

BIOLOGY

Predict Future Man

One hundred years after the theory of evolution was first enunciated by Charles Darwin in his *Origin of Species*, scientists are tracing man's past and looking for clues to cancer.

OVERSPECIALIZATION may be the ruin of man.

All those creatures that have become extinct in the past have disappeared because of overspecialization and right now man seems to have overspecialized in brains, an anthropologist told SCIENCE SERVICE. However, this form of overspecialization has one advantage compared with overdeveloped muscles, for example. Man at least has the chance to use his brain to prevent his extinction, said Dr. L. S. B. Leakey, curator of the Coryndon Memorial Museum, Nairobi, Kenya.

Dr. Leakey, lecturing at the Darwin Centennial in Chicago, predicted what man may look like in the future. Generally speaking man has become less robust and this will probably continue. Men may now be taller than their grandparents, but they are not as strong. Another characteristic of future man is that he will probably represent a mixture of the races.

The various races or subspecies of man, which result from isolation of groups, are converging, Dr. Leakey explained. This could mean something genetically very good as the re-pooling or mixing of the races occurs.

Describing his recent find of an early man in Africa, older than Java man or Peking man, Dr. Leakey pointed out that the skull was found with extremely primitive stone age tools at a campsite some 220 feet underground. This find represents the oldest known man, more than 600,000 years old, Dr. Leakey said.

There are several characteristics that indicate the skull's place in the development of modern man. These include enormous sinuses, the way the head is placed on the neck, its nasal openings and its mastoids—all of which are man-like rather than ape-like. The skull was found in the Olduvai Gorge area of Tanganyika Territory, British East Africa.

The new man, called *Zinjanthropus boisei* might be described as the lowest "Low Brow," Dr. Leakey said. The brow is very low, while the skull shows an unusually long face. A strange finding is the presence of a bony shelf below the ear hole. The man was probably 18 years old, with massive shoulders and spindly legs.

Right now, Dr. Leakey said, researchers are working on dating the find by the potassium-argon method. This very new technique has been used some, but never before to date a discovery so important to the evolution of man. It is basically a test for mineral involving the release of gases. Dr. Leakey expects to have a date for the new skull sometime early next year.

We now have about 10 links in the development of man after the appearance of

the first "humanoid," a creature that represents the junction where the two branches, man and ape, meet. More early men can certainly be expected to be uncovered, Dr. Leakey predicted. Scientists can even predict what these men would look like: small, walking upright and "heading toward man" as we know him today, Dr. Leakey said. It is doubtful that tools will be found along with any of the remains.

Pliocene beds—deposits some millions of years old—in East Africa are promising sites for future explorations, Dr. Leakey said. On the basis of what is known about animal life of the period, anthropologists have a good idea of where more of these links in the chain of the evolution of man may be found.

Cancer Clue Sought

A SEARCH for the possible equivalent of cancer cells among microorganisms could be used to attack the cancer problem, a Russian scientist suggested during the Darwin Centennial celebration.

Dr. G. F. Gause, scientific director of the institute of antibiotics and professor of biology at Moscow University, pointed out that, by showing that all living forms have evolved from common ancestors, Dar-

win had suggested that pathological processes may be found in their most primitive forms among lower organisms.

Recent experiments indicate that specific differences in various strains of microorganisms, such as differences in how they "eat" and "breathe" may be similar to the differences that distinguish cancer cells from normal cells. This is one of the promising paths Darwinism has led to, the Russian scientist explained.

Some 2,000 persons gathered in Chicago for the five-day discussion of what has happened in evolution since Charles Darwin published his world-famous "Origin of the Species," 100 years ago, on Nov. 24, 1859.

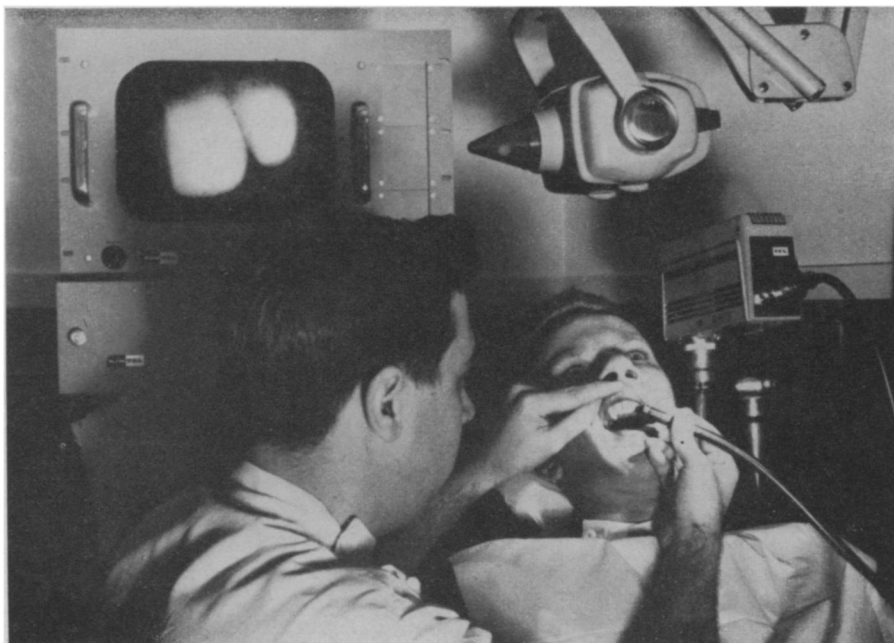
A panel of experts including Sir Charles Galton Darwin, grandson of the "evolutionary Darwin," discussed the origin of life as an issue in evolution.

Concerning the problem of the guidance of human evolution, Dr. Hermann J. Muller of Indiana University, a Nobel Prize winner, suggested that natural selection is now operating in a way that is, in some respects, the "reverse of what would ultimately be useful and desirable."

Individuals need to recognize their genetic responsibility as well as their responsibility for educating and keeping their children healthy.

Persons who have more than the average share of genetic defects should, he suggested, refrain voluntarily from reproduction. In contrast, it will be considered a "social service for those more fortunately endowed to reproduce to more than the average extent.

Dr. Muller foresees a time when improved techniques and facilities will permit storing germ cells, and testing, selecting and manipulating those that are desirable. It



DENTAL TV—An optical dental probe, shown in use by a dentist, projects a magnified view of the teeth onto a large screen. Currently being developed by the medical science technology department of the Avco Corporation, Wilmington, Mass., the device consists of a fingertip-size lens system, held in the dentist's hand, and a small bundle of three-foot-long glass fibers leading to a closed-circuit television camera.