

the period passed. With this upper deposit the system terminated.

Though fish still remained the lords of creation, and fish of apparently no superior order to those with which the vertebrata began at least three formations earlier, they had mightily advanced in one striking particular. If their organization was in no degree more perfect than at first, their bulk at least had become immensely more great. The period had gone by in which a mediocrity of dimension characterized the existences of the ancient oceans, and fish armed offensively and defensively with scales and teeth scarcely inferior in size to the scales and teeth of the gavial or the alligator, sprung into existence. It must have been a large jaw and a large head that contained, doubtless among many others, a tooth an inch in diameter at the base. I may remark, in the passing, that most of the teeth found in the several formations of the system are not instruments of mastication, but like those in most of the existing fish, mere hooks for penetrating slippery substances, and thus holding them fast. The rude angler who first fashioned a crooked bone, or a bit of native silver or copper, into a hook, might have found his invention anticipated in the jaws of the first fish he drew ashore by its means; and we find the hook structure as complete in the earlier ichthyolites of the Old Red Sandstone as in the fish that exist now. The evidence of the geologist is of necessity circumstantial evidence, and he need look for none other; but it is interesting to observe how directly the separate facts bear, in many examples, on one and the same point. The hooked and slender teeth tell exactly the same story with the undigested scales in the fœcal remains alluded to in an early chapter.

In what could this increase in bulk have originated? Is there a high but yet comparatively medium temperature in