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**Geodaesia, Geometria, Technica, Chemica - Cod. Durlach
35**

Wagner, Theodor

[Solms], [1607]

Tractatus. I. De Geodaesia rectorum è triangulis rectorangulis ex Quadrato
fluentibus

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TRACTATUS I.
 DE
 GEODÆSIA RECTARUM
 ET TRIANGULIS
 RECTANGULIS
 EX QUADRATO
 FLUENTIBUS.

in compendium redacta &
 illustrata ac Generosissimo Comiti ac
 Domino Dno Albrechto Ottom
 Comiti à Solms Domino in
 Mintzenberg, Wildenfels &
 Samsthalen Domino
 suo omni observantia,
 fide, & pietate
 Colecto.

dedicata
 À
 Theodoro Quænero Decano
 Sichenfi. ©

Anno
 Incarnationis Domini nostri Iesu

Notatio eorum instrumentorum
 quo necessario adhibenda
 sunt in usis sequentibus
 Instrumenta Geometriae

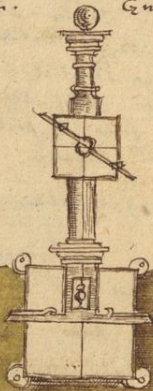
I. ^{trici.}
 Amaris vel finis Nodusus in 10. pedes divisus

II.
 Regula ^{linial.}

III.
 Pertica in 10. pedes divisae magna & parva

IV.
 Circini cruribus acutis ad venadus distantes

V.
 Norma ^{capit.} rectangularis regula, ^{capit.} et lineae
 ad habendam. Quomodo

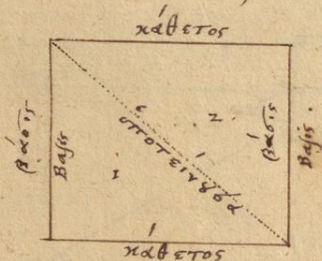


3

LIBER PRIMUS DE
 Geodesia RECTARUM.
 è TRIANGULIS
 RECTANGULIS
 Similibus &
 quadrato flüentibus

I

Quadratus bisectus diagonaliter
 exhibet duos aequales rectangulos



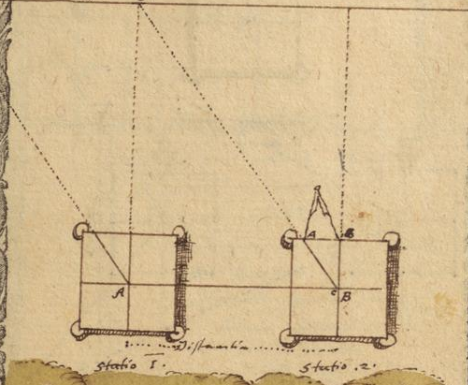
II

Ex altitudine B. metiri
 Longitudinem totam c.
 & superiorem partem
 Quadratum.

Nota est linea B.A. altitudinis & peritica

III
 investigare Longitudinē
 per jacentem quādra-
 tum inferiorem
 scilicet: bene
 scio distantiam
 arim.

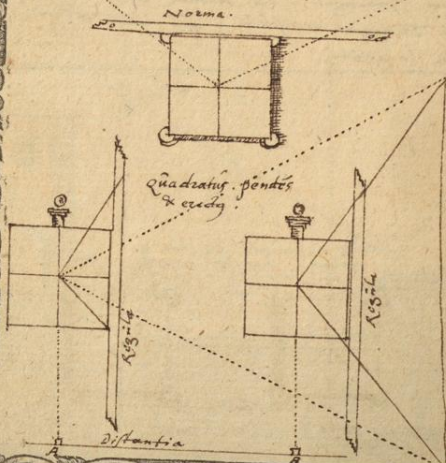
Sicut se habet linea distantiarum A. B. in
 invisibili Triangulo majori, ita ad lineam
 ita ad lineam A. B. in parte visibili Trian-
 gulo minoris, ita se habet linea B. C. quāsi
 dem Trianguli, ad lineam A. C. in majo-
 ri Triangulo invisibili. quāsi linea ē quāsi
 ta Longitudo.



1113
 investigare Latitudinē Vel
 Longitudinē adhibita Regula
 ad oram Instrumētū,

7^o Quadrato inferiore hoc necessario requiritur
 ut Instrumētū applicetur regula octava (sic
 in superiori) si quando ita cuspi ferat, ut
 rei munita propinque sit adfunditur.

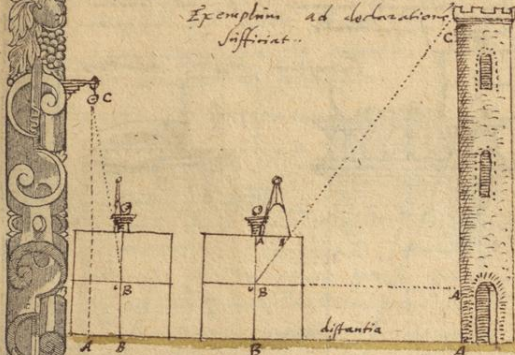
Quadratus jaceus.



V
Per quadratum superiorem investiga-
re altitudinem.

Nulla hic differentia est si memineris antea
dentium. que monuerunt quomodo operandum
sit p̄ distantias. & duplicem Stationem.

Exemplum ad determinationem
sufficiat.

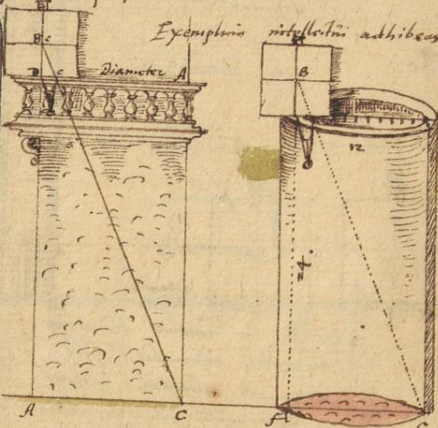


Hoc in hac ratione dimensendi
diligenter observabis, quod
semper ad altitudinem majoris
trianguli inveniatur, addenda
sit stature instrumenti
altitudo quae e inter
ceterum instrumenti
B. & terra
ibi stature.

VI
 profunditas in Vestigatur per man
 stationem Diametraliter.

Sicut se habet Diameter ^{profunditatis rei notandi} majoris Triangulo
 invisibilis ad scribere A, B, ad lineam C
 B, in minori Triangulo Invenietur ita qm
 dem Triangulo minoris, C, B, ad lineam
 totam profunditatis.

Exemplum intellectui adhibeas



VII

Attitudo investigati p
distantias ubi no parat
accessus p fossa
vel Lacum.
interjectum.

In hac operatione habebit Triangulos in
rectangulos sed acutos & obliquos. Ergo
operatio artificiosior & operosior adhiben
ta e. in quam in priorib.

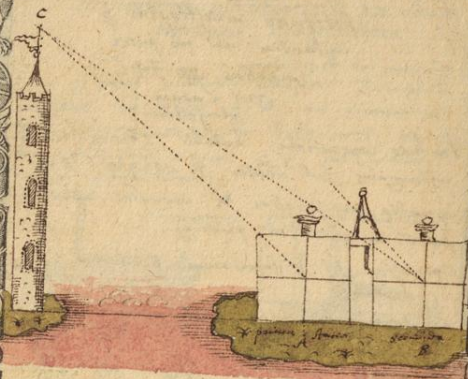
Operatio fit p superiorem pendentem qua
dratim.

Ex duobus Stationib^{A. B.} observatae praefixa al
titudo. C.

Adhibetur Amisur^{Angulo} seu Regula utriusque
s' distans. extremis Instrumenti si
in altera Statione Linea Vis^{integrata} transgred
fiat; illud latus in^{integrata} statione lineae
a nota
prima Statione notabuntur. numeraverit

Ex linea distantiae in sua parte distincta in
duo loca minima in minori triangulo
& sequetur ex tota illa linea usq ad
lineam stationis notiam instrumenti; ex illa
integrata lineam B. A. totam usq ad
Basin in notanda; ex illa sive altitudi
ne quaesita & optata.

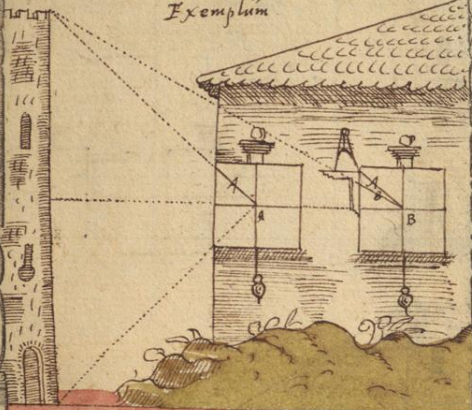
Vide exemplum.



