in an age of violent polemics, distinguished himself by the virulence of his writings against the Protestants. He became involved in a controversy with Joseph Justus Scaliger, formerly his intimate friend, and others, wrote *Ecclesiaslicus auctoriiaii Jacobi regis oppositus* (1611), an attack upon James I. of England; and in *Classicum belli scari* (1619) urged the Catholic princes to wage war upon the Protestants. About 1607 Schoppe entered the service of Ferdinand, archduke of Styria, afterwards the emperor Ferdinand II., who found him very useful in rebutting the arguments of the Protestants, and who sent him on several diplomatic errands. According to Pierre Bayle, he was almost killed by some Englishmen at Madrid in 1614, and again fearing for his life he left Germany for Italy in 1617, afterwards taking part in an attack upon the Jesuits. Schoppe, as the long list of his writings shows, knew also something of grammar and philosophy, and had an excellent acquaintance with Latin. His chief work is, perhaps, his *Grammatica philosophica* (Milan, 1628). Schoppe died at Padua on the 19th of November 1649. In his *Life of Sir Henry Wotton* Izaac Walton, calling him Jasper Scioppius, refers to Schoppe as “ a man of a\* restless spirit and a malicious pen.”

Besides the works already noticed, he wrote *De arte critica* (1597); *De Antichristo* (1605); *Pro auctoritate ecclesiae in decidendis fidei controversiis libellus; Scaliger hypolotymaeus* (1607), a virulent attack on Scaliger; and latterly the anti-jesuitical works, *Flagellum Jesuiticum* (1632); *Mysteria patrum jesuitorum* (1633); and *Arcana societatis Jesu* (1635). For a fuller list of his writings see J. P. Nicéron *Mémoires,* (1727-1745). See also C. Nisard, *Les Gladiateurs de la république des lettres* (Paris, 1860).

SCHORL, in mineralogy, the name given to coarse black varieties of tourmaline *(q.v.).* The *schorl rocks* are crystalline aggregates of quartz and tourmaline. They are granular and massive, not banded or foliated as a rule, grey of various shades, the darkest coloured being most rich in schorl. Some are very fine grained, but in most cases the individual crystals are easily discernible with the unaided eye. They are hard, splintery, and very resistant to weathering. Veined, brecciatcd, porous and banded varieties occur, but are less common than the granular massive rocks.

Schorl rocks occur practically always in association with tourmaline-bearing granites. Most of them are of igneous origin and, though there may be a few which are direct products of consolidation from a plutonic magma, in the vast majority of cases they originate by the action of gases and vapours on granites, porphyries and other rocks. All magmas contain vapours in solution and give them off more or less readily as they crystallize. Water, carbonic acid and hydrochloric acid (or chlorides) are the commonest dissolved substances, but fluorine, boron, lithium and phosphoric acid occur also, and as they pass outwards these last may act on the surrounding rocks, probably still at a high temperature and produce minerals of a special kind. This action is said to be pneumatolytic. Tourmaline contains boron and flourine, hence the presence of these elements in the emanations from the granite may be assumed. Schorl rocks often also contain varieties of white mica which are rich in fluorine and lithium; in addition apatite is usually present. Lastly, many of the rocks of this group contain tinstone or are associated with tin-bearing veins, and it is probable that the ores of this metal were brought up in solu­tion as fluorides or chlorides and deposited in the situations where now they are found.

Along the sides of fissures, through which, no doubt, the gases ascended, the granite is converted into schorl rock for a distance ranging from a fraction of an inch to several feet, and vein-like masses of grey schorl rock branching and uniting are thus produced. In other places considerable areas of granite are changed in this way, principally near the margin of the granite, and an interrupted belt of this kind of rock encircles some of the larger outcrops of granite in Cornwall. A similar origin must be ascribed to *greisen (q.v.),* the aggregate of quartz and white mica commonly found in association with tin-bearing granites; there are complete gradations between schorl rock and greisen, according to the varying pro- portions of white mica and tourmaline which may be present in each specimen. Another mineral which is produced by the pneumatolytic alteration of granite is topaz (a silicate and fluoride of alu­

minium); an aggregate of quartz and topaz is called topaz-fels or topaz rock, and is largely developed in some of the tin-mining districts of Germany, though not found in Cornwall.

