Arthur Cayley defined the satellite of a given line to be the line joining the three points in which tangents at the intersections of the given (primary) line and curve again meet the curve.

SATIN-SPAR, a name given to certain fibrous minerals which exhibit, especially when polished, a soft satiny or silky lustre, and are therefore sometimes used as ornamental stones. Such fibrous minerals occur usually in the form of veins or bands, having the fibres disposed transversely. The most common kind of satin-spar is a white finely-fibrous gypsum not infre­quently found in the Keuper marls of Nottinghamshire and Derbyshire, and used for beads, &c. Other kinds of satin-spar consist of calcium carbonate, in the form of either aragonite or calcite, these being distinguished from the fibrous gypsum by greater hardness, and from each other by specific gravity and optical characters. The satin-spar of Alston, Cumberland, is a finely-fibrous calcite occurring in veins in a black shale of the Carboniferous series. Fibrous calcite is known sometimes to German mineralogists as *Atlasspath.*

SATIN-WOOD, a beautiful light-coloured hard wood, having a rich, silky lustre, sometimes finely mottled or grained, the produce of a moderate-sized tree, *Chloroxylon Swietenia* (natural order *Meliaceac),* native of India and Ceylon. A similar wood, known under the same name, is obtained in the West Indies, the tree being probably a species of *Zanthoxylum* (natural order *Rutaceae).* Satin-wood was in request for rich furniture about the end of the 18th century, the fashion then being to ornament panels of it with painted medallions and floral scrolls and borders. It is used for inlaying and small veneers, in covering the backs of hair and clothes-brushes and in making small articles of turnery.

SATIRE (Lat. *satira, satura;* see below). Satire, in its literary aspect, may be defined as the expression in adequate terms of the sense of amusement or disgust excited by the ridiculous or unseemly, provided that humour is a distinctly recognizable element, and that the utterance is invested with literary form. Without humour, satire is invective; without literary form, it is mere clownish jeering. It is indeed exceedingly difficult to define the limits between satire and the regions of literary sentiment into which it shades. The first exercise of satire was no doubt coarse and boisterous. It must have con­sisted in gibing at personal defects; and Homer’s description of Thersites, the earliest example of literary satire that has come down to us, probably conveys an accurate delineation of the first satirists. The character reappears in the heroic romances of Ireland and elsewhere; and it is everywhere implied that the licensed backbiter is a warped and distorted being, readier with his tongue than his hands. To dignify satire by rendering it the instrument of morality or the associate of poetry was a develop­ment implying considerable advance in the literary art. The latter is the course adopted in the Old Testament, where the few passages approximating to satire, such as Jotham’s parable of the bramble and Job’s ironical address to his friends, are embellished either by fancy or by feeling. An intermediate stage between personal ridicule and the correction of faults and follies seems to have been represented in Greece by the *Margites,* attributed to Homer, which, while professedly lampooning an individual, practically rebuked the meddling sciolism imper­sonated in him. In the accounts that have come down to us of the writings of Archilochus, the first great master of satire, we seem to trace the elevation of the instrument of private animosity to an element in public life. Though a merciless assailant of individuals, Archilochus was also a distinguished statesman, naturally for the most part in opposition, and his writings seem to have fulfilled many of the functions of a newspaper press. Their merit is attested by Quintilian; and Gorgias’s comparison of them with Plato’s persiflage of the Sophists proves that their virulence must have been tempered by grace and refinement. Archilochus also gave satiric poetry its accepted form by the invention of the iambic trimeter, slightly modified into the scazonic metre by his successors. Simonides of Amorgus and Hipponax were distinguished like Archilochus for the bitterness of their attacks on individuals, with which the former

combined a strong ethical feeling and the latter a bright active fancy. All three were restless and turbulent, aspiring and discontented, impatient of abuses and theoretically enamoured of liberty; and the loss of their writings, which would have thrown great h\*ght on the politics as well as the manners of Greece, is to be lamented. With Hipponax the direct line of Greek satire is interrupted; but two new forms of literary composition, capable of being the vehicles of satire, almost simultaneously appear. Fable is first heard of in Asiatic Greece about this date; and, although its original intention does not seem to have been satirical its adaptability to satiric purposes was soon discovered. A far more important step was the eleva- tion of the rude fun of rustic merrymakings to a literary status by the evolution of the drama from the Bacchic festival. The means had now been found of allying the satiric spirit with exalted poetry, and their union was consummated in the comedies of Aristophanes.

