

marily in the liver of the animal. From there it travels to the kidneys after which it is excreted.

Tests on dairy cows that were treated with the tranquilizer showed no traces of the drug in their milk. Further investigations by the laboratory are being continued.

Results so far indicate that a substantial proportion of the annual \$100,000,000 lost in cattle production can be saved with the use of this new tranquilizer.

It costs the beef raiser money when his stock loses weight, contracts shipping fever or pneumonia (from lowered resistance), and refuses to resume feeding after arrival.

### Costs Are Low

Representatives of the Schering Corporation calculated the cost of individual shots to be one dollar per head of cattle. They further anticipate that use of the drug will save the stock raiser from six to eight dollars per head.

The next big question awaiting an answer is that of how long the cattle must be kept on feed at the feed lot before slaughter.

Allied Laboratory has had a tranquilizer, Thorazine, on the market for a number of months. It has been used primarily for small animals. Wyeth Laboratories produced Sparine, another animal tranquilizer. Jensen-Salsbury and Fort Dodge Laboratories have also been manufacturing calming drugs for veterinarian use.

Science News Letter, August 16, 1958

### PALEONTOLOGY

## Large Dinosaur Leg Bone Presented to Smithsonian

► THE UPPER leg bone, believed to be the largest dinosaur leg bone in the world, of a huge water-dwelling dinosaur has been presented to the Smithsonian Institution.

It is a seven-foot, one-inch long humerus of a Brachiosaurus, a dinosaur that lived some 135,000,000 years ago in late Jurassic times.

Although it is difficult to reconstruct the size and appearance of the creature from a single bone, Dr. Peter P. Vaughn of the Smithsonian's U.S. National Museum estimates that the dinosaur may have weighed 55 tons. With its very long neck, it could easily have looked over the roof of a three-story building.

The fact that the Brachiosaurus' front leg is longer than the hind leg and that it breathed through a snorkel-like nostril are considered evidence for its being a water dweller. The great weight of its body could probably not have been supported on land by even such large bones as the Brachiosaurus had.

A complete skeleton of a Brachiosaurus is now in a Berlin museum. However, it is much smaller than the estimated size of the animal that was the source of the Smithsonian's recent acquisition.

D. E. Jones of Delta, Colo., who found the leg bone in Montrose County, Colo., gave it to the Institution.

Science News Letter, August 16, 1958

### PUBLIC HEALTH

# Experts Divide on X-Rays

Scientists polled in a Science Service Grand Jury divide along professional lines in their opinion as to the dangers of mass chest X-rays.

► OPINION as to whether to abandon mass chest X-rays for the detection of tuberculosis depends upon what group of experts was polled in a SCIENCE SERVICE Grand Jury inquiry.

Directed at geneticists and others associated with the National Academy of Sciences genetics radiation report, the inquiry showed that 57% (12) answered "yes," 9% (2) "no" and 34% (7) did not vote.

On the other hand, a poll of practicing roentgenologists selected at random from throughout the nation, answered the same query ("The mass program of chest X-rays for detection of tuberculosis should be abandoned") as follows: Yes, 26% (7); No, 67% (18) and no answer, 7% (2).

Upon the statement, "Use of X-ray and fluoroscope machines in medical and dental practice should be markedly reduced," there was a similar division of opinion. Geneticists and other NAS experts voted: Yes, 67% (14); No, 9% (2); not voting, 24% (5). Roentgenologists voted: Yes, 11% (3); No, 78% (21); not voting, 11% (3).

There was agreement that the use of X-ray machines for fitting of shoes should be outlawed, the vote being: Geneticists, Yes, 95% (20); No, 5% (1); Roentgenologists, Yes, 93% (25); No, 7% (2).

Individual opinions from the NAS experts with regard to the mass chest X-ray program included:

Chest X-rays should be used only when tuberculin test has been tried first, at least for young people.

Use every possible precaution with respect to the proper focusing of the X-ray machines and proper shielding. When that has been carried as far as it can be practically, estimate gonad damage resulting and balance the benefit and cost of mass program to see whether or not it should be reduced.

In localities in which proportion of cases of tuberculosis is very small, the program should be abandoned.

Several roentgenologists also said chest X-rays should be restricted to areas of high tuberculosis incidence.

With regard to the medical and dental use of X-rays, the observation was made that the American Radiological Society is engaged in a most effective and well-motivated attempt to improve the whole situation.

Other observations included: Every reasonable precaution should be used in focusing and shielding; the doctor should proceed on the basis of a conviction that the benefit exceeds the genetic costs involved; careless use is a far greater hazard than overuse; the use of X-rays by chiropractors and faith healers should be outlawed; routine teeth and check-up X-rays should be eliminated; there should be lead-shielding

of the gonads from scattered radiation; exposures should be recorded, kept readily available and stored both centrally and locally.

An unfounded hysteria about radiation is sweeping the country, one roentgenologist declared. Another declared the entire subject has been grossly exaggerated in the lay press.

Among the recommendations of the genetics committee of the National Academy of Sciences in 1956 were:

The medical use of X-rays should be reduced as much as is consistent with medical necessity.

Records should be kept for every individual, showing his total accumulated lifetime exposure to radiation.

The average exposure of the population's reproductive cells to radiation above the natural background should be limited to 10 roentgens from conception to age 30.

Science News Letter, August 16, 1958

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