

GEOLOGY

Gravity May Be Used To Locate Scarce Water

► IT MAY be possible to locate underground water in arid regions through the use of gravimetric measurements, in the same manner that minerals and petroleum deposits are located today.

Thane McCulloh, University of California at Los Angeles geologist, who has been making a study of the Mojave Desert basin, explains:

"Within the earth density variations result from structural inhomogeneities and cause small variations in the force of gravity at the surface. Through the use of a sensitive instrument known as a gravimeter, minute differences in the force of gravity can be measured.

"These differences allow the geologist to determine approximately the locations of masses of different density and from this to determine the underground structure. From these data favorable areas for exploration for petroleum and certain types of mineral deposits can be located."

The technique is being used in study of a Mojave Desert basin. Gravimetric measurements reveal the approximate depths at which bedrock underlies a thick sedimentary deposit of sand and gravel in the desert valley and suggest areas where deep water wells might be drilled.

Science News Letter, August 1, 1953

PEDIATRICS

Hints for Guarding Baby's Health on Journey

► WHEN BABIES go on a journey, special precautions are necessary to protect them from such dangers to their health as unsafe water, milk and other foods, sudden changes in temperature, flies and other insects that may spread disease, grown-ups and children who may be "coming down" with contagious sickness, and getting overtired.

Baby's regular routine or schedule for food, sleep and other activities should be followed as closely as possible. The food problem is easier if the baby is breast fed, but don't forget to arrange for boiling his drinking water as well as the bottles and nipples for it.

If the trip is to last only a day or 24 hours at most, the milk mixture, drinking water, bottles and nipples can be boiled at home before starting. The milk mixture and water can be taken in vacuum jars. The milk mixture must be thoroughly chilled before it is put into the vacuum bottle. If it is put in warm, it may sour. The vacuum bottle should be cleaned, scalded and cooled before the milk is put into it. Milk from a vacuum bottle should not be used after 24 hours.

If the trip is to be made by plane or train, arrangements can usually be made for keeping baby's bottles in the refrigerator of the

plane's galley or the train's dining car. In this case, the milk mixture can be made at home and put into nursing bottles that are well corked or covered. They should then be wrapped carefully in a clean cloth.

Nipples, boiled at home, should be carried either wrapped in sterile gauze or in a glass jar with a screw top.

For trips of longer than 24 hours arrangements must be made for boiling the milk mixture, drinking water, bottles, stoppers, nipples, measuring glass and funnel all during the trip.

Science News Letter, August 1, 1953

TECHNOLOGY

Glass Panels Heat Basementless Houses

► BASEMENTLESS BUNGALOWS too small to house furnaces can be heated with radiant glass panels set into the walls. The electric panels do a good job but cost more to operate than heating plants that use coal, oil or gas.

Designed to work on standard 115- or 230-volt household current, the panels consist of glass plates having a metallic coating on their backs. The plates are positioned in front of a heat reflector. Current flows through the metallic backing, generating heat.

This heat is beamed into the room by the reflector. It also warms air circulating between the reflector and hot glass panel.

Experiments carried out by Paul R. Achenbach, National Bureau of Standards scientist, revealed the panels kept a four-room test house comfortable while outdoor temperatures hovered between zero and freezing Fahrenheit.

Each room of the test house was heated with glass panels placed in the wall beneath windows. A total of 10 panels were installed, each rated at 1,000 watts.

Science News Letter, August 1, 1953

MEDICINE

Enzyme Chemical Cures Nose, Throat Discharges

► A CHEMICAL naturally found in the human body is used in a new way of treating bronchial asthma and similar conditions to rid the nose and throat of thick, viscous discharges that are so troublesome.

Reporting to the *Journal of the American Medical Association* (July 18), Drs. Leon and Albert Howard Unger of Chicago tell of using trypsin, an enzyme, in aerosol form upon 73 patients.

