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ABNORMALITIES FOUND IN A TWO HEADED CALF

HORACE ESSEX AND MARSHALL HUSTON

Whether nature had outdone herself or had attempted a bovine monstrosity was the subject of much discussion in our laboratory two weeks ago when a calf with two fully developed heads was brought to us. It was a Hereford calf born of a cow that had previously delivered four normal calves. Mr. F. L. Hultquist, the owner, who lives near Swedesburg asserts that the calf was alive in the early part of delivery, but was in an abnormal position in the uterus. The use of a block and tackle during delivery was probably the cause of its death.

The weight of the calf exceeded the one hundred pounds maximum of the only available scales. The heads and the necks of the calf were fully developed to the shoulders. The two spinal columns ran about three fourths of the length, but became one in the lumbar region. It had however only four legs all of which were normal. The levator auris longus muscles of the head seemed to attach at the same place. This point of attachment seemed to be a piece of abnormal cartilage situated between the spinal columns. A peculiar pocket was noticed where the two necks joined. This was covered with a cartilaginous plate which we took to be undeveloped scapulas. The abdominal viscera, except for double esophaguses seemed perfectly normal. A summary of the various internal structures will be given as observed.

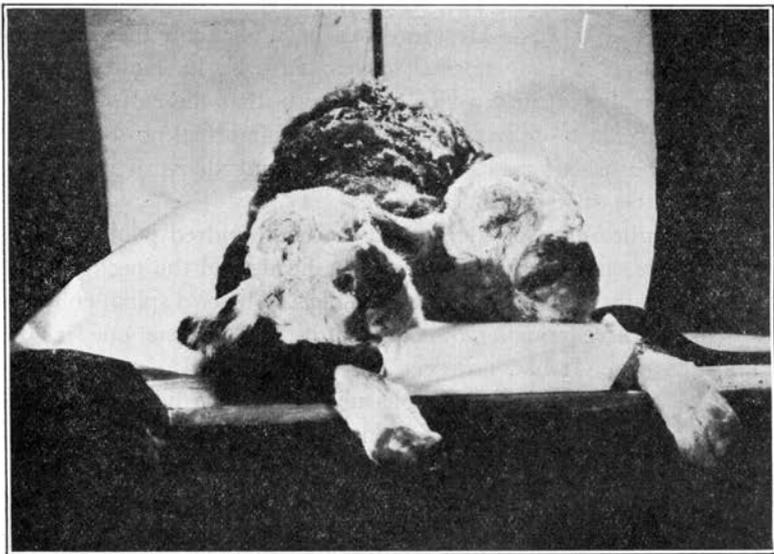
Digestive system: The two esophaguses were normal, each passing thru the diaphragm in different places in a lateral plane and entering the stomach on each side of the diverticulum. The stomach was other wise normal.

Respiratory system: Two normal trachea led to the two separate sets of lungs. A membrane divided the thoracic cavity into two compartments, each compartment housing one pair of lungs. The lungs on the right side were slightly smaller, probably because they were crowded by the heart.

Circulatory system: Dissection showed only one heart which in itself was normal, but was in an abnormal position. It was anterior to its normal location and slightly to the right side. The

pericardium of the heart was connected to the membrane that divided the thoracic cavity. The aorta, after completing the aortic arch, emptied into an artery that took the blood to the right head. This artery also proceeded posteriorly to about the center of the thoracic cavity, then branched to the left head. Posterior to this junction the circulatory system was normal.

Skeletal system: The two spinal columns came together just above the pectoral girdle and continued in this manner about three fourths the length of the body. The spinal columns were fastened



Two-headed Calf

together by cartilage which supported small flat round bones. Each pair of vertebrae were connected by one of these bones which were parallel to each other. Each spinal column had its normal row of dorsal processes carrying a peculiar depression between them that seemed to contain an unusual amount of cartilage and bone. The spinal cords arose from the brains and proceeded in their natural positions to a point a short distance above the base of the tail, where they fused together and continued in this manner until the natural termination in the coccyx. The lumbar region was unusually weak due to the fact that the vertebrae in this place were small, crowded and somewhat crooked. We do not think that the animal would have ever walked on account of this. The anterior part of the sternum was abnormal in that it gave the appearance

of having started to divide, but only for a short distance, otherwise it was normal.

Taken as a whole the calf seemed decidedly well formed and might have lived. It is obvious when cleavage started that nature decided to make twins. She quickly thought better of it, but it was too late to mend the mischief that she had started and a two headed calf was the result. It is interesting to speculate on how it would have acted with the two nervous centers. The mother is now enjoying perfect health and is the proud guardian of an adopted calf.

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