

Zoology in its widest sense may aim at a full and complete knowledge of animal life, from the simple cell of the lowest protozoon to that of the most complex or differentiated structure in existence. It may not only be a knowledge of animal life as it now exists, with its almost infinite number of variations and complexities, but it may extend its researches away back for countless ages and inquire into their origin or beginning—inquire from whence they came and whither they are tending. Truly a vast subject.

In the ordinary study of animal life the various kinds are grouped together in a certain order. The number of the different sorts of animals being very great—much greater than that of plants—and the diversity among them also being greater, a division of the same into branches relating to different groups may naturally take place, as without an arrangement of this kind it would be almost impossible to describe an animal in such a way as to enable the student to find very readily any particular animal described. This method of grouping animals together is somewhat as follows: Supposing we take up that branch of zoology which has for its subject bird life, or ornithology—(*ornis* a bird, *logos* a discourse). The first step in classification would be to ascertain some peculiarity common to all animals which go by the name of bird. It would occur to most of us at once that all birds have feathers, and that no other animal is similarly clothed. This one characteristic would be sufficient to determine a bird's place among animals. Having got this far, it would very soon be perceived that structural differences, particularly in the feet, existed among birds, some having three toes, some four, some with three in front and one behind, some with two in front and two behind, others again with three in front only, some with their toes joined together with a thin skinny web, and several other points of difference. It would be quite natural to begin classification by grouping together all the birds having the same kind of feet. We would not think of placing a bird with feet adapted for perching in the same group with those with feet adapted for swimming. We would soon have several large orders of birds arranged by their feet peculiarities; but this grouping would not be sufficiently definite, as many birds with feet somewhat alike are very different in other respects; so that in order to designate any particular bird with certainty