

abundance at Springfield, with large blocks and boulders of gneiss, reddish syenite, quartzite, and hornblende rock, all of which must have come from the north side of Lake Erie. The Ohio river, therefore, in the north latitude  $40^{\circ}$  and  $41^{\circ}$ , seems to mark the southern limit of the drift in this part of North America, although some scattered blocks have gone farther, and reached Kentucky.

I was also told that a boulder of gneiss, twelve feet in diameter, has been found resting on the upper terrace (*b*, *fig.* 9), four miles north of Cincinnati, and that fragments of granite, in a similar situation, have been met with at that city itself. These may possibly have been brought into their present position since the period of the deposition of the principal mass of northern drift; for, although I could not obtain sufficient data for forming an accurate opinion as to the relative age of the drift, and the beds containing the bones of mastodon and elephant, whether in the upper terrace above alluded to, or in the licks of Kentucky, I incline to believe the drift, as a whole, to be the older of the two formations. The swamps of the Big Bone Licks have the same intimate relation to the present superficial geography of the district, as have those marshes and alluvial deposits before described in New York, as containing the remains of mastodon and recent shells, which are decidedly more modern than the drift and its erratic blocks. (Vol. I., pp. 18, 20, and 54.)