tin they are represented by the "Phyllades de St. Lô"—a thick series of hard lustrous slates or phyllites, among which tracks of annelids (?) have been found. By other geologists, however, these rocks are placed in the Cambrian system.

A large area of ancient crystalline schists extends southward from Dresden through **Bavaria** and **Bohemia** between the valley of the Danube and the headwaters of the Elbe. Two well-marked groups have been recognized—(*a*) red gneiss, containing pink orthoclase and a little white potash-mica, covered by (*b*) gray gneiss, containing white or gray felspar, and abundant dark magnesia-mica. According to Gumbel the former (called by him the Bojan gneiss) may be traced as a distinct formation associated with granite, but with very few other kinds of crystalline or schistose rocks, while the latter (termed the Hercynian gneiss) consists of gneiss with abundant interstratifications of many other schistose rocks, graphitic limestone, and serpentine. The Hercynian gneiss is overlain by mica-schists, above which comes a vast mass of argillaceous schists and shales. In Bohemia, these overlying crystalline clay-slates and schists ("Etage A" of Barrande) graduate upward into undoubted clastic rocks known as the Pribram Shales, unconformably over which come conglomerates and sandstones lying at the base of the fossiliferous series.[52] The same gradation occurs around the granulite tract of Saxony, where the outer schists may be merely metamorphosed Palæozoic sedimentary rocks.[53]

In the central **Pyrenees** pre-Cambrian granites, with associated well-stratified masses of gneiss, mica-schist, limestone, etc., are said to occur, but possibly some at least of these rocks are altered Cambrian slates.[54] In Asturias and Gallicia, Barrois has investigated a great series of schists regarded by him as pre-Cambrian, and divisible into two

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[52] For descriptions of the pre-Cambrian rocks of **Saxony** see Credner, Zeitsch. Deutsch. Geol. Ges. 1877, p. 757; explanations accompanying the sheets of the Geological Survey Map of Saxony, particularly sections Geringswalde, Geyer, Glauchau, Hohenstein, Penig, Rochlitz, Schwarzenberg, Waldheim, Wiesenthal. **Bavaria** and **Bohemia**: Gümbel, "Geognostische Beschreibung des Ostbayerischen Grenzebirges," Gotha, 1868; Jokely, Jahr. Geol. Reichsanstalt, vi. p. 355; viii. pp. 1, 516; Kalkowsky, "Die Gneissformation des Eulengebirges" (Habilitationschrift), Leipzig, 1878; Neues. Jahrb. 1880 (i.) p. 29. F. Katzer, "Geologie von Böhmen," 1892.

[53] Lehmann, "Entstehung der altkrystallinischen Schiefergesteine," 1884.

[54] Garrigou, Bull. Soc. Geol. France, i. 1873, p. 418.