VII
 Altitudo ex superiori alicujus
 ædis fenestra dimetienda:
 cæsic asequi poter.

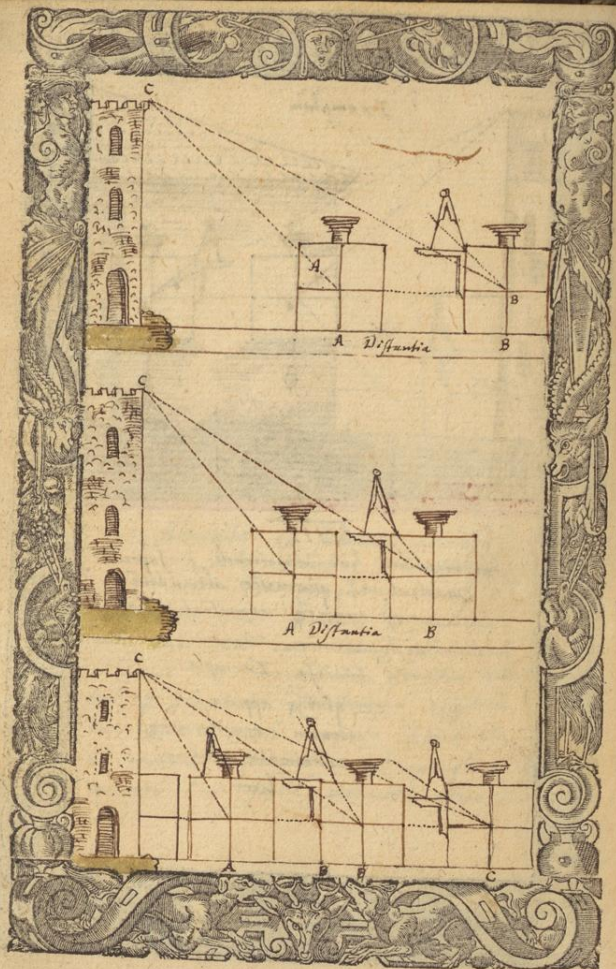
Per distantias, vel Stationes in conclavi
 ædis, dæis, ubi cum totum instrumentum
 nõ potest propter angustiam fenestree adhi:
 beri, & superiore Radiatum negotium
 hoc expectari potest appenso & perdiculo
 ad certum Instrumti, f. exemplo
 operatio hæc facile intellectu obvia e.

Exemplum



VIII

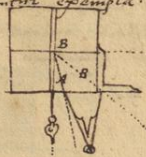
ut negotium hoc dimeticendi p̄ superiore
 Quadratum quamvis altitudinis,
 magis magisq̄ clarescat
 designabimus varia
 & diversa Exempla
 ex quibus applica-
 tionem regule quoq̄
 rectangulari videre
 licet.



IX

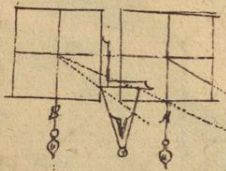
Profunditatis dimensio
per superiore Quadratum

Hæc dimensio quoq. fit beneficio ppendionali,
regule rectangularis, Circini, cuius Varias
sequuntur exempla.



Diffantia .

C



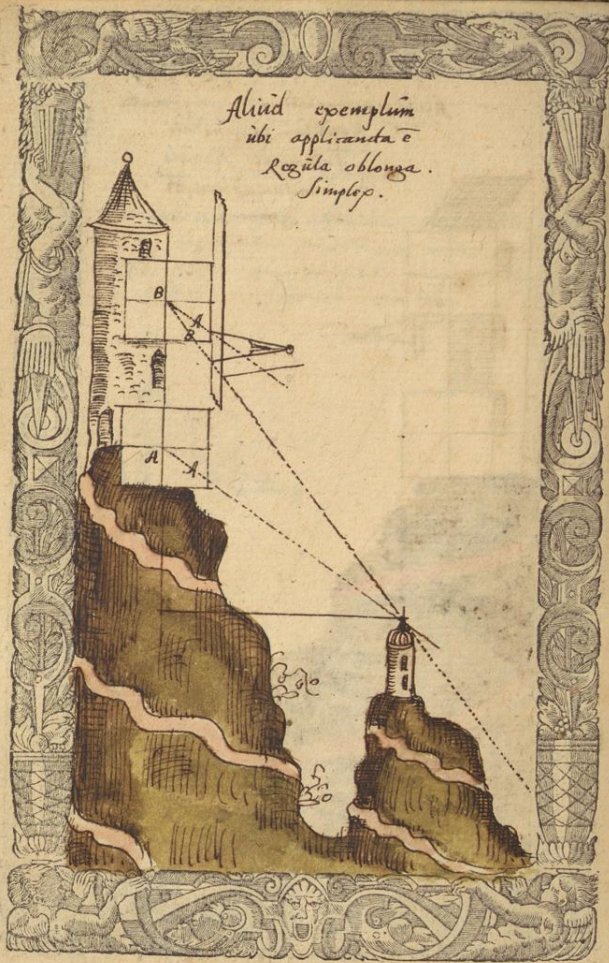
Diffantia

C

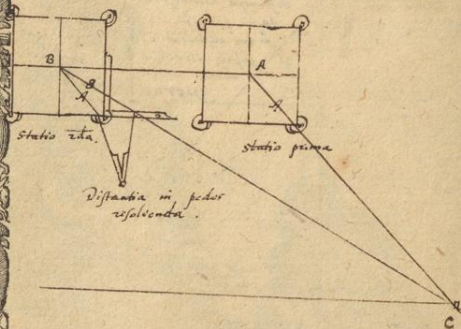
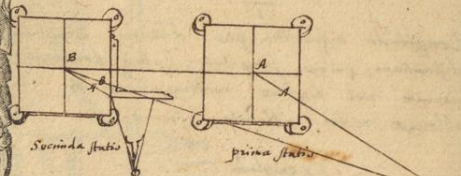
9
 Aliud exemplum, ubi applicanda
 est Regula exteimitati
 Instruimenti. Regula
 rectorangularis, et
 Gnomon.



Aliud exemplum
ibi applicanda e
Regula oblonga.
Simplex.

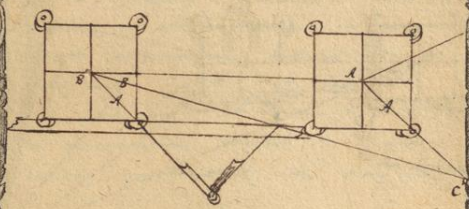


11
 Longitudo in quatuor in eodem quadrato
 & distantias adhibito circino &
 Regula retriangulari.

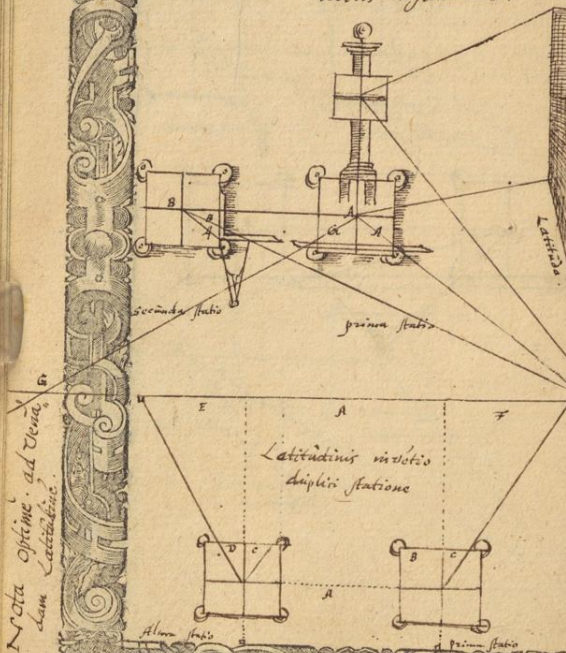


Distantia in pedes
 referenda.

III
 Longitudo requiritur ad h^{ic}
 Regula recta oblonga, &
 addito Circino ꝑ
 distantias.



711
 Latitudinis magnitudo
 per inferiorem & Superio-
 rem Quadratum ad
 libetis omnibz ceteris
 debetis instrumentis.



Nota optime ad Veram
 sum Latitudinem

Nota e hic linea A. p. portio Ergo & nota est linea
 B p. notum in tot parte divis, quot continet linea A.
 Ex linea B. mensuris q. Continet linea D.C. que proportionalis
 est lineis B.F. quia si adductis ad linea A. optinet
 quosdam latitudinis.

