

ordinarily black or grayish-black flint, is sometimes chalcedony or agate, and on the other hand, it is often white exteriorly from admixture with chalk. The fantastic shapes of some flints are often due in part to the fossils they include.

The rocks in northern France or Belgium much resemble those of England. In Germany, above the Lower Cretaceous, there is a large predominance of sandstones and marls. In Switzerland, the Lower Cretaceous of the Jura, about Neuchâtel, is mostly limestone; and of the same nature is the chief part of the Upper in other parts of Switzerland and the Austrian Alps. The same is true for most of the Cretaceous of Italy, northern Africa, Syria, the Mediterranean region being marked in places by coral reefs, Hippurite limestone, and other evidences of pure ocean waters.

The following are the subdivisions adopted in France and Belgium and Switzerland. (See further on their distinctions, page 864.)

## 2. UPPER CRETACEOUS.

4. DANIAN. — 1. Maestrichtian or Dordonian; 2. Garumnian (Pisolitic limestone).
3. SENONIAN. — 1. Santonian; 2. Campanian.
2. TURONIAN. — 1. Ligerian; 2. Angoumian.
1. CENOMANIAN. — 1. Rhotomagian; 2. Carentonian.

## 1. LOWER CRETACEOUS.

4. ALBIAN (= Gault). — Vraconnian = Upper Albian, at Cheville in the Valais.
3. APTIAN (= rest of Lower Greensand).
2. URGONIAN (= lower part of Lower Greensand). — 1. Urgonian; 2. Rhodanian.
1. NEOCOMIAN (= Wealden). — 1. Valenginian (= Hastings sand); 2. Hauterivian (Weald clay).

## LIFE.

PLANTS. — The plants of the Wealden, and the rest of the Neocomian in England and Europe, are Cycads, Ferns, and Conifers, as in the Jurassic, with a show of progress in the first appearance of species of the genera *Pinus* and *Abies*, the true Pines and Spruces, but with no Angiosperms. But in the Gault and the Upper Cretaceous occur leaves of Angiosperms of many common kinds, though all of extinct species; as the Magnolia, Myrtle, Willow, Walnut, Maple, Fig, Holly, besides a Redwood (*Sequoia*); and there were also Palms, of the genus *Palmacites*. No remains of Lower Cretaceous Angiosperms and Palms have been reported from England. Vegetable remains are rare fossils because the beds are mostly marine.

The microscopic Protophytes, called Diatoms and Desmids, are found in some of the beds, especially in the flint. The Desmids are far the more common because not siliceous, and therefore not dissolved; the kinds called Xanthidia are especially abundant, and are similar to those from Devonian hornstone (page 583). Coccoliths are common in the Chalk.