TABULAE MARTIS

NOVAE ET CORRECTAE

EX

THEORIA GRAVITATIS

CLARISSIMI DE LA PLACE

ET EX

OBSERVATIONIBUS RECENTISSIMIS

ERUTAE.

AUCTORE

BERNHARDO DE LINDENAU.

EISENBERG,

IN LIBRARIA SCHOENIANA

MDCCCXI.

INTRODUCTIO
AD
TABULAS MARTIS.

Operae pretium esse, in orbitam Martis summo studio et indefesso labore inquirere, inter Astronomiae cultores haud erunt, qui dubitent, immortali Keppleo ex ejus indole jam veras planetarum leges derivante.

Usque ad seculi decimi octavi finem Astronomi, de Theoria Martis disserentes, omnes fere ejus perturbationes neglexerunt, et elapso tandem primo praesentis seculi decennio majorem in earum computatione diligentiam deprehendimus, cum jam non desint viri celeberrimi nominis, qui Astronomiae physicae praeceptis insistentes, felicioribus auspiciis et meliori fato theoriam Martis enucleare adgressi sunt.

Viris Ill. Wurm, Oriani, Schubert et Burckhardt quamvis diversa methodo procedentibus, accuratiorem perturbationem Martis evolutionem per actionem Jovis, Veneris et Terrae debemus, quorum virorum vestigia sequentes, quatuor Astronomi novam et meliorem elementorum Martis determinationem exhibuerunt. Tabulae a le Français, Oriani, Triesnecker et Monteiro, natione Hispano, his elementis superstructae, parum inter se discrepant. De methodo, nova Martis elementa investigandi, optime V. Cel. Oriani et Triesnecker in Ephemerid. Mediolan. 1801 et Vindobon. 1805 rationem reddiderunt: idem an factum sit a le Français et Monteiro, adhuc incertus haereo. Tabulae a Cel. Triesneker secundum Theoriam Ill. Schubert et adminiculo triginta duarum oppositionum Martis summa solertia elaboratae, merito magni aestimantur, cum non nisi rarissime viginti minutis secundis in longitudine geocentrica a coelo aberrent. Jam opus pro confecto censendum esse videretur, nisi maxime optandum esset, ut omnes omnino planetarum orbitae secundum Ill. la Place theoriam tractarentur. Accedebat, quod, aucto ab anno 1805 factarum observationum numero, innotescentibus etiam iis, quas novissime secundus operis BRADLEYANI Tomus sistit, spes de majori perfectionis gradu, ex repetita elementorum Martis elaboratione adipiscendo, omni jure alenda esset. Haec sunt, quae ad novam hujus materiae scrutationem me impulerunt: nec expectationem eventus fefellit.

Ope quarundam correctiuncularum elementorum Cl. TRIESNECKER, quibus omnis omnino calculi mei ratio innititur, et perturbationum, quas Ill. LA PLACE Theoria gravitatis suggerit, ratione habita assecutus sum id, quod erat propositum, exoptatissimam scilicet inter Elementa et omnes ab anno 1750 usque ad nostra haec tempora heliocentricos Martis locos observatos congruentiam.

De ipsa methodo, qua in nova elementorum determinatione usus sum, plura dicere supersedeo, cum plane consentiat cum illa, quae suffragiis omnium nostri aevi Astronomorum in hujus generis disquisitionibus omnibus aliis praefertur. De methodo, quae voce: *Aequationum conditionis* venit, sermonem esse, quilibet, vel me non monente, intelligit. Differentia ex comparatione locorum ♂ heliocentricorum, quales observatio suppeditat, cum illis, quae ex elementis computantur emergens aperte functio erit ipsarum correctionum elementorum, de quarum determinatione quaeritur. Formandae hinc sunt aequationes inter has differentias et relativas elementorum variationes unde illarum correctiones eruendae erunt.

Investigatio orbitae ex locis geocentricis magnis implicita est difficultatibus, ex quibus nemo nisi per operosissimos calculos numericos se extricare poterit. Consilium hinc mihi erat, recedendi a via, quam ipse in elaboratione tabularum Veneris ingressus eram, eo magis cum finem propositam, hac methodo assequi et de absoluta seculari elementorum variatione certiorem me fieri posse, omnino desperarem. Jam cum nemo sit qui dubitet, hodiernam de systemate nostro solari notionem proxime veritati appropinquare, consultius procul dubio erit, has variationes seculares unice ex theoria petere, cum nimis brevis observationum bonarum series parem atque illa certitudinis gradum praebere, minime valeat. De petenda ex observationibus probatione determinationum, quas hodie ex methodo ut vocant a priori hausimus, non nisi elapsis duobus vel pluribus annorum centuriis sermo esse poterit.

Maxima quidem ex parte astronomi hujus aevi non amplius occaecati sunt praejudicio de praecipuo valore antiquissimarum Chinensium, Aegyptiorum vel Arabum observationum, omnino tamen usque ad nostra tempora invaluit mos, medium planetarum motum, ex remotissimis observationibus petere. Licet me minime fugiat, magnam annorum seriem qua observationes distant, haud parvi momenti in motus medii determinatione esse, neutiquam tamen hanc methodum sequi volui, cum rem diligentius scrutanti persuasum mihi sit, indagationem hujus elementi unice ex observationibus ab anno 1750 institutis faciendam esse. Non dubito quidem futuros esse, qui hanc meam sententiam inter paradoxa referant, nec *illi* speciosis sunt destituti argumentis. Mearum ergo est partium, probare hujus asserti fundamentum et veritatem. Huic disquisitioni primum laborem impendenti propositum erat, motum medium ex oppositionibus annorum 1595, 1691 1751 et 1807 definire; En observationes ipsas:

Annus et Dies	tempus medium Parisien.	long. hel. ♂ vera ab aequin. med.	long. ♂ med.
1595. Novbr. 9.	$22^h\ 18'\ 57,''1$	$1^s\ 17°\ 33'\ 31,''1$	$37°\ 15'\ 16,''0$
1691. Decbr. 11.	3 26 45, 0	2 19 54 30, 0	69 38 40, 1
1751. Septbr. 15.	8 20 56, 8	11 21 35 0, 9	348 8 11, 4
1807. Mart. 4.	0 27 54, 9	5 13 2 37, 2	165 7 19, 0

Aphelio et Excentricitate pro anno 1800 secundum Cl. TRIESNECKER determinationem et illorum variationibus secularibus ex theoria Ill. LA PLACE adhibitis, pro centri aequationibus, quae Epochis respondent, expressiones sequentes invenimus.

1595.
$+ 38379,''88. \sin v + 1340,''94. \sin 2v$
$+ 55,''55. \sin 3v + 2,''41. \sin 4v$

1691.
$+ 38415,''99. \sin v + 1343,''47. \sin 2v$
$+ 55,''70. \sin 3v + 2,''42. \sin 4v$

1751.
$+ 38436,''49. \sin v + 1344,''94. \sin 2v$
$+ 55,''79. \sin 3v + 2,''43. \sin 4v$

1807.
$+ 38457,''84. \sin v + 1346,''41. \sin 2v$
$+ 55,''89. \sin 3v + 2,''43. \sin 4v.$

v = Anom. vera.

Est ex elementis TRIESNECKERIANIS motus medius secularis Martis $= 2^s\ 1°\ 42'\ 10,''4$. Correctione motus medii annui per x designata, ex combinatione oppositionum annorum 1595 et 1751, 1595 et 1807, 1691 et 1807 aequationes tres exhibentur:

$$\left.\begin{array}{l} 155.949.\ x - 5,''25 = 0; \\ 211.452.\ x - 4,78 = 0; \\ 115.301.\ x - 8,33 = 0; \end{array}\right\} (A)$$

ex quibus per methodum minimorum quadratorum elicitur

$$82327.\ x - 2791 = 0; \quad x = + 0,''0338$$

exhinc

$$\text{mot. med. 100 Annor.} = 2^s\ 1°\ 42'\ 13,''78.$$

Prima haec fuit motus medii determinatio, quae non solum propter observationum sed etiam elementorum errores, quae ad reducendas longitudines heliocentricas veras in medias, imprimis Aphelii et Excentricitatis adhibita sunt, manca et erronea esse poterat. Variationibus motus medii, quae illis Aphelii et Excentricitatis respondent evolutis, erit

$$\left.\begin{array}{l} 155.\ 95.\ y + 1,''276.\ de + 0,''139\ dp + B \\ 211.\ 45.\ y + 2,\ 329.\ de - 0,\ 219\ dp + B \\ 115.\ 30.\ y + 2,\ 251.\ de - 0,\ 121\ dp + B \end{array}\right\}\ (B)$$

y = Correctioni motus medii annui, quem supra invenimus, B = errori medio observationis. Errores excentricitatis et Aphelii pro diversis Epochis ob incertitudinem variationum secularium non eosdem remanere posse, per se patet. Verosimillime autem est, a veritate nos minime aberrare, assumentes $de = 15,''$ $dp = 30''$ et errorem medium observationis (eodem utique signo affectum) $= 15.''$ His valoribus in aequationibus (B) substitutis, sequitur

$$155.\ 95.\ y + 38,''31 = 0;$$
$$211.\ 45.\ y + 43,\ 36 = 0,$$
$$115.\ 30.\ y + 45,\ 13 = 0,$$

unde per conditionem minimi,

$$82324.\ y + 20348 = 0;$$
$$y = \pm\ 0,''247.$$

Et hic est probabilis illius motus medii error, qui ex observationibus supra allatis metuendus erit. Omnibus prorsus dubiis remotis, observationibusque antiquioribus ex tota disquisitione prorsus exclusis, multo aptius mihi visum est, observationes tantum ab anno 1750 factas ad calculum revocare, et in aequationes conditionis ex illis deducendas introducere terminum, quo correctio motus medii exprimatur. Viginti septem oppositiones Martis, hac in *Epocha* observatae, tali gaudent perfectione, ut maxima ex parte incertitudinem quinque minutarum secundarum non admittant. Jam si ex legibus probabilitatis perscrutatur, quanta esse possit incertitudo correctionis ex complexu harum observationum emergens, facili negotio, illam vigesimam minutae secundae partem non assequi, quisque sibi persuadebit. Pro annis 1750-1798 observationibus tantum Grenovicensibus uti placuit, et his deficientibus observationes Viennae, Lutetiae Parisiorum, Seebergi alibique factas ad computum revocavi. Recentissimis fixarum catalogis adhibitis, quamvis observationem de novo reduxi; loca solis plerumque ex observationibus ipsis definivi, et non nisi quinquies ad tabulas solis novissimas Ill. DE ZACH, illarum inopia recurrere me coegit. Hoc modo sequentia loca Martis indagavi, quibus elementa mea correcta innituntur;

Annus et Dies	tempus medium Grenovic.	Æ. app. ♂	Declin. app. ♂	Nomen observatoris
1751. Sept. 13.	12h 8' 27,"13	354° 43' 12,"6	8° 22' 44,"8 A.	BRADLEY
— — 14.	12 3 23, 83	354 26 20, 5	8 26 51, 4 —	—
— — 16.	11 53 17, 08	353 52 29, 4	8 34 33, 0 —	—
— — 19.	11 38 10, 95	353 2 45, 3	8 44 32, 9 —	—
— — 21.	11 28 11, 11	352 30 39, 8	8 49 55, 9 —	—
1753. Novb. 16.	11 44 14, 98	52 14 24, 8	19 38 40, 5 B.	—
1755. Decbr. 28.	12 11 38, 39	100 16 24, 7	26 49 51, 4 —	—
— — 30.	12 1 14, 78	99 23 19, 5	26 55 47, 0 —	—
1758. Febr. 9.	11 41 53, 88	135 27 19, 7	21 39 27, 3 —	—
— — 10.	11 36 24, 10	135 3 51, 8	21 45 14, 6 —	—
— — 11.	11 30 56, 32	134 40 45, 9	21 50 45, 0 —	—
1760. Mart. 1.	12 50 40, 96	172 55 8, 2	7 27 48, 7 —	—
— — 4.	12 34 39, 16	171 51 26, 7	7 53 32, 7 —	—
— — 7.	12 18 29, 42	170 45 45, 7	8 19 8, 2 —	—
1762. Apr. 22.	11 18 50, 56	200 40 25, 0	6 57 54, 0 A.	—
— — 23.	11 13 29, 85	200 19 9, 6	6 52 6, 0 —	—
1764. Jun. 5.	11 31 48, 93	247 48 19, 2	24 30 54, 0 —	BLISS
— — 6.	11 26 24, 93	247 26 14, 3	24 30 57, 8 —	—
— — 7.	11 21 1, 77	247 4 21, 9	24 31 1, 6 —	—
1766. Aug. 10.	12 26 33, 84	326 6 33, 6	20 53 43, 0 —	MASKELYNE
— — 11.	12 21 35, 26	325 50 51, 3	20 59 2, 4 —	—
— — 12.	12 16 36, 10	325 34 59, 8	21 4 14, 1 —	—
— — 13.	12 11 36, 26	325 18 59, 8	21 9 12, 0 —	—
1768. Octb. 25.	11 47 49, 73	31 49 0, 3	11 18 50, 2 —	—
— — 27.	11 37 12, 72	31 7 35, 6	11 11 55, 6 —	—
— — 29.	11 26 38, 27	30 26 49, 5	11 5 15, 7 —	—
— — 30.	11 21 22, 69	30 6 51, 0	11 1 57, 5 —	—
— — 31.	11 16 8, 74	29 47 17, 2	10 58 46, 7 —	—
1770. Decbr. 13.	12 0 19, 52	82 46 4, 0	26 9 32, 4 —	—
1773. Jan. 24.	11 52 5, 86	122 36 26, 5	24 38 2, 6 —	—
1775. Febr. 25.	12 8 32, 73	157 47 27, 4	13 59 6, 1 —	—
1777. Mart. 30.	12 5 43, 34	190 6 56, 1	1 11 19, 1 A.	—
1779. Maj. 9.	12 8 45, 83	229 49 34, 3	18 35 9, 3 —	—
1783. Sept. 30.	11 58 41, 88	9 16 28, 9	0 29 46, 7 —	—
— Octb. 1.	11 53 33, 54	8 58 9, 3	0 33 39, 7 —	—
1785. Novb. 28.	11 40 13, 41	63 16 31, 2	22 54 30, 0 B.	—

Annus et Dies	tempus medium Grenovic.	Æ. app. ♂	Declin. app. ♂	Nomen observatoris
1790. Febr. 11.	12ʰ 13′ 42,″ 75	145° 39′ 12,″ 1	18° 33′ 43,″ 6 B.	Maskelyne
— — 12.	12 8 11, 89	145 15 23, 8	18 41 12, 9 —	—
1792. Mart, 11.	12 36 36, 37	179 29 47, 7	4 16 41, 3 —	—
— — 15.	12 15 8, 31	178 3 24, 3	4 50 0, 0 —	—
— — 18.	11 58 57, 19	176 57 22, 6	5 14 27, 8 —	—
1794. Apr. 19.	12 22 31, 22	213 55 27, 6	12 9 41, 5 A.	—
— — 22.	12 6 24, 29	212 50 29, 1	11 54 33, 7 —	—
— — 23.	12 1 0, 43	212 28 26, 1	11 49 21, 9 —	—
1796. Jun. 14.	11 59 54, 66	263 57 32, 8	26 58 53, 4 B.	—
1798. Aug. 31.	12 9 36, 87	342 47 42, 3	14 13 20, 5 A.	—
1800. Novb. 6.	10 39 27, 10	44 47 18, 5	16 43 26, 3 B.	Bogdanich
— — 9.	10 23 10, 70	43 39 46, 9	16 34 28, 4 —	—
— — 10.	10 17 43, 51	43 17 35, 3	16 31 29, 9 —	—
— — 12.	10 7 3, 80	42 33 53, 7	16 25 32, 4 —	—
— — 8.	10 30 11, 00	44 2 15, 0	16 37 28, 0 —	Koch
1802. Decb. 19.	11 23 45, 72	95 9 5, 9	26 39 40, 5 B.	Triesnecker
— — 20.	11 18 4, 57	94 42 43, 1	26 42 27, 2 —	—
— — 29.	10 26 55, 86	90 46 36, 8	26 59 31, 0 —	—
— — 28.	11 28 42, 00	91 11 8, 0	26 58 18, 0 —	Burckhardt
— — 29.	11 23 4, 00	90 45 35, 0	26 59 32, 0 —	—
1805. Jan. 26.	11 26 17, 94	134 0 26, 6	22 2 1, 0 —	Triesnecker
— — 28.	11 16 9, 35	133 11 7, 0	22 16 13, 5 —	—
— Febr. 1.	10 53 50, 26	131 31 59, 0	22 42 10, 4 —	—
— Jan. 29.	11 54 24, 61	132 45 53, 55	22 23 8, 8 —	Zach
— — 30.	11 48 49, 86	132 21 6, 90	22 29 30, 5 —	—
1807. Mart. 1.	12 22 52, 60	166 55 43, 60	10 8 35, 7 —	Bouvard
— — 2.	12 17 28, 63	166 33 39, 20	10 17 14, 1 —	—
— — 3.	12 12 3, 91	166 11 23, 40	10 25 43, 6 —	—
— — 5.	12 1 12, 79	165 26 26, 50	10 42 35, 5 —	—
— — 6.	11 55 47, 44	165 4 1, 20	10 50 45, 4 —	—
1809. Apr. 2.	11 55 0, 22	200 22 46, 0	5 50 24, 7 A.	Lindenau
— — 3.	11 49 42, 29	200 2 13, 8	5 43 47, 0 —	—
— — 7.	11 28 18, 79	198 37 0, 3	5 16 19, 2 —	—
— — 8.	11 22 55, 69	198 15 8, 9	5 9 30, 6 —	—

Quo longitudines geocentricas ad heliocentricas reducerem radium vectorem Martis e tabulis Cl. Triesnecker desumsi, et ad definiendum oppositionis momentum illam adhibui methodum, quam nuper in Commercio litter. astronom. (Monatl. Corresp. B. XXII. p. 312.) explicavi. Inde sequens schema exhibetur:

Annus et Dies	tempus medium Seeberg.	longit. helioc. ♂ vera ab aequin. med.
1751. Septbr. 14.	8h 54′ 31,″8	11s 21° 35′ 0,″9
1753. Novbr. 16.	11 3 12, 5	1 24 47 44, 9
1755. Decbr. 30.	0 38 17, 8	3 8 34 52, 3
1758. Febr. 2.	15 56 42, 0	4 14 20 46, 9
1760. Mart. 7.	18 4 0, 2	5 18 9 13, 8
1762. Apr. 14.	7 52 8, 4	6 24 46 12, 3
1764. Jun. 1.	1 22 12, 0	8 11 22 6, 0
1766. Aug. 13.	2 17 56, 3	10 20 41 16, 8
1768. Octbr. 25.	20 5 34, 3	1 3 25 35, 2
1770. Decbr. 14.	11 49 41, 0	2 23 6 57, 9
1773. Jan. 20.	6 36 0, 2	4 1 6 52, 9
1775. Febr. 23.	9 29 22, 4	5 5 7 55, 9
1777. Mart. 29.	21 50 5, 0	6 10 0 6, 2
1779. Maj. 11.	22 43 23, 0	7 21 27 22, 5
1783. Octbr. 1.	0 33 52, 9	0 8 10 1, 6
1785. Novbr. 27.	6 47 6, 8	2 5 59 12, 5
1790. Febr. 10.	5 49 50, 7	4 22 14 48, 7
1792. Mart. 15.	15 25 16, 9	5 26 14 54, 5
1794. Apr. 23.	18 35 42, 0	7 4 13 34, 5
1796. Jun. 14.	14 50 56, 7	8 24 35 1, 4
1798. Aug. 31.	12 33 11, 3	11 8 43 27, 4
1800. Novbr. 8.	13 30 24, 8	1 16 25 43, 5
1802. Decbr. 24.	13 37 34, 0	3 2 35 52, 3
1805. Jan. 29.	0 33 51, 8	4 9 13 37, 1
1807. Mart. 4.	1 1 28, 9	5 13 2 37, 2
1809. Apr. 8.	13 45 16, 3	6 18 45 56, 2

Elementa ♂, quae Cl. Triesnecker in Ephemerid. Vindobon. ad annum 1805 edidit, conjunctim cum absolutis perturbationum aequationibus secundum Theoriam Ill. la Place, ad comparationem observationum adhibui. Parva orbitae Martis ad eclipticam inclinatio calculi compendium omnino tolerat; cum enim variatio reductionis eclipticae, ex errore nodi et inclinationis emergens, non nisi minimi momenti esse possit, omnino licebat, in aequationibus conditionis non omnes elementorum correctiones, sed modo illas motus medii, Excentricitatis, Epochae et Aphelii retinere. Ex jam satis accurata elementorum cognitione illud vero redundavit commodum, ut in analytica formulae evolutione ad primam tantum excentricitatis dimensionem respicere necesse esset. Denotando per D differentiam inter longitudinem heliocentricam observatam et calculatam, per d. nt, dL, de, dp, correctiones motus medii, Epochae, Excentricitatis et Aphelii, per T numerum annorum ab Epocha praeterlapsorum, per e, A, excentricitatem et anomaliam mediam, deprehendimus;

$$D - dL.\,(1 - 2e.\cos A) - T.\,d.\,nt\,(1 - 2e.\cos A.) + 2de.\sin A - 2e.\,dp.\cos A = 0;$$

Epocha annus 1750 erat, et hac praesupposita, elementa secundum Cl. TRIESNECKER haec erant;

longit. med. ♂. ad annum 1750. pro Merid. Seeberg.	$0^s\ 21°\ 58'\ 5,''0$
Aphelium	5 1 27 45,
Nodus	1 17 38 12,
Excentricitas pro anno 1800	0,09321735
inclinatio	$1°\ 51'\ 5,''$
mot. med. 100 Annor.	$2^s\ 1°\ 42'\ 10,''4$

Variationes seculares nec non periodicas loci heliocentrici perturbationes, uti jam supra monuimus, ex theoria gravitatis Ill. LA PLACE hausimus, unde juste absoluto calculo pro correctione elementorum ellipticorum orbitae Martis sequentem aequationum seriem obtinuimus:

1751.	+ 2, 46 =	2,"008. d. nt	+ 1,"178. dL	+ 0,"572. de	— 0,"178. dp
1753.	+ 5, 20 =	4, 093. d. nt	+ 1, 055. dL	+ 1, 910. de	— 0, 055. dp
1755.	+ 8, 20 =	5, 472. d. nt	+ 0, 912. dL	+ 1, 764. de	+ 0, 088. dp
1758.	+ 7, 53 =	6, 687. d. nt	+ 0, 826. dL	+ 0, 723. de	+ 0, 174. dp
1760.	+ 1, 13 =	8, 397. d. nt	+ 0, 824. dL	— 0, 675. de	+ 0, 176. dp
1762.	+ 3, 65 =	11, 226. d. nt	+ 0, 913. dL	— 1, 767. de	+ 0, 087. dp
1764.	+ 3, 83 =	15, 351. d. nt	+ 1, 064. dL	— 1, 880. de	— 0, 064. dp
1766.	+ 2, 30 =	19, 687. d. nt	+ 1, 184. dL	— 0, 320. de	— 0, 184. dp
1768.	+ 3, 22 =	20, 961. d. nt	+ 1, 113. dL	+ 1, 593. de	— 0, 113. dp
1770.	+ 1, 80 =	20, 213. d. nt	+ 0, 964. dL	+ 1, 963. de	+ 0, 036. dp
1773.	+ 5, 20 =	19, 611. d. nt	+ 0, 850. dL	+ 1, 192. de	+ 0, 150. dp
1775.	+ 5, 60 =	20, 484. d. nt	+ 0, 814. dL	— 0, 135. de	+ 0, 186. dp
1777.	+ 3, 40 =	23, 664. d. nt	+ 0, 868. dL	— 1, 414. de	+ 0, 132. dp
1779.	+ 4, 10 =	29, 380. d. nt	+ 1, 000. dL	— 2, 000. de	+ 0, 000. dp
1783.	— 1, 30 =	39, 212. d. nt	+ 1, 161. dL	+ 1, 004. de	— 0, 161. dp
1785.	+ 1, 20 =	36, 723. d. nt	+ 1, 022. dL	+ 1, 986. de	— 0, 022. dp
1790.	+ 4, 00 =	32, 835. d. nt	+ 0, 818. dL	+ 0, 431. de	+ 0, 182. dp

1792.	— 2, 60	= 35, 307. d. nt	+ 0, 836. dL	— 0, 958. de	+ 0, 164. dp
1794.	— 3, 00	= 41, 726. d. nt	+ 0, 941. dL	— 1, 899. de	+ 0, 059, dp
1796.	— 4, 30	= 51, 091. d. nt	+ 1, 099. dL	— 1, 698. de	— 0, 099, dp
1798.	— 7, 20	= 57, 757. d. nt	+ 1, 186. dL	+ 0, 184. de	— 0, 186. dp
1800.	— 6, 40	= 55, 063. d. nt	+ 1, 082. dL	+ 1, 797. de	— 0, 082. dp
1803.	— 5, 20	= 49, 515. d. nt	+ 0, 934. dL	+ 1, 872. de	+ 0, 066. dp
1805.	— 2, 30	= 46, 021. d. nt	+ 0, 835. dL	+ 0, 933. de	+ 0, 165. dp
1807.	— 1, 70	= 46, 796. d. nt	+ 0, 818. dL	— 0, 437. de	+ 0, 182. dp
1809.	— 5, 60	= 52, 844. d. nt	+ 0, 891. dL	— 1, 624. de	+ 0, 109. dp

Ad evolutionem harum aequationum methodum *minimorum quadratorum* adhibentes, una cum illo pereleganti eliminationis modo, quem nuperrime in Comment. Societ. Gotting. ad annum 1809 Ill. Gauss publici juris fecit, pro determinatione quatuor incognitarum, has indagavimus aequationes

o = d. nt + 0,02487. dL + 0,00100. de + 0,0000065. dp + 0,03501.

o = dL + 0,7093. de — 0,0368. dp — 5,6084.

o = de — 0,0081. dp + 0,2325.

o = dp — 14,"692.

exhinc

dp = + 14," 692 ; de = — 0," 119

dL = + 6," 15 ; d. nt = — 0," 197.

Quibus valoribus optime conditionis aequationibus satisfieri, posthac videbimus. His correctionibus in usum vocatis Elementa correcta haec sunt;

1750 ad Meridian. Seeberg.

Epocha longit. med. ♂. =	$0^s\ 21°\ 58'\ 11,''15$
Aphelium . . .	$5^s\ 1°\ 27'\ 59,''8$
Excentricitas 1800 . .	0,0932168 = 19227,"33
log. semiaxis maj. . .	0,1828973 = 1,5236923
mot. med. ♂. 365. Die.	$6^s\ 11°\ 17'\ 9,''443$
- - diurnus .	$31'\ 26,''655$
- - 100 annor. C.	$2^s\ 1°\ 10'\ 24,''04$
- - 100 annor. B.	2 1 41 50, 69
Revolutio tropica . .	$686^D\ 22^h\ 18'\ 46,''8$
- siderea . .	686 23 30 41, 4

pro Epocha anni 1800 habebitur porro

aquatio centri	radius vector
= — 38413,"03. sin A	= 1,5303123
+ 2233, 08. sin 2 A	+ 0,1415669. cos A
— 180, 00. sin 3 A	— 0,0065812. cos 2 A
+ 16, 58. sin 4 A	+ 0,0004589. cos 3 A
— 1, 63. sin 5 A	— 0,0000379. cos 4 A
+ 0, 17. sin 6 A	+ 0,0000035. cos 5 A
	— 0,0000010. cos 6 A
variatio secularis	variatio secularis
= — 37,"13. sin. A	= 0,0000128
+ 4, 34. sin 2 A	+ 0,0001362. cos. A
— 0, 53. sin 3 A	— 0,0000128. cos 2 A
	+ 0,0000013. cos 3 A

Excentricitatis et Aphelii variationes seculares ex mente Ill. LA PLACE determinavimus. Correctiones massarum planetarum, quales autor Mechanicae coelestis adhibuit, per signa planetarum designamus; ex Tomo III. p. 90. operis allati sequitur;

variatio annua excentricitatis = + 0,"1863 + 0,"00236. ☿ + 0,"00155. ♀ + 0,"04050. ♂ + 0,"31493. ♃ + 0,"01315. ♄;
= + 0",1863 + 0,"0001 — 0",0005 = 0,"1859.

Variatio annua Aphelii = 50,"10 + 15,"674 + 0,"0159. ☿ + 0,"51109. ♀ + 2,"1293. ♂ + 12,"3129. ♃ + 0,"6938. ♄;
= 50,"10 + 15,"674 + 0,"0378 — 0,"0347 = 65,"677.

Massa Veneris secundum disquisitiones novissimas Cl. virorum DELAMBRE et BOUVARD aucta in proportione 1 : 1,0743, et illa Saturni vicesima parte imminuta.

Cum indoles orbitae martis in aequationibus conditionis pro correctione nodi et inclinationis, perparvos tantum coefficientium valores *suppeditat*, consultius mihi visum est, ex observationum numero aptissimas seligere, et ex his calculo directo elementa ista deducere. Infeliciter vero ad determinandum nodum tam pauca adsunt adminicula, quae huic negotio expediendo apta videntur, ut in hujus elementi enodatione incertitudinem 30 vel 40 minutarum secundarum remansisse, haud dubitem. Sperabam quidem, ex observationibus, quas mense Aprili, Marte in viciniis nodi versante, cum circulo quem vocant repetente instituere propositum erat, novam et perfectiorem invenire nodi determinationem, sed operam et oleum perdidi, coelo semper atris nubibus obtecto et caliginoso, votisque minime favente.

Ad determinationem inclinationis has adhibui observationes;

Annus et Dies	Æ. ♂	Decl. ♂	Inclin. orbitae	Nomen observatoris
1753. Jun. 23.	13° 18′ 34,″ 5	3° 18′ 45,″ 7 B.	1° 51′ 7,″ 4	Bradley
— — 24.	13 56 57, 7	3 34 25, 8 —	9, 0	—
— — 26.	15 13 40, 6	4 5 36, 3 —	9, 6	—
1758. Febr. 9.	135 27 19, 7	21 39 27, 3 —	5, 1	—
— — 10.	135 3 51, 8	21 45 14, 6 —	4, 8	—
— — 11.	134 40 45, 9	21 50 45, 0 —	7, 1	—
1766. Aug. 10.	326 6 33, 6	20 53 43, 0 A.	4, 3	Maskelyne
— — 11.	325 50 51, 3	20 59 2, 4 —	5, 2	—
— — 12.	325 34 59, 8	21 4 14, 1 —	5, 4	—
— — 13.	325 18 59, 8	21 9 12, 0 —	6, 3	—
1775. Febr. 25.	157 47 27, 4	13 59 6, 1 B.	6, 9	—
1790. Febr. 11.	145 39 12, 1	18 33 43, 6 —	6, 1	—
— — 12.	145 15 23, 8	18 41 12, 9 —	5, 4	—
1793. Novbr. 8.	171 11 9, 8	5 30 30, 8 —	7, 6	Piazzi
— — 9.	171 43 30, 0	5 17 7, 0 —	6, 2	—
— — 10.	172 15 40, 4	5 3 44, 4 —	5, 6	—
— — 12.	173 20 0, 3	4 37 0, 6 —	3, 8	—
— — 18.	176 30 50, 3	3 17 15, 1 —	5, 7	—
— — 19.	177 2 22, 3	3 3 59, 8 —	5, 4	—
1805. Jan. 26.	134 0 26, 6	22 2 1, 0 —	4, 0	Triesnecker
— — 28.	133 11 7, 0	22 16 13, 5 —	7, 5	—
— Febr. 1.	131 31 59, 0	22 42 10, 4 —	7, 1	—
— — 15.	126 20 34, 4	23 44 19, 6 —	6, 7	Lindenau
— — 18.	125 27 57, 1	23 51 18, 8 —	7, 3	—
— — 19.	125 11 46, 4	23 53 2, 5 —	4, 6	—

Inclinat. orb. ♂ = 1° 51′ 6,″ 2

Secularem inclinationis variationem, cum valorem duarum minutarum secundarum assequi nequeat, prorsus negligendam esse putavi.

Quae pro definiendo orbitae Martis nodo colligere mihi contigit, sequens schema sistit;

Annus et Dies	longitud. hel. ♂ observ.	latitud. hel. ♂ observ.	☊	Nomen observatoris
1751. Decbr. 18.	1ˢ 18° 4′ 1,″ 1	0° 0′ 42,″ 7	1ˢ 17° 41′ 56,″ 5	Bradley
— — 24.	1 21 23 3, 4	0 7 9, 7	1 17 41 40, 4	—
1753. Novbr. 16.	1 24 49 40, 0	0 13 52, 6	1 17 42 21, 0	—
1768. Octbr. 25.	1 3 14 33, 0	0 27 53, 1	1 17 46 23, 4	Maskelyne

Annus et Dies			longitud. hel. ♂ observ.	latitud. hel. ♂ observ.	☊	Nomen observatoris
1768.	Octbr.	27.	1ˢ 4° 23′ 42,″0	0° 25′ 43,″6	1ˢ 17° 46′ 47,″8	Maskelyne
—	—	29.	1 5 32 37 3	0 23 32, 7	1 17 46 28, 4	—
—	—	30.	1 6 7 1, 1	0 22 28, 4	1 17 46 59, 8	—
—	—	31.	1 6 41 19, 1	0 21 24, 0	1 17 47 24, 6	—
—	Novbr.	6.	1 10 6 12, 1	0 14 52, 4	1 17 47 31, 4	—
—	—	7.	1 10 40 6, 3	0 13 46, 2	1 17 47 7, 3	—
—	—	8.	1 11 14 0, 7	0 12 41, 1	1 17 47 12, 1	—
1779.	Maj.	9.	7 20 13 20, 1	0 4 31, 1	1 17 51 28, 7	—
1800.	Novbr.	6.	1 15 15 34, 9	0 5 16, 4	1 17 59 4, 9	Bogdanich
—	—	9.	1 16 55 46, 4	0 2 3, 0	1 17 59 10, 8	—
—	—	10.	1 17 29 6, 2	0 0 58, 7	1 17 59 21, 7	—
—	—	12.	1 18 35 30, 4	0 1 7, 0	1 18 0 58, 1	—
—	—	8.	1 16 22 29, 3	0 3 8, 3	1 17 59 52, 5	Koch
—	—	10.	1 17 29 6, 2	0 0 58, 9	1 17 59 27, 9	Triesneker
—	—	11.	1 18 2 18, 3	0 0 4, 5	1 18 0 0, 0	—

Denominationibus supra allatis adhibitis, ex theoria gravitatis annuus nodi motus erit

$$= 50,''10 - 22,''7896 - 0,''3185.\ ☿ - 8,''5775.\ ♀ - 1,''9644.\ ♁ - 0,''4331.\ ♂ - 11,''0160.\ ♃ - 0,''4691.\ ♄.$$

$$= 50,''10 - 23,''31 = 26,''79.$$

Ex comparatione plurium observationum, et praecipue illarum Cl. Bradley, cum novissimis nostri aetatis, minor nodi motus annuus, et quidem $= 22,''43$. evadit. Quare motum hunc annuum $= 25''$ assumendo proxime ad veritatem accedere mihi visum est. Reductione rite facta ex complexu observationum pro Epocha anni 1800 erit

$$\text{longit. } ☊ = 1^s\ 17°\ 59'\ 38,''4$$

Sit longitudo ♂ media = ♂, Aphelium $= \pi$, t. numerus annorum ab anno 1800 computatorum. (pro annis ante 1800 t. mutat Signum.)

Jam si elementa elliptica conjunguntur cum perturbationibus, quales ex Veneris et Saturni massis secundum theoriam Ill. la Place correctis prodeunt, habebimus veram Martis in orbita longitudinem heliocentricam per formulam sequentem:

$$\begin{aligned} = ♂ &- (38413,''03 + 0,''3713.\ t).\ \sin\ (♂ - \pi) \\ &- (2233,''08 + 0,''0434.\ t).\ \sin 2\ (♂ - \pi) \\ &- (180,''00 + 0,''0053.\ t).\ \sin 3\ (♂ - \pi) \end{aligned}$$

$+\ 16{,}''58.\ \sin 4\,(♂ - \pi)$

$-\ 1{,}''63.\ \sin 5\,(♂ - \pi)$

$+\ 0{,}''17.\ \sin 6\,(♂ - \pi)$

Arg. II.	$-\ 24{,}''441.\ \sin\,(♂ - ♃)$ $+\ 13{,}''598.\ \sin 2\,(♂ - ♃)$ $+\ 1{,}''181.\ \sin 3\,(♂ - ♃)$ $+\ 0{,}''173.\ \sin 4\,(♂ - ♃)$ $-\ 0{,}''752.\ \sin\,(♂ - ♃) + 1{,}''054.\ \cos\,(♂ - ♃)$
Arg. III.	$+\ 18{,}''326.\ \sin\,(♂ - 2\,♃) - 11{,}''416.\ \cos\,(♂ - 2\,♃)$
Arg. IV.	$-\ 9{,}''806.\ \sin\,(2\,♂ - ♁) - 9{,}''741.\ \cos\,(2\,♂ - ♁)$ $-\ 1{,}''650.\ \sin 2\,(2\,♂ - ♁) - 4{,}''047.\ \cos 2\,(2\,♂ - ♁)$
Arg. V.	$+\ 6{,}''989.\ \sin\,(♁ - ♂)$ $-\ 0{,}''969.\ \sin 2\,(♁ - ♂)$ $-\ 0{,}''183.\ \sin 3\,(♁ - ♂)$
Arg. VI.	$+\ 5{,}''914.\ \sin\,(2\,♁ - 3\,♂) - 3{,}''854.\ \cos\,(2\,♁ - 3\,♂)$
Arg. VII.	$+\ 3{,}''070.\ \sin\,(♀ - 3\,♂) - 6{,}''715.\ \cos\,(♁ - 3\,♂)$
Arg. VIII.	$+\ 0{,}''401.\ \sin\ ♃ + 3{,}''580.\ \cos\ ♃$ $-\ 0{,}''719.\ \sin 2\,♃ - 1{,}''252.\ \cos 2\,♃$
Arg. IX.	$-\ 1{,}''196.\ \sin\,(♀ - 2\,♂) + 0{,}''749.\ \cos\,(♀ - 2\,♂)$
Arg. X.	$-\ 1{,}''273.\ \sin\,(♂ - ♄)$ $+\ 0{,}''422.\ \sin 2\,(♂ - ♄)$
Arg. XI.	$+\ 0{,}''111.\ \sin\ ♄ + 0{,}''724.\ \cos\ ♄$
Arg. XII.	$+\ 0{,}''619.\ \sin\ ♁ + 0{,}''324.\ \cos\ ♁$
Arg. XIII.	$+\ 1{,}''467.\ \sin\,(2\,♂ - 3\,♃) + 1{,}''754.\ \cos\,(2\,♂ - 3\,♃)$
Arg. XIV.	$-\ 2{,}''743.\ \sin\,(2\,♂ - ♃) - 1{,}''291.\ \cos\,(2\,♂ - ♃)$
Arg. XV.	$+\ 1{,}''642.\ \sin\,(3\,♂ - 2\,♃) + 0{,}''859.\ \cos\,(3\,♂ - 2\,♃)$
Arg. XVI.	$+\ 0{,}''983.\ \sin\,(3\,♁ - 5\,♂) - 2{,}''478.\ \cos\,(3\,♁ - 5\,♂)$
Arg. XVII.	$-\ 0{,}''601.\ \sin\,(3\,♁ - 4\,♂) + 0{,}''314.\ \cos\,(3\,♁ - 4\,♂)$
Arg. XVIII.	$-\ 0{,}''479.\ \sin\,(3\,♂ - ♁) - 1{,}''330.\ \cos\,(3\,♂ - ♁)$
Arg. XIX.	$+\ 1{,}''511.\ \sin\,(♂ - 2\,♄) - 0{,}''917.\ \cos\,(♂ - 2\,♄)$

Minores quasdam aequationes, quas theoria suppeditat, ut

$$\begin{array}{l} +\ 0,''223.\ \sin(♀ - ♂) \\ -\ 0,''181.\ \sin(4\ ♃ - 3\ ♂) + 0,''168.\ \cos(4\ ♃ - 3\ ♂) \\ -\ 0,''278.\ \sin(♃ + ♂) + 0,''370.\ \cos(♃ + ♂) \end{array}$$

in tabulas non admisi.

Radius vector Martis

$$\begin{array}{l} = 1,5303123 + 0,000000128.\ t \\ +\ (0,1415669 + 0,000001362.\ t).\ \cos\ (♂ - \pi) \\ -\ (0,0065812 + 0,000000128.\ t).\ \cos 2\ (♂ - \pi) \\ +\ (0,0004589 + 0,000000013.\ t).\ \cos 3\ (♂ - \pi) \\ -\ 0,0000379.\ \cos 4\ (♂ - \pi) \\ +\ 0,0000035.\ \cos 5\ (♂ - \pi) \\ -\ 0,0000010.\ \cos 6\ (♂ - \pi) \end{array}$$

Arg. II. $$\left\{ \begin{array}{l} -\ 0,0000066 \\ +\ 0,0000784.\ \cos\ (♂ - ♃) \\ -\ 0,0000679.\ \cos 2\ (♂ - ♃) \\ -\ 0,0000069.\ \cos 3\ (♂ - ♃) \\ -\ 0,0000011.\ \cos 4\ (♂ - ♃) \\ -\ 0,0000002.\ \cos 5\ (♂ - ♃). \\ +\ 0,0000021.\ \cos\ (♂ - ♃) - 0,0000036.\ \sin\ (♂ - ♃) \end{array} \right.$$

Arg. III. $$\left\{ -\ 0,0000463.\ \cos\ (♂ - 2\ ♃) + 0,0000291.\ \sin\ (♂ - 2\ ♃) \right.$$

Arg. IV. $$\left\{ \begin{array}{l} +\ 0,0000082.\ \cos\ (2\ ♂ - ♄) - 0,0000071.\ \sin\ (2\ ♂ - ♄) \\ +\ 0,0000036.\ \cos\ (4\ ♂ - 2\ ♄) + 0,0000060.\ \sin\ (4\ ♂ - 2\ ♄) \end{array} \right.$$

Arg. V. $$\left\{ \begin{array}{l} +\ 0,0000024 \\ -\ 0,0000188.\ \cos\ (♄ - ♂) \\ +\ 0,0000052.\ \cos 2\ (♄ - ♂) \\ +\ 0,0000012.\ \cos 3\ (♄ - ♂) \\ +\ 0,0000004.\ \cos 4\ (♄ - ♂) \\ +\ 0,0000002.\ \cos 5\ (♄ - ♂) \end{array} \right.$$

Arg. VI. $$\left\{ -\ 0,0000182.\ \cos\ (2\ ♄ - 3\ ♂) - 0,0000118.\ \sin\ (2\ ♄ - 3\ ♂) \right.$$

Arg. VII. $$\left\{ -\ 0,0000011.\ \cos\ (♀ - 3\ ♂) - 0,0000023.\ \sin\ (♀ - 3\ ♂) \right.$$

Arg. VIII. $$\left\{ \begin{array}{l} -\ 0,0000065.\ \cos\ ♃ + 0,0000056.\ \sin\ ♃ \\ +\ 0,0000040.\ \cos 2\ ♃ - 0,0000069.\ \sin 2\ ♃ \end{array} \right.$$

Arg. IX. $$\left\{ \begin{array}{l} +\ 0,0000017 \\ +\ 0,0000049.\ \cos\ (♀ - 2\ ♂) + 0,0000030.\ \sin\ (♀ - 2\ ♂) \end{array} \right.$$

Arg. X. { — 0,0000003
+ 0,0000045. cos (♂ — ♄)
— 0,0000022. cos 2 (♂ — ♄)
— 0,0000001. cos 3 (♂ — ♄)

Arg. XII. { — 0,0000020. cos ♁ + 0,0000011. sin ♁

Arg. XIII. { — 0,0000065. cos (2 ♂ — 3 ♃) + 0,0000086 sin (2 ♂ — 3 ♃)

Arg. XIV. { + 0,0000077. cos (2 ♂ — ♃) — 0,0000040. sin (2 ♂ — ♃)

Arg. XV. { — 0,0000057. cos (3 ♂ — 2 ♃) + 0,0000030. sin (3 ♂ — 2 ♃)

Arg. XVI. { — 0,0000028. cos (3 ♁ — 5 ♂) — 0,0000070. sin (3 ♁ — 5 ♂)

Arg. XVII. { + 0,0000021. cos (3 ♁ — 4 ♂) — 0,0000025. sin (3 ♁ — 4 ♂)

Arg. XVIII. { + 0,0000015 cos (3 ♂ — ♁) — 0,0000048. sin (3 ♂ — ♁)

Arg. XIX. { — 0,0000052 cos (♂ — 2 ♄) — 0,0000027. sin (♂ — 2 ♄)

Latitudinis perturbationes ne dimidiam quidem minutae secundae partem attingunt, quam ob rem omni jure omittebantur.

