SAÔNE, a river of eastern France, rising in the Faucilles mountains (department of Vosges), 15 m. W.S.W. of Épinal at a height of 1300 ft. and uniting with the Rhone at Lyons. Length, 301 m.; drainage area, 11,400 sq. m. The oldest Celtic name of the river was *Arar.* In the 4th century another name appears, *Sauconna,* from which the modern name is derived. The Saône, moving slowly in a sinuous channel, has its course in the wide depression between the Plateau of Langres, the Côte d’Or and the mountains of Charolais and Beaujolais on the west and the western slopes of the Vosges and Jura and the plain of Bresse and the plateau of Dombes on the east. In the department of Saône-et-Loire, the Saône unites with the Doubs, an affluent rivalling the Saône in volume and exceeding it in length at this point. At the important town of Chalon-sur-Saône the river turns south, and passes Mâcon. Below Tréveux its valley, now narrower, winds past the Mont d’Or group and joins the Rhone just below the Perrache quarter of Lyons. The Saône is canalized from Corre to Lyons, a distance of 233 m., the normal depth of water being 6 ft. 6 in. At Corre (confluence with the Coney) it connects with the southern branch of the Eastern Canal, at Heuilley (below Gray) with the Saône-Marne Canal, at St Symphorien (above St Jean-de-Losne) with the Rhone-Rhine Canal, and at St Jean-de-Losne with the Canal de Bourgogne and at Chalon with the Canal du Centre.

SAONE-ET-LOIRE, a department of east-central France formed from the districts of Autunois, Brionnais, Chalonnais, Charollais and Mâconnais, previously belonging to Burgundy. It is bounded N. by the department of Côte d’Or, E. by that of Jura, S.E. by Ain, S. by Rhône and Loire, W. by Allier and Nièvre. Pop. (1906) 613,377. Area, 3330 sq. m. Of the two rivers from which the department takes its name the Loire forms its south-western boundary, and the Saône traverses its eastern region from north to south. On the left bank of the Saône the department forms part of the wide plain óf Bresse; on its right bank the centre of the department is occupied by the northern Cévennes, here divided by the river Grosne into two parallel ranges—the mountains of Mâconnais to the east, and the mountains of Charollais to the west. The general direction of these ranges is from south, where their altitude is greatest, to north. The north-west region of Saône-et-Loire is occupied by the southern portion of Morvan, which includes the highest point in the department—the Bois du Roi (2959 ft.). South-east of the Morvan lies the hilly region of Autunois, consisting of the basin of the Arroux, a right affluent of the Loire, and divided from the Charollais mountains by the Bourbince, a tributary of the Arroux. Besides those mentioned, the chief rivers of the department are the Doubs, which joins the Saône in the extreme north-east, the Seille, also an affluent of the Saône, and the Arconce, a tributary of the Loire watering the Charollais. The average temperature at Mâcon (52° or 53° F.), the most temperate spot in the department, is slightly higher than at Paris, the winter being colder and the summer hotter. At the same town the yearly rainfall is about 33 in., but both the rigour of the climate and the amount of rain increases in the hilly districts, reaching their maximum in the mountains of Morvan.

Agriculture prospers in Saône-et-Loire. Wheat, oats and maize are the cereals most cultivated ; potatoes, clover and other fodder, and mangold-wurzels are important crops, and beetroot, hemp, colza and rape are also grown. Excellent pasture is found in the valleys of the Saône and other rivers. The vine, one of the principal resources of the department, is cultivated chiefly in the neighbourhood of Chalon and Mâcon. Of the wines of Mâconnais, the vintage of Thorins is in high repute. The white Charollais oxen are one of the finest French breeds; horses, pigs and sheep are reared, and poultry farming is a thriving occupation in the Bresse. The industrial importance of the department is great, chiefly owing to its coal and iron mines; the chief coal mines are those in the vicinity of Creusot, Autun and Chapelle-sous-Dun. A pit at Épinac is over 2600 ft. in depth. Iron is mined at Mazenay and Change, and manganese is found at Romanèche and there are quarries of various kinds. There are well-known warm mineral springs containing chloride of sodium and iron at Bourbon-Lancy. The iron and engineering works of Schneider & Company at Le Creusot are the largest in **France.** The department also has numerous flour-mills «and distilleries, together with potteries, porcelain-works (Digoin), tile-works, oil- works and glass factories, and carries on various branches of the

textile, chemical, leather and wood-working industries. It exports coal, metals, machinery, wine, Charollais cattle, bricks, pottery, glass. Its commerce is facilitated by navigable streams—the Loire, Saône, Doubs and Seille,—the Canal du Centre, which unites Chalon-sur- Saône with Digoin on the Loire, and the canal from Roanne to Digoin and the lateral Loire Canal, both following the main river valley. The chief railway of the department is the Paris-Lyon- Mediterranée. Saône-et-Loire forms the diocese of Autun; it is part of the district of the VIII. army corps (Bourges); its educational centre is Lyons and its court of appeal that of Dijon. It is divided into 5 arrondissements—Mâcon, Chalon-sur-Saône, Autun, Charolles, Louhans—50 cantons, and 589 communes.

