Production Note

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2013
A BRIEFE DESCRIPTION OF UNIVERSEAL MAPPES AND CARDIES, AND OF THEIR USE: AND ALSO THE USE OF PTHOLEMEY his Tables.

Necessary for those that DELIGHT IN READING OF Histories: and also for Travellers by Land or Sea.

Newly set forth by THOMAS BLUNDEVILLE, of Newton Flotman in the Countie of Norsfolke.

LONDON
G Printed by Roger Ward, for Thomas Cadman
Anno. 1585.
TO THE RIGHT VVORSHIPFUL M.
Francis Windam, one of the Judges her Maiesties Court of Common Pleas.

GOOD Sir, vouchsafe to receive this poore little Pam-
phlet, partlie as in lieu of a richer Newyeares gift,
and partlie as a token of my thankfull minde, which
is more vvilling then able to deserve any one iotte of the
great fauour,friendship, and diuers benefites that I haue
from time to time receiued at your hands; for want of which
abilitie I neither can, nor vvill loosen my selfe from any of
those bondes, wherewith you haue most straightlie bound
me, but rather to increase the same, humbly praying you to
continue in your good loue and fauour towards me, vntill
I shall willinglie deserve the contrarie: In the meantime
I pray God to prosper you in all your doings, and long to
preferue you.

From my poore Swans nest. 17, Decembris, 1588.

Your olde vvclviller, bound to be alwaies
at your commaundement.

Thomas Blundeville.

A 2
To the Reader.

I Daylie see many that delight to looke on Mappes, and can point to England, France, Germany, and to the East and West Indies, and to divers other places therein described: but yet for want of skill in Geography, they know not with what manner of times they are traced, nor what those lines do signify, nor yet the true use of Mappes in deed: Wherefore, somewhat to instruct those that have not studied Geography (without the knowledge whereof me thinketh that the necessary reading of Histories is half lame, and is neither so pleasant, nor so profitable as other- wise it would be) I thought good to write this little Treatise: and reading whereof, if you receive any profit thereby, I pray you be thankful to the Right Worshipful, and my especiall good friend, Mr. Francis Windam, one of the Judges of her Maiesties Court of Common Pleas, who first motioned me thereunto, and by whose perswasion I have the more willingly put the same in Print. Vale.

Certaine
CET Naine TEARMES OF COSMOGRA-  
graphie, briefly expounded, for those that are not 
learned in that science, to the intent they 
may the better understand 
this Treatise.

The Axe 
tree of the 
world.

The two 
Pole : the nether end, the Pole Poles.
Antarctike, that is, the South 
Pole: upon which two Poles, otherwise called the hoks 
or hinges of the world, the heauens doe turne rounde a-
bout the earth. Whereon the Cosmographers doe de-
vide the world into divers partes by certaine Circles, 
whereof some are called greater, and some lesser.

The greater are those which doe divide the world in-
to 2 equall partes: whereof there be 6: that is, the Equi-

The Equinoctiall.

The north 
latitude.

The South 
latitude.

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The Equinoctiall.
ADegree.  A Degree is one part of a Circle, being divided into 360 partes called degrees.

Longitude.  Again, the circuit of the Equinoctial, containing 360 degrees, is the venter longitude of the Earth: the first degree of which longitude beginneth at the first Peridian, placed in the West, and so progreseth Eastward unto the 180 degree of the Equinoctial, and from thence returneth by the West until you come againe to the 360 degree, which is the last degree of longitude. And note by the way that every degree of the Equinoctial containeth 60 English miles, so as the longitude of the whole Earth is 21600 miles.

The Zodiac.  The Zodiac is a great, broad, and lofty or shewing Circle, carrying the 12 Signes: in the middest whereof is a line called the Ecliptike line, from which the Sun never swarne.

The Meridian.  The Peridian is a great Circle, passing over our heads, in what parte of the World soever we be, and also through both the Poles: which line when the Sunnes toucheth it aboue the Horizon, it is Noonetide or midday to those that dwell under the same.

The Horizon.  The Horizon is a great Circle, deniding the upper halfe of the World which we see, from the nether halfe which we see not: in the very middest of Center of which Circle, as in a plaine field you looke rounde about you, you shall alwaies finde your selfe to be.

The 2 Colures.  Now as touching the two Colures, because they differ not in effect, though in name, from two Peridians, I leaue to speake of them, as well so that I have spoken of them at large in my Sphere, as also so that they are not mentioned in this Treatise.

4 lesser circles.  Of the lesser Circles there be foure: that is, the two Polar Circles, and the two Tropicke. Of the two Polar Circles, the one environeth the North Pole, and therefore is called the Circle Artike, and the other environeth the South Pole, and is called the Circle Antartike, becaus
cause it is opposit to the other.

Again, of the two Tropiques, the one is placed betwixt the Equinoctiall and the Circle Artike, and is called the Tropike of Cancer; and the other is placed betwixt the Equinoctiall and the Circle Antarctike, and is called the Tropike of Capricorne; and each of these Tropikes is distant from the Equinoctiall 23 degrees and a halfe, which is the greatest declinaion of the Sun from the Equinoctiall, so he never mounteth higher then the Tropique of Cancer, nor descendeth lower then the Tropique of Capricorne, and these two Circles are Parallels to the Equinoctiall.

Parallels are 2 lines or Circles, equally distant in all places one from another. And by these soure lesse Circles the Earth is devided into 5 Zones or boade spaces, whereof there be two colde, 2 temperate, and one hotte described both in my Sphere and also in this treatise.

A Paralell of the longest day, is a space of the Earth, wherein the day increaseth by one quarter of an hower, proceeding from Equinoctiall towards any of the Poles. A Clyme.

A Clyme is a space of the Earth, containing two such Parallels wherein the day increaseth by halfe an hower, of which Clymes according to the olde Writers, there be 7 declared at the full in my Sphere, and also somewhat touched in this Treatise.
A Briefe Description of universall
Mappes and Cardes and of their use and also the use of Ptholomey his Tables.

His woody Mappain latin signifieth a Table cloth of lynne to cover a board : of the shape and likenes whereof universall tables containing the description of the earth, are commonly called Mappes. And first you have to understand, that every such Mapp is chiefly traced with 9. sortes of lynes or circles, that is Peridians and parallels. The Peridians are either right or circular lynes passing through both the poles of the world, and are imagined to be drawn right up and downe from the head to the foote of the Mapp, and are called Peridians of this Latin woody meridies, which is as much to say as midday or noonetyde. Because that when the Sunne commeth to touch any of those lynes, it is midday to those that dwell right under the same. Againe, Parallels are either right or circular lynes imagined to be equally distant one from another, which doe cross the foresaid Peridians with right angles. Now in the verie midst of the Pap is most commonly drawn from head to foote a right lyne which signifieth not onely the first Peridian, but also the Axle tree of the world, the upper ende of which lyne is called the pole Artique, that is to say the North Pole, and the neither end the Pole Antartique, that is the South Pole, and this lyne is crossed in the verie midst betwixt the 2. Poles with another great circle or right lyne called the Equinoctiall, because that when the Sunne commeth to touch this lyne or circle, the day and night
right is equal throughout the world. The one half of
which lines toward the right hand the West the East part,
and the other half towards the left hand the West
part of the world: so as these cy, lines, the first Meridian
and the Equinoctiall do point out the iij. quarters of the
world, North, South, East, and West, from whence
the four principal wynds do blowe betwixt: Which
wynds are set downe in most Papers together with
their Latin or Italian names in the outermost skirt or
border thereof with other wynds, so as in all there be
six wynds, whereby the ancient Greeks and Romans
were wont to name. The names whereof both
Greeks, Latin and English are heretofore set downe in
the latter end of our Sphere.