Formularum cum septem viginti oppoſitionibus, comparatione instituta omnibus numeris absoluta apparet Theoriae cum observatione consonantia;

Anni	Error form.	Anni	Error form.	Anni	Error form.
1751	— 1,"8	1770	— 0,"5	1794	— 1,"7
1753	+ 0, 5	1773	+ 1, 8	1796	+ 0, 5
1755	+ 2, 7	1775	+ 1, 8	1798	— 0, 4
1758	+ 1, 2	1777	+ 1, 1	1800	— 1, 8
1760	— 4, 9	1779	+ 3, 4	1803	— 1, 9
1762	— 1, 2	1783	+ 1, 6	1805	— 0, 7
1764	+ 1, 0	1785	+ 2, 2	1807	— 0, 3
1766	+ 1, 1	1790	+ 2, 7	1809	— 2, 5
1768	+ 2, 3	1792	— 3, 1		

alia autem via de rite facta elementorum determinatione me certum fieri, cum exoptarem, ad radium vectorem probandum, observationes quadraturarum sex, annis 1776, 1781, 1783, 1784, 1789 et 1790 Grenovici institutas, ad calculum revocavi. Quae inde emergebant, disquisitionibus nostris pariter suffragantur. Denominamus l, λ, geocentricam et heliocentricam planetae longitudinem, β latitudinem heliocentricam, r radium vectorem ex elementis computatum, L, R, longitudinem heliocentricam terrae et illius a sole distantiam.

Inde erit

$$r. \sin(l - \lambda). \cos\beta - R. \sin(l - L.) = o;$$

sit porro $(1 + \mu)$ factor pro correctione ipsius r per quadraturas determinandus; quaeque observatio suppeditat aequationem hujus formae.

$$r(1 + \mu). \sin(l - \lambda). \cos\beta - R. \sin(l - L) = o;$$

ex quibus emergit quantitas μ.

Observationes quadraturarum hae erant;

Annus et Dies			tempus medium Grenovic.			Æ. ♂			Declin. ♂			
1776.	Decbr.	24.	18h	1′	26,″97	184°	40′	8,″2	0°	26′	10,″5	B.
—	—	25.	17	59	6, 82	185	4	8, 5	0	16	42, 4	—
1781.	Novbr.	18.	6	5	53, 41	329	36	0, 0	14	2	14, 8	A.
1783.	Maj.	20.	18	18	3, 32	333	16	45, 3	13	24	4, 6	—
—	—	21.	18	16	39, 53	333	54	53, 5	13	11	39, 9	—
1784.	Jan.	22.	5	52	8, 25	29	44	42, 5	13	12	38, 9	B.
—	—	23.	5	50	18, 27	30	16	16, 5	13	24	43, 1	—
1789.	Novbr.	8.	18	9	40, 73	141	15	8, 7	17	7	51, 3	—
—	—	9.	18	7	30, 56	141	41	30, 9	17	1	4, 8	—
1790.	Maj.	12.	6	26	10, 23	147	14	16, 8	15	3	18, 3	—
—	—	13.	6	23	46, 98	147	37	30, 5	14	53	39, 8	—
—	—	14.	6	21	24, 68	148	0	58, 4	14	43	56, 2	—
—	—	15.	6	19	3, 35	148	24	41, 0	14	34	4, 8	—
—	—	16.	6	16	42, 79	148	48	35, 1	14	24	6, 0	—
—	—	17.	6	14	23, 13	149	12	43, 0	14	14	4, 3	—

Rite absoluto calculo ex observationibus hic allatis erit:

$$0{,}9837354\ (1 + \mu) - 0{,}9837306 = 0;$$
$$0{,}9836568\ (1 + \mu) - 0{,}9836508 = 0;$$
$$1{,}0132204\ (1 + \mu) - 1{,}0132261 = 0;$$
$$1{,}0134294\ (1 + \mu) - 1{,}0134357 = 0;$$
$$0{,}9846182\ (1 + \mu) - 0{,}9846010 = 0;$$
$$0{,}9846794\ (1 + \mu) - 0{,}9846866 = 0;$$
$$0{,}9875955\ (1 + \mu) - 0{,}9875865 = 0;$$
$$0{,}9896765\ (1 + \mu) - 0{,}9896760 = 0;$$
$$0{,}9894917\ (1 + \mu) - 0{,}9895010 = 0;$$

$$1{,}0105132\,(1+\mu) - 1{,}0105471 = 0;$$
$$1{,}0110691\,(1+\mu) - 1{,}0110787 = 0;$$
$$1{,}0115230\,(1+\mu) - 1{,}0115152 = 0;$$
$$1{,}0118648\,(1+\mu) - 1{,}0118563 = 0;$$
$$1{,}0121161\,(1+\mu) - 1{,}0121047 = 0;$$
$$1{,}0123027\,(1+\mu) - 1{,}0122642 = 0;$$

inde
$$1{,}0018992\,(1+\mu) - 1{,}0018969 = 0;$$
$$\mu = 0{,}0000023;$$

hinc quam proxime erit semiaxeos correctio = 0,000003; ex cujus omissione in geocentricam planetae longitudinem nunquam unius minutae secundae variationem redundare posse, facili negotio eruitur.

Praestare quandoque potest, radium vectorem ex observationibus definitum non cum illo e tabulis Computato, sed sine interventu illius cum ipso semiaxi majori, comparare. Sit pro Epocha observationis, excentricitas = e, cos V = e; $z = R. \frac{\sin(l - L)}{\sin(l - \lambda).\ \cos\beta}$; dabitur differentia inter z (radium vectorem ex observatione determinatum) et a (semi axem majorem) per has formulas finitas

$$a - z = 2.\sin.\frac{\psi}{2}.\ \sin\left(V + \frac{\psi}{2}.\right) z.\frac{e}{1-e^2}$$

$$a - z = 2.\sin.\frac{\psi}{2}.\ a.\ \frac{e.\ \sin\left(V + \frac{\psi}{2}\right)}{1 - e.\ \cos\,(V + \psi)}$$

angulus ψ ita determinandus est, ut sit

$$V + \psi = \text{Anomaliae verae}.$$

Ad hanc comparationem juste instituendam requiritur, ut radius vector observatus per applicationem perturbationum ad distantiam *ellipticam* reducatur.

Tabularum constructio cum illa Veneris re ipsa convenit. Per additionem quantitatum constantium omnes longitudines heliocentricae et radii vectoris perturbationes positivae factae sunt. De summa perturbationum in longitudine detrahendae sunt 124″ et ab illis radii vectoris quantitas 0,0003289. Constantium valores pro qualibet aequatione hi sunt;

I. Quantitates constantes pro perturbationibus in longitudine heliocentrica ♂.

Tab. VII.	Arg. II.	♂ — ♃.	Quantitas	constans	+ 34″.
.. VIII.	.. III.	♂ — 2 ♃.	..	..	22.
.. IX.	.. IV.	2 ♂ — ♁.	..	..	17.
.. X.	.. V.	♁ — ♂.	..	..	8.
.. XI.	.. VI.	2 ♁ — 3 ♂.	..	..	8.
.. XII.	.. VII.	♀ — 3 ♂.	..	..	8.
.. XIII.	.. VIII.	♃.	..	..	5.
.. XIV.	.. IX.	♀ — 2 ♂.	..	..	2.
.. XV.	.. X.	♂ — ♄.	..	..	2.
.. XVI.	.. XI.	♄.	..	..	1.
.. XVII.	.. XII.	♁.	..	..	1.
.. XVIII.	.. XIII.	2 ♂ — 3 ♃.	..	..	3.
.. XIX.	.. XIV.	2 ♂ — ♃.	..	..	3.
.. XX.	.. XV.	3 ♂ — 2 ♃.	..	..	2.
.. XXI.	.. XVI.	3 ♁ — 5 ♂.	..	..	3.
.. XXII.	.. XVII.	3 ♁ — 4 ♂.	..	..	1.
.. XXIII.	.. XVIII.	3 ♂ — ♁.	..	..	2.
.. XXIV.	.. XIX.	♂ — 2 ♄.	..	..	2.
					124″.

II. Quantitates constantes pro perturbationibus radii vectoris.

Tab. XXVI.	Arg. II.	Quantitas	constans	+ 0,0001492.
.. XXVII.	.. III.	..	..	547.
.. XXVIII.	.. IV.	..	..	173.
.. XXIX.	.. V.	..	..	123.
.. XXX.	.. VI.	..	..	216.
.. XXXI.	.. VII.	..	..	25.
.. XXXII.	.. VIII.	..	..	106.
.. XXXIII.	.. IX.	..	..	40.
.. XXXIV.	.. X.	..	..	68.
.. XXXV.	.. XII.	..	..	23.
.. XXXVI.	.. XIII.	..	..	108.
.. XXXVII.	.. XIV.	..	..	87.
.. XXXVIII.	.. XV.	..	..	64.
.. XXXIX.	.. XVI.	..	..	75.
.. XXXX.	.. XVII.	..	..	33.
.. XXXXI.	.. XVIII.	..	..	50.
.. XXXXII.	.. XIX.	..	..	59.
				0,0003289.

Silentio non praetereundum est, in Tab. XXV. pro radio vectore elliptico sex, in ejus vero perturbationibus septem notas decimales adhibitas esse. Quando in computatione locorum ⚴ heliocentricorum, ut saepenumero evenit, non operae pretium est, quasque singulas minutas secundas respicere, consilii erit, pro perturbationibus longitudinis non nisi Tabulis VII-XIII, et pro illis radii vectoris Tabulis XXVI-XXXII uti.

Hoc vero casu et valores constantium minuendi sunt; pro longitudine constans ad 102″ et pro radio vectore ad 0,0002682 deprimitur. Error inde metuendus rarissime quinque minutarum secundarum erit. Ne tabularum volumen ultra modum excresceret, undecim tantum Argumenta Epochis adjeci; reliqua septem ex combinatione priorum sequuntur.

Arg. XIII	= 2. Arg. II	—	Arg. VIII.
Arg. XIV	= 2. Arg. II	+	Arg. VIII.
Arg. XV	= 3. Arg. II	+	Arg. VIII.
Arg. XVI	= Arg. VI	—	Arg. IV.
Arg. XVII	= 2. Arg. V	—	Arg. IV.
Arg. XVIII	= 2. Arg. XII	—	3. Arg. V.
Arg. XIX	= Arg. X	—	Arg. XI.

Tabulam pro aequatione centri et radio vectore ad singulas quindecim minutas anomaliae mediae computavi, et loco differentiarum ipsarum, illas pro variatione unius minutae apposui, cum talis procedendi modus interpolationis negotium facilius reddere videatur.

Parallaxeos, Semidiametri et Aberrationis calculum per quasdam tabulas auxiliares in fine adjectas sublevare studui. Cardo rei hic imprimis in invenienda planetae a terra distantia versatur. Sit commutatio $= \gamma$, Distantia planetae et terrae a sole, r, R, Distantia planetae a terra $= \Delta$, erit

$$\Delta = \sqrt{(r^2 + R^2 - 2\, r\, R.\cos.\gamma)}$$

et substitutis distantiis mediis ipsorum r et R,
fit

$$\Delta = \sqrt{(3{,}3217 - 3{,}0474.\cos.\gamma.)}$$

ex qua formula Tab. XLV computata est. Variationes ipsius $d\Delta$ ex variatione dr et dR exortae exhibentur per formulas sequentes:

$$\frac{d\Delta}{dr} = \frac{r - R.\cos.\gamma}{(r^2 + R^2 - 2\, r\, R.\cos.\gamma)^{\frac{1}{2}}} = \frac{r - R.\cos.\gamma}{\Delta}$$

$$\frac{d\Delta}{dR} = \frac{R - r.\cos.\gamma}{(r^2 + R^2 - 2\, r\, R.\cos.\gamma)^{\frac{1}{2}}} = \frac{R - r.\cos.\gamma}{\Delta}$$

In orbita Martis dr valorem 0,1420, in illa terrae dR non nisi 0,0168 assequi potest. Graviter errandi haud erit locus, quantitate dR neglecta, sed operae pretium erit, ad ipsius dr variationem in calculo respicere seu rationem habere. Tab. XLVI cum Argumento *Commutationis* exhibet valores formulae

$$\frac{1{,}5233 - \cos.\ \gamma}{\Delta} = (d\Delta)$$

unde veram distantiam planetae a terra deprehendimus

$$= \Delta + (1{,}5237 - r) \quad (d\Delta)$$

Supponendo planetam in distantia media a sole versari, eadem pagella valores parallaxeos et semidiametri Martis praebet. Si calculi finis, ad quasque singulas minutas secundas respicere suadet, necesse est, in harum quantitatum computo correctionem distantiae planetae a terra Tab. XLVI contentam in usum vocare. Correctiones parallaxeos et Semidiametri, quae valori (1,5237 — r) (dΔ) respondent, ex duabus tabulis petendae sunt, quas hic appono;

I. Correctio Parallaxeos.

Arg. Δ	Arg. (1,5237 — r) (dΔ)								
	0,02	0,04	0,06	0,08	0,10	0,12	0,14	0,16	0,18
0,4	1,″1	2,″0	2,″9	3,″7	4,″4	5,″1	5,″7	6,″3	6,″8
0,6	0,5	0,9	1,4	1,8	2,1	2,5	2,8	3,1	3,4
0,8	0,3	0,5	0,8	1,0	1,2	1,4	1,6	1,8	2,0
1,0	0,2	0,4	0,5	0,7	0,8	0,9	1,1	1,2	1,3
1,2	0,1	0,3	0,3	0,4	0,5	0,6	0,7	0,8	0,9

II. Correctio Semidiametri.

Arg. Δ	Arg. (1,5237 — r) (dΔ)								
	0,02	0,04	0,06	0,08	0,10	0,12	0,14	0,16	0,18
0,4	0,″6	1,″1	1,″5	1,″9	2,″3	2,″7	3,″0	3,″3	3,″6
0,6	0,3	0,5	0,7	0,9	1,1	1,5	1,5	1,7	1,8
0,8	0,2	0,3	0,4	0,5	0,7	0,8	0,9	1,0	1,1
1,0	0,1	0,2	0,3	0,4	0,4	0,5	0,6	0,7	0,7

Detrahuntur hae correctiones a valoribus Tabulae XLVI si quantitas (1,5237 — r) (dΔ) negativa est, adduntur casu contrario.

Si locorum geocentricorum copia est, unde diurnus planetae motus (= m) exacte sequitur, procul dubio aberratio facillime obtinetur, illo et planetae a terra distantia in usum vocatis. Erit

$$\text{Log. Aberrat. in longitud.} = \log.\ m + \log.\ \Delta + \log.\ 7{,}7505094.$$

Quando vero motus geocentricus ex observationibus elici nequeat, aberratio ex Tab. XLVII cum Argumentis "*Elongationis*, *Parallaxis annuae*" et "*longitudinis geocentricae*" petenda est. Constructa est haec Tab. ex formula

$$— 20,''3. \cos (l — L) — 16,''5. \cos (l — \lambda) — 1,''2. \cos l + 0,''4 \sin l.$$

Nova et exoptata tabulas comprobandi occasio, ex novissima Martis in specula Seebergensi observata oppositione mihi enata est. Quae ex comparatione observationum cum elementis meis correctis proveniunt, coronidis loco hic subjungam.

Annus et Dies	temp. med. Seeberg.	Æ. ♂ app. limb. I.	Decl. ♂ app. centr.
1811. Maj. 17.	12ʰ 32′ 50,″3	242° 58′ 44,″4	22° 12′ 54,″9
— — 18.	12 27 31, 7	242 37 59, 0	22 12 36, 9
— — 19.	12 22 11, 7	242 16 55, 8	22 12 12, 3
— — 20.	12 16 50, 4	241 55 30, 9	22 11 45, 0
— — 22.	12 6 4, 0	241 11 46, 2	22 10 33, 4
— — 24.	11 55 14, 2	240 27 9, 7	22 8 50, 7
— — 29.	11 28 5, 2	238 34 29, 2	22 3 18, 9

exhinc sequitur

longit. helioc. ♂ observ.	longit. e tab.	Correct. tab.	latit. hel. ♂ observ.	latit. e tab.	Correct. tab.
239° 7′ 57,″5	239° 7′ 57,″6	+ 0,″1	0° 21′ 16,″2	0° 21′ 19,″5	— 3,″3
239 39 26, 1	239 39 21, 6	+ 4, 5	0 22 15, 7	0 22 18, 9	— 3, 2
240 10 49, 7	240 10 49, 3	+ 0, 4	0 23 14, 7	0 23 17, 8	— 3, 1
240 42 21, 5	240 42 20, 1	+ 1, 4	0 24 13, 8	0 24 17, 6	— 3, 8
241 45 32, 3	241 45 31, 0	+ 1, 3	0 26 13, 8	0 26 17, 5	— 3, 7
242 48 56, 4	242 48 55, 2	+ 1, 2	0 28 12, 0	0 28 16, 3	— 4, 3
245 28 24, 8	245 28 23, 5	+ 1, 3	0 33 10, 6	0 33 13, 4	— 2, 8

Correct. media tabul. in longit. helioc. = + 1,″44.

. . . . latit. helioc. = — 3, 46.

☍. ♂. ☉. 1811. 24. Maj. 11ʰ 52′ 37,″9. temp. med. Seeberg.

longit. helioc. ♂ = 8ˢ 2° 48′ 53,″16.

latit. helioc. ♂ = 0° 28′ 13,″2. Austr.

Tabularum usum completo duorum locorum Martis heliocentricorum calculo illustravimus, ita ut et minus exercitatis nulla omnino difficultas in eis adhibendis occurrere possit. Dabam in Specula astronomica Ernestina, quae in Monte Seeberg est, d. 1. Jun. 1811.

Exemplum I.

Quaeritur longit. et latit. helioc. Martis et distant. ejus a sole pro 1768 7 Novbr. $10^h\ 40'\ 19''$ temp. med. Grenov.

	Long. med. ♂	Aphelium	Nodus	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
	s ° ′ ″	s ° ′ ″	s ° ′ ″											
1768	7 17 44 14,4	5 1 47 44,7	1 17 46 18,4	104	575	986	647	661	493	528	125	378	254	279
Novbr.	5 9 19 3,4	54,8	21,0	372	302	53	390	337	25	70	468	414	28	832
7 dic.	3 40 6,6	1,3		8	7	1	9	8	1	2	11	9	1	19
10^h	13 6,1	5 1 48 40,8	1 17 46 39,4	484	884	40	47	6	519	600	605	802	283	130
40′	52,4	1 0 58 19,5	1 10 39 47,9											
19″	0,4	7 29 9 38,7	11 22 53 8,5											
Red. ad merid. Gren.	56,2	Anom. med.	Arg. latit.											

	1 0 58 19,5
Aequat. centr.	+ 9 40 4,7
Perturbat.	+ 1 23,7
Long. vera in orb.	1 10 39 47,9
Reduct. ad Eclip. +	13,2
Long. vera in Ecl.	1 10 40 1,2

		° ′ ″
Aequat. cent.	+	9 42 20,1
Variat. sec.	—	11,4
Quant. const.	—	2 4,0
	+	9 40 4,7

Argumenta reliqua modo sequenti formantur

Arg. XIII	= 2 Arg. II — Arg. VIII = 368
Arg. XIV	= 2 Arg. II + Arg. VIII = 568
Arg. XV	= 3 Arg. II + Arg. VIII = 52
Arg. XVI	= Arg. VI — Arg. IV = 966
Arg. XVII	= 2 Arg. V — Arg. IV = 54
Arg. XVIII	= 2 Arg. XII — 3 Arg. V = 119
Arg. XIX	= Arg. X — Arg. XI = 519

Perturb. in longit. hel.

II	27,″9
III	1, 3
IV	0, 8
V	9, 3
VI	4, 3
VII	14, 3
VIII	1, 4
IX	2, 1
X	3, 0
XI	1, 0
XII	1, 7
XIII	2, 8
XIV	5, 3
XV	3, 5
XVI	0, 4
XVII	1, 2
XVIII	0, 7
XIX	2, 7
	83,″7

Radius vector.

	1,461340
Variat. secul. . .	+ 16
Const.	− 329
Perturbat. . . .	+ 151
Dist. ♂ a ☉	= 1,461178

Ex tab. XLIV. latit. helioc. ♂ = − 0° 13′ 45,″3 = β

log. cos. β =	9,9999965
log. Dist. ♂ a ☉ =	0,1647031
log. r . .	= 0,1646996
log. R . . .	= 9,9954980
R . . .	= 0,9896872

Perturb. rad. vect.	
II	0,0000019
III	396
IV	296
V	20
VI	33
VII	38
VIII	72
IX	0
X	98
XII	17
XIII	215
XIV	34
XV	20
XVI	63
XVII	44
XVIII	28
XIX	114
	1507

Pro Aberr. et Parall. ex Tab. XLVII. et XLVI.

Aberr.

Elong. . .	= 196° 34′
ann. Parall.	= 11 9
long. geoc.	= 29 32
Pars I . .	= + 19,″5
Pars II . .	= − 16, 1
Pars III . .	= − 0, 8
Aberr. in long.	= + 2, 6

quam calc. direct. 2,″5 invenimus.

Parall.

Cum Arg. γ = 5° 26′ . .	16,″4
cum Arg. (1,5237—r) dΔ habeb. ex tabul. pag. 22 Introd.	+ 1, 9
	18, 3

Quoad significationem litterarum vid. tabul. Veneris pag. 6.

