

marks. As to the larger species of Ornithichnites, however, we can make no comparison with existing species; because no birds now on the globe have feet which approximate in size to *O. giganteus* and *ingens*. One cannot but see, however, that birds which measured from four to six feet at each step, must have had very long legs, and were therefore waders.

But the zoologist will object, that some of them appear to have had their legs covered, even to the toes, if not with feathers, yet with bristles; while all the known Grallæ have naked legs. This is certainly a very strong presumptive evidence against their having been waders in the literal sense, and perhaps it is an insuperable objection against ranking them among the Grallæ at all. Yet I would remark, in the first place, that it is not certain I understand the nature of this peculiar appendage to the heel, although I cannot explain it in any other way than I have done, and I do not see why that is not satisfactory. Again, since we should expect *a priori*, great peculiarities of structure in animals that inhabited the globe so early, is it incredible that even the genuine wading birds of that epoch might have had an appendage to their feet of filaments like bristles? We may not be able to see their use; nor can we understand that of the thoracic filaments attached to the genus *Polynemus* among fishes; nor to the byssus of the *Pinna*, among shells. Once more, these Ornithichnites, with the appendage under consideration, might have been produced by that portion of the Grallæ denominated *Cursors* by Temminck, and which might have frequented the shores of lakes and estuaries for food. Between the genus *Rhea* of these birds, and the *O. ingens*, there is one point of resemblance which I ought perhaps to notice. The *Rhea* has a callous knob in the place of a hind toe; and in the *O. ingens*, a protuberance of that sort seems to have left an impression. But finally, whatever we may think of the radiating appendage, I think it quite certain, and in the sequel shall endeavor to prove, that all the tracks which I have described must have been made either beneath the waters of an estuary, lake, pond, or river, or on their margin, where the waters would often overflow the place. If so, the habits of all these ancient birds must have corresponded to those of the modern Grallæ.

I have stated in the commencement of this paper, that the rock on which these Ornithichnites are found, is the new red sandstone; or perhaps I ought to call it the equivalent of that group of rocks in Europe; that is, it seems to have been formed under similar circumstances, and probably at nearly the same geological epoch.