But now to returne to our first two lines, that is the
first Meridian and the Equinoctiall, you have to note that
both these lines or circles are denided each of them into
360. degrees, so as every quarter of them containeth
90. degrees, And in the Equinoctiall are set downe the
degrees of longitude, which is the length of the world,
round about from West to East, and againe from East
to West borne againe: The first degree whereof begin-
eth, whereas the first aforesaid Meridian crosseth the E-
quinoctiall in the bere middest of the Paper, and so pro-
cedeth Eastward unto the number of 90 degrees, which
is as farre as you can goe Eastward, Sith from thence by
reason of the roundnesse of the Earth, you must needs
turne backe againe by the backe side of the Sphere, or
dall Westward, untill you come to the 270 degree, which
is the farther point Westward you can goe, from whence
you must returne Eastward untill you come to the 360
degree, which is the last degree of longitude, and endeth
where the first degree beginneth.

Moreover in the said first Meridian, or in some other
Meridian hard by it, are set downe the degrees of lati-
tude, that is to say, the breadth of the worlde, both Por-
therne
there from the Equinotiall to the North Pole are contained in the foresaid Meridian 90 degrees, and that is called the North latitude, and from the Equinotiall to the South Pole, are contained in the said Meridian, other 90 degrees, which is called the South latitude: and in most Maps the Equinotiall line is divided and crossed with 18 Meridians on each side of the first Meridian, dividing the Equinotiall into 36 severall spaces or distances, every space containing 10 degrees, and every degree containeth 60 Italian miles of length.

Now as touching the other two red Circles, the one lying betwixt the Circle Artique, and the Equinotiall is called the Tropique of Cancer, and the other lying betwixt the Equinotiall and the Circle Antartique is called the Tropique of Capricorne, and each of these two Tropiques is distant from the Equinotiall 23 degrees and a halfe, which is the greatest declination of the Sunne, for ever betwixt these. Tropiques the Sunne continually maketh his course and returnes, as this wayd Tropique signifieth, mounting never higher then the Tropique of Cancer: noz descending lower then the Tropique of Capricorne: soz which cause some doe set done in their Maps betwixt the sayde two Tropiques an overthwart line, signifying the ecliptique line, under which the Sun continually walketh. Now by helpe of the foresaid 4 Circles

The number of meridians.

Sat. North, & South.

The greatest declination of the Sunne.

The equinoctial line.
The earth is divided into 5 zones, that is, one hot, 2 temperate, and 2 cold. The hot zone contains between the 2 Tropiques, in the midst of which the hot zone is, is the Equinoctial line, and of the 2 temperate zones, the one lieth between the Tropique of Cancer and the circle Artique, and the other between the Tropique of Capricorne and the circle Antartique.

Again, of the 2 cold zones, the one lieth between the North Pole and the circle Artique, and the other between the South Pole and the circle Antartic. Howe besides these four special Parallels, there be divers other Parallels drawn on each side of the Equinoctial both Northward and Southward, which crossing in certain points the first Meridian marked with degrees, do show the true latitude of every place, and under what climate or Parallel it is, and also how many hours the longest day of any place under every Parallel is, beginning to compute the same, either from the Equinoctial upward towards the North Pole, or else from the same Equinoctial downward towards the South Pole, marked with degrees of Southern latitude.

Notwithstanding, they be most commonly to set downe the number and just distances of the Clymes, Parallels, and houres in the North latitude only, willing the like numbers of Clymes, Parallels, and houres to bee computed in the South latitude, even as they are in the North latitude and with like distances. And note that in proceeding towards the Pole from the Parallel, whereas the longest day is 24 houres, they compute the Parallel of the longest day no longer by houres, but by moneths, that is to saye, from one moneth to six moneths, whereas we have spoken before in our Sphere. The numbers of the aforesaid Clymes, Parallels and houres you shall finde set forth in Temp.
line. Mappe alongest the first Meridian on the left hand. But see leteth downe the numbers of the longest daies encroasing by monethes in the uttermost border of hys Mappe on the right hand betwixt the North Pole, and the circle Artique. And in that border see leteth downe the number of leagues and miles answerable to every Parallell, whereas also see leteth the three differences of Inhabitants according to their shadows, that is to say. the Perisij, Heterosij, and Amphibij. Perisij are those that dwell in anie of the two colde zones, whose shadowe goeth round about them. Heterosij be those that dwell in anie of the two temperate zones whose shadowe tendeth at noone-tide but one waie, that is either North or South. Amphibij bee those that inhabit the whole zone, whose shadowe tendeth both waies, that is sometime North and sometime South, as is before declared at large in our sphere.

But in the Mappe of Gemma Frizius, you shall find all these things let southe on the left hand of his Mappe amongst the uttermost circles, whereas upon the circle Artique, see leteth downe the twelve signes, ha\v\ing certaine compassed lines, running downe to the Equinociall, meeting and concurring all in one point: at the end whereof upon the Equinociall, you shall finde the number of hours, at which the sunne riseth in every degree of latitude. Also at the nether ende of hys Mappe on the left hand, he placeth a halfe quadrant, which he calleth Directoriun nauticum, whereof wee shall speake hereafter.

And because he would have hys Mappe to serve both sea and land, he leteth downe a certaine number of mariners compasses divided with 32 lines signifying 32 windes, which doe shew howe every place beareth one from the other, and by what winde a Shippe is to be directed.
directed from one part to another, which thing is also ob-
tained in Mercator's Pappes and others that have writ-
ten more lately, and yet nothing serviceable for the Sea,
because (as Mr. Borough, Controller of her Maiesties Na-
vy, a man most skilful in the Art of sailing) no con-
ideration is had in the said Pappes or Cards touching the va-
riation of the Compass, without which the they can ne-
ner set downe any true or int direction.