Locus observatus

Long. geoc.	=	29° 31′ 58,″4
aberr.	= −	2,5
nutat.	= −	17,9
l	=	29 31 38, 0
b	= −	0 41 28, 2
L	=	46 6 7, 2
l — L	=	16 34 29, 2
λ — L	=	5 26 6, 7

log. R	=	9,9954980
log. r	=	0,1646996
log. $\frac{R}{r}$	=	9,8307984
log. sin (l — L) .	=	9,4552508
log. sin (l — λ) .	=	9,2860492
(l — λ)	=	11° 8′ 26,″4
l	=	29 31 38, 0
Long. helioc. observ.	=	40 40 4, 4
e tabul. . . .	=	40 40 1, 2
Error. tabul. . .	=	+ 3, 2

log. sin (λ — L) .	=	8,9764074
log. R.	=	9,9954980
c. log. sin (l — λ)	=	0,7139508
c. log. r . . .	=	9,8353004
log. tang. b . .	=	8,0814623
log. tang. β . .	=	7,6025189
β seu latit. helioc. observ. . . .	=	0° 13′ 45,″9
e tabul. . . .	=	0 13 45, 3
Error. tabul. . .	=	+ 0, 6

Exemplum II.

Quaeritur longitudo et latitudo helioc. Martis et distantia ejus a Sole pro 1811 17 Maj. 12ʰ 32′ 50″ temp. med. Seebergens.

pro	Long. med. ♂	Aphelium	Nodus	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
1811	5ˢ 27° 45′ 0,″3	5 2° 34′ 54,″9	5 18° 4′ 13,″4	339	184	712	782	70	799	155	293	778	716	276
Maj.	2 2 53 18, 7	21, 6	8, 0	147	119	21	154	133	10	28	185	164	11	329
17 dieb.	8 54 33, 2	3, 1	1, 0	21	17	3	22	19	1	4	26	23	2	47
12ʰ	15 43, 3			1	0	0	1	1	0	0	1	1	0	1
32′	41, 9	5 2 35 19, 6	1 18 4 22, 4	508	320	736	959	223	810	187	505	966	729	653
50″	1, 1	8 9 49 18, 5	7 29 8 18, 0											

Long. med. ♂	8 9 49 18, 5	3 7 13 58, 9	6 11 3 55, 6
Aeq. centri	— 10 43 39, 5	Anom. med.	Arg. latit.
Perturbat.	+ 2 39, 0		
Long. vera ♂ in orbit.	7 29 8 18, 0		
Red. ad Ecl.	— 20, 4		
Long. vera in Eclipt.	7 29 7 57, 6		
Long. hel. ♂ observ.	7 29 7 57, 5		
Error tabul.	0, 1		

— 10° 41′ 31″,2 = Aeq. cent.
— 4,3 = Var. secul.
— 2 4,0 = Const.

— 10 43 39,5

Radius vect.

1,664775
\+ 16 = Var. secul.
— 329 = Const.
\+ 128 = Perturbat.

1,664590

Ex tab. XLIV. latit. helioc.

= 0° 21′ 19″,5 aust.
latit. obs. = 0 21 16,2 —

Error tab. — 3,3

Modo simili ut in exemplo priori argumenta reliqua formantur

Arg. XIII	=	829
Arg. XIV	=	203
Arg. XV	=	711
Arg. XVI	=	487
Arg. XVII	=	182
Arg. XVIII	=	429
Arg. XIX	=	237

Perturbationes	in longit.	rad. vect.
II =	35,″5	2
III	43, 4	480
IV	31, 4	212
V	6, 9	22
VI	13, 2	70
VII	2, 6	42
VIII	6, 3	56
IX	1, 3	8
X	2, 0	87
XI	0, 8	
XII	0, 3	26
XIII	2, 5	1
XIV	0, 0	71
XV	0, 2	49
XVI	5, 6	97
XVII	0, 6	19
XVIII	3, 0	16
XIX	3, 4	27
Sum.	159, 0	1285

TABVLAE MARTIS

NOVAE ET CORRECTAE

EX

THEORIA GRAVITATIS

CLAR. DE LA PLACE

ET EX

OBSERVATIONIBUS RECENTISSIMIS

DEDUCTAE.

TABVLA I.

Specularum aſtronomicarum differentia a Meridiano Seebergensi in tempore, et latitudo geographica, cum reductione Epocharum medii motus Martis.

Nomina Specularum.		Diff. Merid. in tempore.			Latitudo.			Reductio Epoch. motus med. ♂		
		h	′	″	°	′	″		′	″
Aboa	*Finniae*	0	46	13, or.	60	27	7	—	1	0.5
Agria	Hungariae	0	38	57, or.	47	53	54	—	0	50.5
Alba *Carolina*	Hungariae	0	51	22, or.	46	4	21	—	1	17.4
Alexandria	Aegypti	1	16	47, or.	31	13	5	—	1	40.6
Amſtelodamum	Bataviae	0	23	24, oc.	52	22	17	+	0	30.7
Barcino	Hispaniae	0	34	13, oc.	41	22	53	+	0	44.8
Berolinum	Brandenb.	0	10	30, or.	52	31	45	—	0	13.8
Blenheim	Angliae	0	48	18, oc.	51	50	29	+	1	3.3
Bononia	Italiae	0	2	27, or.	44	29	56	—	0	32.1
Boſtonium	Amer. ſept.	5	26	51, oc.	42	21	11	+	4	51.0
Brema	Saxon infer.	0	7	44, oc.	53	4	46	+	0	10.1
Brunsvicum	Saxon. infer.	0	0	48, oc.	52	15	29	+	0	1.1
Buda	Hungariae	0	33	14, or.	47	29	44	—	0	43.3
Budiſſina	Luſatiae	0	14	46, or.	51	10	35	—	0	19.4
Cairo	Aegypti	1	22	19, or.	30	2	21	—	1	47.8
Cantabrigia	Angliae	0	42	38, oc.	52	12	36	+	0	55.8
Caſſella	Weſtphal.	0	5	7, oc.	51	19	20	+	0	6.7
Cella	Weſtphal.	0	2	43, oc.	52	37	49	+	0	3.5
Coburgum	Franconiae	0	0	56, or.	50	15	19	—	0	1.2
Conimbrica	Luſitaniae	1	16	33, oc.	40	12	30	+	1	40.3
Conſtantinopolis	Turciae	1	12	45, or.	41	1	27	—	1	33.3
Cracovia	Poloniae	0	36	48, or.	50	3	54	—	0	48.2
Cremifanum	Auſtr. ſup.	0	13	36, or.	48	3	29	—	0	17.8
Dillinga	S.ıeviae	0	0	55, oc.	48	34	33	+	0	1.2
Dorpatum	Liboniae	1	3	52, or	58	22	47	—	1	23.7
Dresda	Saxoniae	0	11	54, or.	51	3	9	—	0	15.6
Dublinum	Hiberniae	1	8	21, oc.	53	21	11	+	1	29.5
Florentia	Italiae	0	2	7, or.	43	46	41	—	0	2.8
Gades	Hiſpaniae	1	8	6, oc	36	32	1	+	1	29.2
Gedanum	Boruſſiae	0	51	36, or.	54	20	48	—	0	41.4
Geneva	Helvetiae	0	18	21, oc.	46	12	0	+	0	24.0
Gotha, Obſerv.	Thuringae	0	0	0	50	56	7		0	0.0
Gottinga	Weſtphal.	0	3	14, oc	51	31	54	+	0	4.2
Genua	Italiae	0	7	4, oc.	44	24	59	+	0	9.3
Grenovicum	Angliae	0	42	56, oc.	51	28	39	+	0	56.2
Halla	Weſtphal.	0	4	56, or	51	30	34	—	0	6.4
Hamburgum	Saxon. infer.	0	3	4, oc.	53	34	32	+	0	4.1
Havnia	Daniae	0	7	22, or.	55	41	4	—	0	9.7
Holmia	Sueciae	0	29	17, or.	59	20	31	—	0	38.4
Iſenberga	Saxoniae	0	4	50, or	50	57	58	—	0	6.3
Lilienthalium	Saxon. infer.	0	7	16, oc.	53	8	25	+	0	9.6
Lipſia	Saxoniae	0	6	24, or.	51	20	44	—	0	8.4

TABVLA I.

Specularum astronomicarum differentia a Meridiano Seebergensi in tempore, et latitudo geographica, cum reductione Epocharum medii motus Martis.

Nomina Specularum.		Differ. Merid. in tempore.			Latitudo.			Reductio Epoch. motus med. ♂.		
		h	′	″	°	′	″		′	″
Londinum St. Paul's	Angliae	0	43	18, oc.	51	30	49	+	0	56.7
Londinum, Marlb. House Cels.	Ducis	0	43	27, oc.	51	30	50	+	0	56.9
Lugdunum	Bataviae	0	24	59, oc.	52	9	30	+	0	32.7
Lutetia Parisorum O. J.	Galliae	0	33	35, oc.	48	50	14	+	0	44.0
Madritum	Hispaniae	0	57	43, oc.	40	25	18	+	1	15.6
Mannhemium	Palatin.	0	9	5, oc.	49	29	18	+	0	11.9
Massilia Obs. J.	Galliae	0	21	27, oc	43	17	50	+	0	28.1
Mediolanum, Brera	Italiae	0	6	11, oc.	45	28	2	+	0	8.1
Mirapicum	Galliae	0	35	25, oc.	43	5	19	+	0	46.3
Mittavia	Curland.	0	51	58, or.	56	39	6	—	1	8.1
Mons Pessulanus	Galliae	0	27	25, oc.	43	36	29	+	0	35.9
Montalbanum	Galliae	0	37	32, oc.	44	0	50	+	0	49.1
Monachium	Bavariae	0	3	24, or.	48	8	20	—	0	4.4
Moscua Obs. J.	Moscaviae	1	47	16, or.	55	45	45	—	2	20.6
Neapolis Obs.	Italiae	0	14	9, or.	40	50	15	—	0	18.5
Oxonium	Angliae	0	47	56, oc.	51	45	40	+	1	2.7
Olbiae	Galliae	0	18	25, oc.	43	7	2	+	0	23.5
Panormum	Siciliae	0	10	31, or.	38	6	44	—	0	13.8
Patavium	Italiae	0	4	35, or.	45	24	2	—	0	6.0
Petropolis	Russiae	1	18	17, or.	59	56	23	—	1	42.6
Philadelphia	Amer.	5	43	42, oc.	39	56	55	+	7	30.2
Pillnitz	Saxoniae	0	12	33, or.	51	0	50	—	0	16.4
Pisa	Italiae	0	1	30, oc.	43	43	11	+	0	2.0
Portsmouth	Angliae	0	47	21, oc.	50	48	3	+	1	2.0
Praga	Bohemiae	0	14	45, or.	50	5	19	—	0	19.3
Ratisbona	Bavariae	0	5	25, or.	49	0	58	—	0	7.1
Roma Colleg. Rom.	Italiae	0	7	1, or.	41	54	1	—	0	9.2
Slough	Angliae	0	45	20, oc.	51	30	20	+	0	59.3
Taurinium (Piazza castr.)	Italiae	0	12	15, oc.	45	4	14	+	0	16.0
Tolosa	Galliae	0	37	10, oc.	43	35	46	+	0	48.7
Tornea	Lapponiae	0	53	41, or.	65	50	51	—	1	10.3
Tubinga	Sueviae	0	6	41, oc.	48	31	10	+	0	8.8
Ultrajectum	Bataviae	0	22	27, oc.	52	5	14	+	0	29.4
Ulyssipo	Lusitaniae	1	19	30, oc.	38	42	50	+	1	44.1
Upsalia	Sueciae	0	27	37, or.	59	51	50	—	0	36.2
Vienna (Obs. Univ.)	Austriae	0	22	35, or.	48	12	36	—	0	29.6
Verona	Italiae	0	1	5, or.	45	26	6	—	0	1.4
Venetiae St. Marco	Italiae	0	6	28, or.	45	25	54	—	0	8.5
Vilna	Lithuaniae	0	58	14, or.	54	41	2	—	1	16.2
Vivarium	Galliae	0	24	2, oc.	44	29	19	+	0	31.5
Vratislaviae	Silesiae	0	25	15, or.	51	6	30	—	0	33.0

TABVLA II.

Epochae mediorum motuum Martis tempore medio currente ſub Meridiano Obſervatorii SEEBERGENSIS.

Anni	Longit. med.				Aphelium.				Nodus				Arg. II	Arg. III	Arg. IV	Arg. V	Arg. VI	Arg. VII	Arg. VIII	Arg. IX	Arg. X	Arg. XI	Arg. XII
	s	°	'	"	s	°	'	"	s	°	'	"											
1750	0	21	58	11.1	5	1	27	59.8	1	17	38	48.4	51	40	844	217	372	946	10	7	418	643	278
1751	7	3	15	20.6	5	1	29	5.6	1	17	39	13.4	498	403	907	685	777	978	95	568	916	677	277
1752 B	1	15	3	56.7	5	1	30	11.5	1	17	39	38.4	946	767	971	154	183	6	179	131	414	711	279
1753	8	6	21	6.1	5	1	31	17.3	1	17	40	3.4	393	130	34	622	588	37	263	693	911	745	278
1754	2	17	38	15.6	5	1	32	23.1	1	17	40	28.4	840	493	98	90	992	67	348	255	409	779	278
1755	8	28	55	25.0	5	1	33	28.9	1	17	40	53.4	287	855	161	558	397	98	432	816	907	812	277
1756 B	3	0	44	1.1	5	1	34	34.8	1	17	41	18.4	735	219	225	27	802	128	516	379	405	846	279
1757	9	12	1	10.6	5	1	35	40.6	1	17	41	43.4	182	582	288	495	207	158	601	942	902	881	278
1758	3	23	18	20.0	5	1	36	46.4	1	17	42	8.4	630	945	352	963	611	189	685	505	400	914	278
1759	10	4	35	29.4	5	1	37	52.2	1	17	42	33.4	77	307	415	431	16	219	769	65	898	948	277
1760 B	4	16	24	5.5	5	1	38	58.1	1	17	42	58.4	525	671	478	900	422	249	854	628	397	982	279
1761	10	27	41	15.0	5	1	40	3.9	1	17	43	23.4	972	34	541	368	827	280	938	190	894	16	278
1762	5	8	58	24.4	5	1	41	9.7	1	17	43	48.4	419	397	605	836	231	310	22	752	391	50	278
1763	11	20	15	33.9	5	1	42	15.5	1	17	44	13.4	866	759	668	304	636	341	107	314	889	84	277
1764 B	6	2	4	10.0	5	1	43	21.4	1	17	44	38.4	314	123	732	773	42	371	191	877	388	118	279
1765	0	13	21	19.4	5	1	44	27.2	1	17	45	3.4	761	486	795	241	447	401	275	439	885	152	278
1766	6	24	38	28.9	5	1	45	33.0	1	17	45	28.4	209	849	859	710	851	452	360	0	382	186	278
1767	1	5	55	38.3	5	1	46	38.8	1	17	45	53.4	656	211	922	178	256	462	444	562	879	220	277
1768 B	7	17	44	14.4	5	1	47	44.7	1	17	46	18.4	104	575	986	647	661	493	528	125	378	254	279
1769	1	29	1	23.8	5	1	48	50.5	1	17	46	43.4	551	938	49	115	66	523	613	687	876	288	278
1770	8	10	18	33.3	5	1	49	56.3	1	17	47	8.4	998	301	113	583	470	553	697	249	373	322	278
1771	2	21	35	42.7	5	1	51	2.1	1	17	47	33.4	445	663	176	51	875	584	781	810	870	356	278
1772 B	9	3	24	18.8	5	1	52	8.0	1	17	47	58.4	893	27	239	520	281	614	866	373	369	390	280
1773	3	14	41	28.3	5	1	53	13.8	1	17	48	23.4	340	390	302	988	686	645	950	935	867	424	279
1774	9	25	58	37.7	5	1	54	19.6	1	17	48	48.4	788	753	366	456	90	675	34	497	364	458	278
1775	4	7	15	47.2	5	1	55	25.4	1	17	49	13.4	235	115	429	924	495	705	119	59	861	492	278
1776 B	10	9	4	23.3	5	1	56	31.3	1	17	49	38.4	683	480	493	393	901	736	203	622	360	526	280
1777	5	0	21	32.7	5	1	57	37.1	1	17	50	3.4	130	843	556	861	306	766	287	184	857	560	279
1778	11	11	38	42.1	5	1	58	42.9	1	17	50	28.4	577	206	620	329	710	797	372	746	355	594	278
1779	5	22	55	51.6	5	1	59	48.7	1	17	50	53.4	24	568	683	797	115	827	456	307	852	628	278
1780 B	0	4	44	27.7	5	2	0	54.6	1	17	51	18.4	472	932	747	266	520	857	540	870	351	662	280
1781	6	16	1	37.1	5	2	2	0.4	1	17	51	43.4	919	295	810	734	925	888	625	432	848	696	279
1782	0	27	18	46.6	5	2	3	6.2	1	17	52	8.4	367	658	874	203	329	918	709	994	346	730	279
1783	7	8	35	56.0	5	2	4	12.0	1	17	52	33.4	814	20	937	671	734	948	793	556	843	764	278
1784 B	1	20	24	32.1	5	2	5	17.9	1	17	52	58.4	262	384	0	140	140	979	878	119	542	798	280

T A B V L A II.

Epochae mediorum motuum Martis tempore medio currente ſub Meridiano Obſervatorii Seebergensis.

Anni	Longit. med.				Aphelium.				Nodus.				Arg. II	Arg. III	Arg. IV	Arg. V	Arg. VI	Arg. VII	Arg. VIII	Arg. IX	Arg. X	Arg. XI	Arg. XII
	s	°	'	"	s	°	'	"	s	°	'	"											
1785	8	1	41	41.5	5	2	6	23.7	1	17	55	23.4	709	747	63	608	545	9	962	681	840	852	279
1786	2	12	58	51.0	5	2	7	29.5	1	17	53	48.4	156	110	127	76	949	40	46	242	337	806	279
1787	8	24	16	0.4	5	2	8	35.3	1	17	54	13.4	603	472	190	544	554	70	131	804	834	900	278
1788 B	3	6	4	36.5	5	2	9	41.2	1	17	54	38.4	51	836	254	13	759	100	215	367	332	934	280
1789	9	17	21	46.0	5	2	10	47.0	1	17	55	3.4	498	199	317	481	164	131	300	929	829	968	279
1790	3	28	38	55.4	5	2	11	52.8	1	17	55	28.4	946	562	381	949	568	161	584	491	328	2	279
1791	10	9	56	4.9	5	2	12	58.6	1	17	55	53.4	393	924	444	417	973	191	468	53	825	36	278
1792 B	4	21	44	41.0	5	2	14	4.5	1	17	56	18.4	841	288	507	886	379	222	552	616	324	70	280
1793	11	3	1	50.4	5	2	15	10.3	1	17	56	43.4	288	651	570	354	784	252	637	178	821	104	279
1794	5	14	18	59.8	5	2	16	16.1	1	17	57	8.4	735	14	634	822	188	283	721	739	319	138	278
1795	11	25	36	9.3	5	2	17	21.9	1	17	57	33.4	182	376	697	290	593	313	805	301	816	172	278
1796 B	6	7	24	45.4	5	2	18	27.8	1	17	57	58.4	630	740	761	759	999	343	890	864	315	206	280
1797	0	18	41	54.8	5	2	19	33.6	1	17	58	23.4	77	103	824	227	404	374	974	426	812	240	279
1798	6	29	59	4.3	5	2	20	39.4	1	17	58	48.4	525	466	888	696	808	404	59	988	309	277	279
1799	1	11	16	13.7	5	2	21	45.2	1	17	59	13.4	972	928	951	164	213	435	142	549	807	308	278
1800 C	7	22	33	23.2	5	2	22	51.0	1	17	59	38.4	419	191	15	631	617	465	227	111	304	342	278
1801	2	3	50	32.6	5	2	23	56.7	1	18	0	3.4	865	554	78	99	22	495	311	673	802	376	277
1802	8	13	7	42.0	5	2	25	2.5	1	18	0	28.4	313	917	142	567	426	526	395	235	299	410	276
1803	2	26	24	51.5	5	2	26	8.3	1	18	0	53.4	760	279	200	35	831	556	480	796	796	444	276
1804 B	9	8	13	27.6	5	2	27	14.3	1	18	1	18.4	208	643	268	504	236	586	564	359	295	478	278
1805	3	19	30	37.0	5	2	28	20.0	1	18	1	43.4	655	6	331	973	641	617	649	921	792	512	277
1806	10	0	47	46.5	5	2	29	25.8	1	18	2	8.4	102	369	395	441	45	647	733	483	290	546	276
1807	4	12	4	55.9	5	2	30	30.6	1	18	2	33.4	550	731	458	909	450	678	817	43	787	580	276
1808 B	10	23	53	32.0	5	2	31	37.6	1	18	2	58.4	998	96	522	378	856	708	902	607	286	614	278
1809	5	5	10	41.5	5	2	32	43.3	1	18	3	23.4	445	459	583	846	261	738	986	170	783	648	277
1810	11	16	27	50.9	5	2	33	49.1	1	18	3	48.4	892	822	649	314	665	769	70	731	281	682	276
1811	5	27	45	0.3	5	2	34	54.9	1	18	4	13.4	339	184	712	782	70	799	153	293	778	716	276
1812 B	0	9	33	36.4	5	2	36	0.9	1	18	4	38.4	787	548	775	251	476	830	239	855	277	750	278
1813	6	20	50	45.9	5	2	37	6.6	1	18	5	3.4	234	911	838	719	331	860	323	418	774	784	277
1814	1	2	9	55.3	5	2	38	12.4	1	18	5	28.4	681	274	902	187	285	890	408	980	272	818	276
1815	7	13	25	4.8	5	2	39	18.2	1	18	5	53.4	129	636	965	655	690	921	492	542	769	851	276
1816 B	1	25	13	40.9	5	2	40	24.2	1	18	6	18.4	577	0	29	124	95	951	576	104	268	885	278
1817	8	6	30	50.3	5	2	41	29.9	1	18	6	43.4	24	363	92	595	500	982	660	666	765	919	277
1818	2	17	47	59.8	5	2	42	35.7	1	18	7	8.4	471	726	156	60	904	12	745	228	263	953	277
1819	8	29	5	9.2	5	2	43	41.5	1	18	7	33.4	918	88	219	528	309	42	829	790	760	987	276

TABVLA II.

Epochae mediorum motuum Martis tempore medio currente ſub Meridiano Obſervatorii Seebergensis.