As might be expected every stage of the conversion of granite into schorl rock can be found. Tourmaline may have been to some extent an original constituent of the granite, but most of it is of new formation and must have resulted from the alteration of the biotite and the felspar of the original rock, both of these minerals having disappeared when the metamorphosis was complete. It is commonly found that the schorl is of a brown colour in the interior of the crystals but blue at the edges; probably the brown is primary or has been derived from biotite, but the blue principally from the replacement of felspar. The rock known as luxullianite, obtained near Luxullian village in Cornwall and used as an ornamental stone for the sarcophagus of the duke of Wellington’s monument in St Paul’s Cathedral, is a tourmaline granite in which the replacement of biotite and felspar by quartz and tourmaline can be seen in progress. The new tourmaline is in fine pointed needles which have a stellate or divergent arrangement, and is embedded in quartz: often these needles are planted on the surface of corroded crystals of primary brown schorl. This rock still contains a good deal of flesh-coloured felspar in large porphyritic crystals which contrast well with the dark matrix and give polished specimens a very handsome appearance. In the completely altered schorl rocks there are rarely needles of tourmaline, but this mineral occurs as irregular grains mingled in varying proportions with small crystals of quartz. In nearly all cases the structure of the granite has vanished, but at Trevalgan, St Austell, and other places in Cornwall there are schorl rocks which contain white pseudomorphs of quartz after porphyritic crystals of orthoclase.

In porphyries of “ elvans” tourmalinization also is frequent, though not so common as greisening. Veins of quartz with stellate schorl needles may be seen spreading through the groundmass or when this has been previously converted into an aggregate of quartz and fine scaly white mica, the porphyritic crystals of felspar alone may be replaced by bunches of tourmaline embedded in quartz. Tinstone often makes its appearance in these rocks either in small crystals enclosed in quartz or lining fissures and cavities left by the removal of a portion of the rock in solution.

The same process goes on also in sedimentary rocks; a felspathic sandstone may yield a schorl rock which can hardly be distinguished from one derived from a fine-grained granite. In shales brown tourmaline is often deposited in the vicinity of fissures, and the whole mass may be converted into a hard splintery aggregate of quartz and schorl (often containing also rutile and tinstone). But these rocks are always banded, like the original slate; their original structures (bedding and cleavage) are probably never completely effaced and the ultimate product has been called schorl-schist (tourmaline hornfels, cornubianite).

The stanniferous veins which in large numbers intersect the granites of Devon and Cornwall and the slates around them, and have yielded a large part of the world’s supply of tin consist mostly of quartz, tourmaline and chlorite (with varying proportions of cassiterite). The veinstones are typically very fine grained, hard and dark blue or dark green in colour. The green varieties contain much chlorite, the blue are richer in tourmaline, and both kinds are known to the miners as “ peach.” Essentially aqueous deposits in lines of fissure, these rocks show that quartz and tourmaline were carried up in hot solutions at a late period in the cooling of the granite, and the changes above described are due to the operation of these solutions as they spread outwards through the surrounding rocks. Their tourmaline crystals are very small and usually of dark-blue shades, but owing to repeated movements of the walls of the veins the ore deposits have sometimes an intricate history, as microscopic studies show that the first infillings of the fissures have been broken up and cemented together again by a later material of slightly different character. (J. S. F.)

SCHOTTISCHE, the German for “ Scottish,” a name given to a dance, *der schottische Tanz,* introduced into England about 1850. It was a form of polka, with two figures. The “ High­land Schottische ” is a lively dance resembling a fling. What is known as the “barn dance” was first known in America as the “ Military Schottische.”

SCHOULER, JAMES (1839- ), American lawyer and

historian, was born in West Cambridge (now Arlington), Massa- chusetts, on the 20th of March 1839, the son of William Schouler (1814-1872), who from 1847 to 1853 edited the *Boston Atlas,* one of the leading Whig journals of New England. The son graduated at Harvard in 1859, studied law in Boston and was admitted to the bar there in 1862. In 1869 he removed to Washington, where for three years he published the *United States Jurist.* After his return to Boston, in 1874, he devoted himself to office practice and to literary pursuits. He was a lecturer in the law school of Boston University between 1885 and 1903, a non-resident professor and lecturer in the National