

glaciation had been repeatedly covered by ice. This view now received more credence, especially after Oswald Heer's researches on the palæontology of the Ice Age in Switzerland discovered the presence of "Interglacial" deposits containing the fauna and flora of a warm, temperate climate, and therefore betokening a prolonged interruption of the polar conditions.

After Ramsay's brilliant work had proved that almost the whole of Great Britain had been covered by a vast ice-sheet, Kjerulf and Otto Torell demonstrated that Scandinavia had been entirely buried under an ice-sheet some 6000 or 7000 feet thick. In South Bavaria, topographical conditions led Captain Stark to suggest that the surface of the plain had been glaciated; and Zittel in 1874, by his discovery of good examples of striated rocks and his determination of typical end and ground moraines, established upon a scientific basis that a great portion of the Bavarian plain had been an ice-field.

Still, however, the North German geologists held fast to the drift theory of the earlier decades of the century. It is in the memory of many living geologists how that theory received its death-blow in Berlin on the 3rd November 1875. On that evening, at a crowded meeting of the German Geological Society, Otto Torell delivered a powerful address on the course of glacier ice from the central ice-sheet of the Scandinavian plateau to the plains and basins of Northern Europe, and brought home to his Berlin audience with irresistible arguments that the erratics on the North German plain had been dispersed there by glaciers moving southward. The deep impression made by the eloquent Norwegian was never forgotten; the drift theory collapsed, and the name of Bernhardt was recovered from oblivion to receive belated honour and be ranked as that of an anticipator of glacial geology.

The German geological literature was then rapidly enriched by papers on glacial deposits. One of the most effective was contributed by Professor Penck upon the boulder-clay formation of North Germany (*Zeitschrift d. D. G. Ges.*, 1879). Since then active researches have been continued by the Prussian Geological Survey Department, and it has been shown that there are two distinct series of glacial boulder-clay, separated by interglacial layers containing remains of a rich vegetation.

Professor Penck in 1882 published a work entitled *The*