LIBER SECUNDUS
DE GEODASIA, RECTARUM
ET TRIANGULIS EX
QUADRATO, FLUENTIBUS

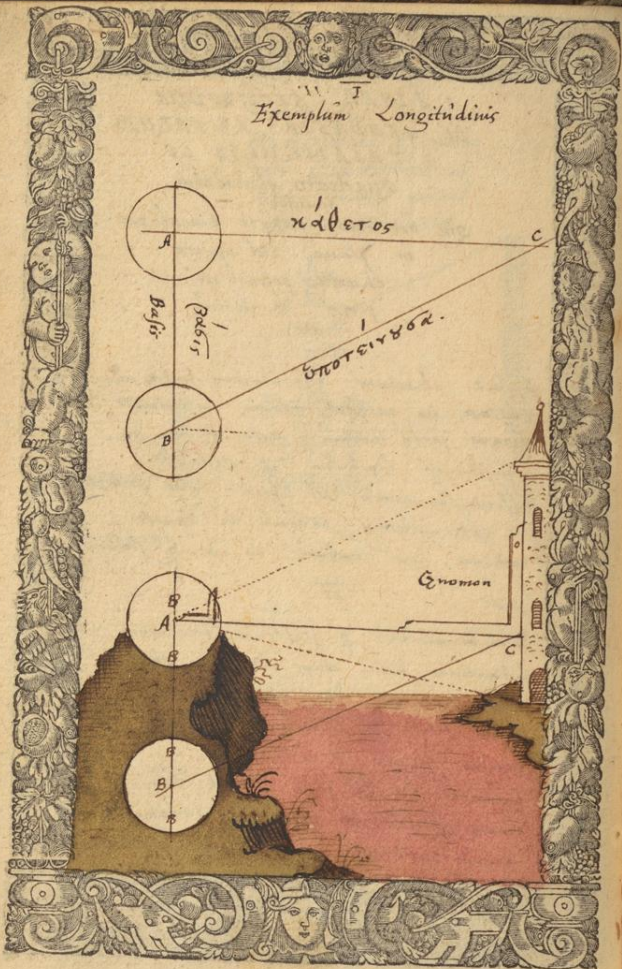
Qui beneficio ^{similibus.} papyri Circularis
in plano vel aperta
charta possunt de-
pingi & delina-
ari.

I
Applica chartam Circularem juxta magni-
tutinis, ne excedat arcam instrumētī,
operare juxta motum antecedentem in
inquisitione linearum & distantias,
observa ut index vel linea visus societur
ut extremitatem Circuli in charta
rotunda, eam instabit in utraque statione

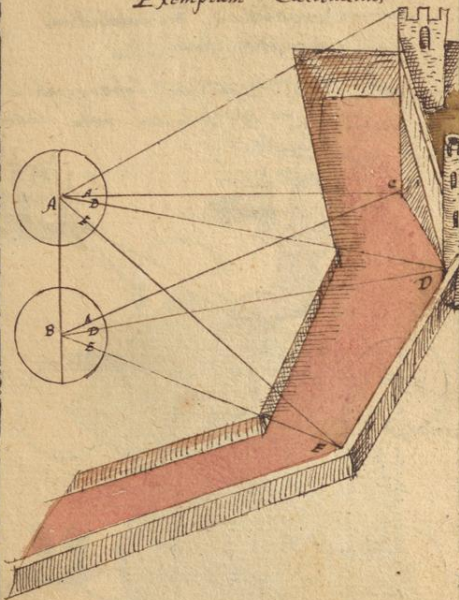
II

Secundo metire & partem majorem
distantiam inter duas stationes, quōt
partes continent, eas quoque numerare in
parva linea à Circulo comprehensa, quae
indicat lineam & in illa distantiam, in qua
chartae Circuli juxta debent deponi
lineas & sectiones observatas trache &
dabunt quæsitum. Triangulum in charta
deducatur.

Exemplum Longitudinis

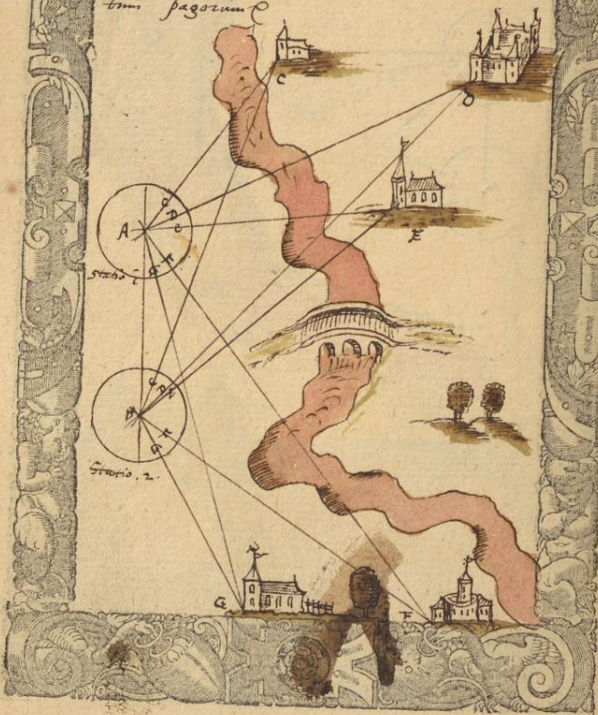


Exemplum^{II} Latitudinis

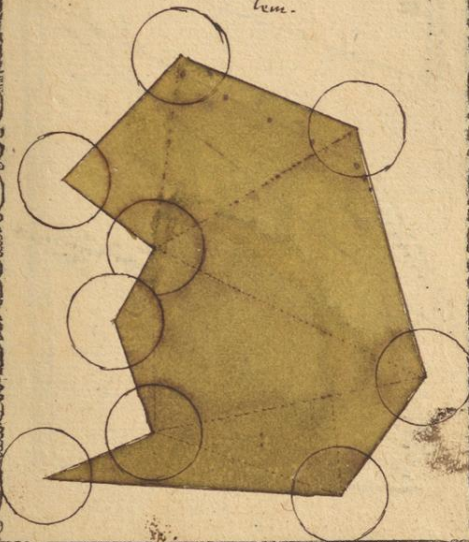


Longitudinis & latitudinis
inquisitio simul.

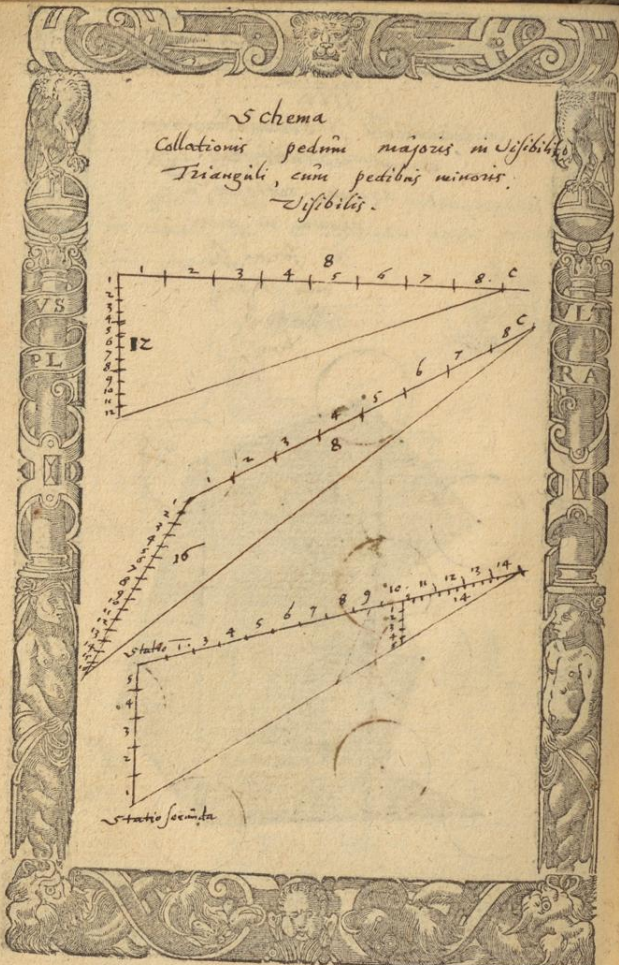
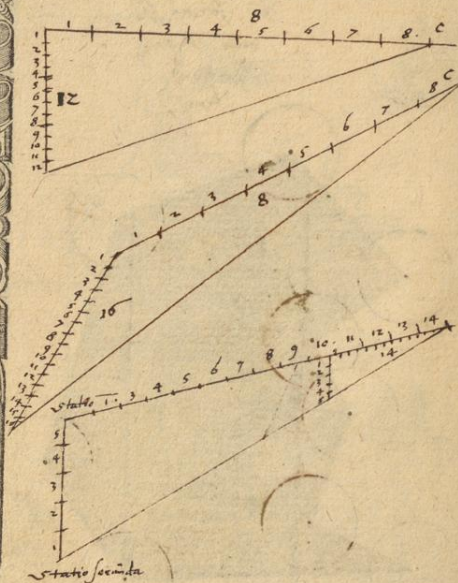
Sic officio licet Tabulam Cosmographicam
ut orientem sctm & distantia recta Civita-
tū pagorū



IIII
 Circūctum, circumferentiam
 alicujus civitatis; vel agri
 arcam, retigere, in
 charta, in mino-
 re formā si-
 mile X pzo,
 portione,
 lem.