Anni.	Longit. med.	Aphelium.	Nodus.	Arg. II	Arg. III	Arg. IV	Arg. V	Arg. VI	Arg. VII	Arg. VIII	Arg. IX	Arg. X	Arg. XI	Arg. XII
	s ° ′ ″	s ° ′ ″	s ° ′ ″											
1820 B	5 10 53 45.3	5 2 44 47.5	1 18 7 58.4	366	452	283	997	715	73	914	353	258	21	278
1821	9 22 10 54.7	5 2 45 53.2	1 18 8 23.4	813	815	346	466	120	103	998	915	756	55	277
1822	4 3 28 4.2	5 2 46 59.0	1 18 8 48.4	260	178	410	934	524	134	82	477	254	89	276
1823	10 14 45 13.6	5 2 48 5.8	1 18 9 13.4	708	540	473	402	929	164	167	38	751	123	276
1824 B	4 26 33 49.7	5 2 49 11.8	1 18 9 38.4	156	904	536	871	335	194	251	601	249	157	278
1825	4 7 50 59.2	5 2 50 16.5	1 18 10 3.4	603	267	599	339	740	225	335	163	747	191	277
1826	5 19 8 8.6	5 2 51 22.3	1 18 10 28.4	50	630	663	807	144	255	420	725	244	225	276
1827	0 0 25 18.1	5 2 52 28.1	1 18 10 53.4	497	992	726	275	549	285	504	287	742	259	276
1828 B	6 12 13 54.1	5 2 53 34.1	1 18 11 18.4	945	356	790	744	954	316	588	850	240	293	278
1829	1 23 31 3.6	5 2 54 39.8	1 18 11 43.4	392	719	853	212	359	346	673	412	738	327	277
1830	7 4 48 13.0	5 2 55 45.6	1 18 12 8.4	839	82	917	680	763	377	757	973	235	361	277
1831	1 16 5 22.5	5 2 56 51.4	1 18 12 33.4	287	444	980	148	168	407	841	535	733	395	276
1832 B	7 27 53 58.6	5 2 57 57.4	1 18 12 58.4	735	808	44	617	574	437	926	98	231	429	278
1833	2 9 11 8.0	5 2 59 3.1	1 18 13 23.4	182	171	107	85	979	468	10	660	729	463	277
1834	8 20 28 17.5	5 3 0 8.9	1 18 13 48.4	629	534	171	553	383	498	94	222	226	497	277
1835	3 1 45 26.9	5 3 1 14.7	1 18 14 13.4	76	896	234	21	788	529	179	784	724	531	276
1836 B	9 13 34 3.0	5 3 2 20.7	1 18 14 38.4	524	260	297	490	193	559	263	346	222	565	278
1837	4 24 51 12.4	5 3 3 26.4	1 18 15 3.4	971	623	360	959	598	589	347	909	720	599	277
1838	10 6 8 21.9	5 3 4 32.2	1 18 15 28.4	418	986	424	427	2	620	432	470	217	633	277
1839	4 17 25 31.3	5 3 5 38.0	1 18 15 53.4	866	348	487	895	407	650	516	32	715	667	277
1840 B	10 29 14 7.4	5 3 6 44.0	1 18 16 18.4	314	712	551	364	813	681	601	595	213	701	279
1841	5 10 31 16.9	5 3 7 49.7	1 18 16 43.4	761	75	614	832	218	711	685	157	710	735	278
1842	11 21 48 26.3	5 3 8 55.5	1 18 17 8.4	208	438	678	300	622	741	769	719	208	769	277
1843	6 3 5 35.8	5 3 10 1.3	1 18 17 33.4	655	800	741	768	27	772	853	280	706	803	277
1844 B	0 14 54 11.9	5 3 11 7.3	1 18 17 58.4	103	165	804	237	433	802	938	843	204	837	279
1845	6 26 11 21.3	5 3 12 13.0	1 18 18 23.4	550	528	867	705	838	832	22	405	701	871	278
1846	1 7 28 30.7	5 3 13 18.8	1 18 18 48.4	997	891	931	173	242	863	106	967	199	905	277
1847	7 18 45 40.2	5 3 14 24.6	1 18 19 13.4	445	253	994	641	647	893	191	529	696	939	277
1848 B	2 0 34 16.3	5 3 15 30.6	1 18 19 38.4	893	617	58	110	52	924	275	92	195	973	279
1849	8 11 51 25.7	5 3 16 36.3	1 18 20 3.4	340	980	121	578	457	954	359	654	692	7	278
1850	2 23 8 35.2	5 3 17 42.1	1 18 20 28.4	787	343	185	46	861	984	444	215	190	41	277

TABVLA III.

Mediorum motuum Martis in Annis Julianis completis.

Anni.	Longit. med.				Aphelium.			Nodus.		Arg. II	Arg. III	Arg. IV	Arg. V	Arg. VI	Arg. VII	Arg. VIII	Arg. IX	Arg. X	Arg. XI	Arg. XII
	s	°	′	″	°	′	″	′	″											
1	6	11	17	9.4	0	1	5.8	0	25	447	363	63	468	405	30	84	562	497	34	999
2	0	22	34	19.9	0	2	11.6	0	50	894	726	127	936	809	61	169	123	998	68	999
3	7	3	51	28.3	0	3	17.3	1	15	341	88	190	404	214	91	253	685	492	101	998
4 B	1	15	40	4.4	0	4	23.3	1	40	789	452	254	873	620	122	337	248	991	136	0
5	7	26	57	13.9	0	5	29.1	2	5	237	815	317	341	25	152	422	810	488	170	999
6	2	8	14	23.3	0	6	34.9	2	30	684	178	381	809	429	182	506	372	986	204	999
7	8	19	31	32.8	0	7	40.6	2	55	132	540	444	277	834	213	590	934	483	238	998
8 B	3	1	20	8.9	0	8	46.6	3	20	579	904	507	746	239	243	675	497	982	272	0
9	9	12	37	18.3	0	9	52.4	3	45	26	267	570	214	644	273	759	59	479	306	0
10	3	23	54	27.7	0	10	58.2	4	10	473	630	634	682	48	304	843	620	977	340	999
11	10	5	11	37.2	0	12	3.9	4	35	920	992	697	150	453	334	928	182	474	374	998
12 B	4	17	0	13.3	0	13	9.9	5	0	369	356	761	620	859	365	12	745	973	408	0
13	10	28	17	22.7	0	14	15.7	5	25	816	719	824	88	264	395	96	307	470	442	0
14	5	9	34	32.2	0	15	21.5	5	50	263	82	888	556	668	425	181	869	968	476	999
15	11	20	51	41.6	0	16	27.2	6	15	710	444	951	24	73	456	265	430	465	510	998
16 B	6	2	40	17.7	0	17	33.2	6	40	158	808	14	493	479	486	349	994	964	544	0
17	0	13	57	27.2	0	18	39.0	7	5	605	171	77	961	884	517	434	555	461	578	0
18	6	25	14	36.6	0	19	44.8	7	30	52	534	141	429	288	547	518	117	958	612	999
19	1	6	31	46.0	0	20	50.5	7	55	499	896	204	897	693	577	602	679	456	645	998
20 B	7	18	20	22.1	0	21	56.5	8	20	947	261	268	366	98	608	687	242	955	680	0
21	1	28	37	31.6	0	23	2.3	8	45	395	624	331	834	503	638	771	804	452	714	0
22	8	9	54	41.0	0	24	8.1	9	10	842	987	395	302	907	669	855	366	949	748	999
23	2	21	1	50.5	0	25	13.8	9	35	289	349	458	770	312	699	940	927	447	782	999
24 B	9	4	0	26.6	0	26	19.8	10	0	737	713	522	239	718	729	24	490	946	816	1
25	3	15	17	36.0	0	27	25.6	10	25	184	76	585	707	123	760	108	52	443	850	0
26	9	26	34	45.4	0	28	31.4	10	50	631	439	649	175	527	790	193	614	940	884	999
27	4	7	51	54.9	0	29	37.1	11	15	78	801	712	643	932	820	277	176	438	917	999
28 B	10	19	40	31.0	0	30	43.1	11	40	526	165	775	113	337	851	362	739	936	951	1
29	5	0	57	40.4	0	31	48.9	12	5	974	528	838	581	742	881	446	301	434	985	0
30	11	17	14	49.9	0	32	54.2	12	30	421	891	902	49	146	912	530	862	931	19	999
31	5	23	31	59.3	0	34	0.4	12	55	868	253	965	517	551	942	614	424	429	53	999
32 B	0	5	20	35.4	0	35	6.4	13	20	316	617	29	986	957	972	699	987	927	87	1
33	6	16	37	44.9	0	36	12.2	13	45	763	980	92	454	362	3	783	549	425	121	0
34	0	27	54	54.3	0	37	18.0	14	10	210	343	156	922	766	33	867	111	922	155	999
35	7	9	12	3.7	0	38	23.7	14	35	657	705	219	390	171	64	952	672	420	189	999
36 B	1	21	0	39.8	0	39	29.7	15	0	105	69	283	859	577	94	36	236	918	223	1
37	8	2	17	49.3	0	40	35.5	15	25	55[illegible]	432	346	327	982	124	120	798	416	257	0
38	2	13	34	58.7	0	41	41.3	15	50	0	795	410	795	386	155	205	359	913	291	0
39	8	24	52	8.2	0	42	47.0	16	15	447	157	473	263	791	185	289	921	410	325	999
40 B	3	6	40	44.3	0	43	53.0	16	40	895	521	536	732	196	216	373	484	909	359	1
60 B	10	25	1	6.4	1	5	49.5	25	0	842	782	804	99	694	823	60	726	836	39	1
80 B	6	13	21	28.5	1	27	46.0	33	20	790	42	72	465	393	431	747	968	818	719	2
100 B	2	1	41	50.7	1	49	42.5	41	40	738	303	340	831	891	30	434	211	773	398	2

T A B V L A IV.

Mediorum motuum Martis pro diebus mensium.

Menses.	Longit. ♂ (s ° ' ")	Aphelium. (' ")	Nodus. (")	Arg. II	Arg. III	Arg. IV	Arg. V	Arg. VI	Arg. VII	Arg. VIII	Arg. IX	Arg. X	Arg. XI	Arg. XII
Februar	0 16 14 46.3	0 5.6	2	38	31	5	40	34	3	7	48	42	3	85
Martius	1 0 55 12.7	0 10.6	4	72	59	10	76	65	5	14	91	80	5	162
Aprilis	1 17 9 59.0	0 16.2	6	110	89	16	115	100	7	21	139	123	8	247
Majus	2 2 53 18.7	0 21.6	8	147	119	21	154	133	10	28	185	164	11	329
Junius	2 19 8 5.1	0 27.2	10	185	150	26	194	167	13	35	232	206	14	413
Julius	3 4 51 24.7	0 32.6	12	222	180	31	232	201	15	42	279	247	17	496
Augustus	3 21 6 11.1	0 38.2	14	260	211	37	272	235	18	49	326	289	20	580
Septembr.	4 7 20 57.4	0 43.8	16	298	242	42	312	269	20	56	374	331	23	665
October	4 23 4 17.1	0 49.2	18	334	271	47	350	303	23	63	420	372	25	747
Novemb.	5 9 19 3.4	0 54.8	21	372	302	53	390	337	25	70	468	414	28	83[illegible]
Decembr.	5 25 2 23.1	1 0.2	23	409	332	58	428	370	28	77	514	455	31	914

Pro Mense Januario.

A. b.	A. c.	Longit. ♂	Aphelium.	Nodus.	Arg. II	Arg. III	Arg. IV	Arg. V	Arg. VI	Arg. VII	Arg. VIII	Arg. IX	Arg. X	Arg. XI	Arg. XII
1	0	0 0 0.0	0.0	0	0	0	0	0	0	0	0	0	0	0	0
2	1	0 31 26.7	0.2	0	1	1	0	1	1	0	0	2	1	0	3
3	2	1 2 53.3	0.4	0	2	2	0	3	2	0	0	3	3	0	5
4	3	1 34 20.0	0.5	0	4	3	1	4	3	0	1	5	4	0	8
5	4	2 5 46.6	0.7	0	5	4	1	5	4	0	1	6	5	0	11
6	5	2 37 13.3	0.9	0	6	5	1	6	6	0	1	8	7	0	14
7	6	3 8 39.9	1.1	0	7	6	1	8	7	1	1	9	8	1	16
8	7	3 40 6.6	1.3	0	8	7	1	9	8	1	2	11	9	1	19
9	8	4 11 33.2	1.4	1	10	8	1	10	9	1	2	12	11	1	22
10	9	4 42 59.9	1.6	1	11	9	2	11	10	1	2	14	12	1	25
11	10	5 14 26.6	1.8	1	12	10	2	13	11	1	2	15	14	1	27
12	11	5 45 53.2	2.0	1	13	11	2	14	12	1	2	17	15	1	30
13	12	6 17 19.9	2.2	1	15	12	2	15	13	1	3	18	16	1	33
14	13	6 48 46.5	2.3	1	16	13	2	17	14	1	3	20	18	1	36
15	14	7 20 13.2	2.5	1	17	14	2	18	15	1	3	22	19	1	38
16	15	7 51 39.8	2.7	1	18	15	3	19	17	1	3	23	20	1	41
17	16	8 23 6.5	2.9	1	19	16	3	21	18	1	4	25	22	1	44
18	17	8 54 33.2	3.1	1	21	17	3	22	19	1	4	26	23	2	47
19	18	9 25 59.8	3.2	1	22	18	3	23	20	1	4	28	24	2	49
20	19	9 57 26.5	3.4	1	23	19	3	24	21	2	4	29	26	2	52
21	20	10 28 53.1	3.6	1	24	20	3	26	22	2	5	31	27	2	55
22	21	11 0 19.8	3.8	1	26	21	4	27	23	2	5	32	29	2	57
23	22	11 31 46.4	4.0	1	27	22	4	28	24	2	5	34	30	2	60
24	23	12 3 13.1	4.1	2	28	23	4	29	25	2	5	35	31	2	63
25	24	12 34 39.7	4 3	2	29	24	4	31	26	2	5	37	33	2	66
26	25	13 6 6.4	4.5	2	31	25	4	32	28	2	6	38	34	2	68
27	26	13 37 33.1	4.7	2	32	26	4	33	29	2	6	40	35	2	71
28	27	14 8 59.7	4.9	2	33	27	5	35	30	2	6	42	37	3	74
29	28	14 40 26.4	5.0	2	34	28	5	36	31	2	6	43	38	3	77
30	29	15 11 53.0	5.2	2	35	29	5	37	32	2	7	45	39	3	79
31	30	15 43 19.7	5.4	2	37	30	5	38	33	2	7	46	41	3	82
	31	16 14 46.3	5.6	2	38	31	5	40	34	3	7	48	42	3	85

T A B V L A V.

Mediorum motuum Martis pro Horis, Minutis et Secundis.

In Horis.

Hor.	Longit. ♂ ′	″	Arg. II	Arg. III	Arg V	Arg. VI	Arg. IX	Arg. X	Arg. XII
1	1	18.6	0	0	0	0	0	0	0
2	2	37.2	0	0	0	0	0	0	0
3	3	55.8	0	0	0	0	0	0	0
4	5	14.4	0	0	0	0	0	0	0
5	6	33.0	0	0	0	0	0	0	1
6	7	51.7	0	0	0	0	0	0	1
7	9	10.3	0	0	0	0	0	0	1
8	10	28.9	0	0	0	0	1	0	1
9	11	47.5	0	0	0	0	1	1	1
10	13	6.1	0	0	1	0	1	1	1
11	14	24.7	1	0	1	1	1	1	1
12	15	43.3	1	0	1	1	1	1	1
13	17	1.9	1	1	1	1	1	1	2
14	18	20.5	1	1	1	1	1	1	2
15	19	39.1	1	1	1	1	1	1	2
16	20	57.8	1	1	1	1	1	1	2
17	22	16.4	1	1	1	1	1	1	2
18	23	35.0	1	1	1	1	1	1	2
19	24	53.6	1	1	1	1	1	1	2
20	26	12.2	1	1	1	1	1	1	2
21	27	30.8	1	1	1	1	1	1	2
22	28	49.4	1	1	1	1	1	1	3
23	30	8.0	1	1	1	1	1	1	3
24	31	26.6	1	1	1	1	1	1	3

In Minutis / In Secundis

Min.	Longit. ♂ ′	″	Min.	Longit. ♂ ′	″	Min.	Longit. ♂ ′	″	Min.	Longit. ♂ ′	″	Sec.	Longit. ♂ ″
1	0	1.3	16	0	21.0	31	0	40.6	46	1	0.3	6	0.1
2	0	2.6	17	0	22.3	32	0	41.9	47	1	1.6	12	0.3
3	0	3.9	18	0	23.6	33	0	43.2	48	1	2.9	18	0.4
4	0	5.2	19	0	24.9	34	0	44.5	49	1	4.2	24	0.5
5	0	6.5	20	0	26.1	35	0	45.8	50	1	5.5	30	0.7
6	0	7.9	21	0	27.4	36	0	47.2	51	1	6.8	36	0.8
7	0	9.2	22	0	28.7	37	0	48.5	52	1	8.1	42	0.9
8	0	10.5	23	0	30.0	38	0	49.8	53	1	9.4	48	1.0
9	0	11.8	24	0	31.3	39	0	51.1	54	1	10.7	54	1.2
10	0	13.1	25	0	32.7	40	0	52.4	55	1	12.0	60	1.3
11	0	14.4	26	0	34.0	41	0	53.7	56	1	13.4		
12	0	15.7	27	0	35.3	42	0	55.0	57	1	14.7		
13	0	17.0	28	0	36.6	43	0	56.3	58	1	16.0		
14	0	18.3	29	0	37.9	44	0	57.6	59	1	17.3		
15	0	19.6	30	0	39.3	45	0	58.9	60	1	18.6		

T A B V L A VI.

Aequatio centri Martis pro Anno 1800 cum variatione feculari.

Argument. Anomalia med. feu longitudo med. ♂ — Aphelium.

Anom. med.	0^s —	Diff. pro 1'	Variat. fecul.	I^s —	Diff. pro 1'	Variat. fecul.	II^s —	Diff. pro 1'	Variat. fecul.	Anom. med.
° '	s ° "	"	"	s ° "	"	"	s ° "	"	"	° '
0 0	0 0 0.0	10.01	0.0	4 50 39.0	9.03	15.3	8 42 25.7	6.07	28.4	30 0
0 15	0 2 30.2	10.01	0.1	4 52 54.4	9.01	15.4	8 43 56.7	6.04	29.5	29 45
0 30	0 5 0.4	10.01	0.3	4 55 9.6	8.99	15.5	8 45 27.3	6.01	28.6	29 30
0 45	0 7 30.6	10.01	0.4	4 57 24.5	8.98	15.7	8 46 57.5	5.98	28.7	29 15
1 0	0 10 0.8	10.01	0.6	4 59 39.2	8.96	15.8	8 48 27.2	5.95	28.8	29 0
1 15	0 12 31.0	10.01	0.7	5 1 53.6	8.94	15.9	8 49 56.4	5.91	28.9	28 45
1 30	0 15 1.2	10.01	0.8	5 4 7.7	8.93	16.0	8 51 25.0	5.87	28.9	28 30
1 45	0 17 31.4	10.01	1.0	5 6 21.6	8.91	16.2	8 52 53.1	5.84	29.0	28 15
2 0	0 20 1.5	10.01	1.1	5 8 35.2	8.89	16.3	8 54 20.7	5.81	29.1	28 0
2 15	0 22 31.7	10.01	1.2	5 10 48.6	8.87	16.4	8 55 47.8	5.77	29.2	27 45
2 30	0 25 1.8	10.01	1.3	5 13 1.7	8.86	16.5	8 57 14.4	5.74	29.3	27 30
2 45	0 27 31.9	10.01	1.5	5 15 14.6	8.84	16.7	8 58 40.5	5.71	29.4	27 15
3 0	0 30 2.0	10.01	1.6	5 17 27.2	8.82	16.8	9 0 6.1	5.67	29.5	27 0
3 15	0 32 32.1	10.00	1.7	5 19 39.5	8.80	16.9	9 1 31.2	5.64	29.6	26 45
3 30	0 35 2.1	10.00	1.8	5 21 51.5	8.79	17.0	9 2 55.8	5.60	29 6	26 30
3 45	0 37 32.1	10.00	2.0	5 24 3.3	8.77	17.2	9 4 19.8	5.57	29.7	26 15
4 0	0 40 2.1	9.99	2.1	5 26 14.8	8.75	17.3	9 5 43.3	5.53	29 8	26 0
4 15	0 42 32.0	9.99	2.2	5 28 26.0	8.73	17.4	9 7 6.3	5.50	29.9	25 45
4 30	0 45 1.9	9.99	2.3	5 30 36.9	8.71	17.5	9 8 28.8	5.46	30.0	25 30
4 45	0 47 31.8	9.99	2.5	5 32 47.5	8.69	17.6	9 9 50.7	5.43	30.1	25 15
5 0	0 50 1.6	9.99	2.6	5 34 57.9	8.67	17.7	9 11 12.1	5.39	30.2	25 0
5 15	0 52 31.4	9.98	2.7	5 37 8.0	8.65	17.8	9 12 33.0	5.36	30.3	24 45
5 30	0 55 1.1	9.98	2.9	5 39 17 8	8.63	17.9	9 13 53 4	5.32	30.3	24 30
5 45	0 57 30.8	9.98	3.0	5 41 27.3	8.61	18.1	9 15 13.2	5.29	30.4	24 15
6 0	1 0 0.5	9.97	3.2	5 43 36 5	8.59	18.2	9 16 32.5	5.25	30.5	24 0
6 15	1 2 30.1	9.97	3.3	5 45 45 4	8.57	18.3	9 17 51.3	5.21	30.6	23 45
6 30	1 4 59.7	9.97	3.4	5 47 54 0	8.55	18.4	9 19 9.5	5.18	30.7	23 30
6 45	1 7 29.2	9.97	3.6	5 50 2.3	8.55	18.6	9 20 27.2	5.14	30.8	23 15
7 0	1 9 58.7	9.96	3.7	5 52 10.2	8.51	18.7	9 21 44.3	5.11	30.9	23 0
7 15	1 12 28.1	9.96	3.8	5 54 17.9	8.49	18.8	9 23 0.9	5.07	31.0	22 45
7 30	1 14 57.5		3.9	5 56 25.3		18.9	9 24 16.9		31.0	22 30
	XI^s +		+	X^s +		+	IX^s +		+	

TABVLA VI.

