

Dr. Falconer. At this place the loess is covered by a thick bed of travertin, used as a building stone, the product of a mineral spring. In the travertin are many fossil plants, all recent except two, an oak and poplar, the leaves of which Professor Heer has not been able to identify with any known species.

Below the loess of Canstadt, in which bones of the mammoth are so abundant, is a bed of gravel, evidently an old river channel, now many feet above the level of the Neckar, the valley having there been excavated to some depth below its ancient channel so as to lie in the underlying red sandstone or keuper. Although the loess, when traced from the valley of the Rhine into that of the Neckar, or into any other of its tributaries, often undergoes some slight alteration in its character, yet there is so much identity of composition as to suggest the idea, that the mud of the main river passed far up the tributary valleys, just as that of the Mississippi, during floods, flows far up the Ohio, carrying its mud with it into the basin of that river. But the uniformity of colour and mineral composition does not extend indefinitely into the higher parts of every basin. In that of the Neckar, for example, near Tübingen, I found the fluviatile loam or brick-earth, enclosing the usual helices and succineæ, together with the bones of the mammoth, very distinct in colour and composition from ordinary Rhenish loess, and such as no one could confound with Alpine mud. It is mottled with red and green, like the New Red Sandstone or keuper, from which it has clearly been derived.

Such examples, however, merely show that where a basin is so limited in size that the detritus is derived chiefly, or exclusively, from one formation, the prevailing rock will impart its colour and composition in a very decided manner to the loam; whereas, in the basin of a great river which has many tributaries, the loam will consist of a mixture of almost every variety of rock, and will therefore exhibit an