yet found that both assemblages of fossils retained their distinctive characters, showing no signs of any blending of species or transition of climate.

On a comparison of 280 Mediterranean shells with 600 British species, made for me by an experienced conchologist in 1841, 160 were found to be common to both collections, which is in the proportion of fifty-seven per cent., a fourfold greater specific resemblance than between the seas of the crag and the faluns, notwithstanding the greater geographical distance between England and the Mediterranean than between Suffolk and the Loire. The principal grounds, however, for referring the English crag to the Older Pliocene and the French faluns to the Miocene epochs, consist in the predominance of fossil shells in the British strata identifiable with species, not only still living, but which are now inhabitants of neighboring seas, while the accompanying extinct species are of genera such as characterize Europe. In the faluns, on the contrary, the recent species are in a decided minority; and most of them are now inhabitants of the Mediterranean, the coast of Africa, and the Indian Ocean; in a word, less northern in character and pointing to the prevalence of a warmer climate. They indicate a state of things receding farther from the present condition of central Europe in physical geography and climate, and doubtless therefore receding farther from our era in time.

Bourdeaux.—A great extent of country between the Pyrenees and the Gironde is overspread by tertiary deposits of various ages from the Eocene to the Pliocene. Among these, especially near Saucats in the environs of Bourdeaux, and at Mérignac and Bazas in the same region, are sands containing marine shells, and corals of the type of the Touraine faluns.*

Belgium.—In a small hill or ridge called the Bolderberg, which I visited in 1851, situated near Hasselt, about forty miles E. N. E. of Brussels, strata of sand and gravel occur, to which M. Dumont first called attention as appearing to constitute a northern representative of the faluns of Touraine. They are quite distinct in their fossils from the Antwerp Crag before mentioned, and contain shells of the genera *Oliva*, *Conus*, *Ancillaria*, *Pleurotoma*, and *Cancellaria* in abundance. The most common shell is an Olive (see fig. 162), called by Nyst *Oliva Dufresnii*, Bast.; but which is undoubtedly, as M. Bosquet observes, smaller and shorter than the Bourdeaux species.†

Fig. 162.

Fossil *Oliva*, from Bolderberg, Belgium, nat. size. *a*, front view; *b*, back view.

North Germany.—We learn from the able treatise published by M. Beyrich, in 1853, that the fossil fauna above alluded to, which is so meagerly exhibited in the Bolderberg, is rich in species in other localities in North Germany, as in Mecklenburg, Lüneburg, the

* See a Memoir by V. Raulin, 1848: Bourdeaux.

† Lyell on Belgian Tertiaries, Quart. Geol. Journ. 1852, p. 295. Nyst's figure seems to be copied from that given by Basterot of the Bourdeaux fossil.

‡ Die Conchylien des Norddeutschen Tertiärgebirge: Berlin, 1853.