DO ANIMALS REASON?

BY L. A. CAMACHO.

Reason is that faculty of the mind which argues rationally, and which from known facts draws conclusions. This faculty has been annexed by the King of the Animal Kingdom to his own special domain, and he has obtained a good deal of satisfaction in his supposed exclusive possession of this valuable asset.

Now, when a fellow can't tell you what he is thinking about, either because he has no language, or because you do not understand it if he has, it is rather difficult to fathom the workings of his mind; and we are tempted to say that what we do not understand does not exist. It is fair to say that this applies to our lack of understanding of the minds of animals.

And this brings us to "Dohong," an orang-utan, that occupied a cage in the north end of the Primates House at the Zoological Park in the Bronx. He was a fine, big, red fellow with the long arms of his kind and a very serious manner. Perhaps he never really smiled, but there was a kindly expression about his face which was very attractive. He took life very seriously, was most deliberate in all his actions, and was curious in a most careful and painstaking way.

The walls of the cage in which he was confined are lined with smooth lignolith below and wood above. At the back there is a door through which the cage is entered. This door is set in a partition which does not go to the top of the cage, but only up about five feet, making a shelf about three feet in width; and the back wall of the cage goes from the shelf to the ceiling. On each of the side walls there is a round perch or bar of one and one-half inches diameter, running from the back to the front of the cage; and this bar is supported by wrought-iron brackets bolted to the wall. In the center of the cage is a trapeze hung by chains.

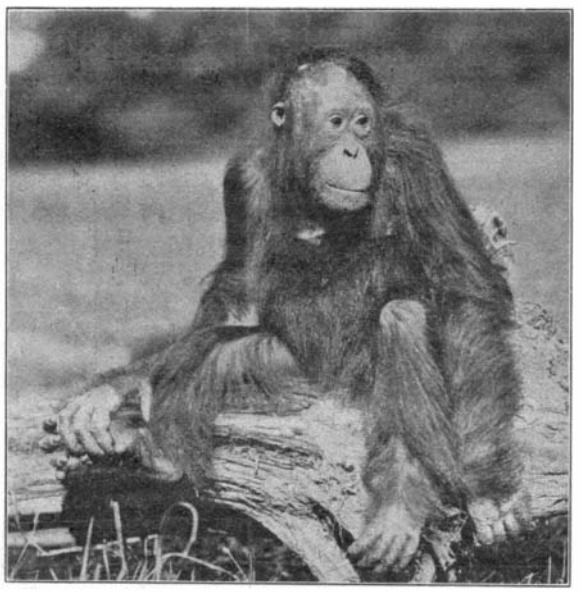
"Dohong" was destructive—not constructive. This was partly due to lack of education, but principally to lack of opportunity. Everything was provided for him. His bed was loose straw, which served his purpose. A blanket might have been better for him, but to tear up a blanket was an admirable way to while away a half hour of the dreadful tedium of cage life. His food came at regular intervals unasked. What more can an ape require than enough to eat and a place to sleep? Strange to say, "Dohong" wanted more. He wanted occupation, and as there was no nest to construct, and no enemies to guard against, he started in to destroy.

Occasionally he had for companions two chimpanzees of the opposite sex, who were fairly ladylike in their behavior, but ever ready to aid and abet "Dohong" in any of his schemes. "Dohong" had no compunction in making use of their services when he required them.

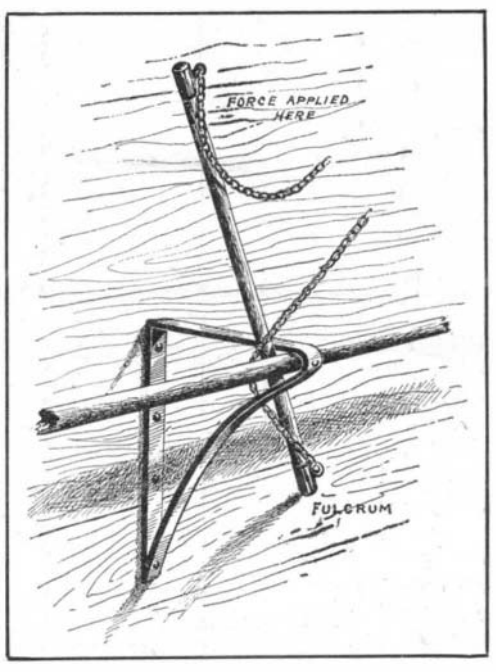
The bars on the side of the cage were to him a source of great interest. How could he get them down? He stood in front of them, looking at them in a most critical manner, and considering the question. He got up on the shelf and took hold of one end, grasped a steam pipe with the other hand, and pulled. No success. He then persuaded one of his friends, the chimpanzee, to assist him; and they worked together. The writer did not see how they loosened the first bracket, but he did see what he did with the second bracket.

