Of the 96 cases of complete industrial scalping, 95 were women and one was a man, a Chinese whose queue was caught in machinery. The youngest of these scalped persons was eight years old, the eldest 63 years.

American Indians, Dr. Cahill said, were not the only ones to practice scalping. It was a regular act of war even in the days of the ancient Greeks. It did not get into the medical literature to any extent, however, until the introduction of manufacturing machinery in the nineteenth century. It now goes by the medical name of accidental avulsion of the scalp, instead of the old term, scalping.

Refrigeration for Cancer

"Refrigeration" of the body to a state of "semi-hibernation" is the new method of cancer treatment now being tried at Temple University School of Medicine, Drs. Temple Fay and George C. Henny of that institution reported.

The "refrigerating is done by special cooling devices applied to cancer areas, or by X-ray treatment of pituitary, thyroid and sex glands. The latter method reduces the entire body temperature. Object of the refrigerating is to induce a temperature unfavorable for the growth of young cancer cells, which apparently require the high temperatures found in the mouth and internal organs.

In cases in which the method was used to lower the temperature of the area of cancer growth, there was "definite retardation in the growth and decrease in its size in some instances," the Philadelphia doctors reported.

The X-ray "refrigeration" method is used in cancer cases where the tumor cells are widespread throughout the body. Reporting on this method, the doctors stated:

"In one instance, the tumor cells in the brain, spine and bones of the body disappeared and have shown no signs of return, during the past nine months. In two others, definite improvement has been noted in the size of the tumor masses."

The cases had all been given up as hopeless after all regular methods of treatment had failed. Whether the improvement will be permanent cannot be stated at present, but the method is of importance because it gives new approach to the cancer problem.

Important also is the fact that pain was promptly relieved following "refrigeration" of the area of cancer involvement. This alone helped to maintain the patient's strength and morale without the need of narcotics.

Research which led to this new method was financed by the International Cancer Research Foundation.

Key in Heredity

Cancer occurs because cells of the body which were never meant to be parents of new cells suddenly begin to have large numbers of offspring. The reason they do this is because of a change in their hereditary make-up.

This is the explanation, reduced to very simple terms, which Dr. J. P. Lockhart-Mummery of London presented to the meeting as his theory of the cause of cancer.

The theory, as Dr. Lockhart-Mummery pointed out, does not seem to help solve the problem of how to prevent or cure cancer. But in the past when the cause of a disease was discovered it generally led to discovery of some means of prevention or cure. The same may prove to be true in the case of cancer.

At all events, the key to the problem of what causes cancer has been found, he believes, in the science of genetics, which has to do with the way characteristics are inherited.

Scientists recognize two kinds of cells in the body: germ cells, which have nothing to do with disease germs but are the cells that are involved in reproduction and carry hereditary characteristics from one generation to the next; and somatic cells which do not have numerous progeny. When a somatic cell dies it is replaced by another single cell.

Sometimes, apparently, the hereditary factors called genes get mixed. Genes are better known as carriers of traits such as the color of eyes or the shape of noses. They also carry all the other features which make a particular individual—either a person or the innumerable tiny cells which make up his body —one sort of person or cell instead of another. When cancer develops, according to Dr. Lockhart-Mummery's theory, it is because there was a biologic change in the genes of somatic cells which endowed them with the power of having offspring. This change is called a mutation and is not reversible.

Experimental proof for this theory cannot be given at present, Dr. Lockhart-Mummery said, because genes "are and always must remain invisible to the human eye and gene mutation cannot ever be visible." His theory rests instead on the way it explains logically the known facts and fits in with other findings, such as those of Dr. Maud Slye on the genetic factors in mouse cancers.

Science News Letter, November 6, 1937

AVIATION

New Type Airway Markers Being Installed by Bureau

SPURRED by approaching winter, and congested air traffic, the Bureau of Air Commerce is rushing installation of added radio safeguards for commercial planes.

Specimens of two new types of markers, designed to replace in time the "cone of silence" which marks radio stations, are undergoing tests now. One hundred airport markers in all are to be installed this winter.

Airports are at present identified by a "cone of silence" above the airport radio station, which is usually located near the airport, but not at it. The beam sent out cannot be picked up by a plane immediately over the station, giving rise to the so-called "cone of silence" which has served to mark the station. Pilots have in the past criticized the "cone of silence" and have asked for a supplementary "positive signal."

The new station marker is a high frequency radio transmitter sending a narrow beam of waves directly upward from the station. It lights a lamp in the cockpit.

Twenty fan-type markers, which send an interrupted signal directly upward, are being installed at points twenty to thirty miles away from airports to mark for the plane pilot a point at which he must call in to the airport to determine whether he has a clear path into the landing field.

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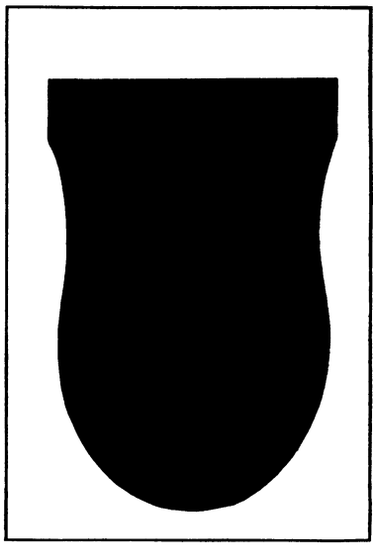

DROPPING

This one was caught just as it fell from the nozzle.