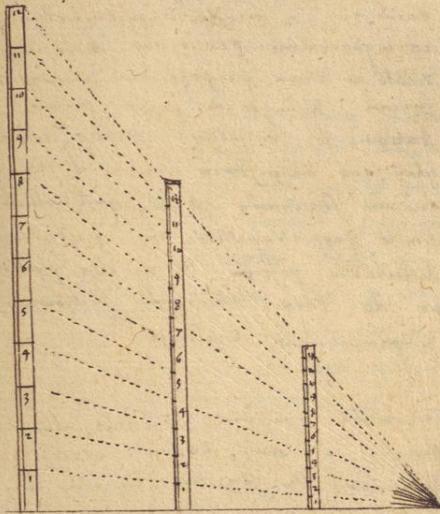


Schema
 Callationis pedum majoris in Sifibiles
 Trianguli, cum pedibus minoris
 Sifibiles.



Schoma constructionis
perticarum magna-
rum & parvarum
proportionalium

Quarum in his & similibus
functionibus
maximus usus est.



De proprietate prioris
instructi

Haec proprietas huiusmodi se habet, quod
Longitudo, profunditas, altitudo, Latitudo,
sive Triangulis quam Cetero
sint in instructo, quam primum
paraveris & dicesis instructum
ad inquirentas praedictas divisionis
duste in vera proportionis & minoris
forma, huiusmodi in puncto prima
stationis A. & altera stationis B. huiusmodi
ideo, ut adipsas hinc distantias
duarum stationum A. B. qua illam
simile proportionaliter in instructo
distribuere possis, & ex illa partibus
ne de toto Triangulo iudicare,
& pronuntiare valeas.

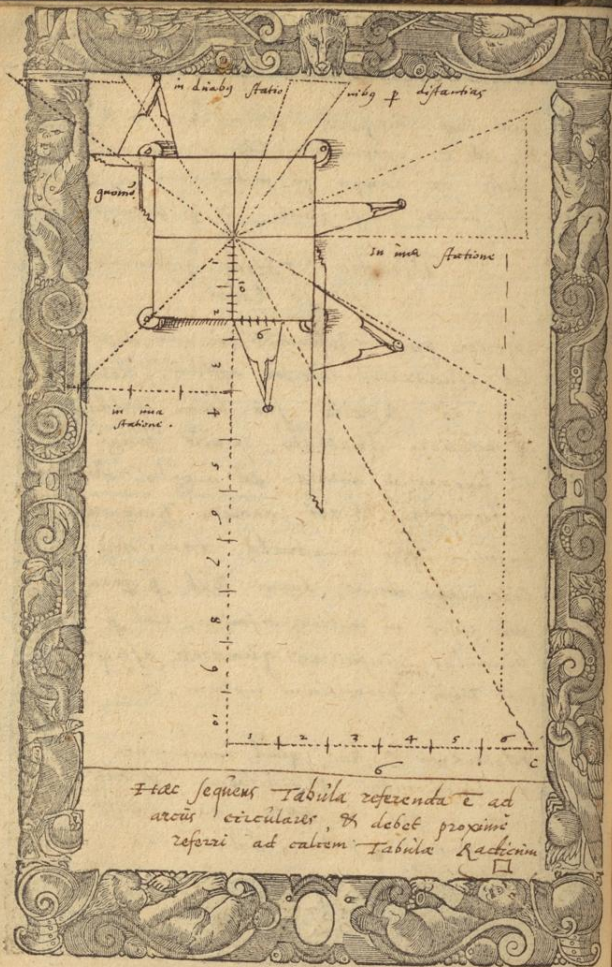
In qualibet divisione secantur duo
Trianguli Magnis, invisibilibus, extra
instructum & parvis visibilibus in
instructo.

sicut ergo invisibilis Triangulus ex A,
B, ad C. extenditur, ita dicitur invi-
sibilis ex campo in instrumentum Visibi-
liter minori proportione, & ite conjungit.

Directio Totius Instrumenti
sic se habet.

Superior pars Instrumenti, (in qua desin-
det Quadratus Superior affixus,) debet
cum sua Regula seu linea fiduciae
in inferiori Quadrato exacte dirigi
ad lineam, in centro ad angulos rebor-
se secutem, & ibi, immota permanere.
Inferior vero quadratus tam diu
circumagi debet, donec vel p for-
me Visus in vertice inferiori, vel p
pinnulas Superioris quadrati, a regula-
ris Visus propositam motam, c.

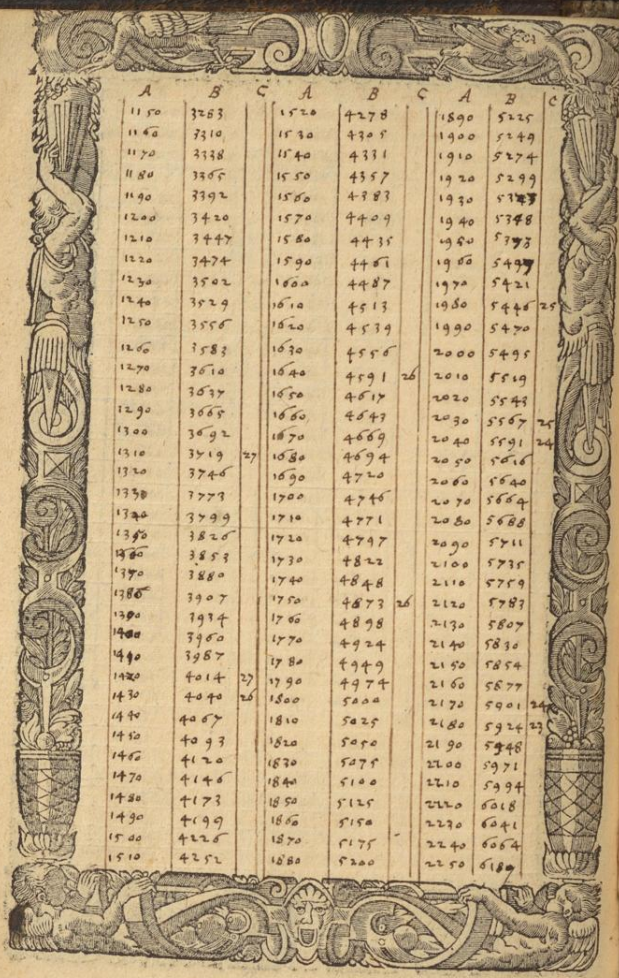
Notandum & hoc, quod nunquam
in dimensionibus profunditatis & alti-
tudinum, pro re nata, addenda sit
necesse numero pedum, scilicet tunc
altitudo c.



Haec sequens Tabula referenda est ad
 arcus circulares, & debet proxime
 referri ad eandem Tabulam Rationum

A	B	C	A	B	C	A	B	C
00	0		390	1112	29	770	2221	
10	29	29	400	1161		780	2249	28
20	58		410	1190		790	2277	
30	87		420	1218		800	2306	
40	116		430	1247		810	2334	
50	145		440	1276		820	2362	
60	174		450	1305		830	2390	
70	203		460	1334		840	2419	
80	232		470	1362	29	850	2447	
90	261		480	1391	28	860	2475	
100	290		490	1420		870	2503	
110	319		500	1449		880	2531	
120	348		510	1478		890	2560	
130	378		520	1506		900	2588	
140	407		530	1535		910	2616	
150	436		540	1564		920	2644	
160	465		550	1593		930	2672	
170	494		560	1621		940	2700	
180	523		570	1650		950	2728	
190	552		580	1679		960	2756	
200	581		590	1707		970	2784	
210	610		600	1736		980	2812	28
220	639		610	1765		990	2840	
230	668		620	1793		1000	2868	
240	697		630	1822		1010	2895	29
250	726		640	1850		1020	2923	
260	755		650	1879	28	1030	2951	
270	784		660	1908		1040	2979	
280	813		670	1936		1050	3007	
290	842		680	1965		1060	3034	
300	871		690	1993		1070	3062	
310	900		700	2022		1080	3090	
320	929	29	710	2050		1090	3117	
330	958		720	2079		1100	3145	
340	987		730	2107		1110	3173	
350	1016		740	2135		1120	3200	
360	1045		750	2164		1130	3228	
370	1074		760	2192		1140	3256	
380	1103							





