Introduced the word “abstinence”—which, though obviously not free from objection, is for some purposes useful—to express the conduct of the capitalist which is remunerated by interest ; but in defining “cost of production ” as the sum of labour and abstinence necessary to production he does not seem to see that an amount of labour and an amount of abstinence are disparate, and do not admit of reduction to a common quantitative standard. He has added some important considerations to what had been said by Smith on the division of labour. He distinguishes usefully between the rate of wages and the price of labour. But in seeking to deter­mine the law of wages he falls into the error of assuming a deter­minate wage-fund, and states as an economic truth what is only an identical proposition in arithmetic. Whilst entertaining such an exaggerated estimate of the services of Malthus that he extra­vagantly pronounces him “as a benefactor of mankind on a level with Adam Smith,” he yet shows that he modified his opinions on population considerably in the course of his career, regards his statements of the doctrine with which his name is associated as vague and ambiguous, and asserts that, “in the absence of disturb­ing causes, subsistence may be expected to increase in a greater ratio than population.” It is urged by Périn, and must, we think, be admitted, that by his isolation of economics from morals, and his assumption of the desire of wealth as the sole motive-force in the economic domain, Senior has, in common with most of the other followers of Smith, tended to set up egoism as the legitimate ruler and guide of practical life. It is no sufficient answer to this charge that he makes formal reserve in favour of higher ends. From the scientific side, Cliffe Leslie has abundantly proved the unsubstantial nature of the abstraction implied in the phrase “desire of wealth,” and the inadequacy of such a principle for the explanation of economic phenomena. (J. K. I.)

SENLIS, a town of France, in the department of Oise, lies on the right side of the Nonette, a left-hand affluent of the Oise, 34 miles north-north-east of Paris by the Northern Railway on the branch line (Chantilly-Crépy) connecting the Paris-Creil and Paris-Soissons lines. In 1881 it had only 6870 inhabitants; but its antiquity, its historical monuments, and its situation in a beautiful valley, in the midst of the three great forests of Hallatte, Chantilly, and Ermenonville, render it interesting. Its Gallo-Roman walls, 23 feet high and 13 feet thick, are, with those of St Lizier (Ariège) and Bourges, the most perfect in France. They enclose an oval area 1024 feet long from east to west and 794 feet wide from north to south. At each of the angles formed by the broken lines of which the circuit of 2756 feet is composed stands or stood a tower ; number­ing originally twenty-eight, and now only sixteen, they are semicircular in plan, and up to the height of the wall are unpierced. The Roman city had only two gates; the present number is five. The site of the prætorium was afterwards occupied by a castle occasionally inhabited by the kings of France from Clovis to Henry IV. and still represented by ruins dating from the 11th, 13th, and 16th centuries. In the neighbourhood of Senlis the foundations of a Roman amphitheatre, 138 feet by 105, have also been discovered. The old cathedral of Notre Dame (12th, 13th, and 16th centuries) was begun in 1155 on a vast scale; but owing to the limited resources of the diocese progress was slow and the transept was finished only under Francis I. The total length is 269 feet, but the nave (98 feet high) is shorter than the choir. At the west front there are three doors and two bell towers. The right-hand tower (256 feet high) is very striking : it consists, above the belfry stage, of a very slender octagonal drum with open-work turrets and a spire with eight dormer windows. The left- hand tower, altered in the 16th century, is crowned by a balustrade and a sharp roof. In the side portals, especi­ally in the southern, the flamboyant Gothic is displayed in all its delicacy. Externally the choir is extremely simple. In the interior the sacristy pillars with capitals of the 10th century are noteworthy. The episcopal palace, now an archaeological museum, dates from the 13th century; the old collegiate church of St Frambourg was rebuilt in the 12th century in the style which became characteristic of the “saintes chapelles” of the 13th and 14th centuries; St Pierre, though enclosed by cavalry barracks, has preserved

its two towers. The ecclesiastical college of St Vincent, occupying the old abbey of this name, has a very elegant church, the date of which has been greatly disputed by archæologists, who sometimes wrongly refer it to Queen Anne of Russia. The town-house and several private houses are also of architectural interest.

