Fig. 2. (*g i k l o o x x*) the lid of the box, whoſe rim (*o x o x*), is a quarter of an inch deeper than the box (*o p* Fig 1), that the air-holes (*o*) may be pierced in its upper-part; and the lower-part is ſcolloped with wide ſcollops, for the air to paſs through the holes (*p p* Fig. 1.)

Fig. 3. (*a b*) the milk-boiler, with the broad rim (*c d*), and perpendicular rim (*c e d f*) ſoldered to the horizontal rim; the perpendicular rim to enter the circular groove (*e f*) four inches deep full of ſand, thereby to prevent the aſcent of the ſmoke from the fire-ſtove.

LVII. *Extract of a Letter of* Thomas Barker, *Eſq; to the Reverend* James Bradley, *D. D. Aſtronomer Royal, and F. R. S. concerning the Return of the Comet, expected in* 1757, *or* 1758.

SIR, Lyndon, near Uppingham, Rutland, Dec. 17, 1754.

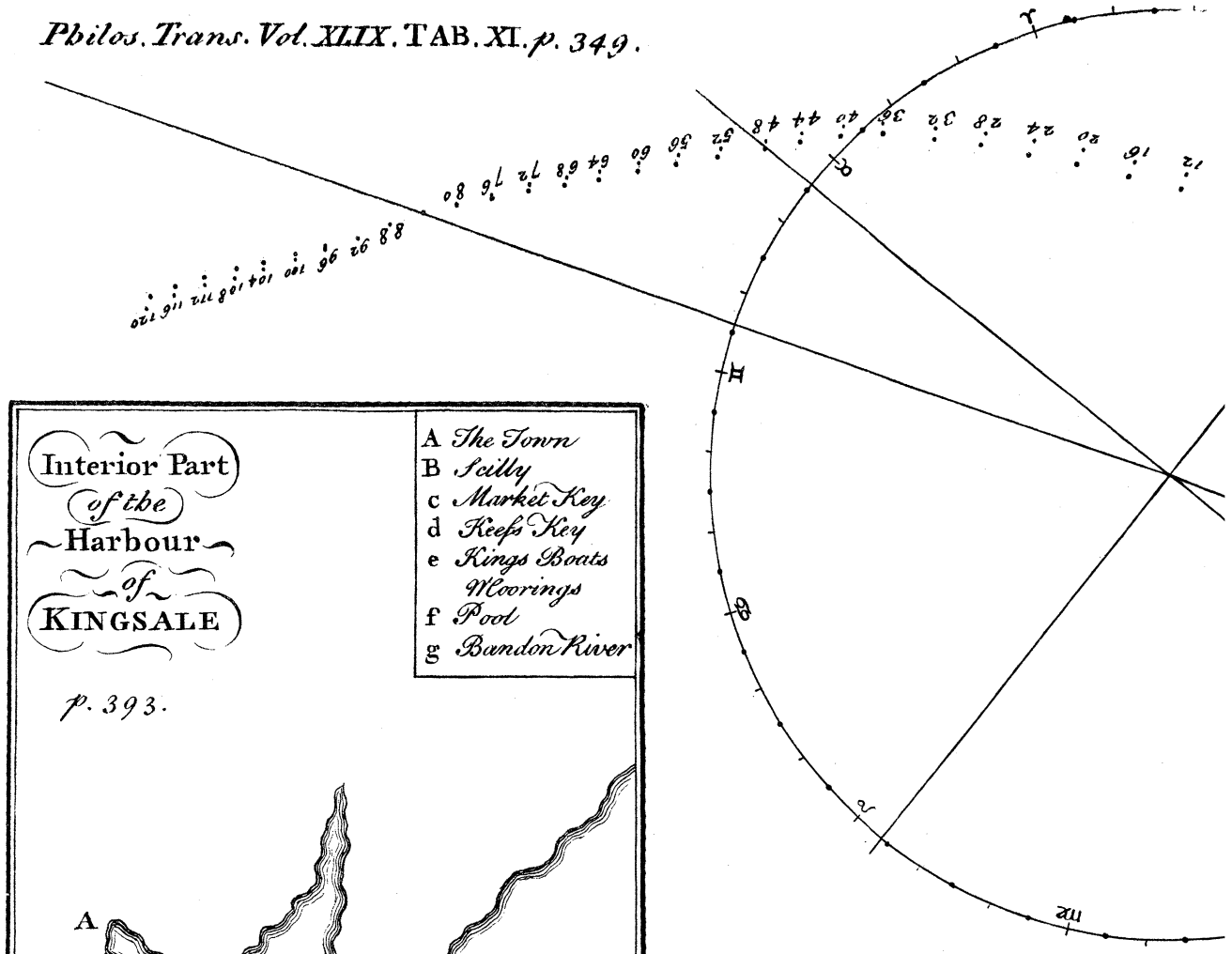
Read March 20, 1755. AS we expect the comet of 1531, 1607, and 1682, to return in 1757 or 1758, it is proper to be aware where to look for it. But that will be very different, according to the time of the year it comes; and its period is not ſufficiently known to fix the month of its next perihelion, which ſhould be July 25, 1757, according to its laſt period; but the length of that before would make it Oct. 25, 1758. I have therefore, in 12 ſhort tables, given the apparent path of the comet, ſuppoſing its perihelion any month in

the year, with its curtate diſtance from the earth; and the two firſt articles of each are the places which it would probably begin to appear in. Theſe will ſhew in general the courſe of the comet, eſpecially at its firſt appearance, which is moſt wanted; but cannot be depended on where its motion is ſwift, and may be 40° in a day, the beginning of May, or middle of October. From theſe tables, compared with the ſcheme, I have made another, where the comet would begin to be ſeen any month in the year.