A	B	C	A	B	C	A	B	C
11 50	3253		15 20	4278		18 90	5225	
11 60	3210		15 30	4305		19 00	5249	
11 70	3138		15 40	4331		19 10	5274	
11 80	3065		15 50	4357		19 20	5299	
11 90	3092		15 60	4383		19 30	5323	
12 00	3420		15 70	4409		19 40	5348	
12 10	3447		15 80	4435		19 50	5373	
12 20	3474		15 90	4461		19 60	5397	
12 30	3502		16 00	4487		19 70	5421	
12 40	3529		16 10	4513		19 80	5446	25
12 50	3556		16 20	4539		19 90	5470	
12 60	3583		16 30	4565		20 00	5495	
12 70	3610		16 40	4591	26	20 10	5519	
12 80	3637		16 50	4617		20 20	5543	
12 90	3665		16 60	4643		20 30	5567	25
13 00	3692		16 70	4669		20 40	5591	24
13 10	3719	27	16 80	4694		20 50	5616	
13 20	3746		16 90	4720		20 60	5640	
13 30	3773		17 00	4746		20 70	5664	
13 40	3799		17 10	4771		20 80	5688	
13 50	3826		17 20	4797		20 90	5711	
14 00	3853		17 30	4822		21 00	5735	
14 10	3880		17 40	4848		21 10	5759	
14 20	3907		17 50	4873	26	21 20	5783	
14 30	3934		17 60	4898		21 30	5807	
14 40	3961		17 70	4924		21 40	5830	
14 50	4014	27	17 80	4949		21 50	5854	
14 60	4040	26	17 90	4974		21 60	5877	
14 70	4067		18 00	5000		21 70	5901	24
14 80	4093		18 10	5025		21 80	5924	23
14 90	4120		18 20	5050		21 90	5948	
14 70	4146		18 30	5075		22 00	5971	
14 80	4173		18 40	5100		22 10	5994	
14 90	4199		18 50	5125		22 20	6018	
15 00	4226		18 60	5150		22 30	6041	
15 10	4252		18 70	5175		22 40	6064	
			18 80	5200		22 50	6089	

A	B	C	A	B	C	A	B	C
2260	6110		2630	6925	21	7000	7660	
2270	6133		2640	6946		7010	7679	19
2280	6156		2650	6967		7020	7697	18
2290	6178		2660	6988	20	7030	7716	
2300	6202	23	2670	7009		7040	7734	
2310	6225		2680	7029		7050	7753	
2320	6247	22	2690	7050		7060	7771	
2330	6270		2700	7071		7070	7789	
2340	6293		2710	7091		7080	7808	
2350	6315		2720	7112		7090	5826	
2360	6338		2730	7132		7100	7844	
2370	6360		2740	7152		7110	7862	18
2380	6383		2750	7173		7120	7880	17
2390	6405		2760	7193		7130	7897	
2400	6427		2770	7213		7140	7915	
2410	6450		2780	7233		7150	7933	
2420	6472		2790	7253		7160	7951	
2430	6494		2800	7273		7170	7968	
2440	6516		2810	7293		7180	7986	
2450	6538		2820	7313		7190	8003	
2460	6560		2830	7333	20	7200	8021	
2470	6582		2840	7353	19	7210	8038	
2480	6604	22	2850	7372		7220	8055	
2490	6626		2860	7392		7230	8073	
2500	6647		2870	7412		7240	8090	
2510	6669		2880	7431		7250	8107	
2520	6691		2890	7450		7260	8124	
2530	6712		2900	7470		7270	8141	17
2540	6734		2910	7489		7280	8158	16
2550	6755		2920	7508		7290	8174	
2560	6777		2930	7527		7300	8191	
2570	6798		2940	7547		7310	8208	
2580	6820		2950	7566		7320	8226	
2590	6841		2960	7585	19	7330	8241	
2600	6862		2970	7604		7340	9257	
2610	6883		2980	7623		7350	8274	
2620	6904	21	2990	7641		7360	8290	

A			B			C		
3370	8300	16	3740	8850		4110	9304	
3380	8322		3750	8870		4120	9314	
3390	8338		3760	8889		4130	9325	11
3400	8354		3770	8896	14	4140	9335	10
3410	8370		3780	8910	13	4150	9340	
3420	8386		3790	8923		4160	9350	
3430	8402	16	3800	8930		4170	9360	
3440	8418	15	3810	8949		4180	9370	
3450	8433		3820	8962		4190	9380	
3460	8449		3830	8975		4200	9390	
3470	8465		3840	8987		4210	9400	
3480	8480		3850	9000		4220	9410	
3490	8495		3860	9013		4230	9420	
3500	8511		3870	9025		4240	9430	10
3510	8526		3880	9038		4250	9445	9
3520	8541		3890	9050	13	4260	9455	
3530	8556		3900	9063	12	4270	9464	
3540	8571		3910	9075		4280	9474	
3550	8586		3920	9087		4290	9483	
3560	8601	15	3930	9099		4300	9492	
3570	8616	14	3940	9111		4310	9501	
3580	8631		3950	9123	12	4320	9510	
3590	8645		3960	9135		4330	9519	
3600	8660		3970	9147		4340	9528	
3610	8674		3980	9158		4350	9537	
3620	8689		3990	9170	12	4360	9545	
3630	8703		4000	9182	11	4370	9554	
3640	8717		4010	9193		4380	9563	9
3650	8732		4020	9205		4390	9571	8
3660	8746		4030	9216		4400	9579	
3670	8760		4040	9227		4410	9588	
3680	8774		4050	9238		4420	9596	
3690	8788		4060	9249		4430	9604	
3700	8802		4070	9260		4440	9612	
3710	8815		4080	9271		4450	9620	
3720	8829		4090	9282		4460	9628	
3730	8843		4100	9293		4470	9636	

A	B	C	A	B	C	A	B	C
44 80	9674		4840	9867	4	5200	9983	
44 90	9651		4850	9872		5210	9984	2
45 00	9659	6	4860	9876		5220	9986	2
45 10	9656	7	4870	9881		5230	9987	2
45 20	9674		4880	9885		5240	9989	1
45 30	9681		4890	9890		5250	9990	
45 40	9688		4900	9894		5260	9991	
45 50	9695		4910	9898		5270	9992	1
46 00	9703		4920	9902		5280	9993	
46 10	9709		4930	9906		5290	9994	
46 20	9716		4940	9910		5300	9995	
46 30	9723		4950	9914		5310	9996	
46 40	9730		4960	9918		5320	9997	
46 50	9737	7	4970	9922		5330	9998	1
47 00	9743		4980	9925		5340	9999	0
47 10	9850	6	4990	9929		5350	9999	
47 20	9756		5000	9932		5360	9999	
47 30	9762		5010	9935	4	5370	9999	
47 40	9769		5020	9938	3	5380	9999	
47 50	8775		5030	9942		5390	9999	
48 00	9781		5040	9945		5400	10000	0
48 10	9787		5050	9948		FINIS TABULÆ		
48 20	9793		5060	9951				
48 30	9799		5070	9954				
48 40	9805	6	5080	9958				
48 50	9810		5090	9959				
49 00	9816		5100	9961	3			
49 10	9821		5110	9964				
49 20	9827		5120	9966				
49 30	9832		5130	9969				
49 40	9837	6	5140	9971	3			
49 50	9843	5	5150	9973	2			
4800	9848		5160	9975				
4810	9853		5170	9977				
4820	9858		5180	9979				
4830	9863	5	5190	9980				

SEQUITUR SECUNDA Tabula

pertinens ad numeros

superiores, si non exant
inveniatur in Numerum
in priori Tabula.