Inhalations of aerosol trypsin produced excellent results in most patients with bronchiectasis, acute atelectasis, and bronchial asthma complicated with bronchitis or pneumonia. Good results were also obtained in paroxysmal bronchial asthma. The treatment may also be important in management of patients who undergo tracheotomies, especially in those with acute bulbar poliomyelitis.

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IN SCIEN

VETERINARY MEDICINE

4-Point Campaign Overcomes Hog Disease

► A FOUR-POINT program against deadly hog cholera has virtually eliminated the disease from Canadian swine herds, Dr. Orlan Hall, assistant veterinary director general of Canada, told an American Veterinary Medical Association meeting in Toronto.

The four point program is:

1. Slaughter of diseased herds and indemnification to swine owners.
2. Required cooking of all garbage fed to hogs.
4. Quarantine for 30 days of all live swine entering Canada.
4. Thorough, periodic cleaning and disinfecting of public stockyards, freight cars and trucks used in handling and marketing swine.

There have been no reports of hog cholera in Canada in four of the last five years, Dr. Hall said.

Since the four-point plan went into effect in 1904, 168,200 hogs have been destroyed, at a cost of about \$1,000,000, or approximately \$20,000 a year. This is less than the costs of vaccinating swine against hog cholera each year in many counties in the United States, Dr. Hall said.

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CHEMISTRY

Chemistry Asked to Do New Agricultural Tasks

► CHEMISTS WERE called upon by Clyde Williams, director of Battelle Institute, Columbus, Ohio, to develop new chemicals to join DDT, 2,4-D, soil conditioners and fertilizers to perform the following agricultural tasks:

1. Enable plants to absorb considerably more of the sun's energy than the present 4%.
2. Regulate the loss of moisture from foliage and thus cut down the damages from drought.
3. Improve the nutritional quality of foods, in addition to simply increasing bulk yields.
4. Force soybeans and other crops to mature fruits at the same time, thereby facilitating mechanical harvesting.
5. Impart new qualities to plants such as stiff stems, deep roots, and a high percentage of usable parts.

The nation's population is increasing annually at a rate of 2,000,000 persons, Mr. Williams declared. At the same time usable acreage and farm labor force are decreasing.

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CE FIELDS

VETERINARY MEDICINE

Improved Surgery Gives Old Pets Longer Lives

► AGED PETS now have a better chance of surviving surgical operations that can add to their years of active life.

By use of new anesthetics, better diagnostic methods and a clearer understanding of aging problems in animals, as well as improved surgical methods, older animals have more hope of pulling through delicate operations, Dr. C. L. Blakely, Boston veterinarian, told the American Veterinary Medical Association convention in Toronto.

Age of pets cannot be measured in years alone, Dr. Blakely said. Some dogs are senile at eight or nine years, while others are healthy and good surgical risks at 12 to 14 years old. Though older dogs take longer for the healing process, he said, this disadvantage may be offset by greater immunity to many infections and by a more relaxed nature than young dogs have.

A new surgical technique allowing pets with hip injuries to walk normally again was described to the convention by Drs. A. T. Knowles, Jack O. Knowles and Robert P. Knowles, Florida veterinarians. Chronic hip dislocations or hip bone fractures at the joint are corrected by fastening the hip bone to the pelvic bone with strips of tendon from the animal's thigh, the veterinarians said.

Thigh tendons for the operation may be taken from the patient or from another dog without ill effects, they said.

According to the veterinarians' report, several other methods of treating such hip injuries in pets can result in immobilization of the joint, leaving the animals partially crippled.

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ICHTHYOLOGY

Fish in Tide Pools Find Their Way Home

► FISH IN little tide pools on the beach seem to know the meaning of "home sweet home."

Early in life, members of the small finny species known to science as *Clinocottus analis* pick out a particularly rocky pool and spend a good part of their lives in and near it, George C. Williams, University of California at Los Angeles ichthyologist, has found.

At high tide when their home is several feet under, they follow the tide in toward shore, swimming around in a wide area. But when low tide comes, they are back in their own pools. Many of the small fish may share the same pool.

