principal exports are rice to Ceylon and cotton to Japan and Europe. In 1901 the population was 2,059,607, showing an increase of 8 % in the decade. The number of native Christians was 159,213, Tinnevelly being the most Christian district in India. The Society for the Propagation of the Gospel and the Church Missionary Society have important and flourishing stations at Tinnevelly town and Palamcottah, as also have the Jesuits. It was here that St Francis Xavier began his preaching in India. The Shanans, or caste of toddy-drawers, have supplied many converts to Christianity. In 1899 their treatment by the Vellalars, or cultivating caste, led to serious riots and bloodshed.

The early history of Tinnevelly is mixed up with that of Madura and Travancore. Down to 1781 it is a confused tale of anarchy and bloodshed. In that year the nawab of Arcot assigned the revenues to the East India Company, which then undertook the internal administration. Several risings subse­quently took place, and in 1801 the whole Carnatic, including Tinnevelly, was ceded to the British.

**TIN-PLATE** and **TERNE-PLATE.** Tin-plate consists of sheets of iron or steel which have been thinly coated with tin by being dipped in a molten bath of that metal. Terne-plate is a similar product, but the bath is not of tin, but of tin and lead mixed, the latter metal constituting from 75-90% of the whole; it has not the bright lustre of tin-plate, whence its name, from *terne,* dull, tarnished. The sheets employed in the manufacture are known as “ black plates,” and are now of steel, either Bessemer or open-hearth. Formerly iron was used, and was of two grades, coke-iron and charcoal-iron; the latter, being the better, received a heavier coating of tin, and this circumstance is the origin of the terms “ coke plates ” and “ charcoal plates ” by which the quality of tin-plate is still designated, although iron is no longer used. Tin-plate is consumed in enormous quantities for the manufacture of the tin cans in which pre­served meat, fish, fruit, biscuits, cigarettes and numerous other products are packed, and also for the household utensils of various kinds made by the tinsmith or silversmith; terne-plates, which began to be produced in England about the middle of the 19th century, are widely employed in America for roofing purposes.

The manufacture of tin-plate was long a monopoly of Bohemia, but about 1620 the industry spread to Saxony. In 1665 Andrew Yarranton (1616-1684?), an English engineer and agriculturist, was commissioned to go to Saxony and if possible discover the methods employed. According to his own account *(England’s Improvement,* pt. ii. 1681), he was "very civilly treated ” and was allowed to see the whole process. On his return to England his friends undert∞k the manufacture on an experimental scale, but though they were successful they had to abandon it, because their method became known and a patent for it was “ trumpt up" by a rival, who, however, from lack of technical skill was unable to work it. Half a century later the manufacture was revived by Major John Hanbury (1664-1734) at Pontypool; the “method of rolling iron plates by means of cylinders,” said to have been devised by him, enabled more uniform black plates to be produced than was possible with the old plan of hammering, and in consequence the English tin-plate became recognized as superior to the German. During the next hundred years or so the industry spread steadily in England and Wales, and after 1834 its expansion was rapid, especially in Wales, Great Britain becoming the chief source of the world’s supply. In that year her total production was 180,000 boxes of 108 lb each (in America a box is 100 lb), in 1848 it was 420,000 boxes, in i860 it reached 1,700,000 boxes, in 1870 nearly 3,460,000 boxes, and in 1890 it exceeded 9,500,000 boxes. In the United States the manufacture of tin- and terne-plates did not make much way until about 1890, and up to 1892 the bulk of the supply was imported from Great Britain. But subsequently the advance was rapid, and the production, which was about 2,236,000 lb in 1891, had by 1900 increased to more than 849,000,000 lb, of which over 141,000,000 lb were terne-plates. The total imports in that year were only 135,264,881 lb. In later years, again, there was a decline in the American production, and in 1907 only 20% of the American tin-plate mills were at work, while the British production reached 14 million boxes.

