

ANATOMY

A Transparent, Talking Dog

Famous man and woman transparent models are matched by a dog model showing what lies beneath hide and hair. She spotlights anatomy for better dog care.

By WATSON DAVIS

► TO BE a companion to the transparent man and the transparent woman, there is now the transparent dog. Vesta, a life-size plastic Great Dane, which can be seen through more easily than live, yelping canines, will soon be touring principal American cities.

Developed in Germany at the production center for human-like plastic creatures, the transparent dog is a step forward in educational and museum techniques.

Vesta, the model, a female, is also a talking dog. She is wired for sound and illumination. She outlines in human speech, recorded, of course, by a master's voice, informative facts about the organs that, hidden by skin and hair, can be seen through the transparent covering of the model.

Details of the dog's body include the skeleton, teeth, muscular systems and internal organs, carefully reproduced by the skilled German craftsmen who worked for

two years to bring the model into existence.

Produced for the Gaines Dog Research Center, the model is named "Vesta" after the Roman goddess of the hearth, because the dog is a companion to humans and guardian of the home.

Transparent models of this sort were first shown in the old Deutsches Hygiene Museum in Munich. This institution suffered war damage and, after the war, was moved to Cologne in order to operate outside the Soviet Zone.

In the 1930's, transparent human models were brought to this country and were shown in various world's fairs and museums. Transparent men are in Cleveland and in Buffalo, and a transparent woman is in New York.

Dr. Bruno Gebhard of the Cleveland Health Museum has been collaborating in these modern attempts to show anatomical structure, working from the Cleveland Health Museum, of which he is director. One of his hopes is that in the future there

will be constructed a seven-months' pregnant woman in full plastic transparency. This would be an effective method of education for many thousands of visitors who visit museums of this sort.

Such exhibits as the transparent man and the transparent woman and the transparent dog often form the center in an exhibition hall with more conventional anatomical and medical exhibits grouped around them.

The plastic models are relatively expensive, costing well into five figures.

Many exhibits in museums include actual human skeletons. These are not so rare or expensive as might be guessed, but they are not real easy to buy nor for sale at bargain prices. Biological supply houses have a continuous demand for human skeletons from medical schools and physicians as well as museums.

Since most human skeletons have to be obtained from overseas, from points such as China in pre-Communist days, and now Japan and Mexico, they are relatively costly. United States laws do not encourage the sale and use of corpses.

One industry that has recently grown up is the mass production of plastic imitation skeletons, which sell for about three-fourths the cost of a real skeleton. A human skeleton would cost around \$250.

A few hundred years ago, the workings of the human body were quite mysterious. The circulation of the blood was not fully understood until 1628.

There were many prohibitions on the dissecting and investigating of the human body, and even the bodies of animals.

The X-ray and fluoroscope have made looking into the interior of the human body much easier, and a life-size X-ray picture is a frequent museum exhibit that attracts attention.

Use of 3-D

Anatomy has seized upon 3-D to give a new view for teaching and research purposes. A complete atlas of anatomy in three-dimensional color transparencies, a stereoscopic atlas of human anatomy, devotes a first section to the central nervous system and the second section to the head and neck. It shows the medical students the actual depth relationship of the various parts of the human body.

Less pretentious are the anatomical models that are molded in three dimensions and permit students to see, touch and remove organs of the torso and head. Such models are made of plastic and the parts have the texture of living tissue, hand-painted by artists.

Still in considerable use are the flat anatomical charts, some of which have various layers of the human body depicted on sheets that can be lifted up to show what

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TRANSPARENT DOG—A prize-winning Great Dane is shown here stretched in front of Vesta, the world's first transparent dog. This side of the plastic model dog shows the muscular system.

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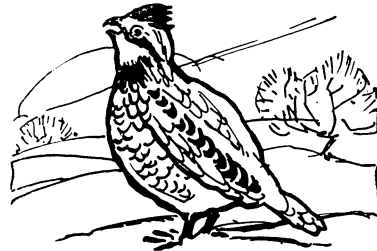
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Quail

➤ MORE QUAIL fall victim to chilled lead shot each autumn than any other game bird in North America. Hunted by man as well as by dogs, cats, foxes, skunks, weasels, snakes, great horned owls and sharp-eyed hawks, it is small wonder that the bobwhite has an exceedingly suspicious disposition.

When the harvest moon is full over the shocked corn, this plump little field-dweller with the bombshell take-off knows that the season of error has returned.

Yet somehow the bobwhite will refuse again to be exterminated. The survival of American quail through the period of care-free market hunting into the present era of legal protection is one of the biological miracles of the Age of Gunpowder.

Not only in wild and out-of-the-way places does the squail still live, but all along the fence-rows of busy farms, even on the edges of cities. It is almost as if bobwhite knew how important he is to the insect-bedevised farmers of the nation, and what a boon to humans who suffer from hay fever.

Bobwhites are so valuable as destroyers of weed seeds and insects that they deserve even more protection than they get. At one sitting a bird has been known to consume a thousand ragweed seeds. Another had eaten 5,000 seeds of foxtail grass, and a third fully 10,000 of the tiny seeds of the pigweed.

This is but the starch in the bobwhite diet; his meals contain so many injurious insects that he is worth many a quart of poison spray in a field.

But man, being perverse, continues to reason in this fashion: In the summer, grasshoppers ate our grain. Bobwhites ate the grasshoppers. Now we eat the bobwhites.

Quail are ground-loving birds, and seldom venture very far by air. They have a strong nesting and breeding urge, and when allowed to stick to business, average 14 offspring each year. To keep these large families firmly in tow, they have a wide repertoire of calls, shifting from tenderness to belligerency according to their mood.

By means of the familiar whistling "bob

... white" they attract their mates. The ringing "scatter call" keeps the coveys from wandering too far. A sharp "toil-ick, ick, ick" sounds the alarm when danger is near.

In escaping an enemy, bobwhite relies more on camouflage and the cover of tangled brush than upon breaking for the wild blue yonder. He would rather run than fly. But when discovery is imminent, a covey will burst from cover with a great "whirr" of their wings, scattering in all directions at 30 to 40 mile-an-hour speeds.

By the suddenness and noise of their take-off, they often startle the hunter and leave him waving the muzzle of his gun in hapless confusion. It is the bobwhite's last resort.

Even he, the king of upland game birds, cannot outfly modern high-powered lead poisoning.

Science News Letter, October 16, 1954

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lies beneath. Such simpler anatomical charts are used in hygiene instruction in schools.

More gruesome is the type of exhibit that shows artificial parts for the human body. Almost three dozen replacement parts are now in current use. Skull plates made of metal; artificial eyes; plastic balls, sponges and paraffin to fill the chest where a lung is removed; non-corroding metal alloy substitutions for various kinds of bones; tubes to replace damaged blood vessels, and, of course, artificial legs and arms.

If you should come upon a realistic figure, bleeding silent and prostrate, it is not necessarily a murder or a grim accident. It may be another kind of model that is being used for medical instruction.

The Navy Medical School in Bethesda, Md., has a manikin that actually "bleeds" a solution of glycerine, water and vegetable dye. Those learning to apply tourniquets or render other first aid can practice on this dummy. It is made of plastic, reinforced with fibers of glass. It can represent a person suffering from a leg wound, an arm wound, a belly wound, a penetrating chest wound, and a broken jaw causing bleeding from the mouth.

Other dummies of a similar sort are used in police instruction courses by the FBI and other law enforcement agencies. They are also used in civil defense exercises.

Science News Letter, October 16, 1954

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