Now as touching the division and order of the partes
of the Earth, most commonly described in univercall
Pappes, you shall understand that the ancient Cosmo-
graphers, not knowing then the West Indies, no2 manie
other places situated both Northward and Southward
(which have been since discovered) do divide the whole
Earth onely into three partes, that is, Europe, Afrrike
and Asia, in the description whereof, their Pappes ne-
er extended in latitude Northwards farther then to 63
degrees, as I have said before in my Sphere, and South-
ward no further then to 20 degrees of the Pothehne lati-
cude, or there about, but in longitude from West to
East, beginning the same at the Ilandes called Insula
Canariae or Fortunatae, which are situated at the West
end of Afrrike, in the Sea called Mare Atlanticum; their
descriptions doe extend to 180 degrees. But because a
Whole World almost hath bene found out since those
times, our moderne Cosmographers doe devise the
whole Earth into 4 partes: that is Europe, Afrrike, Asia
and America, which we nowe call the West Indies. And
because men of divers Nations have sailed round about
the world, East and West, their late descriptions doe ex-
tend in longitude the whole content of the Equinoctiall,
which is 360 degrees; and in latitude Northwards, the
same descriptions doe extend to 80 degrees, and South-
wards to 66-1/2 as you may see in the univercall Pappes
lately set forth by Mercator, and by Barnardus Putea-
mus and others.
But the ancient and modere. de greatly differ in the
division of the partes of latitude, as well Poffther as
Southerne, and also in longitude: so, whereas the ancien
t Cosmographers doe divide each latitude into 80
degres by certain Parallels making 9 equall spaces,
every space containing 10 equall degrees : in the
latter Pappes last mentioned, you shall finde those
spaces and the degrees thereof altogether unequall, the
first 3 spaces next the Equinoctiall onely excepted, for
those differ not above one halfe degree at the most : but
from thence Pofftherward, every space is greater then oth-
er, and every degree in every such space is greater then
other, in somuch as the fourth space containeth 11 degrees
and a halfe of those degrees which are set downe in the
first space, and the fifth space containeth of such degrees 13
degrees ½, the 6 space containeth of the said degres 16 de-
grés ½; the 7 containeth of the same degrees 20 degrees ½,
so as the space is is twise to b worde as the first space and
one halfe degree more: the eight space containeth of the
said first degrees 36: further then which 8 spaces con-
taining 80 degrees of latitude, their Pappes extend not
Pofftherward: and they observe the like proportion in the
Southerne latitude, sowing that they extend no farther
Pofftherward then to 66 degrees and a halfe.

Againe, they differ in longitude thus: so, the mo-
derne Cosmographers doe make the first Meridian to
passe through the Isles called Azores, which doe stand 5
degrees more Pofftherward then the Fortunate Islands do:
through which Fortunate Islands, Ptolemy and his fol-
lowers doe appoint the first Meridian to passe.
The cause of which transposing the saide first Meri-
dian is, because that the marinere Compasse doth never
shewe the right Poffth and South, in any other place,
but only under that Meridian. Pea P. Borough thin-
keth that it would shewe it more truely, if the saide Me-
ridian were placed somewhat more Pofftherward. But in

The difference of the
ancient & modere
 divisions of latitude.
longitud.
those Cartes and mappes that are made according to the
rules of Ptolomey: the spaces of Parallels containing the
90. degrees of latitude, both Northwarde and Southward,
are equall, and all the degrees of every such space,
are also equall. And yet the spaces of Parallels that show
the longest day in any place, are towards the Pole, every
one more narrowe then other: to as I have sayd before
in my sphere, there are 3 kinds of Parallels, that is Parallels
of the Sunne, Parallels of the latitude, & Parallels
of the longest day. The causes why in these latter Maps,
the degrees of latitude are made greater and greater to-
wards the Poles, are set downe by Barnardus in his uni-
versall Mappe, who sayth there, that in making the said
Mappe, he had 3. speciall cares: First, that the places
might be so situate, as they may have both true direc-
tion and distance, and also due longitude and latitude, and
as nigh as may bee, the same very shape which they have
in the sphere or globe, to which end he hath invented a
new proportion; habitude of the Meridians to the pa-
ralels, affirming that the Maps before made, are not fit
for Navigation, by reason of the crookednes and bowing
of the meridians, which by their oblique & overleathertfalling
into the Parallels, doe so much disfigure in the
tempest parts, the true shape of the Regions as they
can skant be known. And as for the Mariners Cardes,
because their Parallels of latitude are also of equall dis-
fance from the Equinoctall to the very Pole; he sayth
that they must needs misfashion the Regions and
make the directions, distances, longitudes, and latitudes
to be untrue, and thereby cause great errors. Which to
before, he makes the spaces of his Parallels and degrees
of latitude to encrease by little and little towards the
Pole, affirming that thereby all places shall have their
true shape, and also their true directions, distances, long-
itudes, and latitudes.

His second care was, that the Regions and places,
This Bernardus Barrus born in Bruges, is of the Colingraphers, whose Maps and globes as Mercator's and Fries's, were used to be painted in his time, from whom Mercator learned much part of his art of cartography. Thus also the Portuguese have as yet discovered into.

This Bernardus Parcae was born in Bruges, is of the Colingraphers, whose Maps and globes as Mercator's and Fries's, were used to be painted in his time, from whom Mercator learned much part of his art of cartography. Thus also the Portuguese have as yet discovered into.

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all, which voyage is twice as long. For this containeth in longitude 21,600 miles, which is the whole compass of the Earth, and the other containeth in longitude 10,800 miles, which is just half so much and no more. But after that I had taken better advice thereof, I found by measuring with my compasse, that one degree of the Meridian next to the 60 degree of latitude, did comprehend two of such degrees, as are set downe in the Equinociaall, and that one degree of the Meridian, crossing the the Parallell that hath 70 degrees of latitude, did comprehend 3 degrees of the Equinociaall line, and so I found the degrés towards the Pole, to ware greater and greater, by which degrees I perceived their meaning was to have the longitude of their parallels to be measured, & not by the degrés of the Equinociaall, and by they meanes their parallels should have each one as nigh as might be his due longitude proportionally, even as they have in the globe. Moreover the shape, quantities, and distances of such Countries as have beene found out of late daies must needs bee more perfectly set forthin these Pappes, then in those they have beene made hertofoze, because the true longitudes & latitudes of those places were not so well known then as they are now. Albeit I feare mee that of many places in the Indies, there are as yet but fewe true longitudes known, for it is not so easie a thing to get the true longitude of every place, as the true latitude thereof. And had not the late makers of Paps bene greatly helpen by the Paps and Charts of such learned Pils as have travelled those Countries, I doubt not, but that they should have committed as great errors as those that were before them. And of one thing I doe assurme my selfe, that in these latter Pappes, more places are described, then ever were knowne or discovered; as for example, the North parts of Groyneland, Crookland, & America, all which they make Islands, and yet never spake about them, and specially on the North side, as it may well be gathered by the vaine
valne attempting of divers Nations, to finde out newe waies in the North seas to the Moluccas both by East and West. For being a little entred into those seas, they are quickly driven backe, either by extreme colde, by great Ples, or by the raging floods bed of snowe, and falling from the mountaines of the next continent, and making in some places such Whirlpooles in the Sea , as if any Shippe chance to come nigh them, it is soon swallowed bypppe. Neither doe I thinke, that King Arthur in his time, ever lent (as it is reported)any of his people to inhabite those Islands, being places in mine opinion, more meete for Whales and monstrous fishes to dwell in, then for men: and specially for English men, which are not able to suffer the cold winter at Wardhouse: to which place some of our Mariners do saile in Sommer season euery yeare. And yet Wardhouse hath skant in latitude 71 degrees, much lesse then are they able to winter in those places that have 77 degrees of latitude, as the North side of Groynland and Crockland hath. Moreover the North side of the promontoye Tabin hath 76 degrees of latitude, which place, whatsoever Plinie saith theroft in his fourth booke of Histories , yet I beleue that no Roman came ever there to describe it Promontoye. Neither doe I beleue that the Fryer of Oxford, by vertue of his Art Astrolabe, ever came so nigh the Pole to measure with his Astrolabe those colde parts together with the foure floods, which Mercator & Barnardus do describe both in the frond, and also in the nether end of their Maps, unless he had some colde devil out of the middle Region of the aire to be his guide. And therefore I take them in mine opinion to be meer fables. Truly if any men should discover those parts, me thinketh that the people of Finmarke & of Wardhouse, such like people bordering upon the North seas, should best doe it, having bodies bled to extreme colde. But then being bled in so grosse an aire, their wits perhaps are too grosse to; such a purpose.
I remember that William Boorne in his booke called the Regiment of the Sea, setteth downe five sundrie waies to saile into Cathay, whereof the first way is by the Cape of good hope in the outermost south part of Affrike: The second by the Sea called Mare Magellanicum. The third wave is to saile betwixt the North part of America and the Isles of Groynland and Crockland. The fourth is by Nova Zemla, whereas Sir Hugh Willoughby in seeking that way was frozen to death. The first way is to saile right under the Pole, that is first from South to North, until you be right under the Pole, and then from North to South, alledging there certaine reasons to prove the three last waies possible to be as passable, as the first. Wastes well knowne in these daies and usuallly haunted.

