adjustment is correct; if not, the adjusting screws in the collar of the up and down piece must be moved until the coincidence is exact.

“Centring error ” is very important, but cannot be corrected. In an indifferent instrument it may be sufficient to vitiate the result of any observations on one side only of the zenith. It arises from the eccentricity of the centres of the index arm and of the arc, and varies with the angle measured, being generally greater as the angle increases; but the index arm becoming bent, or any part of the frame receiving a blow which alters its shape, the flexure of the instrument from varying temperature, and defective graduation, will all produce errors which it is generally impossible to disentangle, and they are all included in the one correction for centring. This correction is found by comparing the angle measured by the sextant (corrected for index error) with the true angle. The most accurate method, because it employs a large number of observations for the same or nearly the same angle, is by observations of pairs of circum-meridian stars in the artificial horizon at various altitudes. Double the difference between the resulting latitude by each star and the mean latitude will be the centring error for an angle equal to the double altitude of that star, that is, the angle actually measured by the sextant, index error being ascertained and applied before working out. Measurement of the angles between stars, compared with their calculated apparent distance, is another method. At Kew Observa­tory (National Physical Laboratory) the centring error is determined for certain angles by fixed collimators. Including, as it does, errors from so many causes, the correction does not remain perfectly steady, and it should be ascertained from time to time. In a good sextant the error should not exceed one minute over the whole of the arc.

SEXTON (an early corruption of “ sacristan,’’ properly the keeper of sacred vessels and vestments, Med. Lat. sacristanus or *sacrista),* a minor officer of an ecclesiastical parish. In the early church the sexton was identical with the *ostiarius,* or door-keeper, whose duty it was to open and shut the church at certain hours, guard the church and all it contained, and prevent the heathen and excommunicated from entering. The duties of the modern sexton are practically those of the ancient sacristan. He has the custody of the church keys, is responsible for keeping the church clean, for the bell-ringing and lighting, and looks after the vest­ments and *instrumenta* of the church, but the duties may vary by custom in different parishes. Where his duties are confined to the care of the vestments and *instrumenta* the right of appoint­ment of a sexton lies in the churchwardens; if his duties are confined to the churchyard the right of appointment is in the incumbent, and where his duties extend to both the right of appointment is jointly in the churchwardens and the incumbent. By custom, however, he may be appointed by the parishioners. He usually has a freehold in his office, and in some parishes is entitled to certain customary fees.

SEXTUS EMPIRICUS (2nd and 3rd centuries a.d.), physician and philosopher, lived at Alexandria and at Athens. In his medical work he belonged to the “ methodical ” school (see Asclepiades), as a philosopher, he is the greatest of the later Greek Sceptics. His claim to eminence rests on the facts that he developed and formulated the doctrines of the older Sceptics, and that he handed down a full and, on the whole, an impartial account of the members of his school. His works are two, the *Pyrrhonian Hypotyposes* and *Against the Mathematici* (ed. Fabricius, Paris, 1621, and Bekker, Berlin, 1842).

See Brochard, *Les Sceptiques grecs* (1887); Pappenheim, *Lebens- Verhättnisse des Sextus Empiricus* (Berlin, 1875); Jourdain, *Sextus Empiricus* (Paris, 1858); Patrick, *Sextus Empiricus and the Greek Sceptics* (1899, with trans. of *Pyrrh. Hyp.* i.); also Scepticism.

SEYCHELLES, an archipelago in the Indian Ocean, consisting of forty-five islands—besides a number of rocks or islets —situated between 3° 38' and 5° 45' S., and 52° 55' and 53° 50' E. Together with the Amirantes, Cosmoledo, Aldabra and other islands they form the British colony of Seychelles. The outlying islands lie south-west of the Seychelles group and between that archipelago and Madagascar. In all ninety islands with a total area of over 156 sq. m. are under the Seychelles government. There are in addition 40,000 to 50,000 sq. m. of coral banks within the bounds of the colony.

The Seychelles lie, with two exceptions, towards the centre of a large submarine bank and are all within the 50 fathoms line. Mahé, the largest and most central island, is 934 m. N.N.W. of Mauritius, 970 m. E. by N. of Zanzibar and 600 m. N.E. of the northernmost point of Madagascar. The other chief islands form

two principal groups: (i.) Praslin, 26 m. N.N.E. of Mahé, and the adjacent smaller islands of La Digue, Félicité, East Silver, West Silver, Curieuse and Aride; (ii.) Silhouette, 14 m. W. by N. of Mahé, and North Island. The most easterly island is Frigate, the most southerly Platte; on the northern edge of the reef are Bird and Denis islands. The general aspect of the islands is one of great beauty and fertility, and in the opinion of General C. G. Gordon they formed the Garden of Eden.

