solid crust. Professor Erich von Drygalski, who as an explorer on the Northern Coast and in Polar regions is no less distinguished as a mathematical physicist than as a geologist and geographer, holds the opinion that phenomena of upheaval and subsidence can be produced by alternating decrease and increase of the temperature at the earth's surface. Professor Brückner, the chief Swiss authority on fluctuations of level, does not agree with Nordenankar and Suess that the positive movement of Scandinavia may be explained by the gradual depression of the Baltic Sea. On the German coasts of the Baltic, where the variations of the water-level, as in the case of inland seas, depend upon the amount of rainfall and the volume of inflowing river-water, the oscillations leave horizontal lines. But on the Swedish coasts the former coast-lines do not run horizontally, they slope obliquely upward, thus affording evidence, in Brückner's opinion, that the movement had been an unequal crust-movement. Several geologists who have more recently examined the Swedish coasts, Leonhard Holmström (1888), Sieger (1893), and Kayser (1893), arrived at the same result and supported the view of continental oscillations.

Penck has modified his previous opinion and now accepts independent crust-movement as a concomitant factor in elevating or depressing a coast-line. Brückner goes farther, he argues that all the present littoral displacements, which are not directly associated with volcanic activity at the surface, are explicable only if we accept crust-movement as an essential condition.

H. *Older Dislocations in the Earth's Crust—Tectonic Structure and Origin of the Continents and Mountain-Chains.*—The terrestrial movements and changes which have been observed within historic times give us but a faint indication of similar phenomena in earlier periods of the earth's history. On studying the dislocations which occurred in past geological epochs, we arrive at a clearer conception of consummated movements and their effects, we perceive how ancient strand displacements have culminated in the complete submersion of islands and continents, or in their emergence, and how mountain-systems have arisen in the neighbourhood of ancient zones of crust-disturbance and weakness.

With the exception of the observations of Steno, which were far in advance of his time (*ante*, p. 26), the scientific