There are two processes for the tinning of the black plates. In the “ palm-oil ” process, which is the older, the plates, after being properly annealed, are scoured with sand and water and pickled in dilute sulphuric acid alternately until they are perfectly clean and bright. They are then washed in water, and after being boiled in palm oil to remove all traces of acid and water are dipped into a bath of molten tin, covered with oil to prevent oxidation. They are then taken to a second bath containing purer tin than the first. After this they are. scoured with a hempen rubber and dipped in a third bath containing the purest tin of all; then they are passed through rolls to finish the surface and regulate the thickness of the coating. As the tin in the third bath becomes alloyed with iron from the operation, it is removed into the second, pure fresh tin being substituted; and similarly the metal of the second, as the amount of iron in it increases, is removed to the first. In the “ acid process ” only a single bath of tin is required. The molten metal is covered with a layer of muriate of zinc, which acts as the flux, and by means of rolls the plates are passed through this down into the tin, to be brought out at another point in the bath where there is a layer of oil on the surface.

**TINTAGEL,** or Trevena, a village in the Launceston parlia­mentary division of Cornwall, England, on the north coast, 4½ m. from Camelford. Pop. (1901), 868. It stands on a bare upland, close to the sea; and below it is Tintagel Haven, or Forth, a small cove surrounded by cliffs of almost black slate. The scanty ruins of a castle are built partly on the mainland, partly on a rugged promontory spoken of as the Island, but united by a narrow peninsula to the shore. They have been celebrated as the birthplace of King Arthur, or as the stronghold of King Mark, in a host of medieval romances, and in the poems of Tenny­son and Swinburne. The Norman walls are so darkened and weathered that, from a little distance, they seem a part of the rock itself. Portions of a chapel remain, dating from the 13th century, and including a porch and a stone altar; while beside it are traces of a tomb hewn out of the slate, and of some domestic building which had a staircase and a pointed arch above the door. The cruciform parish church of St Marcelliana stands on a high cliff, west of the castle. Although it has been restored, there remain traces of Saxon workmanship in the chancel, besides two Norman doorways, a font of the same period, a stone altar bearing five crosses and a fine 15th-century brass. In the churchyard the graves are buttressed, storms being frequent and violent on this unprotected coast. For a time the church belonged to Fontevrault Abbey in Normandy; but it was made over by Edward IV. to the collegiate church of Windsor. A 9th-century roodstone stands in the village. Portions of the vicarage date from the 14th century, and in its garden there is a stone dovecote of great age. A little slate is quarried, being taken from the rocks below the church, and exported in the small vessels which can visit Tintagel Haven in calm weather. The magnificence of the coast has inspired more than one famous painting.

Tintagel (Tintajol, Dundagel) is a parish a portion of which appears in the Domesday Survey as Bossiney (Botcinnu). The latter was held in the time of the Confessor by a thegn of St Petrock and at the time of the survey by Robert, count of Mortain, of the same saint. The castle probably existed in pre-Saxon times. Under the Norman earls of Cornwall this was rebuilt, embattled and furnished with munitions of war. Its officers included a constable and a chaplain. It was in a ruinous condition in Leland’s time (c. 1540). Queen Elizabeth abolished the office of constable. In the parish of Tintagel is the hamlet of Bossiney which under the name of Tintagel received a charter (undated) from Richard king of the Romans, granting freedom to the borough and to the burgesses freedom from pontage and stallage throughout Cornwall, a market on Wednesdays and a three days’ fair at Michaelmas. This charter was con­firmed in 1386. In 1333 the burgesses, those who held tenements within the borough, numbered 100. The borough, which apparently owed its existence to the castle, shared its fortunes. Leland calls attention to the decay of a great number of houses. Its charter was surrendered to Charles II. and a new one obtained from his brother in 1685. Under the latter a mayor, recorder, six common councillors, a coroner, six freemen and a common clerk were to constitute the corporation. For supplying vacancies in it the votes of those only who were members of it were required. Provision was made for the administration of the borough. Bossiney acquired the right of electing two mem­bers of parliament in 1553, the franchise being originally vested in the freeholders within the borough. By the middle of the