The strongest reason that Boorne giveth to make the loxedayd Seas passeable, is, for that the Sunne by his longe staying above the horizon, doth warmest both land and sea, as it cannot bee over loone colde againe. But I pray you what heat can the Sunne neede to that place above whose Horizon he is never elevated more then 23 degress and a halfe, a verie colde winterlie heat GOD wot, and though the colde were not so extreme as if take it to be indeed, yet in desert places, where is there any safe harbours, fresh water, or any other necessary victuall to be had; for in taking such a voyage, let no man think to go through without a bait, unless he saile in Pegasus, and hath both winde and tide at will.

Notwithstanding, I can greatly commend those balmant mindes that doe attempt such desperate voyages, and the rather when they doe it for knowledge sake, and to profite their Countrey, and not altogether for private gaine and lucre.

But truly for mine owne part, I thinke it impossible that any man bred in any of the temperate zones or in the hotte zone is ever able to continue the whole jour-
ne in any of those 3 wates: no, though they were much more passable then I take them to be indeede, But if they were passable in all respects, saving soz cold, then I think no Nation of people so innate to attempt those wates as those which I have already named, or such like, boine and bred nigh unto the North Seas. But leaving these matters, let us now show howe everyone of the 4 foresaid parts of the Earth, that is, Europe, Africa, Asia, and America is bounded, and howe many miles each part containeth as well in longitude as in latitude, according to such longitude and latitude as Mercator and Puteanus do let downe in their Paps.

Europe is bounded on the North with the North Oceane Sea, and on the South with the Sea called Mare Mediterraneum, on the East with the flood Tanais, and on the West with the West Ocean Sea. Europe in measuring with a right line from the furthest part of Ireland on the West unto the flood Tanais, on the East both places having 52 degrees of latitude, hath in longitude, 2166 miles, and in measuring with a right line from the furthest parte of Morea on the South, whose latitude is 35 degrees, into the North Sea side having 72 degrees of latitude, hath in latitude 2220 miles.

Africa is bounded on the North with the straight Sea Gibraltar and with the Sea called Mare Mediterraneum, on the South with a sea which deniveth Africa from the south land not yet fully known, and on the east with the red sea 02 guls of Arabia, and on the west with the great Ocean Atlantique. Africa in measuring with a right line from Gambia on the West unto the Cape de Gardasa on the East, both places having 10 degrees of North latitude, or there about hath in longitude 4155 miles.

And in measuring with a right line from the 50 degree of the Equinocial unto the sea called Mare Mediterraneum, it hath in north latitude 32 degrees, which being 7
multiplied by 60 maketh 1920 miles. In South latitude measuring with a right line from the 50 degree of the Equinoctiall unto the Cape of good hope, it hath 35 degrees, which being multiplied by 60 maketh 2100 miles.

Asia is bounded on the North, with the North Ocean sea, and on the South partly with the red sea, which sea according to Pomponius Mela, extendeth to the Isles sometime called Taprobana now Sumatra: which is a famous market place of all manner of spices. Also Asia is bounded on the South with divers other gulphes & seas, as you may see in the Map: Againe on the East it is bounded with the East Indian Ocean, and with the straight sea of Anian, & on the West, it hath the flood Tanais and the Jenna of Meotis, & divers seas, as Bosporus Commerson the sea called Mare Euxinum, the sea Bosporus Thracicus & Propontis, and part of the sea Mediterranea, & part of the red sea or gulf of Arabia, which divideth Africa from Arabia Felix. Asia in measuring with a right line from the flood Tanais to the promontorie Tamos, both places having 50 degrees of latitude, hath in longitude 4284 miles, and in measuring with a right line from the 150 degree of the Equinoctiall unto the promontorie Tabin, Asia hath in North latitude 76 degrees, which being multiplied by 60 maketh 4560 miles.

America is bounded on the North, with the North Ocean sea, and on the South, with the sea called Mare Magellanicum, on the East with the great Ocean Atlantique, & on the West with the West Indian Ocean, & the strait of Anian, America in measuring with a right line fro the straite of Anian to the furthest part of Estotilant upon 64 degrees of latitude, hath in longitude 4342 miles, & in measuring with a right line from the 270 degree of the Equinoctiall unto the North sea, it hath in North latitude 76 degrees, which maketh 4560 miles, and yet the quantitie of the ground described in the Mappe, is not so great as the other
that by a leauenth part: wherein I can very well excuse the Happe-makers, not having perhaps as yet the true longitude of that part of America.

Finally, in measuring with a right line from the 310 degree of the Equinoctiall into the sea called Merc Magellanicum, it hath in the South latitude 52 degrees, which maketh 3120 miles.

Now if you would know what kingdomes, Regions, Cities, Mountaines, Fords, Lakes, also what seas together with their Islands, Ports, Capes, Points, & bays doe belong to euery one of the soresaid four parts, then finde well these moderne Maps: and with purpose you shall beholde not onely the whole world at one view, but also every particular place contained therein. Which to describe at the ful, in writing would require a long time. Wherefore leaving that to your owne Industrie, I will shew you how to finde out the longitude and latitude of any place in the Happe.

Also to know how one place lieth from another, and with what wind you have to saile from one place to another. And finallie, how to finde out the true distance between place and place, in which thinges the chiefe use of Hapjes doth consist.