Senlis can be traced back to the Gallo-Roman township of the Silvanectes which afterwards became Angustomagus. Christianity was introduced by St Rieul at the close of the 3d century. During the first two dynasties of France Senlis was a royal residence. After the dismemberment of the Carlovingian empire it belonged to the counts of Vermandois and then to the royal domain, and obtained a communal charter in 1173. Its bishop, Guerin, elected in 1214, signalized himself at the battle of Bouvines. The burgesses took part in the Jacquerie of the 14th century, then sided with the Burgundians and the English, whom, however, they afterwards expelled. The Leaguers were there beaten by the duke of Longue­ville and La None. In the time of Henry IV. the local manufac­tures employed 200 masters and 4000 men, but all industrial activity has now disappeared. The bishopric was suppressed at the Revolu­tion, and this suppression was confirmed by the Concordat.

SENNA (Arab. *saná),* a popular purgative, consisting of the leaves of two species of *Cassia,* viz., *C. acutifolia,* Del., and *C. angustifolia,* Vahl. *C. acutifolia* is a native of many districts of Nubia, *e.g.,* Dongola, Berber, Kordofan, and Senaar, but is grown also in Timbuctoo and Sokoto. The leaflets are collected twice a year by the natives, the principal crop being gathered in September after the rainy season and a smaller quantity in April. The leaves are dried in the simplest manner by cutting down the shrubs and exposing them on the rocks to the burning sun until quite dry. The leaflets then readily fall off and are packed in large bags made of palm leaves, and holding about a quintal each. These packages are conveyed by camels to Assouan and Darao and thence to Cairo and Alexandria, or by ship by way of Massowah and Suakim. The leaflets form the Alexandrian senna of commerce. Formerly this variety of senna was much adulterated with the leaves of *Solenostemma Argei,* Hayne, which, however, are readily distinguishable by their minutely wrinkled surface. Of late years Alexandrian senna has been shipped of much better quality. Occasionally a few leaves of *C. obovata,* Coll., may be found mixed with it. *C. angustifolia* affords the Bombay, East Indian, Arabian, or Mecca senna of commerce. This plant grows wild in the neighbourhood of Yemen and Hadramaut in the south of Arabia, in Somali Land, and in Sind and the Punjab in India. The leaves are chiefly shipped from Mocha, Aden, Jeddah, and other Red Sea ports to Bombay and thence to Europe, the average imports into Bombay amounting to about 250 tons annually, of which one-half is re-exported. Bombay senna is very inferior in appearance to the Alexandrian, as it frequently contains many brown and decayed leaflets and is mixed with leaf-stalks, &c. *C. angustifolia* is also cultivated in the extreme south of India, and there affords larger leaves, which are known in commerce as Tinnevelly senna. This variety is carefully collected, and consists almost exclusively of leaves of a fine green colour, without any admixture of stalks. It is exported from Tuticorin.

Senna appears to have been introduced into Europe about the 9th century by Arabian physicians, by whom, however, the pods seem to have been preferred to the leaves. The medicinal activity of senna leaves appears to be due to a very unstable colloid glucoside to which the name of cathartic acid has been given. It is readily decomposed by a temperature much below 100° Fahr. *(Pharm. Jour. Trans.,* [3], xv. p. 704), and hence cold preparations of senna are the most active. In the free state it is soluble in dilute alcohol and in water, forming a brown solution, but is almost insoluble in strong alcohol and entirely so in ether and chloroform. Combined with ammonia it forms an active purgative. Two bitter principles named sennacrol and senna-picrin have been extracted from senna by Ludwig ; the former is soluble and the latter insoluble in ether. A yellow colouring matter has also been obtained from senna, but it appears probable that it is only a decomposition product of cathar­tic acid. Senna must be included among the irritant purgatives, since cathartic acid has no aperient effect when injected into the