A rude form of satire had existed in Italy from an early date in the shape of the Fescennine verses, the rough and licentious pleasantry of the vintage and harvest, which, lasting down to the 16th century, inspired Tansillo’s *Vendemmiatore.* As in Greece, these eventually, about 364 b.c., were developed into a rude drama, originally intro­duced as a religious expiation. This was at first, Livy tells us (vii. 2), merely pantomimic, as the dialect of the Tuscan actors imported for the occasion was not understood at Rome. Verse, “ like to the Fescennine verses in point of style and manner,” was soon added to accompany the mimetic action, and, with reference to the variety of metres employed, these probably improvised composition were entitled *Saturae,* a term denoting *miscellany,* and derived from the *satura lanx,* “ a charger filled with the first-fruits of the year’s produce, anciently offered to Bacchus and Ceres.” The Romans thus had originated the name of satire, and, in so far as the Fescennine drama consisted of raillery and ridicule, possessed the thing also; but it had not yet assumed a literary form among them. Livius Andronicus (240 B.c.), the first regular Latin dramatic poet, appears to have been little more than a translator from the Greek. Satires are mentioned among the literary productions of Ennius (200 B.c.) and Pacuvius (170 b.c.), but the title rather refers to the variety of metres employed than to the genius of the composition. The real inventor of Roman satire is Gaius Lucilius (148-103 b.c.), whose *Satirae* seem to have been mostly satirical in the modern acceptation of the term, while the subjects of some of them prove that the title continued to be applied to miscellaneous collections of poems, as was the case even to the time of Varro, whose “ Saturae included prose as well as verse, and appear to have been only partially satirical. The fragments of Lucilius preserved are scanty, but the verdict of Horace, Cicero and Quintilian demonstrates that he was a considerable poet. It is needless to dwell on compositions so universally known as the *Satires* of Lucilius’s successor Horace, in whose hands this class of composition received a new development, becoming genial, playful and persuasive. “ Arch Horace strove to mend." The didactic element preponderates still more in the philosophical satires of Persius. Yet another form of satire, the rhetorical, was carried to the utmost limits of excellence by Juvenal, the first example of a great tragic satirist. Nearly at the same time Martial, improving on earlier Roman models now lost, gave that satirical turn to the epigram which it only exceptionally possessed in Greece, but has ever since retained. About the same time another variety of satire came into vogue, destined to become the most important of any. The Milesian tale, a form of entertainment probably of Eastern origin, grew in the hands of Petronius and Apulelius into the satirical romance, immensely widening the satirist's field and exempting him from the restraints of metre. Petronius’s “ Supper of Trimalchio ” is the revelation of a new vein, never fully worked till our days. As the novel arose upon the ruins of the epic, so dialogue sprang up upon the wreck of comedy. In Lucian comedy appears adapted to suit the exigencies of an age in which a living drama had become impossible. With him antique satire expires as a distinct branch of literature,—though mention should be made of the sarcasms and libels with which the population of Egypt were for centuries ac- customed to insult the Roman conqueror and his parasites. A denunciation of the apostate poet Hor-Uta—a kind of Egyptian “ Lost Leader ”—composed under Augustus, has been published by M. Revillout from a demotic papyrus.

After the great deluge of barbarism has begun to retire, one form of satire after another peeps forth from the receding flood, the order of development being determined by the circumstances of time and place. In the Byzantine empire, indeed, the link of continuity is unbroken, and such raillery of abuses as is possible under a despotism finds vent in the pale copies of Lucian published in Adolf Ellissen’s *Analekten.* The first really important satire, however, is a product of western Europe, recurring to the primitive form of fable, upon which, nevertheless, it constitutes a decided advance. *Reynard the Fox,* a genuine expression of the shrewd and homely Teutonic mind, is a landmark in literature. It gave the beast-epic a development of