And first you have to understand, that the Meridians which you see in the Happe, doe serve for divers purposes. For you learne thereby that it is none-tide or midday tamar to one place then to another, by marking what Meridian is more towards the East, which the Sunne alwaies toucheth sooner then that Meridian which is more towards the West. Also by the Meridians you know how the Eclipse of the Moone appeareth sooner to one place then to another, & with what variety of time.

For they whose Meridian is towards the West, doe seeme to see the Eclipse of the Moone sooner then they whose Meridian is more towards the East; whereas in verie truth the Eclipse of the Moone is seen to all places where
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how many degrees that is distant from the first Meridian, and that is the true longitude of the place: and that longitude serves to all the places that be under that Meridian, though they be never so farre distant one from another North and South.

How if you would know the latitude of any place in § Map, that is to say, how far it is distant from the Equinoctial, either Northward or Southward, either of which latitudes containeth 90 degrees, then do thus: set one foot of your Compass upon the place, and the other upon that Parallell which is next it, whether the Parallell be above it or beneath it, it maketh no matter, and drawe your Compasses from that place following til that Parallell be till you come to that Meridian, which is marked with the degrees of latitude, which Meridian in the latter Maps, standeth somewhat more West then the first Meridian dooth. And marque upon what degree that foote of your Compass which you did drawe from the place doth rest, and there make a prickke. That doone, count how many degrees that prickke is distant from the Equinoctial, and that is the true latitude of that place. And the like latitude have all they that dwell under that Parallell, how farre so ever they dwell asunder, East and West. And by knowing the latitude of any place, you may quickly finde also in some Maps under what Climate or Parallell such place is situate: and howe many houres the longest day is there, as in the Mappe of Utopium, of Gemma Fri- zius and divers others. But in these latter Maps such things are not set forth, wherefore not having the other Maps, you may referre to the Tables set down in my Sphere, which doe show all such things at the full.

Now to know how one place beareth from another, § with what a ship is to be directed from one place to another, also what distance is between 2 places, that is, how many miles one place is distant from another, the latter Cosmographers, as Mercator, Barmarum, Putceans, and others.
Divers others have invented a new instrument called *Organum directorium*, which they set down in their Maps together with the use thereof. But in mine opinion not plainly enough for most men's capacities. This Instrument contains 2 Quadrants of a Circle, having the names of the winds written therein: And they call the upper Quadrant *Organum Superius*, & the lower Quadrant *Organum Inferius*. Which 2 Quadrants have 2 lines marked with degrees, and are joined together with a right angle, of which 2 lines the standing or hanging line on the left hand doth signify the first Meridian, & is marked with 75 unequall degrees of latitude, in such proportion as the middle Meridian of the Map hath. The other line which lieth overthwart signifies the Equinocial, and is marked with 90 equal degrees of longitude. But the spaces of the Parallels of latitude are in number 7, and a halfe, every whole space containing 10 degrees, and the halfe space but 5 degrees. Which spaces are wider and wider towards the Pole, and of like proportion to those of the Mappe.

And note by the way that the highest right line that goeth from the first Meridian towards your right hand, is the East line, and the nearest line signifying the Equinocial is the West line. For the upper Quadrant commeth towards you from East to South, and the lower Quadrant goeth from you towards the left hand from West to South, & in the center of each Quadrant must be put a long thread to give the direction from place to place. The use of this Instrument is thus: first having found out in the Map the severall longitudes, & latitudes of 2 places in such order as is before taught, take the latitude of the first place in the first Meridian, & there make a mark. I call here the first place, that from whence you go, and the second that to which you go. That done, seeks out in the said Meridian the latitude of the second place, & there make another mark. And from that mark of the second.
second place draw a right line towards your right hand, so as it may be a Parallel to the Equinoctial line. Then take the difference of the 2 longitudes by subtracting the lesser out of the greater; 3 take out the degrees of that difference in the Equinoctial line, and there make a mark from which mark draw a right line that may be a Parallel to the first Peridian. And whereas this line crosseth the first line there set down a mark, then draw a right line from the mark of the first place, so as it may passe through the crossing point. That done, if the latitude of the first place be greater than that of the second place, make a Parallel to that line with the thread of the upper quadrant, but if the latitude of the first be less than the second, then make a Parallel unto the said line with the thread of the nether quadrant, which with the helpe of your Compassıe you shall easly do. And that thread being stretched out amongst the winds, will shew by what winds the second place beareth from the first. And the opposite wind is the director whereby you have to sail: yet neither Mercator nor Barnardus do plainly shew how to find out the true distance of 2 places by this instrument, nor do set down in their Maps, either 1 scale or 1 line to take the distance between 2 places with the Compass, as most commonly all other Maps & Mariners Cards have, but do refer the plain declaration thereof to other their books and tables which I have not yet seene; therefore in the mean time I thought good to set down according to Barnardes rule, this briefe way of finding out the distance of any 2 places whatsoever is set down in their Maps: First with your Compass, take the inissuedistance of the two longitudes upon the first Peridian, which is otherwise called the difference of the latitude. And having laid a rule or thread to the places, looke howe many times the soe said distance, or difference taken with your Compass, is comprashended in the space that lyeth between the two places, and by so many times multiply the said difference.
the product whereof being multiplied againe by 60, will shew howe many miles the one place is distant from the other. As for example, the distance or difference betwixt the two latitudes of London and Hierusalem, is 19 degrees or there abouts, which being taken with your compass you finde to be two times contained in the space betwixt Hierusalem and London. Wherefoze in multiplying 19 degrees by 2 you finde the product to bee 38 which being multiplied by sixte, makest 2280 miles, and so farre is Hierusalem from London by a right line. But if in measuring the distance betwixt 2 places with your Compass there remaine any odd space not fully answering the first widenesse of your Compass, then take that odd space with your Compasses being straightened and made fit thereunto, and looke how many degrees the said odd space comprehended in the first Meridian, about the midst of the degrees of the soyled difference of latitude, add those degrees also to the rest which you have alreadie measured and multiplied, and by multiplying the whole summe by 60 you shall have the true distance.

Againe, it may be that the two places doe not differ at all in latitude but onely in longitude, soe as I have layd in my sphere, 2 places may differ the three manner of waies, that is in latitude onely, in longitude onely, or in both. And there I doe shew he newe every one is to bee measured.

But because that order of measuring is somewhat busie to such as are not very well exercised in Arithmetique, and alsoe doe knowe the use of the tables of sines called in Latin Tabule Sinum, I thought good to set downe here a more easie waie of measuring, though perhaps not altogether so exacte, and yet without any great error. Wherefore if the two places doe differ both in longitude and latitude, then you must doe as before is taught. But if they differ onely in latitude, then you have no necessitate but to multiply the difference of the two latitudes.
titudes by 60 miles, and if there bee any odd minutes, then to allow for every minute one mile. As for example, Compostella and Lisbone, two towns, the one in Spain, the other in Portugal have one selfe same longitude differing only in latitude, which difference is foure degrees, and 20 minutes.

Here if you mulplicate 4 by 60 it amounteth to 240 miles, whereunto by adding 20 miles for the 20 minutes, you shall finde the whole summe to be 260 miles, which is the distance by a right line between Compostella and Lisbone.

