tries, Germany, Denmark, Sweden, Poland, and Muſcovy. Each of the ſecretaries has an apartment in all the royal houſes, both for their own accommodation and their officers; they have alſo a table at the king’s charge, or elfe board-wages. The two ſecretaries for Britain have each two under ſecretaries, and one chief clerk; with an uncertain number of other clerks and tranſlators, all wholly depending on them. To the ſe­cretaries of ſtate belong the cuſtody of that ſeal properly called the ſignet, and the direction of two other offices, one called the *paper-office,* and the other the *ſignet office.* In addition to theſe, there is at preſent (1795) a ſecretary for the war department, whoſe office muſt be tem­porary. 2. Secretary of an embaſſy, a perſon attending an ambaſſador, for writing diſpatches relating to the nego­ciation. There is a great difference between the ſecretary of an embaſſy and the ambaſſador’s ſecretary; the laſt being a domeſtic or menial of the ambaſſador, and the firſt a fervant or miniſter of the prince. 3. The ſecretary of war, an officer of the war-office, who has two chief clerks under him, the laſt of which is the ſecretary’s meſſenger. There are alſo ſecretaries in moſt of the other offices.

SECRETION, in the animal œconomy. See Phy­siology, ſect. VI.

SECT, a collective term, comprehending all ſuch as follow the doctrines and opinions of ſome famous divine, philoſopher, &c.

SECTION, in general, denotes a part of a divided thing, or the diviſion itſelf. Such, particularly, are the ſubdiviſions of a chapter; called alſo *paragraphs* and *articles:* the mark of a ſection is @@§.

Section, in geometry, denotes a ſide or ſurface of a body or figure cut off by another; or the place where lines, planes, &c. cut each other.

SECTOR, in geometry, is a part of a circle com­prehended between two radii and the arch; or it is a mixed triangle, formed by two radii and the arch of a circle.

Sector, is alſo a mathematical inſtrument, of great uſe in finding the proportion between quantities of the ſame kind: as between lines and lines, ſurfaces and ſurfaces, &c. whence the French call it the *compaſs of pro­portion.* The great advantage of the ſector above the common ſcales, &c. is, that it is made ſo as to fit all ra­dii and all ſcales. By the lines of chords, ſines, &c. on the ſector, we have lines of chords, ſines, &c. to any radius betwixt the length and breadth of the lector when open.

The real inventor of this valuable inſtrument is un­known; yet of ſo much merit has the invention appeared, that it was claimed by Galileo, and diſputed by nations.

The ſector is founded on the fourth propoſition of the ſixth book of Euclid; where it is demonſtrated, that ſimilar triangles have their homologous ſides pro­portional. An idea of the theory of its conſtruction may be conceived thus. Let the lines AB, AC (Plate CCCCXLVIII. fig. 5.) repreſent the legs of the ſector; and AD, AE, two equal lections from the centre: if, now the points CB and DE be connected, the lines CB and DE will be parallel; therefore the triangles ADE, ACB will be ſimilar; and conſequently the ſides AD, DE, AB, and BC, proportional; that is, as AD: DE: AB: BC: whence, if AD be the half, third, or fourth part of AB; DE will be a half, third, or fourth part of CB: and the ſame holds of all the reſt. If, therefore, AD be the chord, ſine, or tangent, of any number of degrees to the radius AB; DE will be the ſame to the radius BC.

*Deſcription of the Sector.* The inſtrument conſiſts of two rulers or legs, of braſs or ivory, or any other mat­ter, repreſenting the radii, moveable round an axis or joint, the middle of which expreſſes the centre; whence are drawn on the faces of the rulers ſeveral ſcales, which may be diſtinguiſhed into ſingle and double.

The double ſcales, or lines graduated upon the faces of the inſtrument, and which are to be uſed as ſectoral lines, proceed from the centre; and are, 1. Two ſcales of equal parts, one on each leg, marked lin. or l. each of theſe ſeales, from the great extenſiveneſs of its uſe, is called the *line oſ lines. 2.* Two lines of chords mark­ed cho. or c. 3. Two lines of ſecants marked sec. or s. A line of polygons marked pol. Upon the other face the ſectoral lines are, 1. Two lines of lines marked sin. or s. 2. Two lines of tangents marked tan. or T. 3. Between the line of tangents and ſines there is another line of tangents to a leſſer radius, to ſupply the defect of the former, and extending from 45⁰to 75⁰, marked t.

Each pair of theſe lines (except the line of poly­gons) is ſo adjuſted as to make equal angles at the centre; and conſequently at whatever diſtance the ſector be opened, the angles will be always reſpectively equal. That is, the diſtance between 10 and 10 on the line of lines, will be equal to 60 and 60 on the line of chords, 90 and 90 on the line of ſines, and 45 and 45 on the line of tangents.

Beſides the ſectoral ſcales, there are others on each face, placed parallel to the outward edges, and uſed as thoſe oſ the common plane ſcale. I. Theſe are a line of inches. 2. A line of latitudes. 3. A line of hours. 4. A line of inclination of meridians. 5. A line of chords. Three logarithmic ſcales, namely, one oſ num­bers, one of ſines, and one of tangents; theſe are uſed when the ſector is fully opened, the legs forming one line @@(a).

The value of the diviſions on moſt of the lines are determined by the figures adjacent to them; theſe pro­ceed by tens, which conſtitute the diviſions of the firſt order, and are numbered accordingly; but the value of the diviſions on the line of lines, that are diſtinguiſhed by figures, is entirely arbitrary, and may repreſent any value that is given to them; hence the figures 1, 2, 3, 4, &c. may denote either 10, 20, 30, 40, or 100, 200, 300, 400, and ſo on.

*The line oſ lines* is divided into ten equal parts, num­bered 1, 2, 3, to 10; theſe may be called d*ivisions of the first order;* each of theſe are again ſubdivided into 10 other equal parts, which may be called *diviſions oſ the second order;* each of theſe is divided into two equal parts, forming *diviſions oſ the third order.* The diviſions on all the ſcales are contained between four parallel lines;

@@@(a) The lines are placed in different orders on different lectors, but they may eaſily be found by theſe general directions.