

ANTHROPOLOGY

Technology Impact Found in Remote Places

► THE AGE of the jet plane, radio, and atom bomb has its impact on daily life, not just in America but in villages in Thailand and Burma and other remote communities as well.

The same general pattern of social change is being followed in six widely separated and different communities, Dr. Alexander H. Leighton, anthropologist of Cornell University, reported to the American Philosophical Society meeting in Philadelphia.

The tendency is away from local horse-trading to a cash economy which makes the individual more dependent on the nation. A similar drift is taking place from the local autonomy of the town meeting or its equivalent to dependence upon higher authority.

A sharp line is being drawn between religion and other activities. This is true in India as well as in New England or the mountains of Peru.

Values and ideologies are changing, too. Everywhere a break is being made with traditional values, and local ideas are becoming more and more influenced by outside forces. The ideas, however, are not in harmony with economic and governmental trends and neither are they consistent one idea with another.

The communities studied by independent anthropologists, working in collaboration are located in: rural northeastern America, Navaho Reservation, Peru, Thailand, Burma and India. The time covered was from 1900 to 1950.

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MEDICINE

Human Cancer Tissue Grown in Hamsters

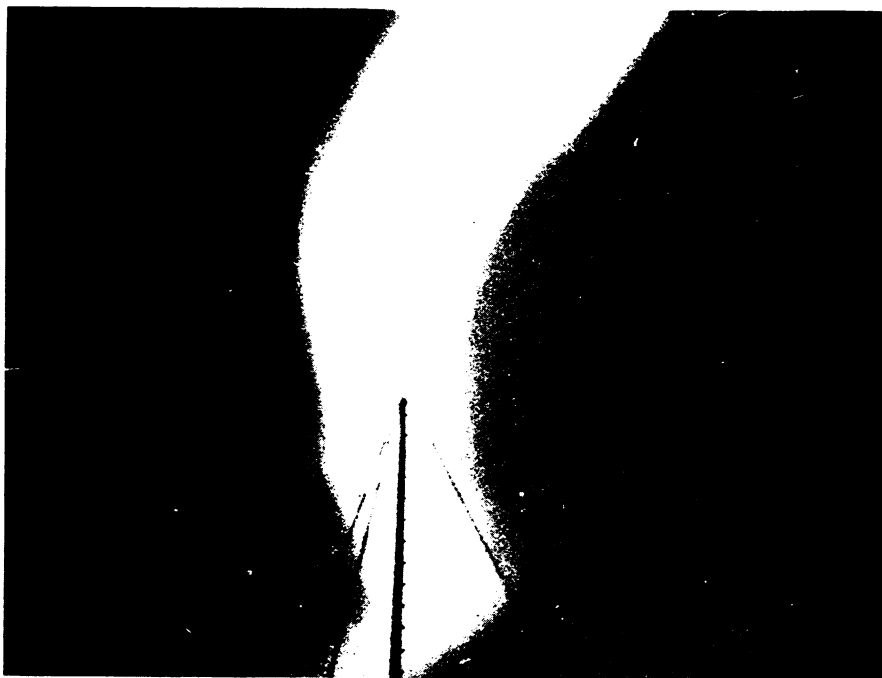
► IMPORTANT NEW knowledge about cancer and the chemical factors involved in cancer growth is expected to come from the cheek pouch of the golden hamster.

The reason is that scientists have now succeeded in transplanting tissues from 50 human cancer patients into the hamster's cheek pouch where they can easily examine the transplanted cancer and remove bits of it for further examination and study without sacrificing the animal.

The method for successful transplantation of human cancers to hamster cheek pouches is reported by Drs. H. M. Lemon, B. R. Lutz, R. Pope, L. Parsons, A. H. Handler and D. I. Patt of Boston University and Evans Memorial and Massachusetts Memorial Hospitals in SCIENCE (April 25).

Non-cancer tissues remain in the cheek pouch for long periods, up to 74 days, but do not grow. The cancer tissues, however, grow and can be subtransplanted.

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RADIO PROBES AURORA—Here silhouetted against an aurora is one of the radio antennas used by National Bureau of Standards' scientists to study the effect of northern lights on radio propagation. The brighter the aurora, the higher the radio frequencies that can be reflected by the ionized layers.

RADIO

Auroras Mark Reflections

► NORTHERN LIGHTS, pulsating streamers or curtains of soft colored lights occasionally seen from the United States, signal the location of a temporary "radio roof."

The brighter the aurora, the higher the radio frequencies that can be reflected by this temporary reflecting layer, R. W. Knecht of the Central Radio Propagation Laboratory reported at the joint meeting of the International Scientific Radio Union and the Institute of Radio Engineers in Washington.

In the region of the atmosphere where the auroras shine, the electrons are knocked off from many atoms and the ionized layer thus formed reflects radio waves back to the earth.

At night this region is 60 to 75 miles above the earth, the same height as one of the sunlit layers that bounce radio waves back to the earth during the day. It is lower than the normal night-time radio roof. Radio signals greater than five megacycles normally penetrate the lower layer during the day, but during an overhead aurora signals up to ten megacycles and above may be reflected.

During March of last year, Mr. Knecht was at Point Barrow, Alaska, where an aurora is nearly always visible. From here he searched the sky for northern lights,

determined their position and relative brightness, and simultaneously sent radio signals up into the ionosphere to check the height of the radio reflecting layer.

Simultaneous observations were made every 15 minutes during the dark hours of ten successive clear nights. Mr. Knecht completed about 400 in all. Auroras were present during about nine out of ten of these observations.

When inactive auroras were spotted 45 degrees or higher above the horizon, Mr. Knecht found that radio echoes were returned by an additional layer located below the normal night-time reflecting layer. Radio physicists call this layer "sporadic E." Auroras directly overhead enabled him to determine the apparent height of the reflecting auroral layer.

Intense auroral activity is closely followed by a sharp increase in radio wave absorption, often strong enough to black-out most broadcasts, Mr. Knecht reported.

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The oldest *alligator* on record lived 56 years.

The common *shrew* will starve to death in two or three hours unless food is obtainable; it eats twice its own weight of food each day.