But if the two places having one selfe latitude, doe differ onely in longitude, then looke howe many such degrees as are of equall quantity to the last degree of the same latitude are contained betwixt the two places by a right line, and by allowing for every degree 60 miles, you shall haue the true distance, or at the least not much differing from the truth. And if you see that the two places in the mappe doe stand far a slender, then for the more speddines, take with your compasse line such degrees at once, being first prick upon a piece of paper which is just 300 miles, and at the widenes measure the saide space, and if there remain at the last any odd space, then straighten your compasse and set them to that odd space, and loke how many of the saidesaid degrees that comprehenb, and haue multiplied the same by 60 add the product thereof to the former summe. As for example, Compostella and Constantinople, having one selfe same latitude, that is 43 degrees of North latitude doe differ onely in longitude: Here with my compasse I prick upon a piece of paper 5 degrees like in quantity to the last and uppermost degree of the saide 43 degrees, and measuring with the widenes of my compasse the space betwixt the two places by a ruler or right line I finde that space to comprehend the saide said widenes of my compasse 6 times, which makes 1800 miles, and that there re-
maineth an odd space containing 3 of the supelated de-
grees, that is, 180 miles, which being added to the for-
mer summe, maketh in all 1980 miles, which is the di-
tance betwixt Compostella and Constantinople. Also if you
would know the distance betwixt two townes in Af-
frica, the one called Budonell standing upon Capo viride,
the other called Eroco, standing hard by the red sea, both
places having one selfe same latitude, that is to saye 14
degrees of 30th latitude, or there abouts, and doe differ
only in longitude. Then pricke with your Compass upon
a piece of paper 5 degrees, or take one equall to the
last degree of the supelated latitude. And in measuring the
space betwixt those two places with that widenes of your
Compass, you shal finde the same to be comprehended
in the said space 12 times, which by allowing 300 miles
to every widenes amounteth to 3600 miles, and the o-
verplus of the said space being 2 degrees, is 120 miles,
which being added to the former summe, maketh in all
3720 miles: and that is the distance betwixt Budonell and
Eroco.

And if this way like you not, then multiply the diffe-
rence of the 2 longitudes, by the miles answerable to the
latitude of the said places, which you shall finde in a special
Table made for that purpose, & is set downe in my sphere,
together with the rule and order that is to be observed
therein. The hardest of which 2 waiues in mine opinion, is
much more easie than that which is to be done by the for-
mer Instrument called Organum directiorium, Which in-
stument Mercator and Barnardus did borow as it seem-
eth to mee from that which Gemma Prizius called his
Quadratum Nauticum, intitled by him many yeares since:
the shape, description and use whereof, I thought it not
amisse to let downe here and the rather for that in mine op-
inion it sheweth both the true course and direction to an-
ie place more speedily, and with more facility then the
other.
His square by 2 right lines called Diameters crossing one another with right angles in the very Center is divided into four Equal quarters, and within the said square upon the said Center is drawn a Circle, which by means of the two soesaid Diameters is also divided into fours Quadrants, and every Quadrant is subdivided with right lines into 8 partes, so as in all there be 32 lines, sigaishing the 32 Winds of the Mariner's Compass. Every line having his proper name of wind written ther- on. And note that the right line which is drawn right downe in the middest of the square, signifieth the Meridian, indexing the North point above, and the South point beneath, and the other right line, crossing the same in the Center, signifieth the Equinoctial line, which showeth the East point on the right hand, and the West point on the left hand, and the Circle itself signifies the Horizon.

Now you have to understand, that from the Equinoctial line upwards the 2 sides of the square are divided each of them into 90 degrees of North latitude, and the other two sides from the Equinoctial downward, are likewise divided on both hands into 90 degrees of South latitude. Then the head or front, also the base of the said square is divided in the midst by the soesaid Meridian line into 2 equal parts, whereof the first proceeding from the said Meridian towards the right hand is divided as well above as beneath into 90 degrees of longitude, and that is called the East longitude, and the other part proceeding from the said Meridian towards the left hand is likewise divided as well above as beneath into 90 degrees of...
To know how one place beareth from one other.

Of longitude, it is called the West longitude. The use of which instrument is thus: first knowing by some table or Mappe, the longitude and latitude of two places, take the difference of both by subtracting the lesser out of the greater. And if the longitude of the second place be greater than the first, seek the difference thereof in the front, and also in the base of the East longitude on the right hand. But if the longitude of the second place be leste then the first, then seek the difference thereof in the West longitude on the left hand. And here as before I meane by the first place that from whence you goe, of which 2 places, the first is alwaies suppos'd to bee in the very center of the Circle, and the other is to be found out thus: first, having sought out the degrees of the difference of the longitnde, as well in the upper part as in the nether part, and marked the same with one prick above, and another beneath, apply your Ruler or a thread to those 2 pricks, or else draw a secret right line from the one prick to the other by a ruler. That done, seek out the difference of the 2 latitudes on both sides of the square, that is to say, if the second place hath greater latitude then the first, then you must seek the difference in the North latitude, if leste, then seek that in the South latitude. And having marked the same on both hands, by letting down on each side a prick, draw a secret right line from marke to marke, and where the last line croseth the first line, there make a marke, so there standeth the place where to you would goe, which if you would know how it beareth from the first place, then lay your ruler both to the Center and also to that marke, drawing a right line passing through the Center, and also through the said marke from the one side of the circle to the other, or else stretch a thread through the Center and the marke, and on that side that the mark is, you shall see the name of the winde that bloweth how the second place beareth from you, the opposite point whereof is the winde whereby you have to saile. As for example,
Now if you seek in the Mappe, you shall find London to have in longitude 23 degrees and 0 minutes, and in latitude 51 degrees, and 32 minutes. Again, you shall find Venice to have in longitude 36 degrees, and 30 minutes, and in latitude 45 degrees and 15 minutes or thereabouts.

The difference of the longitudes is 13 degrees and 30 minutes, which because the longitude of Venice is greater than the longitude of London, you must seek it out in the East longitude on the right hand, and make the same both above and beneath. Again, the difference of latitude is 6 degrees and 17 minutes. Which because Venice hath the lesser latitude, seek that out in the South latitude, making the same on both hands. That done, lay two threads, or else draw two right cross lines from the foresaid marks, and where those two threads or lines doe cross, make a mark, which mark do signifieth the place whereunto you would goe, which is Venice.

Then from the one side of the Circle to the other, lay a ruler or thread passing through the center, and the said mark made for Venice, at the end of which thread, ruler, or line on the right hand you shall see the wind which the weath how Venice beareth from London, and on the left hand the wind whereby you have to sail, if the space betwixt the two places were all sea. For in sailing by sea, you may not think to go alwaies by a right line, but often to change your course according as either mainland, headlands, Iles, Currents, Sandes, Rockes, or such like impedences shall give occasion and therefore though your right course from London to Venice is to go Southwet and by East, yet being come out of the Thames to Dover, your course from thence to the Cape of Britaine is west Southwet, and from thence to the Cape Finis terra in Spaine, it is Southwet.
Southwest and by South. And from thence to the cape
Saint Vincent in Portugal you go right South; and from
thence to Gibraltar almost East Southeast. Againe from
Gibraltar to the South point of Sardignia, your course is
almost East and by North. And from thence to the South
point of Sicilia almost East Southeast: and from thence
to Corfu, your course is just North East, and from thence
to Venice, you turne againe Northwest.

