

Cretaceous System.

- No. 5. Of the Nebraska general section, with its usual characters and fossils—150 ft.
 No. 4. Presenting its usual characters and containing its characteristic fossils,—150 ft.
 No. 3. Usual fossils and composition,—150 to 200 feet.
 No. 2. Usual lithological characters and fossils, with some new forms,—200 to 250 ft.
 No. 1. Upper part yellowish and reddish sandstone, sometimes in heavy beds, passing down into alternations of yellowish, gray, bluish, and reddish laminated shale, with seams and layers of dark carbonaceous matter or impure lignite; beneath which there is a heavy bed of compact yellowish and reddish sandstone, with indistinct vegetable remains, and much fossil wood,—above beds variable at different places,—300 to 400 ft.

Then come alternations of light gray argillaceous grit, and rather soft sandstone, containing *Ammonites Henryi*, n. s. p., and a small oyster; also in bluish gray compact argillo-calcareous masses *Unio nucalis* n. s. p., and a small *Planorbis*, with other small univalves like *Pulidina*.

Jurassic System.

- A.—Layers of argillo-calcareous, somewhat gritty mass, containing *Bellemnites densus*, n. s. p., *Ammonites cordiformis*, n. s. p., *Aricula (Monotis) tenuicostata*, n. s. p., *Arca (Cucullæa) inornata*, n. s. p.; passing down into a 6 or 8 foot bed light gray, or yellowish sandstone, with ripple marks and trails of marine worms,—50 to 80 ft.
 B.—Light red argillo-calcareous gritty bed, with greenish seams, and nodules (sometimes wanting),—30 to 40 ft.
 C.—Soft gray and dark brownish sandstone, passing down into about 8 feet of laminated shale of various colors, below which there is a 6 foot bed of sandstone similar to that above, containing *Aricula tenuicostata*, and trails of marine worms. Then comes 30 to 40 feet of bluish, or ash-colored argillaceous shale, with great numbers of *Lingula brevirostris*, n. s. p., and *Serpula*. Next we have a light-gray calcareous grit, containing columns of *Pentacrinus asteriscus*, n. s. p., *Aricula tenuicostata*, *Serpula*, &c., the more compact and calcareous portions often perforated by *Pholas*? The latter bed passes down into a light-yellowish gray sandstone, splitting into thin layers, and containing imperfect casts of *Mytilus (Modiola) Pecten*, *Trigonia*, and other bivalves, in considerable numbers. Whole 60 to 100 ft.

Carboniferous System.

- D.—Brick-red, incoherent, argillo-calcareous, very fine slightly gritty material, containing great quantities of gypsum in the form of seams, layers, and irregular beds,—100 to 150 feet.
 E.—Bluish and reddish gray, very hard gritty limestone, in which were found a smooth *spirifer* like *S. lineatus*, two or three species small *Pleurotomaria*, two species *Macrocheilus* and one or two species of *Bellerophon*. This bed is variable in thickness,—10 to 50 ft.
 F.—Brick-red material, very similar to the bed D, excepting that it contains much less gypsum; passing down into a very hard compact concretionary sandstone,—250 to 300 ft.
 G.—Hard, more or less gritty, yellowish and whitish limestone, containing *Productus*, *Spirifer*, *Euomphalus*, &c. &c., passing down into a light yellow calcareous grit; altogether 50 ft.