Aequatio centri Martis pro Anno 1800 cum variatione feculari.

Argument. Anomalia media, feu longitudo med. ♂ — Aphelium.

Anom. med.	III^s —	Diff. pro 1'	Variat. fecul. —	IV^s —	Diff. pro 1'	Variat. fecul. —	V^s —	Diff. pro 1'	Variat. fecul. —	Anom. med.
° '	° ' "	"	"	° ' "	"	"	° ' "	"	"	° '
0 0	10 37 14.7	1.25	36.6	9 46 24.7	4.80	35.9	5 55 35.8	10.33	22.9	30 0
0 15	10 37 33.5	1.21	36.6	9 45 12.7	4.85	35.9	5 53 0.8	10.37	22.7	29 45
0 30	10 37 51.6	1.16	36.6	9 44 0.0	4.90	35.8	5 50 25.2	10.41	22.6	29 30
0 45	10 38 9.0	1.12	36.7	9 42 46.5	4.95	35.8	5 47 49.1	10.44	22.4	29 15
1 0	10 38 25.8	1.07	36.7	9 41 32.2	5.00	35.7	5 45 42.5	10.48	22.2	29 0
1 15	10 38 41.9	1.02	36.7	9 40 17.2	5.05	35.7	5 42 35.3	10.51	22.1	28 45
1 30	10 38 57.2	0.97	36.8	9 39 1.4	5.11	35.6	5 39 57.6	10.55	21.9	28 30
1 45	10 39 11.8	0.93	36.8	9 37 44.8	5.16	35.6	5 37 19.3	10.59	21.8	28 15
2 0	10 39 25.7	0.88	36.9	9 36 27.4	5.21	35.5	5 34 40.5	10.62	21.6	28 0
2 15	10 39 38.9	0.83	36.9	9 35 9.3	5.26	35.4	5 32 1.2	10.65	21.5	27 45
2 30	10 39 51.4	0.79	36.9	9 33 50.4	5.31	35.4	5 29 21.4	10.69	21.3	27 30
2 45	10 40 3.2	0.74	37.0	9 32 30.7	5.37	35.3	5 26 41.1	10.72	21.2	27 15
3 0	10 40 14.4	0.69	37.0	9 31 10.2	5.41	35.2	5 24 0.3	10.75	21.0	27 0
3 15	10 40 24.7	0.64	37.0	9 29 49.0	5.47	35.1	5 21 19.0	10.79	20.8	26 45
3 30	10 40 34.3	0.59	37.0	9 28 27.0	5.52	35.1	5 18 37.2	10.82	20.6	26 30
3 45	10 40 43.2	0.55	37.1	9 27 4.2	5.57	35.0	5 15 54.9	10.85	20.4	26 15
4 0	10 40 51.4	0.49	37.1	9 25 40.6	5.62	34.9	5 13 12.1	10.89	20.2	26 0
4 15	10 40 58.8	0.45	37.1	9 24 16.3	5.67	34.8	5 10 28.8	10.91	20.0	25 45
4 30	10 41 5.5	0.40	37.1	9 22 51.2	5.73	34.8	5 7 45.1	10.95	19.9	25 30
4 45	10 41 11.5	0.35	37.2	9 21 25.3	5.77	34.7	5 5 0.9	10.98	19.7	25 15
5 0	10 41 16.8	0.30	37.2	9 19 58.7	5.83	34.6	5 2 16.2	11.01	19.5	25 0
5 15	10 41 21.3	0.25	37.2	9 18 31.3	5.87	34.5	4 59 31.0	11,04	19.3	24 45
5 30	10 41 25.1	0.21	37.2	9 17 3.2	5.93	34.5	4 56 45.4	11.07	19.2	24 30
5 45	10 41 28.2	0.15	37.2	9 15 34.3	5.97	34.4	4 53 59.3	11.11	19.0	24 15
6 0	10 41 30.5	0.11	37.3	9 14 4.7	6.03	34.3	4 51 12.7	11.13	18.8	24 0
6 15	10 41 32.1	0.06	37.3	9 12 34.3	6.07	34.2	4 48 25.7	11.17	18.6	23 45
6 30	10 41 33.0	0.01	37.3	9 11 5.2	6.13	34.2	4 45 38.2	11.20	18.5	23 30
6 45	10 41 33.1	0.04	37.4	9 9 31.3	6.18	34.1	4 42 50.2	11.23	18.5	23 15
7 0	10 41 32.5	0.09	37.4	9 7 58.6	6.23	34.0	4 40 1.7	11.26	18.1	23 0
7 15	10 41 31.2	0.14	37.4	9 6 25.2	6.28	33.9	4 37 12.8	11.29	17.9	22 45
7 30	10 41 29.1		37.4	9 4 51.0		33.9	4 34 23.5		17.8	22 50
	VIII^s +		+	VII^s +		+	VI^s +		+	

TABVLA VI.

Aequatio centri Martis pro Anno 1800 cum variatione feculari.

Argument. Anomalia media feu longitudo med. ♂ — Aphelium.

Anom. med.	O^s —	Diff. pro 1'	Variat. fecul. —	I^s —	Diff. pro 1'	Variat. fecul. —	II^s —	Diff. pro 1'	Variat. fecul. —	Anom. med.
° ′	s ° ′ ″	″	″	s ° ′ ″	″	″	s ° ′ ″	″	″	° ′
7 30	1 14 57.5	9.95	3.9	5 56 25.3	8.47	18.9	9 24 16.9	5.03	31.0	22 30
7 45	1 17 26.8	9.95	4.1	5 58 52.4	8.45	19.1	9 25 52.4	5.00	31.1	22 15
8 0	1 19 56.0	9.94	4.2	6 0 39.2	8.43	19.2	9 26 47.4	4.96	31.2	22 0
8 15	1 22 25.1	9.94	4.3	6 2 45.7	8.41	19.3	9 28 1.8	4.93	31.3	21 45
8 30	1 24 54.2	9.93	4.4	6 4 51.8	8.39	19.4	9 29 15.7	4.89	31.3	21 30
8 45	1 27 23.2	9.93	4.6	6 6 57.6	8.37	19.5	9 30 29.0	4.85	31.4	21 15
9 0	1 29 52.1	9.92	4.7	6 9 3.1	8.35	19.6	9 31 41.7	4.81	31.5	21 0
9 15	1 32 20.9	9.91	4.8	6 11 8.3	8.33	19.7	9 32 53.9	4.77	31.6	20 45
9 30	1 34 49.6	9.91	4.9	6 13 13.2	8.31	19.8	9 34 5.5	4.73	31.6	20 30
9 45	1 37 18.3	9.90	5.1	6 15 17.8	8.28	20.0	9 35 16.5	4.70	31.7	20 15
10 0	1 39 46.9	9.89	5.2	6 17 22.0	8.26	20.1	9 36 27.0	4.66	31.8	20 0
10 15	1 42 15.4	9.89	5.3	6 19 25.9	8.22	20.2	9 37 36.9	4.62	31.9	19 45
10 30	1 44 43.8	9.89	5.4	6 21 29.5	8.22	20.3	9 38 46.2	4.59	31.9	19 30
10 45	1 47 12.2	9.88	5.6	6 23 32.8	8.20	20.4	9 39 55.0	4.55	32.0	19 15
11 0	1 49 40.5	9.87	5.7	6 25 35.8	8.17	20.5	9 41 3.2	4.51	32.1	19 0
11 15	1 52 8.7	9.87	5.8	6 27 38.4	8.15	20.6	9 42 10.8	4.47	32.2	18 45
11 30	1 54 36.8	9.87	6.0	6 29 40.6	8.13	20.7	9 43 17.8	4.43	32.2	18 30
11 45	1 57 4.9	9.86	6.1	6 31 42.5	8.01	20 9	9 44 24.3	4.39	32.3	18 15
12 0	1 59 32.9	9.85	6.3	6 33 44.1	8.08	21.0	9 45 30.2	4.35	32.4	18 0
12 15	2 2 0.8	9.84	6.4	6 35 45.3	8.06	21.1	9 46 35.5	4.31	32.5	17 45
12 30	2 4 28.6	9.83	6.5	6 37 46.2	8.03	21.2	9 47 40.2	4.27	32.5	17 30
12 45	2 6 56.2	9.83	6.7	6 39 46.7	8.01	21.3	9 48 44.3	4.24	32.6	17 15
13 0	2 9 23.7	9.82	6.8	6 41 46.9	7.99	21.4	9 49 47.9	4.20	32.7	17 0
13 15	2 11 51.1	9.81	6.9	6 43 46.7	7.97	21.5	9 50 50.9	4.16	32.8	16 45
13 30	2 14 18.4	9.80	7.0	6 45 46.2	7.94	21.6	9 51 53.3	4.12	32.8	16 30
13 45	2 16 45.6	9.79	7.2	6 47 45.3	7.91	21.8	9 52 55.1	4.07	32.9	16 15
14 0	2 19 12.6	9.79	7.3	6 49 44.0	7.89	21.9	9 53 56.2	4.03	33.0	16 0
14 15	2 21 39.5	9.78	7.4	6 51 42.3	7.87	22.0	9 54 56.7	4.00	33.1	15 45
14 30	2 24 6.3	9.77	7.5	6 53 40.3	7.85	22.1	9 55 56.7	3.96	33.1	15 30
14 45	2 26 33.0	9.77	7.7	6 55 38.0	7.82	22.2	9 56 56.1	3.92	33.2	15 15
15 0	2 28 59.6		7.8	6 57 35.3		22.3	9 57 54.9		33.3	15 0
	XI^s +	+	+	X^s +	+	+	IX^s +	+	+	

TABVLA VI.

Aequatio centri Martis pro Anno 1800 cum variatione ſeculari.

Argument. Anomalia media ſeu longitudo med. ♂ — Aphelium.

Anom. med.	III s —	Diff. pro 1'	Variat. ſecul.	IV s —	Diff. pro 1'	Variat. ſecul.	V s —	Diff. pro 1'	Variat. ſecul.	Anom. med.
° '	° ' "	"	"	° ' "	"	"	° ' "	"	"	° '
7 30	10 41 29.1	0.19	37.4	9 4 51.0	6.33	33.9	4 54 23.5	11.31	17.8	22 30
7 45	10 41 26.3	0.23	37.5	9 3 16.1	6.38	33.8	4 31 33.8	11.35	17.6	22 15
8 0	10 41 22.8	0.29	37.5	9 1 40.4	6.43	33.7	4 28 43.6	11.37	17.4	22 0
8 15	10 41 18.5	0.33	37.5	9 0 4.0	6.48	33.6	4 25 53.0	11.41	17.2	21 45
8 30	10 41 13.5	0.38	37.5	8 58 26.8	6.53	33.5	4 23 2.0	11.43	17.1	21 30
8 45	10 41 7.8	0.43	37.5	8 56 48.9	6.58	33.4	4 20 10.6	11.45	16.9	21 15
9 0	10 41 1.3	0.49	37.5	8 55 10.2	6.63	33.3	4 17 18.8	11.48	16.7	21 0
9 15	10 40 54.0	0.53	37.5	8 53 30.8	6.68	33.2	4 14 26.6	11.51	16.5	20 45
9 30	10 40 46.0	0.58	37.6	8 51 50.6	6.73	33.2	4 11 34.0	11.54	16.3	20 30
9 45	10 40 37.3	0.63	37.6	8 50 9.6	6.78	33.1	4 8 40.9	11.57	16.1	20 15
10 0	10 40 27.9	0.68	37.6	8 48 27.9	6.83	33.0	4 5 47.4	11.59	15.9	20 0
10 15	10 40 17.7	0.73	37.6	8 46 45.4	6.88	32.9	4 2 53.6	11.61	15.7	19 45
10 30	10 40 6.7	0.79	37.6	8 45 2.2	6.93	32.8	3 59 59.4	11.64	15.6	19 30
10 45	10 39 54.9	0.83	37.6	8 43 18.8	6.97	32.7	3 57 4.8	11.67	15.4	19 15
11 0	10 39 42.4	0.89	37.6	8 41 33.7	7.03	32.6	3 54 9.8	11.69	15.2	19 0
11 15	10 39 29.1	0.93	37.6	8 39 48.3	7.07	32.5	3 51 14.4	11.71	15.0	18 45
11 30	10 39 15.1	0.99	37.6	8 38 2.2	7.12	32.4	3 48 18.7	11.74	14.8	18 30
11 45	10 39 0.3	1.03	37.6	8 36 15.4	7.17	32.3	3 45 22.6	11.77	14.6	18 15
12 0	10 38 44.8	1.09	37.6	8 34 27.8	7.22	32.2	3 42 26.1	11.79	14.4	18 0
12 15	10 38 28.5	1.13	37.6	8 32 39.5	7.27	32.1	3 39 29.3	11.81	14.2	17 45
12 30	10 38 11.5	1.19	37.6	8 30 50.5	7.31	32.0	3 36 32.1	11.83	14.1	17 30
12 45	10 37 53.6	1.23	37.6	8 29 0.8	7.36	31.9	3 33 34.6	11.86	13.9	17 15
13 0	10 37 35.2	1.29	37.7	8 27 10.1	7.41	31.8	3 30 36.7	11.88	13.7	17 0
13 15	10 37 15.9	1.33	37.7	8 25 19.0	7.46	31.7	3 27 38.5	11.90	13.5	16 45
13 30	10 36 55.9	1.39	37.7	8 23 27.4	7.51	31.6	3 24 40.0	11.93	13.3	16 30
13 45	10 36 35.1	1.44	37.7	8 21 34.8	7.55	31.5	3 21 41.1	11.95	13.1	16 15
14 0	10 36 13.5	1.49	37.7	8 19 41.5	7.60	31.4	3 18 41.7	11.97	12.9	16 0
14 15	10 35 51.1	1.54	37.7	8 17 47.5	7.65	31.3	3 15 42.4	11.99	12.7	15 45
14 30	10 35 28.0	1.59	37.7	8 15 52.8	7.70	31.2	3 12 42.6	12.01	12.6	15 30
14 45	10 35 4.1	1.64	37.7	8 13 57.3	7.75	31.1	3 9 42.4	12.03	12.4	15 15
15 0	10 34 39.5		37.7	8 12 1.1		31.0	3 6 41.9		12.2	15 0
	VIII s +		+	VII s +		+	VI s +		+	

TABVLA VI.

Aequatio centri Martis pro Anno 1800 cum variatione feculari.

Argument. Anomalia med. feu longitudo med. ♂ — Aphelium.

Anom. med.	0ˢ —	Diff. pro 1'	Variat. fecul.	Iˢ —	Diff. pro 1'	Variat. fecul.	II —	Diff. pro 1'	Variat. fecul.	Anom. med.
° '	ˢ ° ' "	"	"	ˢ ° ' "	"	"	ˢ ° ' "	"	"	° '
15 0	2 28 59.6	9.77	7.8	6 57 35.3	7.79	22.3	9 57 54.9	3.88	33.3	15 0
15 15	2 31 26.1	9.76	7.9	6 59 32.2	7.77	22.4	9 58 53.1	3.84	33.4	14 45
15 30	2 33 52.5	9.75	8.0	7 1 28.8	7.75	22.5	9 59 50.7	3.80	33.4	14 30
15 45	2 36 18.8	9.75	8.2	7 3 25.0	7.73	22.6	10 0 47.7	3.75	33.5	14 15
16 0	2 38 45.0	9.73	8.3	7 5 20.9	7.70	22.7	10 1 44.0	3.71	33.6	14 0
16 15	2 41 11.0	9.73	8.4	7 7 16.4	7.67	22.8	10 2 39.7	3.67	33.6	13 45
16 30	2 43 36.9	9.71	8.5	7 9 11.5	7.65	22.9	10 3 34.8	3.63	33.7	13 30
16 45	2 46 2.6	9.70	8.7	7 11 6.2	7.61	23.1	10 4 29.3	3.59	33.7	13 15
17 0	2 48 28.1	9.69	8.8	7 13 0.4	7.59	23.2	10 5 23.2	3.55	33.8	13 0
17 15	2 51 53.5	9.69	8.9	7 14 54.3	7.57	23.3	10 6 16.5	3.51	33.9	12 45
17 30	2 53 18.8	9.67	9.0	7 16 47.8	7.54	23.4	10 7 9.2	3.47	33.9	12 30
17 45	2 55 43.9	9.67	9.2	7 18 40.9	7.51	23.5	10 8 1.3	3.43	34.0	12 15
18 0	2 58 8.9	9.65	9.3	7 20 33.6	7.49	23.6	10 8 52.7	3.39	34.1	12 0
18 15	3 0 33.7	9.65	9.4	7 22 25.9	7.47	23.7	10 9 43.5	3.35	34.2	11 45
18 30	3 2 58.4	9.63	9.6	7 24 17.9	7.44	23.8	10 10 33.7	3.30	34.2	11 30
18 45	3 5 22.9	9.63	9.7	7 26 9.5	7.42	23.9	10 11 23.2	3.26	34.3	11 15
19 0	3 7 47.3	9.61	9.9	7 28 0.7	7.39	24.0	10 12 12.1	3.22	34.4	11 0
19 15	3 10 11.5	9.61	10.0	7 29 51.5	7.36	24.1	10 13 0.4	3.17	34.4	10 45
19 30	3 12 35.6	9.60	10.1	7 31 41.9	7.33	24.2	10 13 48.0	3.13	34.5	10 30
19 45	3 14 59.6	9.59	10.3	7 33 31.8	7.30	24.3	10 14 35.0	3.09	34.5	10 15
20 0	3 17 23.5	9.58	10.4	7 35 21.3	7.27	24.4	10 15 21.3	3.05	34.6	10 0
20 15	3 19 47.2	9.56	10.5	7 37 10.4	7.25	24.5	10 16 7.0	3.01	34.7	9 45
20 30	3 21 10.7	9.55	10.6	7 38 59.1	7.21	24.6	10 16 52.1	2.97	34.7	9 30
20 45	3 24 34.0	9.54	10.8	7 40 47.3	7.19	24.7	10 17 36.6	2.92	34.8	9 15
21 0	3 26 57.1	9.52	10.9	7 42 35.2	7.17	24.8	10 18 20.5	2.87	34.9	9 0
21 15	3 29 20.0	9.51	11.0	7 44 22.7	7.14	24.9	10 19 3.5	2.83	34.9	8 45
21 30	3 31 42.7	9.50	11.1	7 46 9.8	7.11	25.0	10 19 46.0	2.79	35.0	8 30
21 45	3 34 5.3	9.49	11.3	7 47 56.4	7.08	25.2	10 20 27.9	2.75	35.1	8 15
22 0	3 36 27.7	9.48	11.4	7 49 42.6	7.05	25.3	10 21 9.2	2.71	35.1	8 0
22 15	3 38 50.0	9.47	11.5	7 51 28.4	7.03	25.4	10 21 49.8	2.66	35.1	7 45
22 30	3 40 12.1		11.6	7 53 13.8		25.5	10 22 29.7		35.2	7 30
	XIˢ +		+	Xˢ +		+	IXˢ +		+	

TABVLA VI.

Aequatio centri Martis pro Anno 1800 cum variatione seculari.

Argument. Anomalia media, seu longitudo med. ♂ — Aphelium.

Anom. med.	III^s —	Diff. pro 1'	Variat. secul. —	IV^s —	Diff. pro 1'	Variat. secul. —	V^s —	Diff. pro 1'	Variat. secul. —	Anom. med.
° '	° ' "	"	"	° ' "	"	"	° ' "	"	"	° '
15 0	10 34 39.5	1.69	37.7	8 12 1.1	7.79	31.0	3 6 41.9	12.05	12 2	15 0
15 15	10 34 14.1	1.73	37.6	8 10 4.2	7.84	30.9	3 3 41.1	12.07	12.0	14 45
15 30	10 33 47.9	1.79	37.6	8 8 6.6	7.89	30.8	3 0 40.0	12.09	11.8	14 30
15 45	10 33 21.0	1.85	37.6	8 6 8.3	7.93	30.6	2 57 38.7	12.11	11.6	14 15
16 0	10 32 53.3	1.89	37 6	8 4 9.3	7.98	30.5	2 54 37.1	12.13	11.4	14 0
16 15	10 32 24.9	1.95	37.6	8 2 9.6	8.03	30.4	2 51 35 2	12.15	11.2	13 45
16 30	10 31 55.7	2 00	37.6	8 0 9.2	8.07	30.3	2 48 33.0	12.16	11.0	13 30
16 45	10 31 25.7	2.05	37.6	7 58 8.1	8.12	30 2	2 45 30.6	12.18	10.8	13 15
17 0	10 30 54.9	2.10	37.6	7 56 6.3	8.17	30.1	2 42 27.9	12.20	10.6	13 0
17 15	10 30 23.4	2.15	37.6	7 54 3.8	8.21	30.0	2 39 24.9	12.21	10.4	12 45
17 30	10 29 51.1	2.21	37.6	7 52 0.6	8.26	29.9	2 36 21.7	12.23	10.2	12 30
17 45	10 29 18.0	2.25	37.5	7 49 56.7	8 31	29.7	2 33 18.2	12.25	10.0	12 15
18 0	10 28 44.2	2.31	37.5	7 47 52 1	8 35	29.6	2 30 14.5	12.27	9.8	12 0
18 15	10 28 9.6	2.36	37.5	7 45 46 9	8 39	29.5	2 27 10.5	12.28	9 6	11 45
18 30	10 27 34 2	2.41	37 5	7 43 41 2	8.44	29.4	2 24 6.3	12.30	9.4	11 30
18 45	10 26 58.0	2.46	37.5	7 41 34.9	8.49	29.2	2 21 1.8	12.31	9.2	11 15
19 0	10 26 21.1	2.51	37 5	7 39 27.6	8.53	29.1	2 17 57.1	12.33	9.0	11 0
19 15	10 25 43.4	2.57	37.5	7 37 19.2	8.57	29.0	2 14 52.2	12.34	8.8	10 45
19 30	10 25 4.9	2.62	37.5	7 35 10.6	8.62	28.9	2 11 47.1	12 36	8.6	10 30
19 45	10 24 25.6	2.67	37.4	7 33 1.3	8 66	28 7	2 8 41.7	12.37	8.4	10 15
20 0	10 23 45.3	2.72	37.4	7 30 51.4	8.71	28.6	2 5 36.1	12.39	8.2	10 0
20 15	10 23 4.5	2.77	37.4	7 28 40.8	8.75	28.5	2 2 30.3	12 40	8.0	9 45
20 30	10 22 22.9	2.83	37.4	7 26 29.6	8.79	28 4	1 59 24.3	12.41	7.8	9 30
20 45	10 21 40.5	2.88	37.3	7 24 17.7	8.84	28.2	1 56 18.1	12.42	7.6	9 15
21 0	10 20 57.3	2.93	37.3	7 22 5.1	8.88	28.1	1 53 11.8	12.43	7.4	9 0
21 15	10 20 13.3	2.98	37.3	7 19 51.9	8.93	28.0	1 50 5.3	12.45	7.2	8 45
21 30	10 19 28.6	3.03	37.3	7 17 38.0	8.97	27.9	1 46 58.6	12.46	7.0	8 30
21 45	10 18 43.1	3.09	37.2	7 15 23.4	9.01	27.7	1 43 51.7	12.47	6.8	8 15
22 0	10 17 56.8	3.13	37.2	7 13 8.2	9.05	27.6	1 40 44.6	12.48	6.6	8 0
22 15	10 17 9.8	3.19	37.2	7 10 52.4	9.10	27.5	1 37 37.4	12.49	6.4	7 45
22 30	10 16 22.0		37.2	7 8 35.9		27.3	1 34 30.0		6.2	7 50
	VIII^s +		+	VII^s +		+	VI^s +		+	

T A B V L A VI.

