Meridian Arc Length Data

Table 1.4. Boscovich's data on meridian arcs.

Location	Latitude (θ)	Arc length (toises)	Boscovich's $\sin^2\theta \times 10^4$
(1) Quito	0°0′	56,751	0
(2) Cape of Good Hope	33°18′	57,037	2,987
(3) Rome	42°59′	56,979	4,648
(4) Paris	49°23′	57,074	5,762
(5) Lapland	66°19′	57,422	8,386

Source: Boscovich and Maire (1755, p. 500). Reprinted in Boscovich and Maire (1770, p. 482).

Note: Arc lengths are given as toises per degree measured, where 1 toise ≅ 6.39 feet. The value for $\sin^2\theta \times 10^4$ for the Cape of Good Hope is erroneous and is evidently based on 33°8′. The correct figure would be 3,014.

French Meridian Arc Measurements

TABLE 1.

French arc measurements, from Allgemeine Geographische Ephemeriden, 4, 1799, page xxxv. The number 76545.74 is a misprint; the correct number is 76145.74. The table gives the length of four consecutive segments of the meridian arc through Paris, both in modules S (one module ≅ 12.78 feet) and degrees d of latitude (determined by astronomical observation). The latitude of the midpoint L of each arc segment is also given.

	Modules S	Degrees d	Midpoint L
Dunkirk to Pantheon	62472.59	2.18910	49° 56′ 30″
Pantheon to Evaux	76545.74	2.66868	47° 30′ 46″
Evaux to Carcassone	84424.55	2.96336	44° 41′ 48″
Carcassone to Barcelona	52749.48	1.85266	42° 17′ 20″
Totals	275792.36	9.67380	