1	$\frac{1}{10}$	$\frac{2}{5}$	$\frac{3}{10}$	$\frac{4}{5}$	$\frac{5}{10}$	$\frac{6}{5}$	$\frac{7}{10}$	$\frac{8}{5}$	$\frac{9}{10}$	10
2	$\frac{2}{10}$	$\frac{4}{5}$	$\frac{6}{10}$	$\frac{8}{5}$	$\frac{10}{10}$	$\frac{12}{5}$	$\frac{14}{10}$	$\frac{16}{5}$	$\frac{18}{10}$	20
3	$\frac{3}{10}$	$\frac{6}{10}$	$\frac{9}{10}$	$\frac{12}{10}$	$\frac{15}{10}$	$\frac{18}{10}$	$\frac{21}{10}$	$\frac{24}{10}$	$\frac{27}{10}$	30
4	$\frac{4}{10}$	$\frac{8}{10}$	$\frac{12}{10}$	$\frac{16}{10}$	$\frac{20}{10}$	$\frac{24}{10}$	$\frac{28}{10}$	$\frac{32}{10}$	$\frac{36}{10}$	40
5	$\frac{5}{10}$	$\frac{10}{10}$	$\frac{15}{10}$	$\frac{20}{10}$	$\frac{25}{10}$	$\frac{30}{10}$	$\frac{35}{10}$	$\frac{40}{10}$	$\frac{45}{10}$	50
6	$\frac{6}{10}$	$\frac{12}{10}$	$\frac{18}{10}$	$\frac{24}{10}$	$\frac{30}{10}$	$\frac{36}{10}$	$\frac{42}{10}$	$\frac{48}{10}$	$\frac{54}{10}$	60
7	$\frac{7}{10}$	$\frac{14}{10}$	$\frac{21}{10}$	$\frac{28}{10}$	$\frac{35}{10}$	$\frac{42}{10}$	$\frac{49}{10}$	$\frac{56}{10}$	$\frac{63}{10}$	70
8	$\frac{8}{10}$	$\frac{16}{10}$	$\frac{24}{10}$	$\frac{32}{10}$	$\frac{40}{10}$	$\frac{48}{10}$	$\frac{56}{10}$	$\frac{64}{10}$	$\frac{72}{10}$	80
9	$\frac{9}{10}$	$\frac{18}{10}$	$\frac{27}{10}$	$\frac{36}{10}$	$\frac{45}{10}$	$\frac{54}{10}$	$\frac{63}{10}$	$\frac{72}{10}$	$\frac{81}{10}$	90
10	$\frac{10}{10}$	$\frac{20}{10}$	$\frac{30}{10}$	$\frac{40}{10}$	$\frac{50}{10}$	$\frac{60}{10}$	$\frac{70}{10}$	$\frac{80}{10}$	$\frac{90}{10}$	100
11	$\frac{11}{10}$	$\frac{22}{10}$	$\frac{33}{10}$	$\frac{44}{10}$	$\frac{55}{10}$	$\frac{66}{10}$	$\frac{77}{10}$	$\frac{88}{10}$	$\frac{99}{10}$	110
12	$\frac{12}{10}$	$\frac{24}{10}$	$\frac{36}{10}$	$\frac{48}{10}$	$\frac{60}{10}$	$\frac{72}{10}$	$\frac{84}{10}$	$\frac{96}{10}$	$\frac{108}{10}$	120
13	$\frac{13}{10}$	$\frac{26}{10}$	$\frac{39}{10}$	$\frac{52}{10}$	$\frac{65}{10}$	$\frac{78}{10}$	$\frac{91}{10}$	$\frac{104}{10}$	$\frac{117}{10}$	130
14	$\frac{14}{10}$	$\frac{28}{10}$	$\frac{42}{10}$	$\frac{56}{10}$	$\frac{70}{10}$	$\frac{84}{10}$	$\frac{98}{10}$	$\frac{112}{10}$	$\frac{126}{10}$	140
15	$\frac{15}{10}$	$\frac{30}{10}$	$\frac{45}{10}$	$\frac{60}{10}$	$\frac{75}{10}$	$\frac{90}{10}$	$\frac{105}{10}$	$\frac{120}{10}$	$\frac{135}{10}$	150
16	$\frac{16}{10}$	$\frac{32}{10}$	$\frac{48}{10}$	$\frac{64}{10}$	$\frac{80}{10}$	$\frac{96}{10}$	$\frac{112}{10}$	$\frac{128}{10}$	$\frac{144}{10}$	160
17	$\frac{17}{10}$	$\frac{34}{10}$	$\frac{51}{10}$	$\frac{68}{10}$	$\frac{85}{10}$	$\frac{102}{10}$	$\frac{119}{10}$	$\frac{136}{10}$	$\frac{153}{10}$	170
18	$\frac{18}{10}$	$\frac{36}{10}$	$\frac{54}{10}$	$\frac{72}{10}$	$\frac{90}{10}$	$\frac{108}{10}$	$\frac{126}{10}$	$\frac{144}{10}$	$\frac{162}{10}$	180
19	$\frac{19}{10}$	$\frac{38}{10}$	$\frac{57}{10}$	$\frac{76}{10}$	$\frac{95}{10}$	$\frac{114}{10}$	$\frac{133}{10}$	$\frac{152}{10}$	$\frac{171}{10}$	190
20	$\frac{20}{10}$	$\frac{40}{10}$	$\frac{60}{10}$	$\frac{80}{10}$	$\frac{100}{10}$	$\frac{120}{10}$	$\frac{140}{10}$	$\frac{160}{10}$	$\frac{180}{10}$	200
21	$\frac{21}{10}$	$\frac{42}{10}$	$\frac{63}{10}$	$\frac{84}{10}$	$\frac{105}{10}$	$\frac{126}{10}$	$\frac{147}{10}$	$\frac{168}{10}$	$\frac{189}{10}$	210
22	$\frac{22}{10}$	$\frac{44}{10}$	$\frac{66}{10}$	$\frac{88}{10}$	$\frac{110}{10}$	$\frac{132}{10}$	$\frac{154}{10}$	$\frac{176}{10}$	$\frac{198}{10}$	220
23	$\frac{23}{10}$	$\frac{46}{10}$	$\frac{69}{10}$	$\frac{92}{10}$	$\frac{115}{10}$	$\frac{138}{10}$	$\frac{160}{10}$	$\frac{182}{10}$	$\frac{204}{10}$	230
24	$\frac{24}{10}$	$\frac{48}{10}$	$\frac{72}{10}$	$\frac{96}{10}$	$\frac{120}{10}$	$\frac{144}{10}$	$\frac{166}{10}$	$\frac{188}{10}$	$\frac{210}{10}$	240
25	$\frac{25}{10}$	$\frac{50}{10}$	$\frac{75}{10}$	$\frac{100}{10}$	$\frac{125}{10}$	$\frac{150}{10}$	$\frac{172}{10}$	$\frac{194}{10}$	$\frac{216}{10}$	250
26	$\frac{26}{10}$	$\frac{52}{10}$	$\frac{78}{10}$	$\frac{104}{10}$	$\frac{130}{10}$	$\frac{156}{10}$	$\frac{178}{10}$	$\frac{200}{10}$	$\frac{222}{10}$	260
27	$\frac{27}{10}$	$\frac{54}{10}$	$\frac{81}{10}$	$\frac{108}{10}$	$\frac{135}{10}$	$\frac{162}{10}$	$\frac{184}{10}$	$\frac{206}{10}$	$\frac{228}{10}$	270
28	$\frac{28}{10}$	$\frac{56}{10}$	$\frac{84}{10}$	$\frac{112}{10}$	$\frac{140}{10}$	$\frac{168}{10}$	$\frac{190}{10}$	$\frac{212}{10}$	$\frac{234}{10}$	280
29	$\frac{29}{10}$	$\frac{58}{10}$	$\frac{87}{10}$	$\frac{116}{10}$	$\frac{145}{10}$	$\frac{174}{10}$	$\frac{196}{10}$	$\frac{218}{10}$	$\frac{240}{10}$	290
30	$\frac{30}{10}$	$\frac{60}{10}$	$\frac{90}{10}$	$\frac{120}{10}$	$\frac{150}{10}$	$\frac{180}{10}$	$\frac{202}{10}$	$\frac{224}{10}$	$\frac{246}{10}$	300

Uſus priorum
Tabularum e
in arcibus az
cularibus.

Exemplum arcus qui minor e
Semicirculo, sine uſa Tabale.

- I. Sit Semicirculus 15. N. inſentia arcum
Semicirculus si ex dato arcu ſeu parte
circuli totum conſtruat circuly
- II. Circumſcriptia arcus ſit 27. N
- III. Linea ſubtenſa ſit 24. N.
- IIII. Sagitta ſit 5. N

^I
Multiplica Semicirculum 15. in dimidiam
Circumſcriptiam tui arcus. x 13 N
reſultant 195. N quo unicum memori mote
teneto.

^{II}
Subtrahit Sagittam x 6. a Diametro dim
dio x 15. N remanet. 9. N.

^{III}
Multiplica reliquum 9. in dimidiam line
am ſubtenſam x 12 N producentur. ¹⁰⁸ N

^{IIII}
Producitur illud ſubtrahit a prius ſeruat
minore, ſcopote 295 N, N remanet 87. N
qua Vera magnitudo e tui arcus.

