue, Greenlawn, New York.

● RADIO

Saturday, April 7, 1951, 3:15-3:30 p.m., EST
"Adventures in Science," with Watson Davis, director of Science Service, over Columbia Broadcasting System.

Dr. E. V. Cowdry, Professor of Anatomy, Washington University School of Medicine, and Director of the Wernse Cancer Research Laboratory at Washington University, will discuss "The Problem of Old Folks."