This is what he saw: The distance between brackets is about three feet. The first one was loose, and "Dohong" was standing on the shelf pulling at the end; but the second bracket held. He let go, stopped and considered, rubbing his chin with his hand for all the world like a workman who has a difficult piece of work before him. He mounted the bar, put his back against the wall and pushed. Getting no result, he persuaded one of the chimpanzees to help him, she sitting next to him on the bar. No result. The other chimpanzee sat on the floor watching the affair with intense interest. At last, with a mighty effort, they succeeded in breaking off a piece of the bar, and the chimpanzees went off with it in a wild chase. Not so with "Dohong." He had his work to do, and felt the responsibility. Reaching down from the bar, he caught the chains holding the trapeze, thrust the bar of the trapeze through one of the brackets, and by main strength pried the bracket loose.

Let us analyze a little. This ape certainly argued rationally, for in no other way could he have correctly applied the lever. Even admitting that he knew by instinct (whatever that is) what the lever was, to apply a lever correctly one has to use reason. He must have reasoned out what a lever would do, and concluded that in the bracket was the proper place to apply it. It is the case of an animal using a tool. Without question he made use of reason, and any one watching him would have seen that the ape undoubtedly thought the whole matter out in a careful, deliberate, and painstaking way. It will be noted that this writing is in the past tense, for "Dohong" is no more. On a visit to the Zoo some weeks ago his cage was found empty, and an inquiry of one of the keepers brought the reply, "He's gone." It was said with a certain sadness, for, ape though he was, he had a personality, and who will question after this testimony that he had some of that which humans call intellect?



"Dohong," an Orang-utan Who Invented the Lever.



How "Dohong" Applied the Lever.

N. B.—This article was submitted to Dr. Hornaday, Director of the Zoo, for his approval and criticism. Dr. Hornaday states that "Dohong" used a lever on many occasions.

AN ARTIFICIAL RESPIRATOR.

BY JOHN W. HALL.

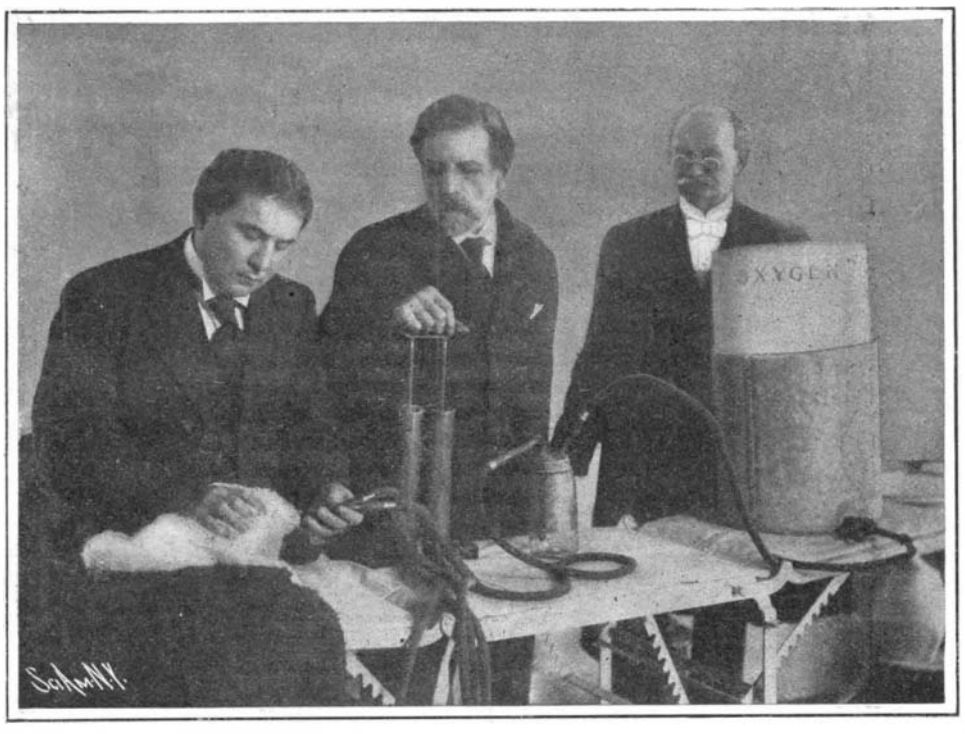
An apparatus for producing artificial respiration has recently been devised whereby in cases of suspended animation the action of the heart and lungs can be renewed. Prof. George Poe, the inventor of the apparatus, does not insist that with its use life can be brought back, but claims that by artificial means applied through the instrumentality of the respirator persons killed by asphyxiation, poison, or drowning can be resuscitated; that the death of persons under the influence of anæsthetics while being operated upon can be prevented; that its use will prevent "infant asphyxia" at birth; that a drunken person can be sobered in a few minutes; that persons electrocuted or hanged—in the latter case where the neck has not been broken—can be revived, and that the freezing to death of Arctic explorers can be obviated. These results are accomplished by simulating normal respiration through artificial means.

