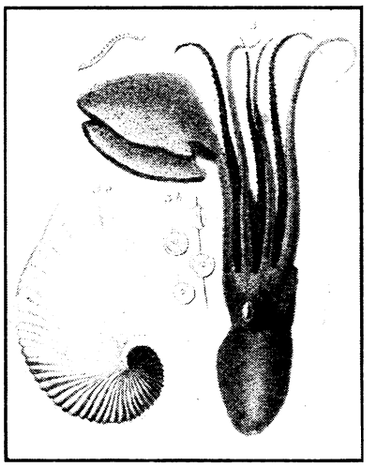
Classics of Science: Grand Division of the Animal Kingdom

VERTEBRATE
North American



MOLLUSC
Argonauta argo

The following extract, from the introduction to Cuvier's monumental description of the likenesses and differences of every sort of animal then known, gives his plan of the first natural classification of animal life. The illustrations are reproduced from Cuvier's book.

THE ANIMAL KINGDOM ARRANGED IN CONFORMITY WITH ITS ORGANIZATION, by The Baron Cuvier, tr. by Edward Griffith, London, MDCCCXXVII (1827).

General Distribution

If we divest ourselves of prejudices founded on the divisions of the animal kingdom formerly recognized, and consider animals without reference to their relative size or utility, our own degree of knowledge respecting them, or any other extraneous circumstances, we shall find that there are four principal forms after which all living beings appear to have been modelled. The basis of these distinctions is laid on the nature and organization of the several creatures themselves: the ulterior divisions of them, with whatever names they may have been decorated, are but slight modifications of the primary: and consist entirely in the addition or development of certain parts which make no essential change in the general character of their conformation.

The Vertebrates

In the first of these general forms or models, including that proper to man, and the animals resembling him most nearly, the brain and the chief trunk of the nervous system are enclosed in bony coverings, the former called the cranium, and the latter the vertebra. To the sides of the vertebra, as to a central column, are attached the ribs and the bones of those limbs, which form as it were the framework or carpentry of the body. The muscles, generally speaking, form a second covering for the bones which they put into action, and the viscera are enclosed in the head and trunk.

Creatures of this form are denominated *"vertebrated animals," (animalia vertebrata.)*

These have all red blood, a muscular heart, a mouth, with two horizontal jaws, distinct organs of vision, smell, hearing, and of taste, situated in cavities of the head, and never more than four limbs. The sexes in these animals are invariably separated, and a similar distribution prevails among them of the medullary masses, and of the principal branches of the nervous system.

On a close examination of each of the parts of this grand system we shall discover a general analogy of conformation even in the species most remote from each other; and can easily trace the gradations of the same plan from man to the lowest of the fish.

Molluscs

In the conformation peculiar to the second grand division of living beings, we find no skeleton. The muscles are simply attached to the skin which forms a soft and contractile covering, from which proceeds, in several of the species, a scaly or position and production of which are analogous to those of the mucous body. Within this general *envelope* are the viscera and nervous system, which last is composed of many scattered masses, attached together by nervous threads. The chief of these masses placed in the œsophagus receives the denomination of the brain. Of the senses, properly so called, we can seldom distinguish, among these animals, more than the organs for those of taste and vision, and we sometimes find that even these are wanting. One family alone exhibits the organs of hearing. In other respects this division is characterized by a complete circulating system, and peculiar organs of respiration. The apparatus for digestion and secretion are scarcely less

(*Just turn the page*)

Tularemia A Menace

Now that the season for rabbits has opened again, the American Public Health Association has issued a warning against tularemia, the rabbit disease that is sometimes transmitted to human beings.

Human cases of this disease which gains access by means of breaks in the skin or bites from flies or ticks, have been found in nearly every state in the Union. The New England states, New York, New Jersey and Delaware are the only localities which the disease has not yet invaded. In man it is characterized by swelling of the lymph nodes, fever and slow convalescence with disablement for many weeks or even months.

Any workers in an occupation in which rabbits are skinned, dressed or cut up are especially liable to the infection. Ticks and flies found on horses, cows and sheep may also carry it. Even when frozen, diseased rabbits remain infective for three weeks but are safe after four weeks. About ten per cent. of the rabbits on the market are infected according to officials of the U. S. Public Health Service who are studying the disease, but those which have been thoroughly cooked are safe to eat. Workers who have occasion to handle the infected animals are advised to wear rubber gloves. The eradication of the ticks, flies and rabbits that carry the disease is practically impossible. Ticks remain infected for life and are able to transmit the infection through their eggs to the next generation. No preventive vaccine or curative serum has been perefected and no drug has any special value in treating the disease.