Exemplum arcus dati, qui
excedit suam magnitudinem
semicirculum.

I. Semidiameter primo consideranda qui sit 15. \mathcal{N} .
 II. Circumferentia sit 60.
 III. Linea subtensa 24. \mathcal{N}
 IIII. Sagitta 24.
 I.

Multiplica semidiametrum 15. \mathcal{N} in arcus
dimidiam circumferentiam. 33 \mathcal{N} . productum
495. hinc subtrahe.

Subtrahit semidiametrum 15. a sagitta 24.
quia arcus datus major e semicirculo, &
residuum erit minus 9. \mathcal{N}
 III.

Residuum 9. multiplica in dimidiam lineam
subtensam 12. & productum erit minus
108.

Productum hoc addit ad prius mente
servatum minus 495. & summam
colliges 603. \mathcal{N} . veram $\overline{53}$ magnitudinem
dati arcus.

Notandum.

Si arcum aliquem vel etiam integrum \mathcal{C}
colum in campo \mathcal{C} intrei \mathcal{V} is quod
illa dimensio melius exequi \mathcal{P} is \mathcal{C} um partem
bipedali, quia cum fine vel integra
partem.

Sequuntur Exempla quae
confirmantur beneficio
Tabula.

- I. Sit semidiameter 15. $\frac{1}{3}$ ubi^{us} integri
circuli caput tunc datq; arcus pars e.
- II. Linea subtensa seu chorda ^{dimidia} sit 12. $\frac{1}{2}$.
- III. Dic, semidiameter . 15. $\frac{1}{3}$ sub. 10000
quid. 12. $\frac{1}{2}$ dimidia chorda. Quotiens
facta operacione e 8000.
- IIII. Hinc numerum 8000 quare in Tabula
sub litera .B. cum autem eundem
no inuenis exacte sed 7986 $\frac{1}{2}$
8007. propterea accipe minus unum
scilicet 7986. $\frac{1}{2}$ sibi correspondentem
inuenis in latere sub litera .A. 3180
que serua. proximi quod inuenis
sub litera .C. numerum .17. que quod
seruabis.
- IIII. Subtrahit 7986 a 8000, $\frac{1}{2}$ remanet
14. Hinc numerum 14 quare in
Tabula Secunda sub numero 17.
(quia prior Tabula exhibuit .17. sub litera
C) $\frac{1}{2}$ 14 in eadem riga, $\frac{1}{2}$ inuenis
quidem 14 no exacte sed $13 \frac{2}{3}$. (quod
defectus nullius parit errore.) in vobis

columnam ascēditō nō Venit 8.

V. In hōc nūmōrō 8. addo ad p̄g
nūcātū nūmōrū 3180, rēfultat
Vēnū nūmōrū 3188.

VI. Posito ergō quōd 30. N. sit Vēg
Diamet̄r, sequitur Circūfēctiō
totū Circūlū 94. N. & 9. W.
dico ergō 10800 tant 24137. W. (tantū
cum cōstituit tota Circūfēctiō 31
94. N. & 9. W.) quid tant 3188.
post operatiōē factam, quōtius exhibet
Vēg magnitudinē lineae arcū minor
27. N. 13. N. 7. W.

VII. Si Vēg quōsvis alterā majore
majoris partē Circūlī dētm̄ sūbtra
hōndū ē minor 27. N. 13. N. 7. W. ā
tota Circūfēctiā, quae erat. 94. N.
& 9. W. & 9. W. remanebit tibi Vēg
magnitudō lineae arcū majoris.
sūbtra. 66. N. 7. N. 5. W.

VIII. His ita peractis, si nūc nō Vēg
Vēg magnitudinē arcū, quae cōt̄
notū ā lineae arcū & lineae sūbtra
oportet ut habeas,

1. semidiametrum
2. Circūfēctiā tū arcū dati.

3. Lineam sibiensam.
 4. Sagittam. hinc incertis hujusmodi
 operatio institienda.
 1.

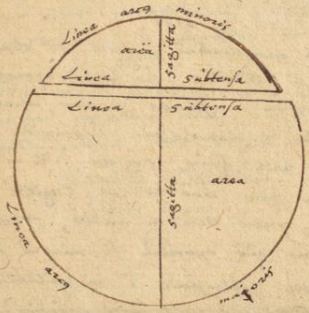
II Multiplica semidiametrum in dimidiam
 circumferentiam arcus. & productum semis.
 II.

Si arcus { major } fuerit quam semi- } dimidium dia-
 { minor } circuli, subtrahat } metrum a sagitta
 semidiametro

III Residuum multiplica in dimidiam lineam
 subtensam.

IV Productum hoc { adde } producto si } priori
 { subtrahat } datq arcus } major e } semicir-
 que } minor e } culo.

& sic veniens er vera magnitudine tui
 propositi arcus.



ALIUS MODUS
 Quomodo magnitudo alicujus dati
 arcus inquirenda sit.

I. si habueris lineam subtensam & sagittam,
 quære ex illis verum Diametrum, & ex illo
 Veram magnitudinẽ totius Circuli, cujus
 tunc datus arcus pars ẽ. & sic operare.

Semidiameter tunc datus 100000. quid sagitta
 tunc.

Productum quotiens quære in sequenti
 Tabula in columna magnitudinis sagittæ. &
 proxime versus sinistram, magnitudinẽ arcus.

Dic 3142857 ^{est} ~~quære~~ jam inventam magnitudinẽ
 lineæ arcus quid datus magnitudo totius Circuli
 li. cujus tunc arcus pars ẽ. Quotiens
 exhibet Verã magnitudinẽ tunc arcus, quã
 quæsisisti.

1111

Si vero magnitudinẽ sagittæ nõ ex parte mĩ-
 noris in Tabula, hoc modo operatio ẽ
 instituta. Accipe proxime minorem nu-
 merum & sinistrae omni a proximo minori-
 tem arcus quã sagittæ, & in regulã
 antica pone duos reliquã sagittæ primo
 loco, arcus vero in medio, Tertio loco
 reliquum quã operabitur, si minorem numerum
 sagittæ subtraxeris a magnitudinis tunc
 sagittæ. Operare juxta regulam Datis, quã

vide operatio, addo semper ad magnitudinem arcus
 que supra minorem numerum sagitta e, posita
 & operatione ita porge sicut prius dictum e.

Exemplum scilicet.

Subtensa linea e 24. N.
 Sagitta 6 N.
 Ergo semidiameter 15. N.
 & tabula circuli magnitudo 707 N.

I.

Dioc. semidiameter minor exhibet 10000. quid
 6 N. sagitta. post operatione tabula
 40000

II.

Haec quere in Tabula inter sagitta magni
 tabular, cum autem non operati videntur
 sed cadat inter duos numeros 39388. &
 40186. quorum altera ^{linea} magnitudinis
 excedit numerum 40000. alter vero exco-
 ditur a 40000. Sumo igitur proximam
 numerum inter 40186. cum suo arcu,
 qui e 450665. & tantum dico

III.

3142857 tant 450665. quid 707. N.
 quodens post operatione tabula 101 N. 6. N.
 magnitudinis scribitur tabula arcus.

