vascular layer, proceed the heart and the blood-vessels, the spleen, and other so-called blood-vessel glands, the kidneys and the sexual glands. Finally, from the lowest and fourth, or mucous, layer, arises the inner alimentary membrane of the intestinal canal, with all its appendages, liver, lungs, salivary glands. Baer traced the transformation of these four secondary germ-layers into tube-shaped fundamental organs as ingeniously as he had successfully determined their import and their formation in pairs by the segmentation of the two primary germ-layers. He was the first to solve the difficult problem as to the process by which the entirely different body of the vertebrate developes from this flat, leaf-shaped, four-layered original germ, the process was the transformation of the layers into tubes. In accordance with certain laws of growth, the flat layers bend and become arched; the edges grow towards each other, so that the distance between them is continually decreased; finally, they unite at the point o contact. By this process the flat intestinal layer changes into a hollow intestinal tube; the flat spinal layer becomes a hollow spinal tube; the skin layer becomes a skin tube, etc."

Again, speaking of Baer, he says: "yet the ova of man and other mammals were not actually known till the year 1827, for the egg is exc eed small, a spherical vesicle or bladder of only one-tenth of a line in diameter, which can be seen with the naked eye only under very favourable circumstances. This spherical vesicle, when in the ovary of the mother, is enclosed in a number of peculiar spherical vesicles of much larger size, called Graaffian follicles, after their discoverer "Graff," and these were formerly universally regarded as the actual eggs. It was not until the year 1827, not fifty years ago, that Baer proved that these Graaffian follicles are not the actual eggs, which are much smaller, and only imbedded in the Graaffian follicles. Baer was also the first to observe the so-called germinal vesicle of mammals, that is, the little spherical bladder which is first developed from the impregnated and the thin wall of which consists of a single layer of uniform phylogenal cells."

"Another discovery of Baer's, of great importance in understanding the types of the lineage of the vertebrates and the characteristic organizations of this group of animals, in which man is included, was that of the chorda dorsalis. This is a long, thin, cylindrical, cartilagenous cord, which in all vertebrates passes lengthwise through the whole body of the embryo. It is developed at a very early stage, and is the first formation of the spine, the firm axis of vertebrates." So much for Baer. I will now quote Mr Haeckel's own statements on the brain of the mammalias. He says "Though in general features of growth the brain of the mammals correspond with those of birds and reptiles, yet striking differences very soon appear between the two. In birds and reptiles the mid brain and the central part of the hind brain develop considerably. In mammals, on the other hand, these parts remain small, and, instead, the fore-brain begins to grow so rapidly that it covers the other bladders from in front and above. As it constantly grows further back, it eventually covers the whole of the rest of the brain above, and also encloses the central part from the sides. This process is of the greatest importance, because this fore-brain is the organ of the higher mental activities—because in it are accomplished those functions of the nerve cells, the sum of which is generally designated as the mind, or the 'spirit' in the narrower sense. The highest activity of the animal body, the wonderful manifestations of consciousness, the complex phenomena of the activities of thought, have their seat in the fore-brain. It is possible to remove the great hemispheres of a mammal, piece by piece, without killing the animal, thus proving that the higher mental activities, consciousness and thought, conscious volition and sensation, may be destroyed one by one, and finally entirely annihilated. If the animal thus treated is artificially fed, it may be kept alive for a long time, for the nourishment of the entire body, digestion, respiration, the circulation of the blood, secretion, in short, the vegetative functions, are in no way destroyed by this destruction of the most important mental organs.

Conscious sensation and voluntary motion, the capacity for thought and the combination of the various higher mental activities, have alone been lost.'....." The extremely complex and perfect active phenomena within the nerve cells, summed up the word 'mental life,' can no more exist without their organs in the vertebrate, including man, than can the circulation of the blood without a heart or blood. As, however, the central marrow of man has developed from the same medullary tube as in all other vertebrates, so also must the mental life of man have had the same origin. All this is, of course, true of the conductive marrow or the so-called 'peripheric nervous system.' This con-