

ANTHROPOLOGY

**Breast Bone Tells Age
In Humans as in Chickens**

► GOOD COOKS have for a long time selected chicken for Sunday dinner by pressing on the breast bone. If the end of the bone was soft, the bird would be young and tender.

Now an anthropologist has found that the condition of the breast bone in a human skeleton can give him information about how old the owner was when he was living.

The breast bone, or sternum as it is called by scientists, goes through certain graded changes in early adult life. These changes are most distinctive in the teens and twenties. This fact indicates the possibility of using the condition of the breast bone to aid in identifying soldiers who die on the field of battle, Dr. T. Dale Stewart, physical anthropologist of the Smithsonian Institution, has found.

The changes he has observed are a progressive closing of the joining onto the ribs, and also a gradual alteration of the surface of these joinings. The surface becomes increasingly puckered and dimpled, and is eventually glazed over by mature bone. The change is from a plush-like appearance to something looking more like taffeta.

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MEDICINE

**Long Hospital Stay
For TB Patients Out**

► THE LONG period of rest in bed and of staying in the hospital or sanatorium, which formerly ran to 18 months or two years at least, seem on their way out for tuberculosis patients.

Reports from three centers on results with shorter periods were given at the meeting of the National Tuberculosis Association in Atlantic City.

Treatment without bed rest of 90 patients with minimal, moderately advanced and far-advanced tuberculosis succeeded at the National Jewish Hospital, Denver, Dr. Sidney H. Dressler, reported. The patients were permitted to be up after an initial period of from three to six weeks in bed. After six months on isoniazid and streptomycin, there were no clear-cut spreads of disease to new areas of the lung, even among 16 patients whose sputum continued to produce tubercle bacilli.

In Chicago, out-patient treatment has proved successful for patients whose treatment was started in the hospital, but not for those who had never been hospitalized, according to Dr. Meyer R. Lichtenstein of the Chicago Municipal Sanitarium.

In New York, over half of a group of patients treated outside the hospital with isoniazid and PAS had negative sputums at the end of six months and 39% showed X-rays of improvement, Dr. Arthur B. Robins of the city's health department reported.

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**Pocket Gophers**

► ANY ONE who has ever dug a small hole in the ground should stand in awe of the earth-moving prowess of the pocket gopher.

This little rodent, standing about half a hand high, weighing at the outside about a pound, and rarely exceeding a foot in length even with his long tail included, is a digging fool.

It has been estimated that in a good night's work in sandy soil a diligent gopher can dig a tunnel 300 feet long and one gopher high. This is all the more remarkable since the gopher, unlike the mole which compresses the earth by brute force as it worms its way through the ground, actually excavates the displaced earth by carrying it to the surface.

In other words, a foot-long gopher can dig a tunnel 300 times its own length overnight. A rough equivalent would be for a soldier to dig 300 slit trenches in one

night, providing shelter from shrapnel for his entire company. To make the analogy valid, of course, the soldier would have to perform this feat without tools. And even so, a ditch is easier to dig than a tunnel.

A gopher digs dog-fashion, loosening the dirt with its front feet and in the same motion throwing it backward underneath its body. It has heavy muscular shoulders and short powerful forearms, plus strong sharp claws that are very well suited to the job of digging.

After the gopher has loosened one load, it turns an agile somersault to face about in the opposite direction. Then, using a swimming motion not unlike the breast-stroke, it pushes the load with its chest back up the tunnel to the surface.

Gophers are vegetarians. Their life is almost wholly subterranean, spent in tunneling through the earth in search of forage. Their food is made up of roots, bulbs and tubers. For this reason they are frequently a great nuisance to farmers and gardeners who find their feeding habits very destructive.

Pocket gophers get their name, not because they would fit into a pocket, but from the remarkable external cheek pouch where they store their food. These little pockets, one on each side, are fur-lined. As the gopher cuts off bits of food, it stuffs them into the pockets. The animal works rapidly, using both paws somewhat like a small boy stuffing cookies into his pants pockets when no one is looking.

When the pockets are filled to the gopher's satisfaction, it scurries off through its elaborate tunnel to one or another of its store-rooms. These are small galleries especially built for the pantry purpose. Here the gopher stores his groceries against future hunger. Then he goes back to work, digging and foraging.

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MEDICINE

Babies Verge on Blue

► A SIGNIFICANT number of newborn babies hover on the verge of becoming "blue baby" children for the first three days of their lives, three Stanford University medical scientists have discovered.

It takes that long for the pre-birth opening between the lung artery and the aorta to close, these scientists find. When the opening fails to close, there is inadequate circulation of blood through the lungs and in consequence it does not pick up enough oxygen. The lack of oxygen in the blood results in the blue color and other difficulties of the "blue babies."

This opening, called the ductus arteriosus, remains open for the first three hours of life of most babies, the Stanford scientists report. The exact time of its closing has heretofore never been determined. Complete closure is known to take from six to eight weeks, but most authorities agree that long before the two months have passed,

the opening is sufficiently closed to prevent the passage of any significant quantities of blood.

The Stanford scientists tested the point by taking samples of blood from a tiny artery in the new baby's right hand and from a tiny artery in its foot. The oxygen saturation of the blood in each sample was then compared.

During the first three hours after birth, it was much less in the foot than in the hand, showing that blood carried to the lower part of the body was not all going through the lungs first. After three days of life, however, this difference had disappeared in most of the 12 normal babies studied.

The scientists, Drs. Frederic L. Eldridge, Herbert N. Hultgren and Mary E. Wigmore of Stanford University School of Medicine, report their findings in *Science* (May 21).

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