Mâcon, Chalon, Autun, Le Creusot, Cluny, Montceau-Les-Mines, Tournus, Paray-le-Monial, Louhans and Charolles are the most note­worthy towns in the department and receive separate treatment. Other places of interest are St Marcel-lès-Chalon, where there is a Romanesque church, once attached to an abbey where Abélard died; Anzy, which has a Romanesque church and other remains of an important monastery; St Bonnet-de-Joux and Sully, both of which have châteaus of the 16th century; and Semur-en-Brionnais and Varennes-l'Arconce, with fine Romanesque churches. Prehistoric remains of the stone age have been found at Solutré near Mâcon.

SÃO PAULO, a state of Brazil extending from 19° 54' to 25° 15' S. lat. and bounded N. by Matto Grosso and Minas Geraes, E. by Minas Geraes, Rio de Janeiro and the Atlantic, S. by the Atlantic and Paraná, and W. by Paraná and Matto Grosso. Pop. (1900) 2,282,279; area, 112,312 sq. m. The state has a coast-line 373 m. long, skirted closely by the Sierra do Mar, below which is a narrow coastal zone broken by lagoons, tidal channels and mountain spurs. Above is an extensive plateau (1500 to 2200 ft. above sea-level) with a mild temperate climate. The southern and eastern borders are broken by mountain chains, and isolated ranges of low elevation break the surface elsewhere, but in general the state may be described as a tableland with an undulating surface sloping westward to the Paraná. The extreme eastern part, however, has an eastward slope and belongs to the Parahyba basin. The state, is traversed by a number of large rivers, tributaries of the Paraná, the largest of which are the Rio Grande, a part of the N. boundary, Dourados, Tieté, Aguapehy, Tigre, and, a part of the S. boundary, the Paranapanema. The Paraná forms the W. boundary of the state. The basins of the Pardo and the Tieté include some of the richest coffee estates of Brazil. The state is well wooded, especially on the slopes of the Serra do Mar, but there are extensive grassy *campos* (plains) on the plateau. A large part of western São Paulo is still unsettled. The coastal zone is hot and generally malarial, with heavy rainfall. On the plateau the rainfall is sufficiently abundant, but the air is drier and more bracing, the sun temperature being high and the nights cool. The open country is singularly healthy, but the river courses are generally malarial. Some of the cities have suffered from fever epidemics, due to bad drainage and insanitary conditions.

The great industries are agricultural, and the most conspicuous is coffee production. São Paulo produces more than one-half the total Brazilian crop and its one great port, Santos, is the largest coffee- shipping port in the world. The *terra roxa* (red earth) lands of the central and northern parts of the state, especially in the basins of the Tieté and Pardo, are peculiarly favourable. This soil is ferruginous, pasty, deep red in colour, and free from stone, and it covers the higher surface of the plateau with a thick layer. The best plantations are on the high divides between the river courses', and not in their eroded valleys. The Rio Pardo (Brown river) probably derives its name from this soil. For the crop- year (July to June) of 1895-1896 the production was 3,053,804 bags, and in 1905-1906 it was 6,977,175 bags—these figures being the deliveries at Santos for exportation and not includ- ing the reserves on the plantations and the home consumption. The crop for the last year mentioned was not a maximum, however, for the deliveries at Santos in 1901-1902 were 10,165,043 bags and in 1902-1903, 8,349,828 bags. These immense crops were produced in spite of appeals to producers not to increase production, and even of a special tax on new plantations imposed by the state in 1903. Over-production was keeping the price below a remunerative figure and threatened to ruin the industry. In 1906 the state entered into an accord, known as the “ Convenio de Taubatá,” with the states of Rio de Janeiro and Minas Geraes, to maintain the home selling price of Type No. 7 at 55 to 65 francs gold per bag of 60 kilogrammes (other types in proportion) for the first year, and then to increase this price to 70 francs, according to the state of the market ; and to check as far as possible the exportation of coffees inferior to Type