sequitur Tabula.
 huius negotii

©

Magnitudo Sagitta	Arq Magni- tudo	Sagitta Magnitudo	Arq Magni- tudo
5	3	4172	16083
20	11	4462	17770
45	32	4762	19585
80	59	5072	21506
125	103	5391	23546
180	167	5720	25709
245	255	6058	27997
319	370	6405	30428
404	523	6751	32937
499	700	7128	35659
604	928	7507	38479
718	1199	7887	41433
843	1513	8281	44314
977	1878	8684	47400
1122	2298	9096	51193
1276	2777	9517	54744
1435	3312	9947	58454
1614	3929	10386	62316
1798	4622	10834	66634
1991	5366	11291	70524
2195	6197	11757	74866
2408	7110	12234	79386
2931	8108	12715	84053
2863	9195	13207	88904
3106	10377	13708	93937
3358	11651	14217	99124
3619	13025	14735	104497
3891	14502	15262	110055
4179	16080	15795	115817
4471	17761	16330	121780
4772	19547	16865	127947
5083	21440	17400	134320
5404	23442	17935	140900
5735	25556	18470	147687
6076	27784	19005	154782
6427	30128	19540	162185
6788	32590	20075	169897
7159	35172	20610	177918
7540	37876	21145	186249
7931	40704	21680	194890
8332	43658	22215	203841
8743	46740	22750	213102
9164	49852	23285	222673
9595	53096	23820	232554
10036	56474	24355	242755
10487	60000	24890	253276
10948	63676	25425	264117
11419	67504	25960	275278
11900	71486	26495	286759
12391	75624	27030	298570
12892	80000	27565	310711
13403	84528	28100	323182
13924	89210	28635	336003
14455	94048	29170	349184
14996	99044	29705	362735
15547	104200	30240	376666
16108	109518	30775	390987
16669	115000	31310	405708
17240	120648	31845	420839
17821	126464	32380	436380
18402	132450	32915	452331
18983	138608	33450	468702
19574	144940	33985	485493
20175	151448	34520	502714
20786	158134	35055	520365
21407	165000	35590	538446
22038	172048	36125	556967
22679	179280	36660	575928
23330	186698	37195	595339
23981	194304	37730	615200
24642	202098	38265	635521
25303	210082	38800	656302
25964	218258	39335	677543
26635	226626	39870	699254
27316	235188	40405	721435
27997	243946	40940	744086
28678	252902	41475	767207
29359	262058	42010	790798
30040	271416	42545	814869
30721	280976	43080	839420
31402	290738	43615	864451
32083	300704	44150	889962
32764	310876	44685	915463
33445	321254	45220	941454
34126	331838	45755	967935
34807	342630	46290	994916
35488	353640	46825	1022397
36169	364860	47360	1050378
36850	376292	47895	1078859
37531	387938	48430	1107840
38212	399798	48965	1137321
38893	411874	49500	1167302
39574	424166	50035	1197783
40255	436676	50570	1228764
40936	449404	51105	1260245
41617	462352	51640	1292226
42298	475520	52175	1324707
42979	488908	52710	1357688
43660	502526	53245	1391169
44341	516374	53780	1425150
45022	530452	54315	1459631
45703	544760	54850	1494612
46384	559398	55385	1530193
47065	574366	55920	1566374
47746	589664	56455	1603155
48427	605292	56990	1640536
49108	621250	57525	1678517
49789	637538	58060	1717198
50470	654156	58595	1756579
51151	671094	59130	1796660
51832	688352	59665	1837441
52513	705940	60200	1878922
53194	723858	60735	1921103
53875	742096	61270	1964084
54556	760664	61805	2007865
55237	779562	62340	2052446
55918	798790	62875	2097827
56599	818348	63410	2144008
57280	838236	63945	2191089
57961	858464	64480	2239070
58642	878932	65015	2287951
59323	899740	65550	2337732
60004	920888	66085	2388413
60685	942276	66620	2439894
61366	963914	67155	2492275
62047	985802	67690	2545556
62728	1007940	68225	2599737
63409	1030328	68760	2654818
64090	1052976	69295	2710809
64771	1075884	69830	2767710
65452	1099052	70365	2825521
66133	1122480	70900	2884332
66814	1146278	71435	2944143
67495	1170446	71970	3004954
68176	1194984	72505	3066765
68857	1219892	73040	3129576
69538	1245170	73575	3193387
70219	1270828	74110	3258208
70900	1296866	74645	3324029
71581	1323284	75180	3390850
72262	1350092	75715	3458671
72943	1377290	76250	3527492
73624	1404778	76785	3597313
74305	1432656	77320	3668134
74986	1460934	77855	3739955
75667	1489612	78390	3812776
76348	1518690	78925	3886597
77029	1548168	79460	3961418
77710	1578046	80000	4037239
78391	1608324	80535	4114060
79072	1639002	81070	4191881
79753	1670080	81605	4270702
80434	1701558	82140	4350523
81115	1733436	82675	4431344
81796	1765714	83210	4513165
82477	1798392	83745	4595986
83158	1831470	84280	4679807
83839	1864948	84815	4764628
84520	1898826	85350	4850449
85201	1933104	85885	4937270
85882	1967782	86420	5025091
86563	2002860	86955	5113912
87244	2038338	87490	5203733
87925	2074216	88025	5294554
88606	2110494	88560	5386375
89287	2147172	89095	5479196
89968	2184250	89630	5573017
90649	2221728	90165	5667838
91330	2259606	90700	5763659
92011	2297884	91235	5860480
92692	2336562	91770	5958301
93373	2375640	92305	6057122
94054	2415118	92840	6157043
94735	2455006	93375	6258064
95416	2495304	93910	6360185
96097	2536002	94445	6463406
96778	2577100	94980	6567727
97459	2618608	95515	6673148
98140	2660526	96050	6779669
98821	2702854	96585	6887290
99502	2745592	97120	6996011
100183	2788740	97655	7105832
100864	2832298	98190	7216853
101545	2876266	98725	7329074
102226	2920644	99260	7442495
102907	2965432	99795	7557116
103588	3010630	100330	7672837
104269	3056238	100865	7789658
104950	3102256	101400	7907679
105631	3148684	101935	8026900
106312	3195522	102470	8148221
106993	3242770	103005	8270742
107674	3290428	103540	8394463
108355	3338496	104075	8519384
109036	3386974	104610	8645505
109717	3435862	105145	8772826
110398	3485160	105680	8901347
111079	3534868	106215	9031068
111760	3584986	106750	9161989
112441	3635514	107285	9294110
113122	3686452	107820	9427431
113803	3737790	108355	9561952
114484	3789538	108890	9697673
115165	3841696	109425	9834594
115846	3894264	109960	9972715
116527	3947242	110495	10112036
117208	4000630	111030	10252557
117889	4054428	111565	10394278
118570	4108646	112100	10537199
119251	4163284	112635	10681320
119932	4218342	113170	10827541
120613	4273820	113705	10974962
121294	4329718	114240	11123583
121975	4386036	114775	11273404
122656	4442774	115310	11424425
123337	4500032	115845	11576646
124018	4557810	116380	11730067
124699	4616118	116915	11884708
125380	4674956	117450	12040569
126061	4734324	117985	12197740
126742	4794232	118520	12356221
127423	4854680	119055	12516012
128104	4915668	119590	12677113
128785	4977196	120125	12839524
129466	5039264	120660	13003245
130147	5101872	121195	13168276
130828	5165020	121730	13334617
131509	5228718	122265	13502268
132190	5292956	122800	13671229
132871	5357744	123335	13842490
133552	5423082	123870	14015051
134233	5488970	124405	14188912
134914	5555418	124940	14364073
135595	5622526	125475	14540534
136276	5690194	126010	14718395
136957	5758422	126545	14897656
137638	5827210	127080	15078317
138319	5896658	127615	15260378
138999	5966666	128150	15443839
139680	6037334	128685	15628700
140361	6108662	129220	15814961
141042	6180650	129755	16002622
141723	6253308	130290	16191683
142404	6326636	130825	16382144
143085	6400634	131360	16574005
143766	6475302	131895	16767266
144447	6550640	132430	16961927
145128	6626648	132965	17158088
145809	6703326	133500	17355749
146490	6780674	134035	17554910
147171	6858692	134570	17755571
147852	6937380	135105	17957732
148533	7016738	135640	18161393
149214	7096766	136175	18366554
149895	7177464	136710	18573215



Sagittae Magnae	Arvy Magnae	Sagittae Magnae	Arvy Magnae
17452	134072	36257	38862
18021	140535	37031	400840
18587	147131	37810	412992
19182	154040	38596	425357
19775	161067	39388	437929
20375	169291	40185	450665
20984	177709	40990	464603
21601	183320	41800	478732
22225	191125	42616	489970
22858	199126	43437	503556
23497	207324	44265	517249
24145	215718	45097	531129
24800	224309	45936	545177
25463	23099	46779	559435
26133	242087	47649	574027
26810	251275	48482	588458
27495	260561	49341	603232
28187	270247	50206	618280
28895	280104	51075	633314
29593	290019	51949	648607
30306	300211	52828	664070
31026	310594	53712	679703
31753	321177	54601	695495
32487	331964	55494	711449
33228	342950	56391	727559
379022	1154900	57292	743840
80001	1174050	58198	760273
80981	1193287	59109	776841
81963	1212596	60023	793576
82947	1231985	60941	810448
83937	1251423	61863	827464
84920	1270936	62789	844521
85909	1290504	63719	861921



Sagitte M.	arcus M.	Sagitte. D.	Arq. M.
64679	879603	86900	131031
65589	879914	87891	1329806
66529	914606	88884	1349533
67472	932418	89879	1369314
68419	950303	90873	1389105
69370	968443	91869	1408962
70323	986612	92865	1428839
71279	1004903	93863	1448752
72237	1023293	94861	1468685
73199	1041806	95860	1488639
74164	1060422	96859	1508600
75131	1079042	97858	1528592
76100	1097936	98857	1548581
77071	1116828	99857	1568571
78046	1135827	100000	1571428.

FINIS TABULA.