

Great Bend, the sand-hills from the South impinge abruptly on the course of the river; at Pawnee Rock, a long swell in the ground terminates in an abrupt hill of highly ferruginous sandstone; and 10 miles above Chouteau's Island, the hills along the river are vertical, as if a river had cut a passage through them; and, as you approach Bent's Fort, the hills generally roll in more boldly on the river, and the bottoms become narrower, and the grass more precious.

“At these places the geological formation can be seen distinctly. On the lower part of the river, it is conglomerate of pebbles, sometimes shell cemented by lime and clay, overlaying a stratum of soft sandstone, which in turn overlays a blue shell, and sometimes the richest description of marl. Higher up the river, we find the same formation, but in addition, argillaceous limestone, containing ammonites and other impressions of shells in great variety, and in more than one instance, distinct impressions of oyster shells. The dip in both cases about  $6^{\circ}$ , and a little north of East.

“The soil of the plains is a granitic sand, intermixed with the exuviae of animal and vegetable matter, supporting a scanty vegetation. The eye wanders in vain over these immense wastes in search of trees. Not one is to be seen. The principal growth is the buffalo grass, cacti in endless variety, and very rarely that wonderful plant, the *Ipomea leptophylla*, called by the hunter, man root, from the similarity of its root in size and shape to the body of a man. It is esculent, and serves to sustain human life, in some of the many vicissitudes of hunger and privation to which