Aequatio centri Martis pro Anno 1800 cum variatione feculari.

Argument. Anomalia med. feu longitudo med. ♂ — Aphelium.

Anom. med.	0^s —	Diff. pro 1'	Variat. fecul.	I^s —	Diff. pro 1'	Variat. fecul.	II —	Diff. pro 1'	Variat. fecul.	Anom. med.
° '	s ° ' "	"	"	s ° ' "	"	"	s ° ' "	"	"	° '
22 30	3 41 12.1	9.46	11.6	7 53 13.8	7.00	25.5	10 22 29.7	2.61	35.2	7 30
22 45	3 43 34.0	9.44	11.8	7 54 58.8	6.97	25.6	10 23 8.9	2.57	35.2	7 15
23 0	3 45 55.7	9.43	11.9	7 56 43.3	6.94	25.7	10 23 47.5	2.53	35.3	7 0
23 15	3 48 17.2	9.42	12.0	7 58 27.4	6.91	25.8	10 24 25.4	2.48	35.3	6 45
23 30	3 50 38.5	9.40	12.1	8 0 11.0	6.88	25.9	10 25 2.6	2.44	35.4	6 30
23 45	3 52 59.6	9.39	12.3	8 1 54.2	6.85	26.0	10 25 39.2	2.40	35.4	6 15
24 0	3 55 20.5	9.38	12.4	8 3 37.0	6.82	26.1	10 26 15.2	2.35	35.5	6 0
24 15	3 57 41.2	9.36	12.5	8 5 19.3	6.79	26.2	10 26 50.5	2.31	35.5	5 45
24 30	4 0 1.7	9.35	12.6	8 7 1.2	6.76	26.3	10 27 25.1	2.26	35.6	5 30
24 45	4 2 22.0	9.34	12.8	8 8 42.6	6.73	26.4	10 27 59.0	2.21	35.6	5 15
25 0	4 4 42.1	9.33	12.9	8 10 23.5	6.69	26.5	10 28 32.2	2.17	35.7	5 0
25 15	4 7 2.0	9.31	13.0	8 12 3.9	6.67	26.6	10 29 4.8	2.13	35.7	4 45
25 30	4 9 21.7	9.30	13.1	8 13 43.9	6.64	26.7	10 29 36.7	2.09	35.8	4 30
25 45	4 11 41.2	9.29	13.3	8 15 23.5	6.61	26.8	10 30 8.6	2.04	35.8	4 15
26 0	4 14 0.5	9.27	13.4	8 17 2.7	6.58	26.9	10 30 38.6	1.99	35.9	4 0
26 15	4 16 19.6	9.25	13.5	8 18 41.4	6.55	27.0	10 31 8.5	1.95	35.9	3 45
26 30	4 18 38.4	9.25	13.6	8 20 19.6	6.52	27.1	10 31 47.7	1.91	36.0	3 30
26 45	4 20 57.1	9.23	13.8	8 21 57.4	6.49	27.2	10 32 16.3	1.86	36.0	3 15
27 0	4 23 15.6	9.21	13.9	8 23 34.7	6.45	27.3	10 32 34.2	1.81	36.1	3 0
27 15	4 25 33.8	9.20	14.0	8 25 11.5	6.43	27.4	10 33 1.4	1.77	36.1	2 45
27 30	4 27 51.8	9.19	14.1	8 26 47.9	6.40	27.4	10 33 27.9	1.72	36.2	2 30
27 45	4 30 9.6	9.17	14.3	8 28 23.9	6.37	27.5	10 33 53.7	1.67	36.2	2 15
28 0	4 32 27.1	9.15	14.4	8 29 59.4	6.33	27.6	10 34 18.8	1.63	36.3	2 0
28 15	4 34 44.4	9.14	14.5	8 31 34.4	6.30	27.7	10 34 43.2	1.58	36.3	1 45
28 30	4 37 1.5	9.13	14.6	8 33 8.9	6.27	27.8	10 35 6.9	1.53	36.4	1 30
28 45	4 39 18.4	9.11	14.6	8 34 42.9	6.24	27.9	10 35 29.9	1.49	36.4	1 15
29 0	4 41 35.0	9.09	14.8	8 36 16.5	6.21	28.0	10 35 52.3	1.45	36.5	1 0
29 15	4 43 51.4	9.07	14.9	8 37 49.6	6.17	28.1	10 36 14.0	1.40	36.5	0 45
29 30	4 46 7.5	9.06	15.0	8 39 22.2	6.13	28.2	10 36 35.0	1.35	36.6	0 30
29 45	4 48 23.4	9.04	15.2	8 40 54.2	6.10	28.3	10 36 55.2	1.30	36.6	0 15
30 0	4 50 39.0		15.3	8 42 25.7		28.4	10 37 14.7		36.6	0 0
	XI^s +		+	X^s +		+	IX^s +		+	

TABVLA VI.

Aequatio centri Martis pro Anno 1800 cum variatione seculari.

Argument. Anomalia media seu longitudo med. ♂ — Aphelium.

Anom. med.	IIIˢ —	Diff. pro 1′	Variat. secul. —	IVˢ —	Diff. pro 1′	Variat. secul. —	Vˢ —	Diff. pro 1′	Variat. secul. —	Anom. med.
° ′	° ′ ″	″	″	° ′ ″	″	″	° ′ ″	″	″	° ′
22 30	10 16 22.0	3.24	37.2	7 8 35.9	9.15	27.3	1 34 30.0	12.50	6.2	7 30
22 45	10 15 33.4	3.29	37.1	7 6 18.7	9.19	27.2	1 31 22.5	12.51	6.0	7 15
23 0	10 14 44.0	3.35	37.1	7 4 0.9	9.23	27.0	1 28 14.9	12.52	5.8	7 0
23 15	10 13 53.8	3.39	37.1	7 1 42.5	9.27	26.9	1 25 7.1	12.53	5.6	6 45
23 30	10 13 2.9	3.45	37.1	6 59 23.4	9.31	26.8	1 21 59.2	12.54	5.4	6 30
23 45	10 12 11.2	3.50	37.0	6 57 3.7	9.35	26.6	1 18 51.1	12.55	5.1	6 15
24 0	10 11 18.7	3.55	37.0	6 54 43.4	9.39	26.5	1 15 42.9	12.55	4.9	6 0
24 15	10 10 25.5	3.60	37.0	6 52 22.5	9.44	26.4	1 12 34.6	12.56	4.7	5 45
24 30	10 9 31.5	3.65	37.0	6 50 0.9	9.48	26.2	1 9 26.1	12.57	4.5	5 30
24 45	10 8 36.7	3.70	36.9	6 47 38.7	9.53	26.1	1 6 17.5	12.58	4.3	5 15
25 0	10 7 41.1	3.76	36.9	6 45 15.8	9.57	25.9	1 3 8.8	12.59	4.1	5 0
25 15	10 6 44.7	3.81	36.9	6 42 52.3	9.61	25.8	1 0 0.0	12.59	3.9	4 45
25 30	10 5 47.5	3.87	36.8	6 40 28.2	9.64	25.6	0 56 51.1	12.60	3.7	4 30
25 45	10 4 49.5	3.92	36.8	6 38 3.6	9.68	25.5	0 53 42.0	12.61	3.5	4 15
26 0	10 3 50.7	3.97	36.7	6 35 38.4	9.72	25.3	0 50 33.0	12.61	3.3	4 0
26 15	10 2 51.2	4.02	36.7	6 33 12.6	9.76	25.2	0 47 23.8	12.62	3.1	3 45
26 30	10 1 50.9	4.07	36.6	6 30 46.2	9.80	25.0	0 44 14.5	12.62	2.9	3 30
26 45	10 0 49.8	4.13	36.6	6 28 19.2	9.84	24.9	0 41 5.2	12.63	2.7	3 15
27 0	9 59 47.9	4.18	36.5	6 25 51.6	9.88	24.7	0 37 55.8	12.63	2.5	3 0
27 15	9 58 45.2	4.23	36.5	6 23 23.4	9.91	24.6	0 34 56.4	12.63	2.3	2 45
27 30	9 57 41.8	4.28	36.4	6 20 54.7	9.95	24.4	0 31 56.9	12.63	2.1	2 30
27 45	9 56 37.6	4.33	36.4	6 18 25.4	9.99	24.3	0 28 57.4	12.64	1.9	2 15
28 0	9 55 32.6	4.39	36.3	6 15 55.5	10.03	24.1	0 25 17.8	12.64	1.7	2 0
28 15	9 54 26.8	4.43	36.3	6 13 25.0	10.07	24.0	0 22 8.2	12.65	1.5	1 45
28 30	9 53 20.3	4.49	36.2	6 10 54.0	10.11	23.8	0 18 58.5	12.65	1.3	1 30
28 45	9 52 13.0	4.54	36.2	6 8 22.4	10.15	23.7	0 15 48.8	12.65	1.0	1 15
29 0	9 51 4.9	4.59	36.1	6 5 50.2	10.18	23.5	0 12 39.1	12.65	0.8	1 0
29 15	9 49 56.0	4.65	36.1	6 3 17.5	10.22	23.4	0 9 29.4	12.65	0.6	0 45
29 30	9 48 46.3	4.69	36.0	6 0 44.2	10.26	23.2	0 6 19.6	12.65	0.4	0 30
29 45	9 47 35.9	4.75	36.0	5 58 10.3	10.30	23.1	0 3 9.8	12.65	0.2	0 15
30 0	9 46 24.7		35.9	5 55 35.8		22.9	0 0 0.0		0.0	0 0
	VIIIˢ +		+	VIIˢ +		+	VIˢ +		+	

Tabulae perturbationum in longitudine.

Tabula VII.

Argument. II seu (♂ — ♃)

N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	35.1″	+ 0.2	500	32.9″	− 3.2
10	35.3	0.3	510	36.1	3.2
20	35.6	0.3	520	39.3	3.0
30	35.9	0.2	530	42.3	2.8
40	36.1	0.2	540	45.1	2.8
50	36.3	0.0	550	47.9	2.8
60	36.3	− 0.3	560	50.7	2.7
70	36.0	0.4	570	53.4	2.4
80	35.6	0.6	580	55.8	2.1
90	35.0	0.8	590	57.9	1.9
100	34.2	1.0	600	59.8	1.7
110	33.2	1.1	610	61.5	1.6
120	32.1	1.3	620	63.1	1.3
130	30.8	1.6	630	64.4	1.0
140	29.2	1.7	640	65.4	0.8
150	27.5	1.9	650	66.2	0.5
160	25.6	2.0	660	66.7	− 0.3
170	23.6	2.0	670	67.0	0.0
180	21.6	2.0	680	67.0	+ 0.3
190	19.6	2.2	690	66.7	0.5
200	17.4	2.1	700	66.2	0.8
210	15.3	1.9	710	65.4	1.0
220	13.4	2.0	720	64.4	1.2
230	11.4	1.9	730	63.2	1.3
240	9.5	1.9	740	61.9	1.5
250	7.6	1.7	750	60.4	1.7
260	5.9	1.4	760	58.7	1.8
270	4.5	1.3	770	56.9	1.9
280	3.2	1.0	780	55.0	1.8
290	2.2	0.8	790	53.2	2.0
300	1.4	0.7	800	51.2	2.0
310	0.7	0.5	810	49.2	2.0
320	0.2	− 0.2	820	47.2	1.8
330	0.0	+ 0.1	830	45.4	1.9
340	0.1	0.4	840	43.5	1.8
350	0.5	0.7	850	41.7	1.6
360	1.2	1.0	860	40.1	1.5
370	2.2	1.2	870	38.6	1.3
380	3.4	1.5	880	37.3	1.1
390	4.9	1.7	890	36.2	0.8
400	6.6	1.9	900	35.4	0.7
410	8.5	2.0	910	34.7	0.6
420	10.5	2.3	920	34.1	0.3
430	12.8	2.5	930	33.8	− 0.1
440	15.3	2.8	940	33.7	0.0
450	18.1	2.8	950	33.7	+ 0.2
460	20.9	2.8	960	33.9	0.1
470	23.7	3.0	970	34.0	0.3
480	26.7	3.1	980	34.3	0.4
490	29.8	3.1	990	34.7	0.4
500	32.9		1000	35.1	

Const + 34″

Tabula VIII.

Argument. III seu (♂ — 2♃)

N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	10.6″	+ 1.2	500	33.4″	− 1.2
10	11.8	1.2	510	32.2	1.2
20	13.0	1.2	520	31.0	1.2
30	14.2	1.3	530	29.8	1.3
40	15.5	1.3	540	28.5	1.3
50	16.8	1.3	550	27.2	1.3
60	18.1	1.3	560	25.9	1.3
70	19.4	1.4	570	24.6	1.3
80	20.8	1.4	580	23.3	1.4
90	22.2	1.4	590	21.9	1.4
100	23.6	1.3	600	20.5	1.4
110	24.9	1.3	610	19.1	1.3
120	26.2	1.3	620	17.8	1.3
130	27.5	1.3	630	16.5	1.3
140	28.8	1.3	640	15.2	1.3
150	30.1	1.2	650	13.9	1.2
160	31.3	1.2	660	12.7	1.2
170	32.5	1.2	670	11.5	1.2
180	33.7	1.2	630	10.3	1.1
190	34.8	1.1	690	9.2	1.1
200	35.9	1.1	700	8.1	1.0
210	36.9	1.0	710	7.1	1.0
220	37.8	0.9	720	6.1	0.9
230	38.7	0.9	730	5.2	0.8
240	39.6	0.9	740	4.4	0.7
250	40.3	0.7	750	3.7	0.7
260	40.9	0.6	760	3.0	0.6
270	41.5	0.6	770	2.4	0.5
280	42.1	0.6	780	1.9	0.5
290	42.6	0.5	790	1.4	0.4
300	43.0	0.4	800	1.0	0.3
310	43.3	0.3	810	0.7	0.2
320	43.4	0.1	820	0.5	0.1
330	43.5	+ 0.1	830	0.4	0.0
340	43.5	0.0	840	0.4	+ 0.1
350	43.5	0.0	850	0.5	0.1
360	43.4	− 0.1	860	0.6	0.2
370	43.2	0.2	870	0.8	0.3
380	42.9	0.3	880	1.1	0.4
390	42.5	0.4	890	1.5	0.5
400	42.0	0.5	900	2.0	0.6
410	41.4	0.6	910	2.6	0.6
420	40.8	0.6	920	3.2	0.7
430	40.1	0.7	930	3.9	0.8
440	39.4	0.7	940	4.7	0.8
450	38.5	0.9	950	5.5	0.9
450	37.6	0.9	960	6.4	1.0
470	36.6	1.0	970	7.4	1.0
480	35.6	1.0	980	8.4	1.1
490	34.5	1.1	990	9.5	1.1
500	33.4		1000	10.6	

Const. + 22″

Tabulae perturbationum in longitudine.

Tabula IX.

Argument. IV seu (2 ♂ — ♄)

N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	3.″2	− 0.7	500	22.″7	+ 0.5
10	2.5	0.7	510	23.2	0.4
20	1.8	0.6	520	23.6	0.5
30	1.2	0.4	530	24.1	0.5
40	0.8	0.2	540	24.6	0.5
50	0.6	0.1	550	25.1	0.5
60	0.5	0.2	560	25.6	0.6
70	0.3	0.1	570	26.2	0.5
80	0.2	+ 0.2	580	26.7	0.5
90	0.4	0.3	590	27.2	0.6
100	0.7	0.3	600	27.8	0.5
110	1.0	0.3	610	28.3	0.6
120	1.3	0.5	620	28.9	0.5
130	1.8	0.6	630	29.4	0.5
140	2.4	0.6	640	29.9	0.4
150	3.0	0.7	650	30.3	0.3
160	3.7	0.7	660	30.6	0.4
170	4.4	0.8	670	31.0	0.3
180	5.2	0.9	680	31.3	0.2
190	6.1	0.9	690	31.5	0.1
200	7.0	0.8	700	31.6	+ 0.1
210	7.8	0.9	710	31.7	− 0.1
220	8.7	0.8	720	31.6	0.1
230	9.5	0.9	730	31.5	0.2
240	10.4	0.8	740	31.3	0.4
250	11.2	0.8	750	30.9	0.5
260	12.0	0.8	760	30.4	0.7
270	12.8	0.8	770	29.7	0.9
280	13.6	0.6	780	28.8	0.9
290	14.2	0.7	790	27.9	0.9
300	14.9	0.6	800	27.0	0.9
310	15.5	0.6	810	26.1	0.9
320	16.1	0.5	820	25.2	0.9
330	16.6	0.5	830	24.3	1.0
340	17.1	0.5	840	23.3	1.1
350	17.6	0.4	850	22.2	1.3
360	18.0	0.4	860	20.9	1.4
370	18.4	0.4	870	19.5	1.5
380	18.8	0.3	880	18.0	1.5
390	19.1	0.3	890	16.5	1.4
400	19.4	0.3	900	15.1	1.4
410	19.7	0.3	910	13.7	1.3
420	20.0	0.3	920	12.4	1.3
430	20.3	0.3	930	11.1	1.3
440	20.6	0.3	940	9.8	1.3
450	20.9	0.3	950	8.5	1.2
460	21.2	0.3	960	7.3	1.1
470	21.5	0.4	970	6.2	1.0
480	21.9	0.4	980	5.2	1.0
490	22.3	0.4	990	4.2	1.0
500	22.7		1000	3.2	

Const. + 17″

Tabula X.

Argument. V seu (♄ — ♂)

N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	8.″0	+ 0.3	500	8.″0	− 0.5
10	8.3	0.3	510	7.5	0.5
20	8.6	0.3	520	7.0	0.6
30	8.9	0.2	530	6.4	0.5
40	9.1	0.3	540	5.9	0.5
50	9.4	0.3	550	5.4	0.5
60	9.7	0.3	560	4.9	0.5
70	10.0	0.4	570	4.4	0.5
80	10.4	0.3	580	3.9	0.4
90	10.7	0.3	590	3.5	0.4
100	11.0	0.3	600	3.1	0.4
110	11.3	0.4	610	2.7	0.3
120	11.7	0.3	620	2.4	0.3
130	12.0	0.3	630	2.1	0.3
140	12.3	0.3	640	1.8	0.3
150	12.6	0.4	650	1.5	0.3
160	13.0	0.3	660	1.3	0.2
170	13.3	0.3	670	1.1	0.1
180	13.6	0.3	680	0.9	0.2
190	13.9	0.3	690	0.8	0.1
200	14.2	0.2	700	0.7	0.1
210	14.4	0.2	710	0.7	0.0
220	14.6	0.2	720	0.6	0.1
230	14.8	0.2	730	0.7	+ 0.1
240	15.0	0.1	740	0.8	0.1
250	15.1	0.1	750	0.9	0.1
260	15.2	0.1	760	1.0	0.1
270	15.3	+ 0.1	770	1.2	0.2
280	15.4	− 0.1	780	1.4	0.2
290	15.3	0.0	790	1.6	0.2
300	15.3	0.1	800	1.8	0.2
310	15.2	0.1	810	2.1	0.3
320	15.1	0.2	820	2.3	0.2
330	14.9	0.3	830	2.7	0.4
340	14.6	0.2	840	3.0	0.3
350	14.4	0.2	850	3.4	0.4
360	14.2	0.3	860	3.7	0.3
370	13.9	0.3	870	4.0	0.3
380	13.6	0.3	880	4.3	0.3
390	13.3	0.4	890	4.7	0.4
400	12.9	0.4	900	5.0	0.3
410	12.5	0.4	910	5.3	0.3
420	12.1	0.5	920	5.6	0.3
430	11.6	0.5	930	6.0	0.4
440	11.1	0.5	940	6.3	0.3
450	10.6	0.5	950	6.6	0.3
460	10.1	0.5	960	6.9	0.3
470	9.6	0.6	970	7.1	0.2
480	9.0	0.5	980	7.4	0.3
490	8.5	0.5	990	7.7	0.3
500	8.0		1000	8.0	0.3

Const. + 8″

Tabulae perturbationum in longitudine.

