

position, without injury; and if the cause continued to act, as the successive layers were deposited, might not all the disturbance which we witness, have been thus produced? Or, suppose the track was made on very yielding mud, which had a rapid slope beneath the waters; is it difficult to conceive how, as the new layers of mud were deposited, the mere force of gravity would cause them slightly to descend, and thus carry downward the track, without effacing it?

I have asserted that these tracks must have been made in a spot which was constantly, or frequently, beneath the waters; for if made on dry land, instead of having a new deposit brought over them quietly, to preserve them, they would be exposed to rains, and other denuding and disturbing agencies, that must speedily deface, if not obliterate them. Judging from what we now see of the tracks of living animals, a single month, nay, often a single week, or a day, would be sufficient to destroy them. And even if, in some rare cases, abundant rains and floods might cover the spot with a new deposit, yet ordinarily the action must be so violent, as to ruin the track; but beneath the quiet waters of an estuary, or lake, or even of a large river, after a few layers of mud had been brought over them, they might remain, for aught I can see, age after age, uninjured. The quiet waters above them would be their security. For these reasons, I suspect, that in almost every case, these tracks must have been made beneath still waters. I can, indeed, conceive it possible, that a track might be preserved, although made above low water mark, provided that an early but not violent rise of the waters should cover it with a thick deposit of mud. And yet the chances, even in such a case, are very much against its preservation, long enough to be converted into stone; so that, whatever objections the ornithologist may raise, against admitting that all the tracks which I have described were made by *Grallæ*, it seems to me, that the exigencies of the case require us to suppose them produced by birds, whose habits were those of *Grallæ*.

The most interesting aspect in which the facts that have been stated present themselves to the geologist, is as to the evidence they afford of the very early existence of birds, among the inhabitants of our globe. Heretofore there has been no proof of their existence, until within a comparatively recent period. But it now appears, that they were among the earliest of the vertebral animals that were placed on the globe. The discovery of some monument, that reveals the history of a people, a few hundred years earlier than had before been known, affords a high gratification to the antiquary. But