The movements of the fish were followed by tagging them with various combinations of colored beads.

It is not known just why *Clinocottus* picks one pool over another and remains loyal to it. The pool must be a permanent one. Many seaside pools are temporary and drain at low tide so that the fish are exposed and die or fall prey to crabs and other predators.

The fish may have some sort of homing mechanism that helps them to identify their own pool each time.

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TECHNOLOGY

Patient Talks Back in New Hospital Call System

► THE ARMY plans to install a new nurse call-and-talk device in all of its new permanent hospitals.

Although nearly twice as expensive as the common buzzer-and-light system, the new system improves patient care, saves time for doctors and nurses and increases nurses availability, trial tests at two Army hospitals revealed.

When the patient presses a button, chimes sound and signal lights flash on where nurses are likely to be. A light also blinks on over the patient's room door. When the nurse answers, she and the patient can talk over a two-way communication line.

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PSYCHOLOGY

Music Can Be Used to Communicate "Message"

► A MUSICAL composer can use tempo, pitch, key, harmony and rhythm to communicate a well-defined and rather broad "message" to an average listener.

This has been established at the University of California at Los Angeles by Genevieve Rogge under the direction of Dr. Franklin Fearing, professor of psychology.

A group of 18 subjects representing high, medium and low musical levels were interviewed individually after listening to three unfamiliar selections of modern music. The interviews revealed a striking similarity among the group as to what the music represented to each. Significance of the music seemed to involve much more than a simple indication of an overall mood or emotional quality.

In general subjects were able to distinguish mood, absence or presence of conflict, how conflict was resolved, whether the theme was real or fictitious, type of people or things music was about and elements of satire.

Another group of 90 subjects was asked to select patterns that best fit three musical selections played for them. Choice of patterns was consistent with those intended by the composer and did not differ significantly with musical levels of the subjects.

Science News Letter, August 1, 1953

VETERINARY MEDICINE

Warn Against Milk From Antibiotic-Treated Cows

► A WARNING against possible ill-effects on humans consuming milk from cows treated with antibiotics was issued at a meeting of the American Veterinary Medical Association in Toronto.

The public health committee of the AVMA reported that when antibiotics are used to treat mastitis in dairy herds, milk from the treated cows can create antibiotic sensitivity in humans who drink their milk. All milk from treated cows should be withheld from the market for at least three days after antibiotics are given, the committee recommended.

Science News Letter, August 1, 1953

ENTOMOLOGY

Wild Bees Make War On Imported Honeybees

► GAS AND blitzkrieg are used by wild Bolivian bees in a running warfare against imported honeybee colonies in Bolivia.

One species squirts a pungent liquid on the honeybees, destroying their natural odor. This throws the honeybees into confusion, and they may start fighting among themselves. Blitzkrieging bees have a stinger so long and strong it can pierce a leather glove. When they strike a honeybee colony, they overcome it in short order.

The most effective enemy of the little honeybees is a large black bee armed with strong jaws. Though the honeybees fight valiantly in defense of the colony, they usually suffer three times the casualties of the black giant.

Bolivian beekeepers, naturally, are allied with the honeybees in this warfare. The most effective defensive measure they have discovered is to capture alive some of the marauding wild bees, dust them generously in arsenic powder or ant killer, then let them go.

The poisoned bees bee-line home, and shortly afterwards the pillage stops, probably because of the spread of the poison in the wild bee hive, it was reported in *Foreign Agriculture* (June).

Science News Letter, August 1, 1953

ORNITHOLOGY

Rare Paradise Bird In U. S. From New Guinea

► A RIBBON-TAIL bird of paradise, one of the rarest and most spectacular of these spectacular birds, has just been added to the Bronx Zoo collection. This specimen is the first ribbon-tail exhibited outside of Australia.

The ribbon-tail was part of a collection of 18 birds of paradise just received from New Guinea. The male of this rare species was only discovered in 1939 in New Guinea.

Science News Letter, August 1, 1953