To conſtruct the places, on a large ſheet of paſte-board, I divided the circumference of a circle ten inches radius into degrees, for the magnus orbis. On the right point of the ecliptic and focal length I drew a parabola like that obſerved in 1682, round the ſun, the center of the circle, and marked every fourth day's motion from the perihelion, and the line of its nodes. The co-ſine of the comet's inclination ſet off on perpendiculars to this, towards the ſeveral points of the parabola, forms the projection of it, or points in the plane of the ecliptic, over which the comet is at any time perpendicular.

To find the comet's place at any time, count how long it is before or after its perihelion, and mark the place in the projection of the parabola: lay one edge of a parallel-ruler through that point, and the place the earth is then in, and the other edge paſſing thro' the ſun, will cut the magnus orbis at the geocentric longitude of the comet: The tangent of the comet's inclination making the perpendicular from the comet's projected place to the line of nodes, the radius is the tangent of its apparent latitude, making the curtate diſtance of the comet from the earth the

radius.



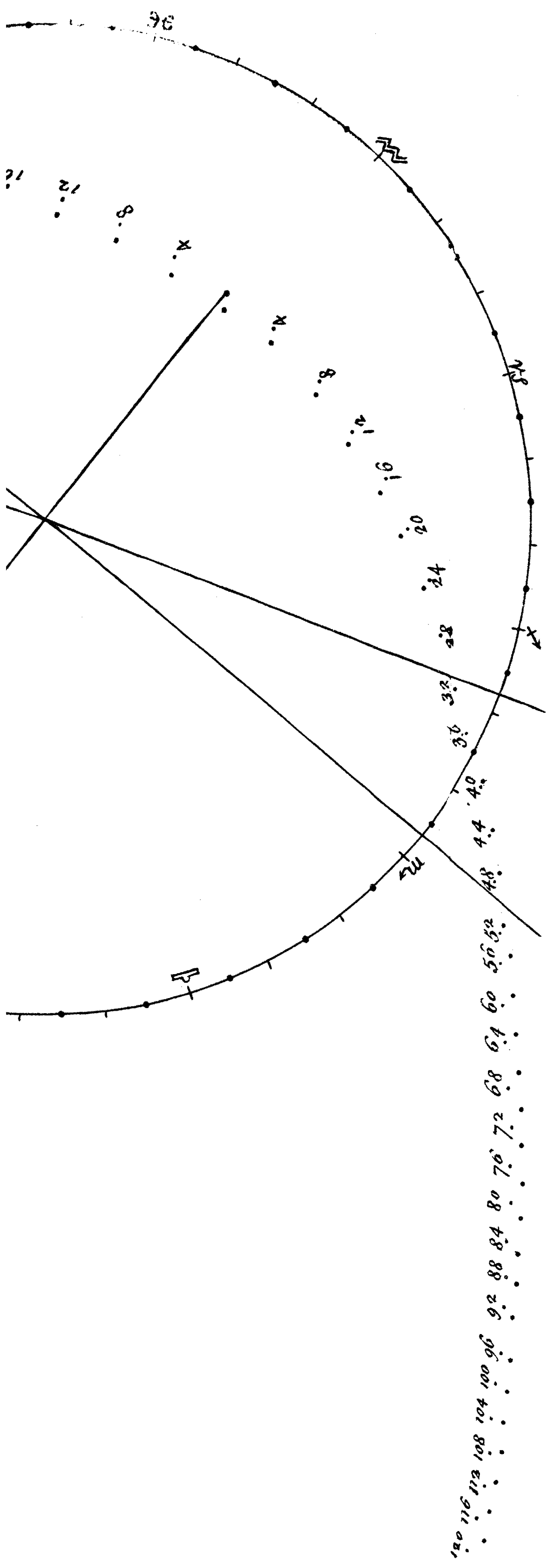
Interior Part of the Harbour of KINGSALE

p. 393.

