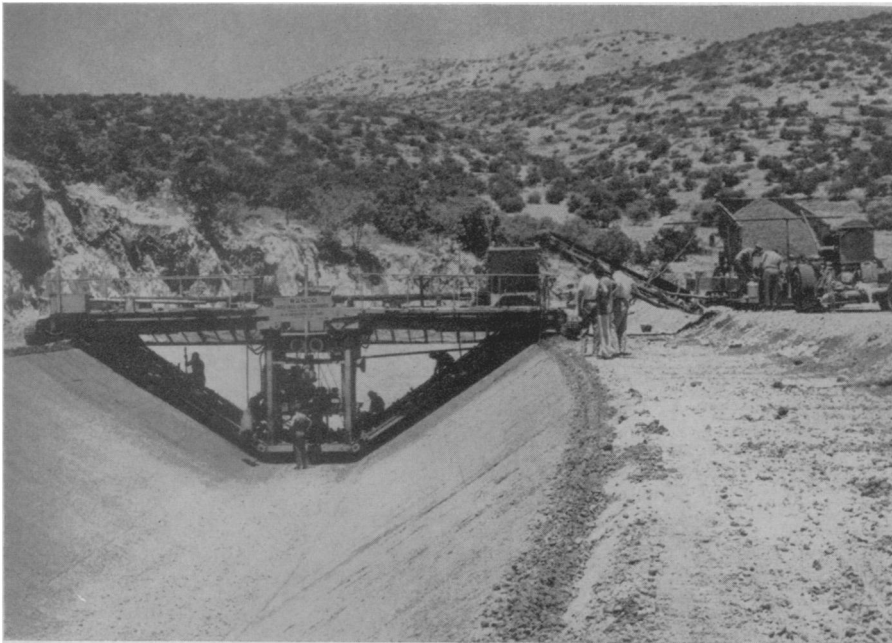




Embassy of Israel

WATER LINE—Israel is building this conduit to bring water from the Jordan-Yarmuk to the arid south under the regional Unified Water Plan.

NATURAL RESOURCES

Israel's Water Problem

► THE FIRST DROP of fresh water to roll 150 miles through pipes and canals to quench a thirsty Israeli desert may incite fiery Arabs to war.

Soon Israel's mammoth water system, stretching from the Sea of Galilee 150 miles south to the arid Negev Desert is expected to be completed.

This 108-inch prestressed concrete pipeline, lying wholly in Israel territory, is bitterly resented by the Arab world. Neighboring countries of Jordan, Saudi Arabia, Lebanon and Syria hope to thwart the project, which will turn a desert into an oasis and thereby give greater stability and power to the tiny nation of Israel.

For nearly ten years, Israeli engineers, scientists and laborers have been working to divert some of their allocated waters from the Sea of Galilee by a series of pumping stations, tunnels, canals and pipelines.

Completely surrounded by Israel territory, the Sea of Galilee is actually a reservoir of the Jordan River, which rises from the slopes of Mount Hermon in Syria and courses southward into the Dead Sea, 1,300 feet below sea level.

This ancient biblical river is little more than a stream, only a few yards wide. South of the Sea of Galilee, the Yarmuk River joins the Jordan, and they both empty their waters into the salty basin of the Dead Sea, from which there is no outlet.

This Jordan-Yarmuk river system is shared by Syria, Lebanon, Jordan and Israel by an international agreement called the Unified Water Plan. Syria and Lebanon, however, also have the Euphrates, the Orontes and the Litani as well as other

ivers, springs and underground water resources.

In this Jordan-Yarmuk system, nearly 90% of the water legitimately due to Arab countries can be withdrawn upstream from Israel on the two rivers. Thus Israel receives the disputed water only after it has passed through the Arab withdrawal areas and so believes she has the right to divert her share to the great barren Negev Desert.

About 350 million cubic meters of water a year will be transferred from the north to the south through the pipeline system, engineers estimate.

In addition to this pipeline system, three plants are being planned with aid from the United States to desalinate water from the sea and ground.

• Science News Letter, 85:150 March 7, 1964

ORNITHOLOGY

Navy Issues Orders: Save That Penguin!

► THE U.S. NAVY has issued orders to protect the comic penguin, one of the few creatures existing on the lonely icelands of the Antarctic.

Members of the U.S. Naval Support Force stationed at McMurdo, on the Ross Sea, south of New Zealand, have been instructed to fly high and wide of the penguin rookeries located about 20 miles from the camp.

Pilots of turbo-prop aircraft with skis and helicopters are advised not to fly lower than 2,000 feet or within a 300-yard radius of the area known as Adelie, where penguins congregate to breed and hatch their young.

The order comes in an effort to halt the

severe drop in penguin population in the Cape Royds area. Aircraft noises may frighten the birds and affect their breeding habits.

About 17 species of penguins are known, ranging in size from the 12-inch high Little Blue Penguin to the majestic Emperor Penguin which stands more than three feet high and can weigh up to 90 pounds.

Only two species, the Emperor and the Adelie penguins, live on the Antarctic continent. The rest live in the southern seas as far north as Australia, New Zealand, South Africa and South America.

There are no penguins in the northern Arctic.

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ZOOLOGY

Salamander Hormones Clue to Human Growth

► SOME SALAMANDERS never grow up. Today, however, their maturing processes can be induced with the use of hormones, creating a new type of animal.

By studying induced metamorphosis in salamanders, Dr. Harold Dundee, zoologist at Tulane University, New Orleans, hopes to gain basic information about the working of hormones in man.

Most amphibians hatch into a larva with gills and fins which enable them to live in water. Eventually their tissues change, lungs replace the gills, the creature takes up residence on land and proceeds to adulthood.

But some salamanders reach sexual maturity and reproduce without ever undergoing these changes. They reach adulthood in a child's body.

The reason for this hoax of nature may be the low iodine content of the water in which some salamanders live.

The thyroid gland, which affects the maturing process, uses minute quantities of iodine in the production of the thyroid hormone. Some species that never transform in nature can be made to do so by administering thyroid hormones or similar substances.

Amphibians can be prevented from transforming by removing the thyroid or pituitary gland. The pituitary hormones stimulate the thyroid to produce and release hormones, which, in turn, in some way provoke genes to go into action or allow tissues to respond to gene action.

Dr. Dundee uses injected radioactive iodine to study the functioning of these glands in the metamorphosis of the salamander. Although man does not undergo such a metamorphosis, he depends in part on hormones that are essentially identical to the thyroid and pituitary hormones of salamanders for his growth and cell structure.

"Man is always looking for ways in which to repair damaged tissues or to regenerate lost parts such as limbs," Dr. Dundee said.

"Basic research on the relationship of hormones to growth and regeneration may furnish additional information that may one day open avenues for provoking human tissues to replace lost parts."

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