

**Loess.**—This name has been given to a remarkable deposit, first described in the valley of the Rhine, but which has been found to cover vast areas both in the Old World and in the New.<sup>18</sup> It is usually a yellowish homogeneous clay or loam, unstratified, and presenting a singular uniformity of composition and structure. When carefully examined, its quartz-grains are found to be remarkably angular, and its mica-flakes, instead of being deposited horizontally, as they are by water, occur dispersedly in every possible position and with no definite order.<sup>19</sup> The chief constituent of loess is always hydrated silicate of alumina, in which the scattered grains of quartz and flakes of mica are distributed. It is in some measure calcareous, the lime being here and there segregated into curious concretionary forms (*Lössmünchen*, *Lösspuppen*, p. 855) by the action of infiltrating water. Though a firm unstratified mass, it is traversed by innumerable tubes, formed by the descent of roots and mostly crusted with carbonate of lime. These have generally a vertical position, and ramify downward. Where the surface is covered with vegetation, they may be seen occupied by rootlets to a depth of a foot or a few feet from the surface. By means of these pipes a tendency is given to a vertical jointing of the mass. With these characters, the loess unites a remarkable peculiarity in respect of its organic remains, which consist chiefly of land-shells, sometimes in immense numbers, likewise of the bones of various herbivorous and carnivorous mammals, which are either identical with or closely allied to living

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<sup>18</sup> The calcareous clays of the arid regions of North America have been largely used for the manufacture of sun-dried bricks called in Spanish "adobe"—a term which has been proposed as a geological designation for these deposits. I. C. Russell, *Geol. Mag.* 1889, p. 291.

<sup>19</sup> See Mr. Russell's paper cited in the previous note, p. 294.