A *The Town*
B *Scilly*
c *Market Key*
d *Keefs Key*
e *Kings Boats Moorings*
f *Pool*
g *Bandon River*

A
c
B
f
A
d
e
A
g

Fathoms
10 20 30 40 50



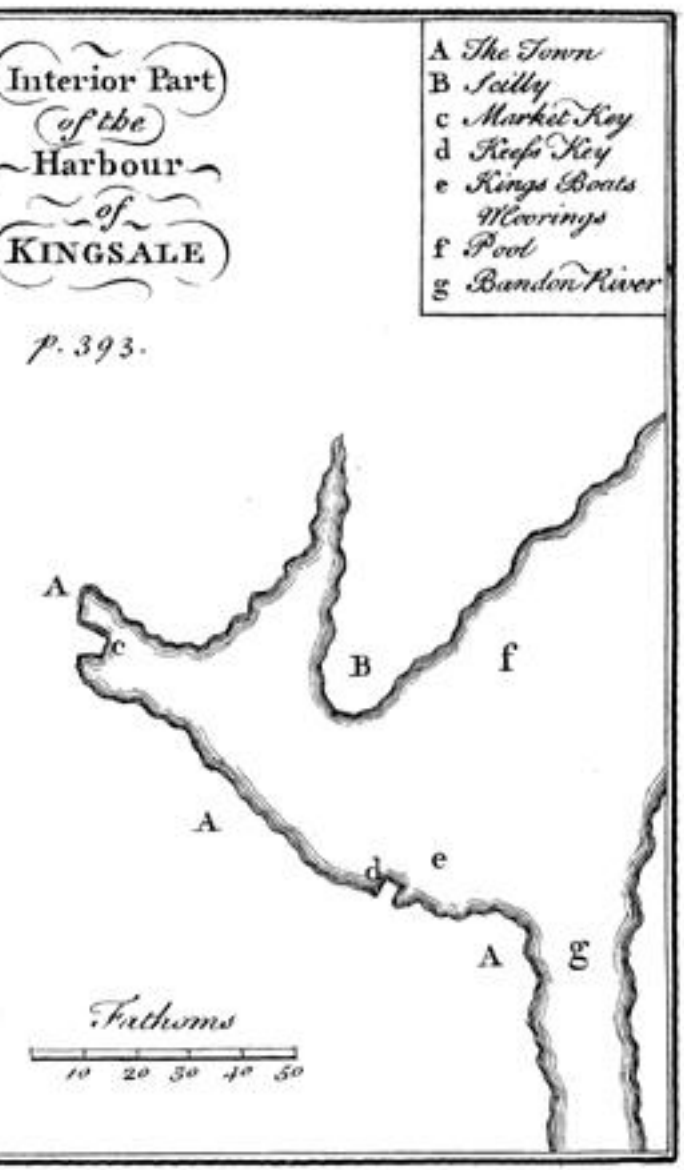
radius. For expedition thus; draw two lines, makeing an angle of 17° 56′: on one of them ſet off the perpendicular from the comet's projected place, and raiſe a perpendicular to the other; or, which is the ſame, from the comet's real place in the parabola; and let fall a perpendicular, that is the tangent of the geocentric latitude.

One obſervation of a known comet will, on ſuch a ſcheme, determine in ſome meaſure its whole courſe; for, from the earth's place, draw the obſerved longitude of the comet, where that cuts the projection of the parabola is the comet's place; to which if the obſerved latitude agrees, it confirms it: Then the other data being already known, and one place given, its whole courſe may be traced. Such a ſcheme may be alſo of uſe to find the periods of comets, where the deſcription of one is not good enough to find its orbit by; for if an old comet was ſeen in Auguſt, in ♒, or in ♋, with ſouth latitude, or very bright in January, it cannot be the comet of 1682; but if in November in ♉, near the ecliptic, it may. It then remains to ſee, whether the reſt of the deſcription will agree with the courſe it would in that caſe take: if it does, then, as the account is more or leſs perfect, there is a greater or leſs probability of its being the ſame. (See PLATE XI.).

A TABLE

A TABLE ſhewing where the Comet may be expected to begin to appear any Month.

January		Scarce to be ſeen	Lat.	
February	end	Retr. between 30° & 15° ♐	Small increaſing S.	7 Weeks after Perihelion
March	begin	——————— 30 & 15 ♑	Small N. or S.	a Month after Perihelion
	end	——————— 30 & 0 ♒	Small N. decreaſing	
April	begin	——————— 15 & 0 ♓	Small N. decreaſing	2 or 3 Weeks after
	end	Stat. 10 ♈ & 20 ♓	Small N.	
May	begin	——— middle ♈	N.	about Perihelion
	end	Dir. begin. ♉		1, 2, or 3 Weeks
June	begin	——— begin. ♉		
	end	——— end ♉		
July	begin	——— begin. ♊	N. increaſing	2 to 5 Weeks before
	end	——— middle ♊		
Auguſt		——— end ♊		5 to 8 Weeks before
September		Stat. 25 & 30 ♊	Small increaſing N.	2 Months before Perihelion
October		Retr. end ♊	Small S. or N.	2 or 3 Months
	begin	begin. ♊		
Novem.	mid.	5 ♊ & 20 ♉	Small S.	3 Months before Perihelion
	end.	begin. ♉		
Decem.	begin	begin. ♉ end. ♈	Small S. or N.	11 to 14 Weeks
	end	begin. ♈	very faint	


Interior Part
of the
Harbour
of
KINGSALE
p. 393.
A The Town
B Scilly
c Market Key
d Keefs Key
e Kings Boats Moorings
f Pool
g Bandon River
A
c
B
f
A
d
e
A
g
Fathoms
10 20 30 40 50