It is just possible that in the Canadian areas that have been referred to the Belly River beds two or more distinct horizons have been confused under one name. In fact the late Dr. George M. Dawson admits this possibility in one of his early descriptions* of the Belly River beds, stating that in certain areas the beds assigned to the Belly River might be supposed to *overlie* the Pierre shales rather than underlie them. His descriptions and the invertebrate fossils that he reports arouse the suspicion that at some localities the formation includes the Fox Hills and the Judith River beds.

Whether the subsequent work of the Canadian geologists has removed all grounds for doubt as to the stratigraphy in all the Belly River areas and whether these doubts could reasonably involve any of the localities at which vertebrate remains were obtained I have not been able to learn from the published reports. These queries are worthy of the attention of those familiar with the field.

The point which I wish to emphasize is the truth of Professor Osborn's statement that 'the true Judith River beds certainly overlie the Fort Pierre and are of more recent age.'

T. W. Stanton.

Washington, D. C.,
November 25, 1902.

THE PRICKLES OF XANTHOXYLUM.

In No. 413 of Science, p. 871, there appeared a note calling attention to an error which occurs in some books regarding the nature of the prickles of *Xanthoxylum*. As in that note also the 'Cyclopedia of American Horticulture' is cited as making the erroneous statement that the paired prickles at the base of the petioles are stipular spines, I should like to point out that this statement is made only in the illustration, while in the text these bodies are always called prickles, though no particular mention is made of the occasional occurrence of paired prickles at the base of the petioles, and none of the absence of stipules in the genus, since this is a character common to the whole family of Rutaceae. The discrepancy of text and illustration is explained by the fact that the illustration was inserted without my knowledge after I had sent in my manuscript and that I had no opportunity to read proofs of my articles in the fourth volume of that work, since I was abroad in Europe during the time it was printed. If I had considered the prickles in *Xanthoxylum* metamorphosed stipules, I certainly should have spoken of them as spines and not as prickles. There occurs a similar arrangement of prickles in some species of roses, chiefly in species of the sections Cinnamomeæ and Carolinæ, but in this case no doubt can arise of their nature, since the true stipules are conspicuously present, usually adnate to the petioles. In both genera these prickly bodies are simply outgrowths of the epidermis and, therefore, morphologically to be considered prickles, though they might, in regard to their ecological significance, possibly be considered equivalent to stipular spines.

Alfred Rehder.

Arnold Arboretum.

* Geol. Surv. Canada, 'Rept. of Progress for 1882–83–84,' pp. 118–126 C.

NATURAL HISTORY IN ENGLAND.

In a letter to the editor of Science, December 5, 1902, Professor Packard writes as follows:

"Our American children are * * * woefully lacking in interest in natural history * * * far behind German, and even English children, I fancy."

The 'even' in this sentence staggered me so completely that I am moved to write in protest—or at least in inquiry. I received my school education—the regular English classical course—in Sussex and Worcestershire, and spent various holidays in Devonshire. I thus had groups of boy friends and acquaintances in three English counties. So far as I remember, it was a matter of course that we should be interested in some branch of natural history. At any rate, I can now recall but two exceptions to this rule from the whole list of my schooltime friends. And I well remember that our natural history interests proved a bond of friendship with farmers' boys and gamekeepers' sons, with whom we should otherwise, as public-school boys, have been at daggers drawn.

I know practically nothing at first-hand of German school-boys. But I am sure that the natural history interest was more general in my time at Oxford than it was among the German students I met at Leipzig. On German walking tours I have often been astonished at the ignorance of natural objects shown by my German companions; while my experience in England has always been that some one in the party knew the birds, some one the insects, some one the plants, some one the fossils—and that the rest were thirsty for information.

So I have been accustomed to regard an interest in natural history as the birthright of the English child. If this is mere insular prejudice, I must give it up; if it has the basis in fact that I think it has, I hope that Professor Packard will retract his 'even.' We owe a great deal to Germany; but—natural history!

On the general subject of nature study I may, perhaps, be allowed to say that—so far as I have followed the rather voluminous literature—it seems to have three dangers. The first is that, in striving for sympathy with nature, we run into sentimentality. The second is that, in avoiding fairy tales, we run into something ten times worse—if indeed fairy tales are bad at all; I mean, a pseudo-psychology of the lower animals. And the third is that, in trying to be exceedingly simple, we become exceedingly inaccurate.

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TREE TRUNKS FOUND WITH MASTODON REMAINS.

WHILE excavating the bones of a mastodon near Newburgh, N. Y., as mentioned in SCIENCE, October 10, 1902, there were found large numbers of tree trunks both in the muck and in the marl lying beneath it. In many instances the mastodon bones were found resting on these trees. While most of the trees were so rotten that it was possible to obtain only small fragments, several were recovered in lengths of two feet and over; and one in particular possesses curious interest, and some idea of its probable species would be welcomed by the writer. The tree was lying three feet below the surface, in muck, and was very soft and spongy; and not only on the surface, but clear through, was of a dark brown color, almost that of the muck, and perhaps colored by the muck. Its scientific interest rests upon the fact that in section it is polygonal, while the flat faces of the trunk that make up the polygon vary in number from fourteen to sixteen, some of the faces merging into one another at various points along the trunk. This piece of the tree is about three feet long, and when first dug out, about two months ago, was nearly nine inches thick at one end and six at the other; but it has shrunk on drying out, until now it measures five and three inches, respectively. No other pieces of this tree were found, although the adjoining layers of muck were carefully dug over and examined, in hopes of obtaining more of it.

With one exception, all the other tree trunks found were smaller than this one, few measuring more than five inches at the butt. Some were easily recognized as spruce and red cedar, and were in a fair state of preservation, except that when dry the large amount of shrinkage caused them to crumble unless carefully handled. Several trees showed while still wet the marks of the teeth of animals, and it has been surmised that this was the work of beavers. When dried, however, the tooth marks are much less distinct, and their study is thus rendered more difficult.

REGINALD GORDON.

THE CARNEGIE INSTITUTION.

THE Carnegie Institution shall devote itself essentially to the following subjects:

1st. To moralize scientific men.

2d. To protect investigators settled in countries where proper means be wanting.

3d. To depurate science. How to facilitate that.

4th. To advance science by a selection of studies.

1st. *To moralize scientific men.*

Secure priority of several important researches. Depurate the habits of both institutions and societies. Protect real scientists against upstarts, meddlers, courtiers and