Mahé is 17 m. long, and from 4 to 7 broad and of highly irregular shape, with an area of about 55 sq. m. There are small areas of lowlands, chiefly at the mouths of the river valleys, but most of the island is mountainous, and in general the hills rise abruptly from the sea. There are ten heights between 1000 and 2000 ft., and seven over 2000 ft. The highest point is Morne Seychellois, 2993 ft.; next comes Trois Frères, 2390 ft. Both these mountains are in the northern half of the island. The main ridge runs north and south along the line of the greatest diameter, and from the heights descend many torrents, the whole island being well watered. The principal harbour, Port Victoria, is on the north-east coast in 4° 37' S., 55° 27' E. It is approached by a deep channel through the coral reef which fringes the entire eastern side of the island. Of the small islands close to Mahé the chief are St Anne and Cerf, off the east, and Conception and Thérèse off the west coast.

Praslin Island is 8 m. long and from 1 to 3 m. broad, has an area of about 27 sq. m. and its highest point is 1260 ft.; La Digue covers 4 sq. m. and its greatest height is 1175 ft. : Silhouette is roughly circular in shape, covers 8 sq. m. and culminates in Mon Plaisir, 2473 ft. None of the other islands exceeds 1½ sq. m.

*Geology.—*Except Bird and Denis islands, which are of coralline limestone, the Seychelles are of granite, with in places fringing reefs of coral based on granite foundations. The granite is of the same formation or closely related to that of Madagascar and throughout the islands is closely uniform in its composition, but exhibits dikes of finer grain. The rocks are deeply furrowed and cut into ridges, evidence of the long period over which they have been subjected to atmospheric influences. There is no sign of marine action over four-fifths of the islands, which nowhere exhibit any trace of volcanic action, recent or remote. The islands are regarded as a remnant of the continental land which in remote geological ages united South Africa and India. J. Stanley Gardiner supposes that when first cut off the Seychelles were the size of the present bank—about 12,000 sq. m. This cutting off was caused largely by subsidence, though partly by marine action. The subsequent dwindling of the 12,000 sq. m. to 156 divided into many small islands is attributed to marine action which had its chief force in the Eocene and Miocene periods. (Cf. “ The Indian Ocean,” *Geo. Journ.* vol. xxviii., 1906).

*Climate.—*The climate is healthy and equable, and for a tropical country the temperature is moderate. It varies on the coast from about 68° to 88° F., falling at night in the higher regions to 6oο or 55° F. The mean coast temperature slightly exceeds 79ο F. The south-east monsoon blows from May to October, which is the dry season, and the west-north-west monsoon from December to March. During April and November the winds are variable. The average annual rainfall on the coast is 100∙8 in.; it increases to about 120 in. at a height of 600 ft. and at heights exceeding 2000 ft. is about 150 in. The Seychelles lie outside the track of the hurricanes which occasionally devastate Réunion and Mauritius and are also immune from earthquakes. The public health is good, and fevers and plague are unknown.

*Flora and Fauna.—*Both flora and fauna include species and genera peculiar to the Seychelles. Of these the best known is the *Lodoicea sechellarum,* a palm tree indigenous only in Praslin Island—but since introduced into Curieuse—noted for its fruit, the so-called Maldive double coco-nut or *coco de mer.* The nut was long known only from sea-borne specimens cast up on the Maldive and other coasts, was thought to grow on a submarine palm, and, being esteemed a sovereign antidote to poisons *(Lusiad,* x. 136), commanded exorbitant prices in the East. This palm will grow to a height of 100 ft., and shows enormous fern-like leaves. Another tree found only in the islands is the capucin *(Northea sechellarum),* whose massive dead trunks are a striking feature in the landscape. This tree has almost completely fallen a victim to the ravages of a green beetle, probably introduced from Mauritius. The islands were formerly densely wooded, but only patches of forest remain. The central mountain zone of Mahé was in 1909 acquired by the government for reafforestation purposes. This zone also included one of the last remaining portions of indigenous forest. The forests of the coast belt resembled those of the coral islands of the neighbouring parts of the lndian Ocean. Characteristic of this region are the mangrove and *Pandanus,* and, a little inland, the banyan *(Ficus), Pisonia* and *Hernandia.* The coco-nut, now a conspicuous feature of the coast