Thus you see that in going by Sea, one course doth
not holde no nor yet in going by Land, Sith Pountaines,
Rivers, and lakes may put you out of your right course,
and yet it is necessarie to know how the place wherto you
go, beareth from you to the intent that being out of your
Way, you may alwaies the better direct your course right
to gaine to the same.

Pozeoer, Gemma Frizing layth, that by this instru-
ment you may also finde out the difference of longitude
betwixt the two places from whence and whither you
go, so as you know before how the second place beareth
from the first, and also the difference of their latitudes.
As for the latitude of each place, you may easily finde the
same with your Astrolabe, quadrant, o2 crosse staffe, by
taking therewith the Meridian altitude of the Sunne, o2
the highest altitude of some starre that you know: The
order whereof I haue set downe in my Sphare. And the
Coast of the Countrey and place whereunto the Shippe
is to bee directed, is commonly well knowne to the Ma-
riners, how it beareth from the first, and specially hauing
a prosperous wind.

Then knowing these two things, you must do thus:
First haue a secret line o2 thred, from the dif-
ference of the two latitudes, placed according to the rule
of greater and letter before set downe, and marked on
both sides of the Instrument: draw another thred, o2 els
lay a ruler so as it may passe throughe the Center, and
the line of the wind, o2 coast by the second place bea-
reth
reth from the first. And whereas those two lines or threads
doe touch, make a marke, and then lay a ruler, or extend
a thread from the upper line to the nether line of longi-
tude, so as it may passe hard by the last marke, and then
the thread or ruler so laid, will shew you the difference of
longitude betwixt the two places. And by this means
Gemma Frisius sayth, that the Mariners may easilie cor-
rect the longitudes of places as they saile: but how true-
ly, I referre that to the skillfull Pilots.

But for mine owne part, having to seake out in these
latter Mappes the way by Sea or Lande to any place I
would use none other Instrument of direction then
halfe a Circle devide with lines like a Mar-
iner's Flie, in such sort as you see
in this Figure.
THE FLIE, THE USE WHEREOF, OF HERE FOLLOWETH.

His FLIE containeth two quarters of the Mariner's Compass, the middle line whereof marked with a Cross, signifieth the line which runneth East and West. For if the place whereto you goe be on your right hand, then the Cross signifieth the east point, but if it be on your left hand, then turning the FLIE towards your left hand, the Cross both signifieth the West point, and the right downe line crossing the foresaidе middle line with right angles in the very Center, is the Meridian line shewing the North and South, according as you turne the Cross East or West.

The use of which FLIE is thus: first with a pin or a needle, being thrust through the center of the FLIE, pricke the pin down in the very place from whence you go, called be.
If the first place, and if the second place bee on your right hand, then turne the crosse of your Flie that way, but so as the Peridian of the Flie may be a true Paralel to the next Peridian of the Mappe that is on your left hand, which your Compasse will quickly persoume by taking therewith a lest space at both ends of the Flie between the two forelaid Peridians. That done, extend your thread so as it may passe through both the Center of the Flie barb by the pinne, and also through the second place, and then lookeupypon what winde of coast of the Flie the thread lieth, and that wind sheweth how the second place beareth from you. And the opposite winde thereof sheweth by what winde you have to sayle thither.

But if the second place be on your left hand, then you must turne the crosse of the Flie towards your left hand, and having set downe the Center of the Flie in the first place, and with your Compasse made the Peridian of the Flie a full Paralel to the next Peridian of the Pap that is on your right hand, lay your thread to the two places as before, and marke upon what wind of the Flie it striketh, and you shall have your desire. The lester that your Flie be, the better, for being great it would cover too many places of the Card or Mappe. But if the two places stand so nigh together, as the Flie doth cover them both, then having set downe your pinne in the first place, make your thread with a Poole, & having put the same over the pin, draw the thread through the second place some what beyond the Compasse of the Flie, and hold it there fast untill you have also put the Center of the Flie over the said pin or needle, and duly placed the same in such forrune as is before taught: and in so doing, that line of the Flie which lieth upon the thread will shewe your course and direction aswell as if the thread lay above the Flie.

Trulie I doe thinke the use of this Flie a more easie and...
and spedie way of direction, then the manifold tracing
of the Nappes or Mariners cards with such a number of
crosse lines, as commonly are drawn therein, caus- 
-ing rather a confusion then otherwise: so in such Cards as
are made with right Meridians you shall find the File to
to bee much more service-able then these manifold
lines.

The use of Ptolemeis Tables,

Thus much touching the use of
Nappes and Cards, now accor-
ding to my promise, I will brie-
fly shew you the the use of Pto-
lemeis Tables, or of any other ta-
bles made in the forme. The chie-
pest point whereof is readily to find
out any place that you seke, and
to know where it standeth. For
the accomplishment whereof, you must first knowe what
longitude and latitude that place hath.

The longitudes and latitudes of all places described
by Ptolemy, are set downe in his second, third, fourth,
fift, sixt, and seuenth boke of Geographicke. For in his se-
cond boke he describeth the West part of Europe, contain-
ing Ireland, England, and Scotland, Hispania, Gallia, Ger-
manie, Hungarie, and Slauny. In his third boke, he descri-
beth the East part of Europe, as Italie, Sicilia, Corsica, Sar-
dinia, Sarmatia, Taurica, Peninsula, Dacia, Mysia, Thracia,
Macedonia, Achaia, Peloponesus, Candaia, Rubia, & divers
other Lands and Islands. And hee containeth all Europe
in ten Tables. In his fourthe boke he describeth Affrike,
that is to say, so much as was known in his time, contain-
ing the same in 4 Tables. In his 5, 6, and 7. boke
he describeth all Asia and the East Indians, whereof hee
maketh 12 Tables, and in describing any Region or pro-
vince,
since he sheweth how it is bounded both North, South, East, and West. And also what notable Cities, Fords, Lakes, or Mountains bee in everie Region, and there-with setteth downe the longitude and latitude of everie place: To which this booke, divers have made certaine Alphabetical tables, containing the names of all the places that are mentioned in these said books, shewing in what leafe to finde the same: to the intent that you may the more readily finde out, not onely the place, but also the longitude and latitude thereof, and in what table it is contained.

Notwithstanding, I knowe by good triall, that there are a number of places mentioned in the said bookes, which you shall not finde in the folesaid Alphabet.

