

# SCIENCE

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## SURGICAL AND ANATOMIC EVIDENCE OF EVOLUTION<sup>1</sup>

\* \* \* \* \*

I PROPOSE in this address to approach evolution, not from the controversial side or from general arguments, but from a plain statement of a series of *facts*, many of them drawn from my personal experience as a surgeon and anatomist—facts which, to my mind, absolutely demonstrate the solidarity of animal life, more especially in the case of the vertebrates, such as fish, birds, other mammals and man, the highest mammal.

Many opponents of evolution admit the gradual development of animal life from its lowest form up to and including the anthropoid apes, but they draw the line there, basing this belief on the account in Genesis. Man, they insist, stands as a separate direct creation by the Almighty, "out of the dust of the ground." Such an argument is like declaring that the laws of mathematics reign in numbers up to, say, 100,000 or 1,000,000, but beyond that limit are no longer valid.

\* \* \* \* \*

Let me now point to *facts*—not theories but facts—which demonstrate this unity of the animal kingdom, including man.

1. Let me relate some operations I have done on the human brain. The brain in animals, including man, consists in a general way of (a) the cerebrum; (b) the cerebellum; (c) the spinal cord; and (d) certain structures which bind these three together. Extend the fingers straight forward. The fingers then resemble the "convolutions" on the surface of the brain; the furrows between them resemble the "fissures" between the convolutions of the brain. The principal fissures between the convolutions are similar in man and animals.

<sup>1</sup> Part of the Commencement Address at Crozer Theological Seminary, Chester, Pennsylvania, on June 6, 1922.