Thus in France in the rose window of Chartres in the west front (1225), and in England in those of Barfreston in Kent (1180) and Beverley Minster in Yorkshire (1220), plate-tracery of such great beauty is found that it is unfortunate it should have been entirely superseded by rib-tracery. The rose window of Lincoln Cathedral in the north transept is a compromise between the two, as all the lights are cut out independently and in one plane, but there are mouldings round each connected with flowers; in its design and effect this window is far superior to the flamboyant circular window in the south transept. Sometimes a rose window is arranged in the upper portion of an ordinary window, as in the west front of Lichfield Cathedral, and this is constantly found in those of the transepts of the French cathedrals. In the south of Italy, at Bari, Bitonto and Troja, and at Orvieto and Assisi, farther north, there are examples of rose windows, but inferior in design to French and English work, though elaborated with carving. The revival of the 16th century was fatal so far as tracery was concerned ; in the place of the flam­boyant work of the last phase of Gothic in France semicircular and elliptical curves with poor mouldings were introduced, and the elaborate cusping which gave such interest to the light was omitted altogether, as in St Eustache, Paris. There is, however, one remark­able example in the church of Le Grand Andely, in Normandy, dating from the Henri II. period, in which a return was made to the tracery of the 13th century; but the introduction of Renaissance details in the place of the cusping is not altogether satisfactory, though the general design is fine.

The tracery decorating the vault of Gothic work began on the introduction of the fan vault at Gloucester (see Vault) ; it was only a surface decoration, both rib and web being cut out of the same block of stone, and it received further development in the various phases which followed. In the later Perpendicular work the walls and buttresses were all panelled with blank tracery, the most com­plete example of which is found in Henry VII.’s chapel, Westminster Abbey.

In tabernacle work the tracery is purely of a decorative character, copied in miniature from the mullions, arch-moulds and crockets of Gothic work.

Some of the most beautiful examples of tracery are those on the rood screens of churches, either in stone as in the Jubé of the Made­leine at Troyes, or in wood as in the rood screens of the churches in East Anglia and in Somersetshire; and with this must be included that which was introduced into the panelling of church doors, choir stalls and other church fittings; this was continued, first in the early Renaissance of the 16th century, the finest examples being, those of the stalls of King’s College, Cambridge, and afterwards in the Jacobean style, in the church at Croxcombe near Shepton Mallet, and the church of St John at Leeds, the two latter ranking as the best work of that late period. (R. P. S. )

**TRACHELIUM** (Gr. *τράχηλος,* neck), the term in architecture given to the neck of the capital of the Doric and Ionic orders. In the Greek Doric capital it is the space between the annulets of the echinus and the grooves which marked the junction of the shaft and capital; in some early examples, as in the basilica and temple of Ceres at Paestum and the temple at Metapontum, it forms a sunk concave moulding, which by the French is called the gorge. In the Roman Doric and the Ionic orders the term is given by modern writers to the interval between the lowest moulding of the capital and the top of the astragal and fillet, which were termed the “ hypotrachelium ” *(q.v.).*

**TRACHEOTOMY,** the operation of opening the trachea or windpipe (see Respiratory System) and inserting a tube *(canula)* to provide a means of breathing when the natural air-passage is obstructed. The operation is by no means easy when performed on a small child, for the wind-pipe is deeply placed amongst important structures. The chief anxiety is in connexion with haemorrhage, for the vessels are large and generally overfull on account of the impairment of the respiration. The higher the opening is made in the trachea the easier and safer is the operation.