Prof. Poe has been long studying the problem as to when life actually leaves the body, and as early as 1876 he began experimenting in pumping oxygen into the lungs of supposedly dead animals with varying success. Interest in his study was accentuated by the fact that he had a young sister who, after lingering with typhoid fever, was pronounced dead by the attending physicians and that she had revived within two hours of the time set for her burial, and lived for many years thereafter.

The machine or apparatus of Prof. Poe is modeled directly after nature and is shown to be practical. He proceeded on the theory that to revive persons drowned, suffocated, or dead through ill-advised use of anæsthetics, the way was to remove the water or the poisonous gases in the lungs, and at the same time supply life-giving oxygen. So he began experiments on what he calls double larynx tubes or two tubes to connect with the nostrils—one as an inlet and the other as an outlet—and, studying the action of the heart, he saw that it was that of a double cylinder, or, rather, two cylinders, right and left ventricles and right and left auricles. He built his machine in line with the construction of the heart—a simple machine with two cylinders, each having an inlet and an outlet valve. The plungers of each cylinder were made to work simultaneously.

A demonstration was made on a rabbit, which is clearly shown in the accompanying illustration. Two grains of morphine were injected into the leg, after which four ounces of ether were administered. It was believed by the experimenters that life was positively extinct, as the application of every known test failed to reveal any sign of life. In this condition, the tubes of the apparatus were applied to the rabbit's nostrils and, on pumping out the poisons with one cylinder and pumping oxygen into the lungs with a simultaneous movement of the valves, within three minutes the rabbit, but lately pronounced dead, was breathing naturally and within six minutes it was running around the room. The ether was entirely out of the system, as there was no indication of nausea.

A dog was placed in an airtight box containing a heavily-charged atmosphere of acetylene gas and smothered for forty minutes. It was pronounced dead beyond the hope of resuscitation. The respirator was set to work and in a few minutes the animal began to breathe naturally and soon its pulse was normal, showing that all poisons had been removed from the system. So far, the artificial respiration apparatus has not been demonstrated on a human subject, but it is believed that the results would be the same as shown on the animal creation.



RESUSCITATING A RABBIT WITH THE RESPIRATOR.

According to a paper recently read before the Zoological Society by Mr. R. I. Pocock, two distinct types of so-called tabby cats are recognizable. In the one the pattern consists of narrow vertical stripes; and in the other of longitudinal or obliquely longitudinal stripes which, on the sides of the body, tend to assume a spiral or sub-circular arrangement characteristic of the blotched tabby. One or other of these types is to be found in cats of almost all breeds, whether Persian, short-haired, or Manx; and there appear to be no intermediate stages between them. Cats of the striped type are no doubt descended from the European and North African wild cats; but the origin of cats exhibiting the blotched pattern appears to be unknown. As it was to a cat of the latter kind that Linnæus gave the name *Felis catus*, the author urges that this title is not available for the European wild cat, which he would call *Felis sylvestris*.