

Canadian expert is writing about, we have agreed that all fossils shall have Latin names and that these names shall be used at all times whether the work is written in Japanese or English, or any other language. Since the presence of the same name for two or more things would introduce even worse confusion between the workers in the different countries we have also agreed to give different names to different animals and but one name to similar animals wherever they may be found. This is the only method by which we can speak of or compare accurately and intelligently the fossils occurring in different countries, but since we already know and have described and illustrated several hundred thousand different kinds of fossils some of the names are a little complicated. This explains the unusualness of names such as those in the papers by Whittaker in the April number of the *Naturalist* and by Lambe and McLearn in the May number. Instead of John Jones, William Jones, and Mary Jones we speak of Jones John, Jones William, and Jones Mary, or to use real fossil names, *Obolus parvus*, *Obolus major*, and *Obolus typus*, putting the important or group name first as do the Chinese. Li Hung Chang is Mr. Li, for example, a change we have to make whenever we get out a directory, a telephone book, or an index, but which the Chinese and the fossil experts do not.

Now let's go back to the farmer's dog. You will remember that we decided that it did not come within the definition and therefore was not a fossil, but supposing the farmer had dug up some fossil bones from another farm, fossils that lived earlier and were therefore really older instead of younger, as the dog was, and buried them in the same way. These would of course be fossils; they were and the fact of their having been moved did not change their nature, but once again, it would take a very expert farmer (a very expert paleontologist in fact) to fool any paleontologist this way. Curiously enough, however, Nature herself has done many things, things which must be included under the head of natural burial, much more confusing than anything we have supposed the farmer to do. Old sea bottoms with their included fossils have been hardened into rock, elevated above the sea, cracked, and the cracks widened by the wear of running water or frost just as such cracks, or joints, are being widened today, and animals living millions of years later have dropped into these cracks and been covered up and preserved. What real difference is there between the farmer-buried dog three or four feet down in a grave beside fossils thousands or millions of years earlier than itself and fossils 15 or 20 feet down in a crack beside fossils that much earlier than themselves? None, except that the

one is natural, the other artificial, but when we are dealing with fossils this difference is essential. Again, other sea bottoms, hardened into rock and elevated above the sea, are being gradually worn away by agencies which are unable to dissolve the harder included fossils and these weathered-out specimens are being picked up by storms and washed into the ocean to lie on the bottom with animals which have just died. The next layer of mud will cover both, the recent animal and the million year old fossil, and when the new sand has hardened into rock the two forms will be found in the same grave. What real difference is there between the farmer-buried fossils in a grave beside fossils thousands or millions of years later than themselves and the nature-buried fossils lying beside fossils fully as much later than themselves? None, except, as in the former case, that one just happened, it was the natural thing, the other was man made and accompanied by an act of will.

If you wonder why paleontologists do not include under the term fossils any direct evidence of life preserved in the earth's crust we shall have to say that the evidence of man's interference may be lost and can be hidden, and that his ability to transport animals or plants long distances without leaving any trace as to their source, his conscious interference with the natural course of events, irrespective of the motive, introduces complications which warrant us in putting the limit we have assigned and insisting on natural burial. As a matter of fact we usually confine the term fossils to the evidences of life which have been preserved to us from the prehistoric period, popularly speaking, but the study of fossils and the study of biology merge so closely together that they can not be separated. So do the study of fossil or "prehistoric" man (paleontology) and the study of early or historic man (archaeology).

If you think our illustrations have been too complicated we can only say that Nature has been known to still further confuse the whole problem by turning a whole series of such rocks completely upside down and by scraping half or three-fourths of them away and otherwise disturbing them during the process which has elevated them above the sea. Furthermore we have taken up only a few of the problems which are involved. The animals and plants that peopled the earth at any one time millions of years ago, for example, differed from place to place and from country to country fully as widely as do the animals and plants of today.

The study is so complicated that few geologists care to postpone the beginning of their period of full activity as working geologists by the number of years of preparation required for even an elementary understanding of the story told by the fossils occur-