building up a single compact kingdom for itself, has split into four petty duchies, of no political influence whatever. In 1547 the ex- elector John Frederick the Magnanimous was allowed to retain Weimar, Jena, Eisenach, Gotha, Henneberg and Saalfeld. Altenburg and a few other districts were added to the Ernestine possessions by the treaty of Naumburg in 1554, and other additions were made from other sources. John Frederick, who had retained and transmitted to his descendants the title of duke of Saxony, forbade his sons to divide their inheritance; but his wishes were respected only until after the death of his eldest son in 1565. The two survivors then founded separate jurisdictions at Weimar and Coburg, though arrange­ments were made to exchange territories every three years. In 1 596 Saxe-Coburg gave off the branch Saxe-Eisenach; and in 1603 Saxe- Weimar gave off Saxe-Altenburg, the elder Weimar line ending and the younger beginning with the latter date. By 1638 Weimar had absorbed both Coburg and Eisenach ; Altenburg remained till 1672. John, duke of Saxe-Weimar, who died in 1605, is regarded as the common ancestor of the present Ernestine lines. In 1640 his three surviving sons ruled the duchies of Weimar, Eisenach and Gotha. Eisenach fell in in 1644 and Altenburg in 1672, thus leaving the dukes of Saxe-Weimar and Saxe-Gotha to become the ancestors of the modern ruling houses. Saxe-Weimar was still repeatedly divided; in 1668 a Saxe-Marksuhl appears, and about 1672 a Saxe-Jena and a new Saxe-Eisenach. All these, however, were extinct by 1741, and their possessions returned to the main line, which had adopted the principle of primogeniture in 1719.

Saxe-Gotha was even more subdivided; and the climax was reached about 1680, when Gotha, Coburg, Meiningen, Romhild, Eisenberg, Hildburghausen and Saalfeld were each the capital of a duchy. By the beginning of 1825 only the first three of these and Hildburghausen remained, the lands of the others having been divided after much quarrelling. In that year the Gotha line expired, and a general redistribution of the lands of the “ Nexus Gothanus,” as this group of duchies was called, was arranged on the 12th of November 1826. The duke of Hildburghausen gave up his lands entirely for Altenburg and became duke of Saxe-Altenburg; the duke of Coburg exchanged Saatfeld for Gotha and became duke of Saxe-Coburg-Gotha; and the duke of Saxe-Meiningen received Hildburghausen, Saalfeld and some other territories, and added Hildburghausen to his title. The existing duchies are separately noticed.

The chief authority for the early history of Saxony is Widukind, whose *Res gestae Saxonicae* is printed, together with the works of other chroniclers, in the *Monumenta Germanica historica, Scriptores.* Modern authorities are C. W. Böttiger, *Geschichte des Kurstaates und Königreichs Sachsen,* new ed. by T. Flathe (1867-1873); Sturmhöfel, *Geschichte der sächsischen Lande und ihrer Herrscher* (Chemnitz, 1897-1898); and Tutzschmann, *Atlas zur Geschichte der sächsischen Länder* (Grimma, 1852). Collections which may be consulted are: *Codex diplοmaticus Saxoniae regiae* (Leipzig, 1862-1879) ; the *A rchiυ für die sächsische Geschichte,* edited by K. von Weber (Leipzig, 1862- 1879) ; and the *Bibliothek der sächsische Geschichte und Landeskunde,* edited by G. Buchholz (Leipzig, 1903). See also Germany: *Biblio­graphy,* and the articles on the various dukes, electors and kings of Saxony.

SAXONY (Ger. *Provinz Sachsen),* one of the central provinces of the kingdom of Prussia, consists mainly of what was formerly the northern part of the kingdom of Saxony, which was ceded to Prussia in 1815, but also comprises part of the duchy of Magde- burg and other districts, the connexion of which with Prussia is of earlier date. The area of the province is 9751 sq. m. It is bounded W. by Hesse-Nassau, Hanover and Brunswick, N. by Hanover and Brandenburg, E. by Brandenburg and Silesia, and S. by the kingdom of Saxony and the small Thuringian states. It is, however, very irregular in form, entirely surrounding parts of Brunswick and the Thuringian states, and itself possessing several exclaves, while the northern portion is almost severed from the southern by the duchy of Anhalt.

The major part belongs to the great North-German plain, but the western and south-western districts include parts of the Harz, with the Brocken, its highest summit, and the Thuringian Forest. About nine-tenths of Prussian Saxony belongs to the basin of the Elbe, the chief feeders of which within the province are the Saale, with its tributary the Unstrut, and the Mulde, but a small district on the west drains into the Weser.

