wasted men of Syracuse hide their diminished faces far within their helmets, and carefully shade their pallor lest hope should arise for the enemy. In the avoidance of rhetorical artifice and epigrammatic antithesis Silius stands in marked contrast to Lucan. Yet he can be pointed; so of Fabius, “laudum cladumque quieta Mente capax”; and of Scævola, “Aspera semper amans et par cuicumque periclo”; and of Africa, “ Altrix bellorum bellatorumque virorum Tellus, nec fidens nudo sine fraudibus ensi.” Looking at Silius merely as a poet he may not deserve high praise; but, as he is a unique specimen and probably the best of a once numerous

class, the preservation of his poem among the remains of Latin literature is a fortunate accident.

The poet’s full name, Ti. Catius Silius Italicus, is preserved in an inscription (*C. I. L.,* vi. 1984). The poem was discovered in a MS., possibly at Constance, by Poggio, in 1416 or 1417; from this now lost MS. all existing MSS., which belong entirely to the 15th century, are derived. A valuable MS. of the 8th or 9th century, found at Cologne by L. Carrion in the latter part of the 16th century, disappeared soon after its discovery. Two *editiones principes* appeared at Rome in 1471; the principal editions since have been those of Heinsius (1600), Draken- borch (1717), and Ernesti (Leipsic, 1791). A useful *variorum* edition is that of Lemaire (Paris, 1823). The recent *lucubrationes* on Silius are mostly small pamphlets, enumerated by Engelmann *(Bibl. Script. Class.,* 1878). (J. S. R.)

SILK is a fibrous substance produced by many insects, principally in the form of a cocoon or covering within which the creatures are enclosed and protected daring the period of their principal transformations. The webs and nests, &c., formed by spiders are also of silk. But the fibres used for manufacturing purposes are exclusively pro­duced by the mulberry silk-moth of China, *Bombyx mori,* and a few other moths closely allied to that insect (see vol. iv. p. 596). Among the Chinese the name of the silk­worm is “si,” Corean “soi”; to the ancient Greeks it became known as *σήρ,* the nation whence it came was to them *Σηρϵς,* and the fibre itself *σηρικόν,* whence the Latin *sericum,* the French *soie,* the German *Seide,* and the Eng­lish *silk.*

The silk industry originated in China; and according to native records it has existed there from a very remote period. The empress Se-ling-she, wife of a famous emperor, Hwang-te (2640 b.c.), encouraged the cultivation of the mulberry tree, the rearing of the worms, and the reeling of silk. This empress is said to have devoted herself personally to the care of silkworms, and she is by the Chinese credited with the invention of the loom. A voluminous ancient literature testifies not only to the antiquity but also to the importance of Chinese sericulture, and to the care and attention bestowed on it by royal and noble families. The Chinese guarded the secrets of their valuable art with vigilant jealousy; and there is no doubt that many centuries passed before the culture spread be­yond the country of its origin. Through Corea a know­ledge of the silkworm and its produce reached Japan, but not before the early part of the 3d century. One of the most ancient books of Japanese history, the *Nihongi,* states that towards 300 a.d. some Coreans were sent from Japan to China to engage competent people to teach the arts of weaving and preparing silk goods. They brought with them four Chinese girls, who instructed the court and the people in the art of plain and figured weaving; and to the honour of these pioneer silk weavers a temple was erected in the province of Setsu. Great efforts were made to encourage the industry, which from that period grew into one of national importance. At a period probably little later a knowledge of the working of silk travelled west­ward, and the cultivation of the silkworm was established in India. According to a tradition the eggs of the insect and the seed of the mulberry tree were carried to India by a Chinese princess concealed in the lining of her headdress. The fact that sericulture was in India first established in the valley of the Brahmaputra and in the tract lying between that river and the Ganges renders it probable that it was introduced overland from the Chinese empire. From the Ganges valley the silkworm was slowly carried westward and spread in Khotan, Persia, and the states of Central Asia.

Most critics recognize in the obscure word *dmeshek,* Amos iii. 12, a name of silk corresponding to the Arabic *dimaks,* late Greek *µέταξα* English *damask,* and also follow the ancients in understanding *meshi,* Ezek. xvi. 10, 13, of “silken gauze.” But the first notice of the silkworm in

Western literature occurs in Aristotle, *Hist. Anim.,* v. 19 (17), 11 (6), where he speaks of “a great worm which has horns and so differs from others. At its first meta­morphosis it produces a caterpillar, then a bombylius, and lastly a chrysalis,—all these changes taking place within six months. From this animal women separate and reel off the cocoons and afterwards spin them. It is said that this was first spun in the island of Cos by Pamphile, daughter of Plates.” Aristotle’s vague know­ledge of the worm may have been derived from informa­tion acquired by the Greeks with Alexander the Great; but long before this time raw silk must have begun to be imported at Cos, where it was woven into a gauzy tissue, the famous *Coa vestis,* which revealed rather than clothed the form.

Towards the beginning of the Christian era raw silk began to form an important and costly item among the prized products of the East which came to Rome. Allu­sions to silk and its source became common in classical literature; but, although these references show familiarity with the material, they are singularly vague and inaccurate as to its source; even Pliny knew nothing more about the silkworm than could be learned from Aristotle’s description. The silken textures which at first found their way to Rome were necessarily of enormous cost, and their use by men was deemed a piece of effeminate luxury. From an anec­dote of Aurelian, who neither used silk himself nor would allow his wife to possess a single silken garment, we learn that silk was worth its weight in gold.

Notwithstanding its price and the restraints otherwise put on the use of silk the trade grew. Under Justinian a monopoly of the trade and manufacture was reserved to the emperor, and looms, worked by women, were set up within the imperial palace at Constantinople. Justinian also endeavoured, through the Christian prince of Abys­sinia, to divert the trade from the Persian route along which silk was then brought into the east of Europe. In this he failed, but two Persian monks who had long resided in China, and there learned the whole art and mystery of silkworm rearing, arrived at Constantinople and imparted their knowledge to the emperor. By him they were induced to return to China and attempt to bring to Europe the material necessary for the cultivation of silk, which they effected by concealing the eggs of the silkworm in a hollow cane. From the precious contents of that bamboo tube, brought to Constantinople about the year 550, were produced all the races and varieties of silkworm which stocked the Western world, and which gave trade, prosperity, and untold wealth to great communities for more than twelve hundred years. The necessity for again going to the East for a supply of silkworm eggs has only arisen in our own day.

Under the care of the Greeks the silkworm took kindly to its Western home and flourished, and the silken textures of Byzantium became famous. At a later period the conquering Saracens obtained a mastery over the trade, and by them it was spread both east and west,— the textures becoming meantime impressed with the