have tended to bring them closer to one another, we still find that of the thirty-six chief orders three claim an origin from the caliph Abūbekr, whom the Sunnites honour, and the rest from 'Ali, the idol of the Shi’ites.@@1 Mystic absorption in the being of God, with an increasing tendency to pantheism and ascetic practices, are the main scope of all Sūflism, which is not neces­sarily confined to members of orders; indeed the secret practice of contemplation of the love of God and contempt of the world is sometimes viewed as specially meritorious. And so ultimately the word jw/í has come to denote all who have this religious direction, while those who follow the special rules of an order are known as dervishes (beggars, in Arabic *fuqarā, sing, fagir* —names originally designating only the mendicant orders). In Persia at the present day a Sūfï is much the same as a free­thinker.@@2

Bibliogrλphv.—The work of Shahrastānī *(q.v.)* on the Moslem sects: A. von Kremer, *Geschichte der herrschenden Ideen des Islams* (Leipzig, 1868); I. Goldziher, *Muhammedanische Studien,* vol. ii. (Halle, 1890); D. B. Macdonald, *Muslim Theology* (London, 1903); the *Hidaya* (trans. C. Hamilton, 2nd cd., London, 1870): N. B. E. Baillie, *A Digest of Muhammadan Law* (London, 1865); E. Sachau, *Muhammadanisches Recht nach Schafiitischer Lehre* (Stuttgart and Berlin, 1897); *El-Bokhari, les traditions islamiques* (trans, by Houdas and Marçais, Paris,1903); Lane, *An Account of the Manners and Customs of the Modern Egyptians* (London, 1836). For the organiza­tion of the "ulemā. in the Ottoman Empire during the middle ages see E. J. VV. Gibb, *A History of Ottoman Poetry,* ii. 394 sqq.(London 1902). (A. Mū.; R. A. N.)

**SUNSHINE.** As a meteorological element sunshine requires some conventional definition. There is uninterrupted continu­ance of gradation from the burning sunshine of a tropical noon to the pale luminosity that throws no shadow, but just identifies the position and shape of the sun through the thin cloud of northern skies.

*The Campbell-Slokes Sunshine Recorder.—*In the British Isles the sun is allowed to be its own timekeeper and the scorch of a specially prepared card used as the criterion for bright sunshine. The practice arose out of the use of the sunshine recorder which depends upon the scorching effect of a glass sphere in the sun’s rays. The original form of the instrument was suggested by J. F. Campbell of Islay in 1857. He used a glass sphere within a hemispherical bowl of wood. The scorching of the wood along successive lines of the bowl as the sun alters its declination from solstice to solstice leaves a rugged monument of the duration and intensity of the sunshine during the half-year, but docs not lend itself to numerical measurement. The design of a metal frame to carry movable cards and thus give a decipherable record of each day’s sunshine is due to Sir G. G. Stokes. The excursions of the sun to the north and south of the equator are limited by the tropical circles, and the solar record on the hemi­spherical bowl will be confined within a belt 23° 27' north and south of the plane through the centre parallel to the equator or perpendicular to the polar axis. Thus a belt 46° 54' in angular width will be suitable for a sunshine recorder for any part of the world. Whatever place be chosen for the observation the same belt will do if it is set up perpendicular to the earth’s polar axis. But there can be no record if the sun is below the horizon; hence any part of the belt projecting above the horizon is not only useless for recording but is liable to shadow a part of the belt where there might be a record. Hence to meet the requirements of a particular locality the belt as set up round the polar axis should be cut in two by a horizontal plane through the centre and the half projecting above the horizontal removed. Reversed it makes a half belt, exactly similar to what is left, and thus each complete belt is cut by a horizontal plane through the centre into two frames suitable for sunshine recorders for the particular locality.

The cutting of the belt may, of course, vary between the direct transverse cut along the polar axis which gives a half-ring belt to be set vertical in order to receive the record for a point on the equator, and the cut perpendicular to the polar axis which

divides the belt into two similar rings suitable for recording the sunshine at the poles. Clearly, when the belt is so cut that two complete rings are formed, a continuous record of sunshine throughout the twenty-four hours may be expected, so that for the polar circles the cut will run diagonally between opposite points of the extreme circles of the sun’s records. As examples of the cutting of the belt for different latitudes we may put side by side the recorder as used in temperate latitudes (fig. 1) and the special form designed in the Meteorological Office, London, for use on the National Antarctic Expedition, 1901-1904 (fig. 2). A belt cut for a particular latitude is serviceable for some 10°on either side of that latitude if the cards are not trimmed too closely to the cutting of the belt. The belt must always be adjusted round the parallel to the polar axis. If the cut of the belt is too oblique for the latitude of the place where it is exposed, and the cards are cut strictly to the belt, the northern side of the cut will be below the horizon and the southern side above it,

@@@1 These claims to early origin are mere fables, like the claim of the Oweisī order to spring from Oweis, one of the oldest traditionalists, and so forth.

@@@2 For the dervish orders see Dervish.