Saxony is on the whole the most fertile province of Prussia and excels all the others in its produce of wheat and beetroot for sugar, but the nature of its soil is very unequal. The best crop-producing districts lie near the base of the Harz Mountains, such as the “ Magdeburger Börde ” (between Magdeburg and the Saale) and the "Goldene Aue,” and rich pasture lands occur in the river valleys, but the sandy plains of the Altmark, in the north part of the province, yield but a scanty return.

Of the total area 61 % is occupied by arable land, 8% by meadows and pastures and 21 % by forests. Wheat and rye are exported in considerable quantities. The beetroot for sugar is grown chiefly in

the district to the north of the Harz, as far as the Ohre, and on the banks of the Saale; and the amount of sugar produced is nearly as much as that of all the rest of Prussia together. Flax, hops and oil- seeds are also cultivated, and large quantities of excellent fruit are grown at the foot of the Harz and in the valleys of the Unstrut and the Saale. The market-gardening of Erfurt and Quedlinburg is well known throughout Germany. The province is comparatively poor in timber, though there are some fine forests in the Harz and other hilly districts. Cattle-rearing is carried on with success in the river valleys, and more goats are met with here than in any other part of Prussia.

The principal underground wealth of Prussian Saxony consists of its salt and its brown coal, of both of which it possesses larger stores than any other part of the German empire. The chief rock-salt mines and brine springs are at Stassfurt, Schönebeck and Halle. The brown coal region extends from Oschersleben by Kalbe to Weissenfels; it is also found in the neighbourhood of Aschersleben, Bitterfeld and Wittenberg. Prussian Saxony also possesses three- fourths of the wealth of Germany in copper. The copper mines are found chiefly in the Harz district. The other mineral resources in- clude silver (one-third of the total German yield), pit-coal, pyrites, alum, plaster of Paris, sulphur, alabaster and several varieties of good building-stone. Numerous mineral springs occur in the Harz.

In addition to the production of sugar the most important industries are the manufactures of cloth, leather, iron and steel wares, chiefly at Erfurt Suhl and Sömmerda; spirits at Nordhausen, chemicals at Stassfurt and Schönebeck, and starch. Beer is also brewed extensively. Trade is facilitated by the great waterway of the Elbe as well as by a complete system of railways. The chief articles are wool, grain, sugar, salt, lignite and the principal manufactured products named above.

The population of the province of Saxony in 1905 was 2,979,221, an average of 305 persons to the square mile; they were almost equally divided between urban population and rural. There were 2,730,098 Protestants, 230,860 Roman Catholics and 8050 Jews. The bulk of the inhabitants are of unmixed German stock, but many of those in the east part have Wendish blood in their veins.

Prussian Saxony is divided into the three government districts of Magdeburg, Merseburg and Erfurt. The principal towns are Magdeburg, Halle, Erfurt, Halberstadt, Nordhausen, Mühlhausen, Aschersleben, Weissenfels and Zeitz. Magdeburg is the headquarters of an army corps. The provincial chambers meet at Merseburg. The province sends twenty members to the Reichstag and thirty-eight to the Prussian Abgeordnetenhaus (house of representatives). Magdeburg is the seat of an Evangeli­cal consistory; the Roman Catholics belong to the diocese of Paderborn. The university of Halle holds high rank among German seats of learning.

See the *Handbuch der Provinz Sachsen* (Magdeburg, 1900); and Jacobs, *Geschichte der in der preussischen Provinz Sachsen vereinigten Gebiete* (Gotha, 1884).

SAXOPHONE (Ger. *Saxophon,* Ital. *sassofone),* a modern hybrid musical instrument invented by Adolphe Sax, having the clarinet mouthpiece with single reed applied to a conical brass tube. In general appearance the saxophone resembles the bass clarinet, but the tube of the latter is cylindrical and of wood; both instruments are doubled up near the bell, which is shaped somewhat like the flower of the gloxinia. The mouthpiece in both is fixed to a serpentine tube at right angles to the main bore. On the saxophone, owing to its conical bore, the produc­tion of sound materially differs from that of the clarinet, and resembles that of the oboe. The reed mouthpiece in combination with a conical tube allows the performer to give the ordinary harmonic series unbroken, which means in practice that the octave or second member of the harmonic series is first overblown when the pressure of the breath and the tension of the lips on the reed are proportionally increased. The saxophone is there­fore one of the class known as octave instruments. The funda- mental note given out by the tube when the lateral holes are closed is that of an open organ pipe of the same length, whereas when, as in the clarinet family, the reed mouthpiece is combined with a cylindrical bore, the tube behaves as though it were closed at one end, and its notes are an octave lower in pitch. Hence the bass clarinet to give the same note as a bass saxophone would need to be only half as long. The closed pipe, moreover, can only overblow the uneven numbers of the harmonic series, and therefore first gives the 12th instead of the octave, which