

been driven over each other in a kind of imbricated structure (p. 1036).

(e) *Alpine Type of Mountain-Structure.*⁹—It is along a great mountain-chain like the Alps that the most colossal crumplings of the terrestrial crust are to be seen. In approaching such a chain, one or more minor ridges may be observed running on the whole parallel with it, as the heights of the Jura flank the north side of the Alps, and the sub-Himalayan hills follow the southern base of the Himalayas. On the outer side of these ridges, the strata may be flat or gently inclined. At first they undulate in broad gentle folds; but traced toward the mountains these folds become sharper and closer, their shorter sides fronting the plains, their longer slopes dipping in the opposite direction. This inward dip is often traceable along the flanks of the main chain of mountains, younger rocks seeming to underlie others of much older date. Along the north front of the Alps, for instance, the red molasse is overlain by Eocene and older formations. The inversions increase in magnitude till they reach such colossal dimensions as the double fold of the Glärnisch, where Triassic, Jurassic, and Cretaceous rocks have been thrown over above the Eocene flysch and nummulitic limestone (p. 898). In such vast crumplings it may happen that portions of older strata are caught in the folds of later formations, and some care may be required to

⁹ For recent information on the internal structure of the Alpine chain see especially the maps, sections and explanatory memoirs by Renevier, Heim, A. Baltzer, E. Favre, K. J. Kaufmann, C. Moesch, H. Schardt, A. Gutzwiller and others in the *Beiträge zur Geol. Karte der Schweiz*; also Fritz Frech, "Die Karnischen Alpen," *Abhand. Naturf. Ges. Halle*, xviii. (Heft i.) 1892; Zaccagna on the Graian Alps, *Boll. Com. Geol. Ital. ser. iii. vol. iii.* 1892, p. 175; consult also Heim's "Mechanismus der Gebirgsbildung"; Suess, "Antlitz der Erde" and "Entstehung der Alpen"; A. Favre, "Recherches Geol. dans les parties de la Savoie du Piémont et de la Suisse voisines du Mont Blanc," 1867, and "Description Geol. Canton Genève," 1880.