**TRACHIS,** a city of ancient Greece, situated at the head of the Malian Gulf in a small plain between the rivers Asopus and Melas, and enclosed by the mountain wall of Oeta which here extended close to the sea and by means of the Trachinian Cliffs completely commanded the main road from Thessaly. The position was well adapted as an advanced post against invaders from the north, and furthermore guarded the road up the Asopus gorge into the Cephissus valley. Strangely enough, it is not recorded what part Trachis played in the defence of Thermopylae against Xerxes. Its military impor­tance was recognized in 427 b.c. by the Spartans, who sent a garrison to guard the Trachinian plain against the marauding highland tribes of Oeta and built a citadel close by the Asopus gorge with the new name of Heraclea. The Spartans failed to safeguard Heraclea against the Oetaeans and Thessalians, and for a short time were displaced by the Thebans (420). After a bloody defeat at the hands of the neighbouring mountaineers (409) the Spartan governor quar- relled with the native settlers, whom he expelled in 399. Four years later Thebes used her new predominance in central Greece to restore the Trachinians, who retained Heraclea until 371, when Jason of Pherae seized and dismantled it. The fortress was rebuilt, and after 280 served the Aetolians as a bulwark against Celts and Macedonians. It was captured in 191 by the Romans, but restored to the Aetolian League until 146. Henceforth the place lost its importance; in Strabo’s time the original site was apparently deserted, and the citadel alone remained inhabited.

Strabo p. 428; Herodotus vii. 198-203; Thucydides iii. 92, v. 51-52; Diodorus xiv. 38, 82; Livy xxxvi. 22-24. W. Leake, *Travels in Northern Greece,* iii. 24-31 (London, 1835); G. B. Grundy, *Great Persian War,* pp. 261-264 (London, 1901). (Μ. Ο. B. C.)

**TRACHOMA,** the name given to a chronic destructive form of inflammation of the conjunctiva of the eye (see Eye : *Diseases),* or “ granular conjunctivitis ” (Egyptian ophthalmia). It is a contagious disease, associated with dirty conditions, and common in Egypt, Arabia and parts of Europe, especially among the lower class of Jews. Hence it has become important, in connexion with the alien immigration into the United King­dom and America, and the rejection of those who are afflicted with it. It is important that all cases should be isolated, and that the spread of the infection should be prevented.

**TRACHYTE** (Gr. *τραχύs,* rough), in petrology, a group of volcanic rocks which consist mainly of sanidine (or glassy orthoclase) felspar. Very often they have minute irregular steam cavities which make the broken surfaces of specimens of these rocks rough and irregular, and from this character they have derived their name. It was first given by Haüy to certain rocks of this class from Auvergne, and was long used in a much wider sense than that defined above, in fact it included quartz-trachytes (now known as h\*parites and rhyolites) and oligoclase-trachytes, which are now more properly assigned to andesites. The trachytes are often described as being the volcanic equivalents of the plutonic syenites. Their dominant mineral, sanidine felspar, very commonly occurs in two generations, *i.e.* both as large well-shaped porphyritic crystals and in smaller imperfect rods or laths forming a finely crystalline groundmass. With this there is practically always a smaller amount of plagioclase, usually oligoclase; but the potash felspar (sanidine) often contains a considerable pro­portion of the soda felspar, and has rather the characteristics of anorthoclase or cryptoperthite than of pure sanidine.

Quartz is typically absent from the trachytes, but tridymite (which likewise consists of silica) is by no means uncommon in them. It is rarely in crystals large enough to be visible without the aid of the microscope, but in thin slides it may appear as small hexagonal plates, which overlap and form dense aggregates, like a mosaic or like the tiles on a roof. They often cover the surfaces of the larger felspars or line the steam cavities of the rock, where they may be mingled with amorphous opal or fibrous chalcedony. In the older trachytes secondary quartz is not rare, and probably sometimes results from the recrystallization of tridymite.

Of the ferromagnesian minerals present augite is the most common. It is usually of pale green colour, and its small crystals are often very perfect in form. Brown hornblende and biotite occur also, and are usually surrounded by black corrosion borders composed of magnetite and pyroxene. Sometimes the replacement is complete and no hornblende or biotite is left, though the outlines of the cluster of magnetite and augite may clearly indicate from which of these minerals it was derived. Olivine is unusual,. though found in some tra- chytes, like those of the Arso in Ischia. Basic varieties of plagioclase, such as labradorite, are known also as phenocrysts