

In Guidance

Birds, Bees
Still Have
One Secret

BY ASSOCIATED PRESS

Bird and bee navigation secrets, balloons for scientists, and a space jaywalker are topics in science news:

BIRD AND BEE SECRETS

Humans have made great progress in developing guidance systems for space vehicles, but "it will take 100 years for electronics to catch up with the sophisticated guidance and sensory systems of the birds and the bees," says John L. Burns, former president of Radio Corporation of America.

"Evidence now at hand suggests that in flight the bird finds his way by bouncing ultrasonic waves off solid objects; the pigeon homes on the magnetic lines of the earth; a bird flies thousands of miles from the tree branch in your back yard, and returns to the same branch, through stellar navigation."

"The eye and brain of the hungry frog filters out all discordant information except the movement of the fly his palate craves—a superb example of image recognition and interpretation."

"If we could only translate this characteristic into a mathematical formula—and then into hardware—we could endow an Earth Satellite with a similarly adaptable 'eye' that would select the precise information it was sent aloft to obtain."

FLOATING LABORATORY

Scientists are getting their own special balloon flight station, to be set up this summer at Palestine, Tex.

From this base, they can release balloons lifting up instruments for high altitude study of the atmosphere and weather phenomena. For astronomical studies above the clouding effects of the Earth's air, and for capturing primary cosmic rays.

Long planned, the balloon facility will be built and operated by the National Center for Atmospheric Research at Boulder, Colo., with the tab paid by the National Science Foundation. It is part of the center's scientific balloon program, designed to spur improvement in balloon technology for scientific research.

SPACE JAYWALKER

Hermes is the name of one of the Sun's minor planets, a chunk of rock about a mile in diameter, weighing perhaps three billion tons.

Unlike other minor planets which follow orderly paths between Mars and Jupiter, Hermes has an eccentric orbit, and can actually come within about 200,000 miles of the earth, closer than the Moon itself, and a near miss, cosmically speaking.

But the chance that it or similar bodies would ever collide with the Earth with devastating effects is infinitesimally small, says John MacVey in Space Digest Magazine.

Perhaps, he suggests, men in space ships one day might be able to rendezvous with one of the minor planets possessing a wide-ranging orbit, equip it with transmitters, and let it send back data on the reaches of space it visits.

PURITY

In some electronic devices, 99.9999 per cent pure isn't good enough, particularly in highly pure semiconductor crystals of materials such as silicon and germanium.

To find such flaws, a newly installed instrument at Sperry Rand Research Center, Sudbury, Mass., can detect one atom of "impurity" in a billion atoms. It was made in England, and there is only one other instrument like it in the United States. It is a double-focus, spark-source mass spectrograph, which detects differences in weights of atoms within a given material.

Royal Flight

LONDON (AP)—The Princess Royal, aunt of Queen Elizabeth II, will be the first member of Britain's royal family to fly the polar route to North America when she leaves London this week for a two-week Canadian visit. She will make the flight in a Royal Canadian Air Force Yukon plane.

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