

ASTRONOMY

Martian "Canals" Seen

► THE MARTIAN "canals" look like "continuous streaks" on the red planet's surface, Dr. H. Percy Wilkins, fellow of the Royal Astronomical Society and world authority on the moon, told SCIENCE SERVICE.

Dr. Wilkins, who has returned to England after a six-week visit at several astronomical observatories in the United States, said that he spent most of his telescope time viewing the moon. However, he did take time to look at Mars with the 60-inch reflector at Mt. Wilson, Calif. With that instrument, he said, he saw the so-called canals "distinctly."

Concerning his favorite astronomical object, the moon, Dr. Wilkins said that there might be large numbers of valuable crystals on the lunar surface, but that man would not know for sure until he landed there.

The specific gravity of the lunar crust is about equal to that of a diamond, he pointed out, but this does not mean that its surface would be covered with diamonds.

Some of the moon's craters, Dr. Wilkins said, are "definitely" due to internal forces, probably modified volcanic action, and others are due to meteoritic bombardment. Either volcanoes or meteors would cause

fusion of some of the lunar surface, and this could give a crystallized carbon not, however, in the form of diamonds.

The "tunnel" on the moon discovered by the late amateur astronomer, John J. O'Neill, is actually a bridge, Dr. Wilkins believes. He is convinced that there is a "small, natural aperture or hole" about two miles from one side to the other. Although this may seem big, Dr. Wilkins pointed out that with the moon's lower gravity, it is not so surprisingly large an aperture since a force exerted on the moon gives six times the effect of the same force on earth.

"There are many strange effects in the particular region where O'Neill's bridge is found," Dr. Wilkins said. These have to be interpreted by looking at the "remarkable" shadows.

He likened it to trying to tell about the earth's surface by looking down at it from an airplane more than 300 miles up. The smallest point that can be distinguished is about two miles across, he said, but since the moon has no atmosphere to mention, there is no veiling effect as there would be looking down on the earth.

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PEDIATRICS

Restoring Lost Hearing

► SOME PRACTICAL and hopeful advice to parents with a child who is hard of hearing has come from Drs. Ralph A. Arnold and Ewald W. Busse of Duke University Medical School, Durham, N. C.

The great majority of children who have lost part or all of their hearing have a "conductive" hearing loss. This usually can be quickly corrected with medical or surgical treatment, he pointed out.

"Conductive" hearing loss means that something is blocking sound's pathway to the inner ear, but the pathway can be opened.

Among the ways this is done is removal of adenoids, the most common cause of obstruction in the middle ear; removal of obstructions from the canal of the outer ear; sometimes by making a new opening or window for the sound to get in; and medical treatment of nasal allergies by a specialist in that field.

Doctors cannot correct the other type of problem, "perceptive" hearing loss, in which the hearing mechanism of the inner ear is permanently broken. Patients can and should, however, be taught to live with their handicaps by lip reading and sign language.

"The hard-of-hearing or deaf person should tell those with whom he comes in contact that he has such a handicap. Hearing loss is nothing to be ashamed of," Dr. Arnold pointed out.

"Deaf children often try to conceal their deafness because they want to be like other children," Dr. Busse said.

Those who have rapidly failing or in-correctible hearing loss should be taught lip reading before they have lost their usable hearing, and those who have some usable hearing should be urged to wear a hearing aid, "just so they can participate in everyday pastimes with people," the doctors advised.

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TECHNOLOGY

Mechanical Hands For Radiation Areas

► A PAIR of mechanical hands have been created at the Argonne National Laboratory, Lemont, Ill., to give dexterity to atomic scientists who cannot work in dangerous radiation areas.

The hands are controlled electronically to grasp, lift, move and twist things. They can do heavier work than their human operators, and they are not burned or killed by the invisible nuclear radiation that destroys living cells in humans.

Known as "an electronically-controlled force-reflecting manipulator," the hands are said to be the first to receive their orders by electricity. Previous remote hands have been opened and closed, twisted and moved

by levers, pulleys and cables. This arrangement requires the hands to be no farther away than 12 feet from the operator. The new electron-controlled slave can work "several hundred feet" away from its master.

Developed by Raymond C. Goertz and W. M. Thompson of the Laboratory's remote control engineering division, the hands are used with three-dimensional television so the operator can see what they are doing. In addition, a force-reflecting system is worked into the mechanical hands so that an operator can tell how hard the hands are gripping a heavy chunk of lead or a delicate glass vial.

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AGRICULTURE

Using Less Water Cuts Cotton Spraying Costs

► THE COST of spraying insecticides on cotton can be cut by using higher concentrations of sprays in smaller amounts of water.

Research at Texas A. and M. College shows that as long as the right amount of spray material is used, the amount of water in which it is carried makes little difference, provided the spraying system operates correctly.

E. C. Brown Jr. and R. L. Hanna found that sprays work as well whether carried in 2, 6 or 14 gallons of water per acre, if the right amount is applied. This research did not include work on the pink bollworm, which may require a higher volume of spray.

The sprayer operator must use extra care in mixing the insecticide to remove all trash and solid matter that might block nozzle openings. The savings from using less water result because less time and labor is needed for handling the water. Details of the test are given in Progress Report 1687, available from the Agricultural Information Office, College Station, Texas.

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