Witnesse I with that Mercator, Ortelius, Barnardus, Brugensis, or any other of the latter Cosmographers and lettersFooth of Mappes and Cards, would take the paine to make a generall Alphabet, containing all the names that are to bee found and known, both auncient and moderne, of Regions, Cities, Seas, Floods, Lakes, Rivers, Postes, Baigns, Hedlands, Cape, Mountains, and all other noteozous places contained in their Mapps and Cardes, together with the true longitude and latitude annexed to everie place, as agreeable to their Mapps, to the intent, that everie man delighted with the reading of Historie, may in their Mappes both generall and speciall, easilie finde out anie place that he seeketh. Which worke in mine opinion would bee most thankfullie received of all those that delight in Geographie, to the great commendation and praise of the Authors thereof.

For though Ptolomey, Appian, Gemma Frisius, Gaftaldus, Orontius, Munsters, Ortelius and others have set downe certaine names, both auncient and moderne together with their longitudes and latitudes, yet they are but very scarce in comparison of all the names that are.
are wanting, yerby or yhyel that are comprehend in
their owne Crtts and Pappers, all which Maps I would
with to agree in their longitudes and latitudes: for otherwise
a man shall hardly finde the place which he seeketh.

Wherefore I pray God with all my heart, that some
good man that is a skilfull Cosmographer may shew the
transele bracen in to the profit of all Students in Geogra-
phis.

But now to returne to my matter, which is to shew
how to finde out any place contained in Prolemes tables.
I say that you must first finde out the name of the place in
the Alphabet, and that will direct you to the booke where-
in it is set down, together with the longitude and lati-
tude thereof. And there also you shall finde in what table
it is contained.

Then having taken a note of the longitude and lati-
tude, and also the number of the table wherein it is to be
sought, refer to that table, see it in Europe, Affrike or As-
ria. In the front of euery which table, and also in the base
are set down certaine numbers of longitudes, in suchsort
as the uttermost and nethermost be like numbers, and do
directly answere one another. Againe, on both sides of
the table are set downe certaine numbers of latitude
like in quantite, and directly answering one another.

Then seeke out the longitude of the place which you
would finde in the front, and also in the base, and marke
the name with two prickes, one a bove, another beneath.
From which two prickes, lay a ruler or extenda thread,
holding it fast there untill you have found out the lati-
tude of the place on both sides of the table, which being
also marked on each side with a pricke, extend another
thread from those two last prickes, and in that very point
whereas the two threads do crosse, you shall finde the place
to be which you seeke, or at least should be there. Bosen-
ner, on the right hand of euery table, Ptolomey sette th
downe
downe from Comonwite short what Clime and Paralel of Cuere place is, and by that means you may also knowe the longest day that any Paralel hath. For as I have sayd before in my Sphere, every Paralel proceeding from the Equinociall towards the Pole, encreaseth by one quarter of an hower; and every Clime containing two Paralels, encreaseth by halfe an hower.

Of which Climes Ptolomey setteth downe but seven, but of Parallels he maketh 21 in such order as this table following sheweth, which Table consisteth of four Columns, whereof the first containeth the seven Climes together with their names, and also howe many miles every Clime hath in breadth. And the second containeth 63 degrees of latitude, further than which Northward, Ptolomey his Tables do not extens.

The third containeth the numbers of the 21 Parallels, and the fourth the howers and minutes of the longest day in cuere Paralell.

<table>
<thead>
<tr>
<th>Clime</th>
<th>Latitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Clime</td>
<td>0°</td>
</tr>
<tr>
<td>2nd Clime</td>
<td>3°</td>
</tr>
<tr>
<td>3rd Clime</td>
<td>6°</td>
</tr>
<tr>
<td>4th Clime</td>
<td>9°</td>
</tr>
<tr>
<td>5th Clime</td>
<td>12°</td>
</tr>
<tr>
<td>6th Clime</td>
<td>15°</td>
</tr>
<tr>
<td>7th Clime</td>
<td>18°</td>
</tr>
<tr>
<td>8th Clime</td>
<td>21°</td>
</tr>
<tr>
<td>9th Clime</td>
<td>24°</td>
</tr>
<tr>
<td>10th Clime</td>
<td>27°</td>
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<tr>
<td>11th Clime</td>
<td>30°</td>
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<tr>
<td>12th Clime</td>
<td>33°</td>
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<tr>
<td>13th Clime</td>
<td>36°</td>
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<tr>
<td>14th Clime</td>
<td>39°</td>
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<tr>
<td>15th Clime</td>
<td>42°</td>
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<tr>
<td>16th Clime</td>
<td>45°</td>
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<tr>
<td>17th Clime</td>
<td>48°</td>
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<tr>
<td>18th Clime</td>
<td>51°</td>
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<tr>
<td>19th Clime</td>
<td>54°</td>
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<tr>
<td>20th Clime</td>
<td>57°</td>
</tr>
<tr>
<td>21st Clime</td>
<td>60°</td>
</tr>
<tr>
<td>The seven Cities, their names, and miles in breadth.</td>
<td>The degrees of latitude.</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>1 Dia Meroes. 465.</td>
<td>20</td>
</tr>
<tr>
<td>2 Dia Sienes. 420.</td>
<td>5</td>
</tr>
<tr>
<td>3 Dia Alexandrias. 370.</td>
<td>30</td>
</tr>
<tr>
<td>4 Dia Rhodou. 350.</td>
<td>40</td>
</tr>
<tr>
<td>5 Dia Romes. 240.</td>
<td>24</td>
</tr>
<tr>
<td>6 Dia Bonifiteses. 225.</td>
<td>50</td>
</tr>
<tr>
<td>7 Dia Riphius. 195. MILES.</td>
<td>63</td>
</tr>
</tbody>
</table>

The Equinoctiall line, under which those that dwell have no Latitude, and therefore they have always 12 houers day, and 12 houers night.
But you must understand, that whereas Ptolemy makes the furthest 22d part of his seventh Clime called Δια Ρήγεα to have but 50 degrees and 30 minutes of latitude, the modern Cosmographers doe allowe to those mountaines 70 degrees of latitude, affirming the same to bee those selfe Mountaines which are otherwise called Montes Hyperborei, which because they enclose a great part of the North side of the world, are called Orbis terrae cingulum, that is to say, the girdle of the world, the wrong latitude whereof and of divers other, I thinke Ptolemy had from others and not from himselfe.

For being brought by in so warne a Soile as Alexandria standeth in, he could never endure to go so far northward, to take the latitude of those colde Riphean Mountaines, and therefore if you list to knowe what latitude both truly belong unto every Clime and Parallell, then referre to Oronius his Table of Climes and Parallels set downe in my Sphere, which sheweth how many degrees of latitude every Parallell hath, together with the longest day, even from the Equinoctiall to the very Pole, wherefore I leve to speake here any further thereof, and lo for this time ende this Treatise, which if I shall perceive to bee thankfully taken, I minde (God willing) to put in print, the description and use of the Sphere and of the Globe, both Celestiall and Terrestriall Also a verie plaine and brieue Arithmetike, together with the description, and certaine Uses of the Tables of Sines, called in Latin Tabula Sinuum. And finally, the principles of Navigation more plainly (I beleue) than ever there have beeene heretofore taught, onely to helpe and further such as bee desirous to traveile by Sea, and have not been exercised in the Mathematicall Disciplines, without some knowledge whereof, it is hard to bee skilfull in that Art.

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