Tabula XI

Argument. VI seu (2 ♅ — 3 ♂)

N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	4.1″		500	11.9″	
10	4.5	+ 0.4	510	11.5	+ 0.4
20	4.9	0.4	520	11.1	0.4
30	5.3	0.4	530	10.7	0.4
40	5.7	0.4	540	10.3	0.4
50	6.1	0.4	550	9.9	0.4
60	6.6	0.5	560	9.4	0.5
70	7.0	0.4	570	9.0	0.4
80	7.5	0.5	580	8.5	0.5
90	8.0	0.5	590	8.0	0.5
100	8.4	0.4	600	7.6	0.4
110	8.8	0.4	610	7.2	0.4
120	9.3	0.5	620	6.7	0.5
130	9.7	0.4	630	6.3	0.4
140	10.1	0.4	640	5.9	0.4
150	10.5	0.4	650	5.5	0.4
160	10.9	0.4	660	5.1	0.4
170	11.3	0.4	670	4.7	0.4
180	11.7	0.4	680	4.3	0.4
190	12.1	0.4	690	3.9	0.4
200	12.4	0.3	700	3.6	0.3
210	12.7	0.3	710	3.3	0.3
220	13.1	0.4	720	2.9	0.4
230	13.4	0.3	730	2.6	0.3
240	13.7	0.3	740	2.3	0.3
250	13.9	0.2	750	2.1	0.2
260	14.1	0.2	760	1.9	0.2
270	14.3	0.2	770	1.7	0.2
280	14.5	0.2	780	1.5	0.2
290	14.7	0.2	790	1.3	0.2
300	14.8	0.1	800	1.2	0.1
310	14.9	0.1	810	1.1	0.1
320	15.0	0.1	820	1.0	0.1
330	15.1	+ 0.1	830	0.9	— 0.1
340	15.1	0.0	840	0.9	0.0
350	15.1	0.0	850	0.9	0.0
360	15.0	— 0.1	860	1.0	+ 0.1
370	14.9	0.1	870	1.1	0.1
380	14.8	0.1	880	1.2	0.1
390	14.7	0.1	890	1.3	0.1
400	14.6	0.1	900	1.4	0.1
410	14.4	0.2	910	1.6	0.2
420	14.2	0.2	920	1.8	0.2
430	14.0	0.2	930	2.0	0.2
440	13.8	0.2	940	2.2	0.2
450	13.5	0.3	950	2.5	0.3
460	13.2	0.3	960	2.8	0.3
470	12.9	0.3	970	3.1	0.3
480	12.6	0.3	980	3.4	0.3
490	12.3	0.3	990	3.7	0.3
500	11.9	0.4	1000	4.1	0.4

Const. + 8″

Tabula XII

Argument. VII seu (♀ — 3 ♂)

N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	1.3″		500	14.7″	
10	1.5	+ 0.2	510	14.5	— 0.2
20	1.7	0.2	520	14.3	0.2
30	2.0	0.3	530	14.0	0.3
40	2.3	0.3	540	13.7	0.3
50	2.5	0.2	550	13.4	0.3
60	2.8	0.3	560	13.1	0.3
70	3.2	0.4	570	12.8	0.3
80	3.6	0.4	580	12.4	0.4
90	4.0	0.4	590	12.0	0.4
100	4.4	0.4	600	11.6	0.4
110	4.8	0.4	610	11.2	0.4
120	5.2	0.4	620	10.8	0.4
130	5.6	0.4	630	10.4	0.4
140	6.1	0.5	640	9.9	0.5
150	6.5	0.4	650	9.5	0.4
160	7.0	0.5	660	9.0	0.5
170	7.5	0.5	670	8.5	0.5
180	7.9	0.4	680	8.1	0.4
190	8.4	0.5	690	7.6	0.5
200	8.8	0.4	700	7.2	0.4
210	9.3	0.5	710	6.7	0.5
220	9.8	0.5	720	6.2	0.5
230	10.2	0.4	730	5.8	0.4
240	10.7	0.5	740	5.3	0.5
250	11.1	0.4	750	4.9	0.4
260	11.5	0.4	760	4.5	0.4
270	11.9	0.4	770	4.1	0.4
280	12.3	0.4	780	3.7	0.4
290	12.7	0.4	790	3.3	0.4
300	13.0	0.3	800	2.9	0.4
310	13.4	0.4	810	2.6	0.3
320	13.7	0.3	820	2.3	0.3
330	13.9	0.2	830	2.1	0.2
340	14.2	0.3	840	1.8	0.3
350	14.5	0.3	850	1.5	0.3
360	14.7	0.2	860	1.3	0.2
370	14.8	0.1	870	1.2	0.1
380	15.0	0.2	880	1.1	0.1
390	15.1	0.1	890	1.0	0.1
400	15.2	0.1	900	0.9	0.1
410	15.3	0.1	910	0.8	0.1
420	15.3	0.0	920	0.8	0.0
430	15.3	0.0	930	0.7	— 0.1
440	15.3	0.0	940	0.7	0.0
450	15.3	0.0	950	0.7	0.0
460	15.3	0.0	960	0.7	0.0
470	15.2	— 0.1	970	0.8	— 0.1
480	15.1	0.1	980	0.9	0.1
490	14.9	0.2	990	1.1	0.2
500	14.7	0.2	1000	1.3	0.2

Const. + 8″

Tabulae perturbationum in longitudine.

Tabula XIII.						Tabula XIV.					
Argument. VIII ſeu ♃						Argument. IX ſeu (♀ — 2 ♂)					
N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	7.3″		500	0.2″		0	2.7″		500	1.3″	
10	7.2	— 0.1	510	0.1	— 0.1	10	2.6	— 0.1	510	1.4	+ 0.1
20	7.1	0.1	520	0.1	0.0	20	2.6	0.0	520	1.4	0.0
30	7.0	0.1	530	0.2	+ 0.1	30	2.5	0.1	530	1.5	0.1
40	6.9	0.1	540	0.2	0.0	40	2.4	0.1	540	1.6	0.1
50	6.8	0.1	550	0.3	0.1	50	2.3	0.1	550	1.7	0.1
60	6.7	0.1	560	0.4	0.1	60	2.3	0.0	560	1.7	0.0
70	6.7	0.0	570	0.6	0.2	70	2.2	0.1	570	1.8	0.1
80	6.7	0.0	580	0.8	0.2	80	2.1	0.1	580	1.9	0.1
90	6.6	— 0.1	590	1.1	0.3	90	2.1	0.0	590	1.9	0.0
100	6.6	0.0	600	1.3	0.2	100	2.0	0.1	600	2.0	0.1
110	6.5	0.1	610	1.6	0.3	110	1.9	0.1	610	2.1	0.1
120	6.5	0.0	620	1.9	0.3	120	1.8	0.1	620	2.2	0.1
130	6.5	0.0	630	2.2	0.3	130	1.7	0.1	630	2.3	0.1
140	6.5	0.0	640	2.6	0.4	140	1.6	0.1	640	2.4	0.1
150	6.5	0.0	650	2.9	0.3	150	1.5	0.1	650	2.5	0.1
160	6.5	0.0	660	3.3	0.4	160	1.4	0.1	660	2.6	0.1
170	6.4	0.1	670	3.7	0.4	170	1.4	0.0	670	2.6	0.0
180	6.4	0.0	680	4.1	0.4	180	1.3	0.1	680	2.7	0.1
190	6.3	0.1	690	4.5	0.4	190	1.2	0.1	690	2.8	0.1
200	6.3	0.0	700	4.9	0.4	200	1.1	0.1	700	2.9	0.1
210	6.3	0.0	710	5.3	0.4	210	1.0	0.1	710	3.0	0.1
220	6.2	0.1	720	5.6	0.3	220	1.0	0.0	720	3.0	0.0
230	6.1	0.1	730	6.0	0.4	230	0.9	0.1	730	3.1	0.1
240	6.0	0.1	740	6.3	0.3	240	0.9	0.0	740	3.1	0.0
250	5.9	0.1	750	6.6	0.3	250	0.8	0.1	750	3.2	0.1
260	5.7	0.2	760	6.9	0.3	260	0.8	0.0	760	3.3	0.1
270	5.6	0.1	770	7.2	0.3	270	0.7	0.1	770	3.3	0.0
280	5.4	0.2	780	7.5	0.3	280	0.7	0.0	780	3.3	0.0
290	5.2	0.2	790	7.7	0.2	290	0.6	0.1	790	3.4	0.1
300	5.0	0.2	800	7.9	0.2	300	0.6	0.0	800	3.4	0.0
310	4.8	0.2	810	8.1	0.2	310	0.6	0.0	810	3.4	0.0
320	4.5	0.3	820	8.2	0.1	320	0.6	0.0	820	3.4	0.0
330	4.2	0.3	830	8.3	0.1	330	0.5	0.1	830	3.5	0.1
340	3.9	0.3	840	8.4	0.1	340	0.5	0.0	840	3.5	0.0
350	3.6	0.3	850	8.4	0.0	350	0.6	+ 0.1	850	3.4	0.1
360	3.4	0.2	860	8.5	0.1	360	0.6	0.0	860	3.4	— 0.0
370	3.1	0.3	870	8.6	0.1	370	0.6	0.0	870	3.4	0.0
380	2.8	0.3	880	8.5	— 0.1	380	0.6	0.0	880	3.4	0.0
390	2.5	0.3	890	8.6	+ 0.1	390	0.6	0.0	890	3.4	0.0
400	2.2	0.3	900	8.4	— 0.2	400	0.6	0.0	900	3.4	0.0
410	1.9	0.3	910	8.3	0.1	410	0.7	0.1	910	3.3	— 0.1
420	1.6	0.3	920	8.3	0.0	420	0.7	0.0	920	3.3	0.0
430	1.3	0.3	930	8.2	0.1	430	0.7	0.0	930	3.3	0.0
440	1.1	0.2	940	8.1	0.1	440	0.8	0.1	940	3.2	0.1
450	0.9	0.2	950	8.0	0.1	450	0.9	0.1	950	3.1	0.1
460	0.7	0.2	960	7.8	0.2	460	0.9	0.0	960	3.1	0.0
470	0.5	0.2	970	7.7	0.1	470	1.0	0.1	970	3.0	0.1
480	0.4	0.1	980	7.6	0.1	480	1.1	0.1	980	2.9	0.1
490	0.3	0.1	990	7.5	0.1	490	1.2	0.1	990	2.8	0.1
500	0.2	0.1	1000	7.3	0.2	500	1.3	0.1	1000	2.7	0.1
Conſt. + 5″						Conſt. + 2″					

Tabulae perturbationum in longitudine.

Tabula XV.

Argument. X ſeu (♂ — ♄)

N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	2.0″	0.0	500	2.0″	+ 0.1
10	2.0	0.0	510	2.1	0.2
20	2.0	0.0	520	2.3	0.2
30	2.0	− 0.1	530	2.5	0.1
40	1.9	0.0	540	2.6	0.1
50	1.9	0.0	550	2.7	0.1
60	1.9	0.1	560	2.8	0.1
70	1.8	0.0	570	2.9	0.1
80	1.8	0.1	580	3.0	0.1
90	1.7	0.0	590	3.1	0.0
100	1.7	0.1	600	3.1	0.1
110	1.6	0.0	610	3.2	0.1
120	1.6	0.1	620	3.3	0.0
130	1.5	0.0	630	3.3	0.1
140	1.5	0.1	640	3.4	0.0
150	1.4	0.1	650	3.4	0.0
160	1.3	0.0	660	3.4	0.1
170	1.3	0.1	670	3.5	0.0
180	1.2	0.1	680	3.5	− 0.1
190	1.1	0.1	690	3.4	0.0
200	1.0	0.0	700	3.4	0.0
210	1.0	0.1	710	3.4	0.0
220	0.9	0.0	720	3.4	0.0
230	0.9	0.1	730	3.4	0.1
240	0.8	0.1	740	3.3	0.0
250	0.7	0.0	750	3.3	0.1
260	0.7	0.1	760	3.2	0.1
270	0.6	0.0	770	3.1	0.0
280	0.6	0.0	780	3.1	0.1
290	0.6	0.0	790	3.0	0.0
300	0.6	0.0	800	3.0	0.1
310	0.6	0.1	810	2.9	0.1
320	0.5	0.0	820	2.8	0.1
330	0.5	+ 0.1	830	2.7	0.0
340	0.6	0.0	840	2.7	0.1
350	0.6	0.0	850	2.6	0.1
360	0.6	0.1	860	2.5	0.0
370	0.7	0.0	870	2.5	0.1
380	0.7	0.1	880	2.4	0.0
390	0.8	0.1	890	2.4	0.1
400	0.9	0.0	900	2.3	0.0
410	0.9	0.1	910	2.3	0.1
420	1.0	0.1	920	2.2	0.0
430	1.1	0.1	930	2.2	0.1
440	1.2	0.1	940	2.1	0.0
450	1.3	0.1	950	2.1	0.0
460	1.4	0.1	960	2.1	0.1
470	1.5	0.2	970	2.0	0.0
480	1.7	0.2	980	2.0	0.0
490	1.9	0.1	990	2.0	0.0
500	2.0		1000	2.0	

Conſt. + 2″

Tabula XVI.

Argument. XI ſeu ♄

N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	1.7″	0.0	500	0.3″	0.0
10	1.7	0.0	510	0.3	0.0
20	1.7	0.0	520	0.3	0.0
30	1.7	0.0	530	0.3	0.0
40	1.7	0.0	540	0.3	0.0
50	1.7	0.0	550	0.3	0.0
60	1.7	0.0	560	0.3	0.0
70	1.7	0.0	570	0.3	0.0
80	1.7	0.0	580	0.3	0.0
90	1.7	− 0.1	590	0.3	+ 0.1
100	1.6	0.0	600	0.4	0.0
110	1.6	0.0	610	0.4	0.0
120	1.6	0.0	620	0.4	0.0
130	1.6	0.0	630	0.4	0.0
140	1.6	0.1	640	0.4	0.1
150	1.5	0.0	650	0.5	0.0
160	1.5	0.1	660	0.5	0.1
170	1.4	0.0	670	0.6	0.0
180	1.4	0.0	680	0.6	0.0
190	1.4	0.1	690	0.6	0.1
200	1.3	0.0	700	0.7	0.0
210	1.3	0.1	710	0.7	0.1
220	1.2	0.0	720	0.8	0.0
230	1.2	0.1	730	0.8	0.1
240	1.1	0.0	740	0.9	0.0
250	1.1	0.0	750	0.9	0.0
260	1.1	0.0	760	0.9	0.0
270	1.1	0.1	770	0.9	0.1
280	1.0	0.0	780	1.0	0.0
290	1.0	0.1	790	1.0	0.1
300	0.9	0.0	800	1.0	0.0
310	0.9	0.1	810	1.1	0.1
320	0.8	0.0	820	1.2	0.0
330	0.8	0.0	830	1.2	0.0
340	0.8	0.1	840	1.2	0.1
350	0.7	0.0	850	1.3	0.0
360	0.7	0.1	860	1.3	0.1
370	0.6	0.0	870	1.4	0.0
380	0.6	0.0	880	1.4	0.0
390	0.6	0.1	890	1.4	0.1
400	0.5	0.0	900	1.5	0.0
410	0.5	0.0	910	1.5	0.0
420	0.5	0.1	920	1.5	0.0
430	0.4	0.0	930	1.5	0.1
440	0.4	0.0	940	1.6	0.0
450	0.4	0.1	950	1.6	0.0
460	0.3	0.0	960	1.6	0.1
470	0.3	0.0	970	1.7	0.0
480	0.3	0.0	980	1.7	0.0
490	0.3	0.0	990	1.7	0.0
500	0.3		1000	1.7	

Conſt. + 1″

Tabulae perturbationum in longitudine.

Tabula XVII.						Tabula XVIII.					
Argument. XII seu ♅.						Arg. XIII = 2 Arg. II -- Arg. VIII seu (2♂ - 3♃)					
N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	1,3″	0,0	500	0,7″	0,0	0	4,8″	0,0	500	1.2″	0,0
10	1,3	+ 0,1	510	0,7	− 0,1	10	4,8	+ 0,1	510	1,2	− 0,1
20	1,4	0,0	520	0,6	0,0	20	4,9	0,1	520	1,1	0,1
30	1,4	0,1	530	0,6	0,1	30	5,0	0,1	530	1,0	0.1
40	1,5	0,0	540	0.5	0,0	40	5,1	0,0	540	0,9	0,0
50	1.5	0,0	550	0,5	0,0	50	5,1	0,0	550	0,9	0,0
60	1,5	0,1	560	0,5	0,0	60	5,1	0,1	560	0,9	0,1
70	1,6	0,0	570	0,5	0,1	70	5,2	0,0	570	0,8	0,0
80	1,6	0,0	580	0,4	0.0	80	5,2	0,1	580	0,8	0,1
90	1.6	0,0	590	0,4	0,0	90	5,3	0,0	590	0,7	0,0
100	1,6	0,0	600	0,4	0,0	100	5,3	0,0	600	0,7	0,0
110	1,6	0,c	610	0,4	0,0	110	5,3	0,0	610	0,7	0,0
120	1,6	0,1	620	0,4	0,0	120	5,3	− 0,1	620	0,7	+ 0,1
130	1,7	0,0	630	0,4	0,1	130	5,2	0,0	630	0.8	0,0
140	1,7	0,0	640	0,3	0,0	140	5,2	0,0	640	0,8	0,0
150	1,7	0,0	650	0,3	0,0	150	5,2	0,1	650	0,8	0,1
160	1,7	0,0	660	0,3	0,0	160	5,1	0,0	660	0.9	0,0
170	1,7	0,0	670	0,3	0,0	170	5,1	0,1	670	0,9	0,1
180	1,7	0,0	680	0,3	0,0	180	5,0	0,0	680	1,0	0,0
190	1,7	0,0	690	0,3	0,0	190	5,0	0,1	690	1,0	0,1
200	1,7	0,0	700	0,3	0,0	200	4,9	0,1	700	1,1	0,1
210	1,7	0,0	710	0,3	0.0	210	4,8	0,1	710	1,2	0,1
220	1,7	0,0	720	0,3	0,0	220	4,7	0.0	720	1,3	0,0
230	1,7	− 0,1	730	0,3	+ 0,1	230	4,7	0,1	730	1,3	0.1
240	1,6	0,0	740	0,4	0,0	240	4,6	0,1	740	1,4	0,1
250	1,6	0,0	750	0,4	0,0	250	4.5	0,1	750	1,5	0,1
260	1,6	0,0	760	0,4	0,0	260	4,4	0,1	760	1,6	0.1
270	1,6	0,1	770	0,4	0,1	270	4,3	0,2	770	1,7	0,2
280	1,5	0,0	780	0,5	0,0	280	4,1	0,1	780	1,9	0.1
290	1,5	0,1	790	0,5	0,1	290	4,0	0,1	790	2,0	0.1
300	1,4	0,0	800	0,6	0,0	300	3,9	0,1	800	2,1	0,1
310	1,4	0,1	810	0,6	0,1	310	38	0,2	810	2,2	0,2
320	1,3	0,0	820	0,7	0,0	320	3,6	0.1	820	2,4	0,1
330	1,3	0,0	830	0,7	0,0	330	3,5	0,2	830	2,5	0,2
340	1,3	0,0	840	0,7	0.0	340	3,3	0,1	840	2,7	0,1
350	1,3	0,1	850	0,7	0,1	350	3,2	0,2	850	2,8	0,2
360	1,2	0,0	860	0,8	0,0	360	3,0	0,2	860	3,0	0,2
370	1,2	0,1	870	0,8	0,1	370	2,8	0,1	870	3,2	0,1
380	1,1	0,0	880	0,9	0,0	380	2,7	0,1	880	3,3	0,1
390	1,1	0,1	890	0,9	0,1	390	2,6	0,1	890	3,4	0,1
400	1,0	0,0	900	1,0	0,0	400	2,5	0,2	900	3,5	0,2
410	1,0	0,0	910	1,0	0,0	410	2,3	0,1	910	3,7	0,1
420	1,0	0,1	920	1,0	0,1	420	2,2	0,2	920	3,8	0,2
430	0,9	0,0	930	1,1	0,0	430	2,0	0,1	930	4,0	0,1
440	0,9	0,0	940	1,1	0,0	440	1,9	0,1	940	4,1	0,1
450	0,9	0,1	950	1,1	0,1	450	1,8	0,1	950	4,2	0,1
460	0,8	0,0	960	1,2	0,0	460	1,7	0,1	960	4,3	0,1
470	0,8	0,0	970	1.2	0,0	470	1,6	0,1	970	4,4	0,1
480	0,8	0,1	980	1,2	0,1	480	1,5	0,1	980	4,5	0,1
490	0,7	0,0	990	1,3	0,0	490	1.4	0,2	990	4,6	0,2
500	0,7		1000	1,3		500	1,2		1000	4,8	
Const. + 1″						Const. + 3″					

Tabulae perturbationum in longitudine.

Tabula XIX.

Arg. XIV seu (2 ♂ − ♃) = 2 A. II + A. VIII.

N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	1.7″		500	4.3″	
10	1.5	− 0.2	510	4.5	+ 0.2
20	1.4	0.1	520	4.6	0.1
30	1.2	0.2	530	4.8	0.2
40	1.0	0.2	540	5.0	0.2
50	0.9	0.1	550	5.1	0.1
60	0.8	0.1	560	5.2	0.1
70	0.7	0.1	570	5.3	0.1
80	0.6	0.1	580	5.4	0.1
90	0.5	0.1	590	5.5	0.1
100	0.4	0.1	600	5.6	0.1
110	0.3	0.1	610	5.7	0.1
120	0.2	0.1	620	5.8	0.1
130	0.1	0.1	630	5.9	0.1
140	0.1	0.0	640	5.9	0.0
150	0.0	0.1	650	6.0	0.1
160	0.0	0.0	660	6.0	0.0
170	0.0	0.0	670	6.0	0.0
180	0.0	0.0	680	6.0	0.0
190	0.0	0.0	690	6.0	0.0
200	0.0	0.0	700	6.0	0.0
210	0.0	0.0	710	6.0	0.0
220	0.1	+ 0.1	720	5.9	− 0.1
230	0.1	0.0	730	5.9	0.0
240	0.2	0.1	740	5.8	0.1
250	0.3	0.1	750	5.7	0.1
260	0.4	0.1	760	5.6	0.1
270	0.5	0.1	770	5.5	0.1
280	0.6	0.1	780	5.4	0.1
290	0.7	0.1	790	5.3	0.1
300	0.8	0.1	800	5.2	0.1
310	0.9	0.1	810	5.1	0.1
320	1.1	0.2	820	4.9	0.2
330	1.2	0.1	830	4.8	0.1
340	1.4	0.2	840	4.6	0.2
350	1.6	0.2	850	4.4	0.2
360	1.7	0.1	860	4.3	0.1
370	1.9	0.2	870	4.1	0.2
380	2.1	0.2	880	3.9	0.2
390	2.3	0.2	890	3.7	0.2
400	2.4	0.1	900	3.6	0.1
410	2.6	0.2	910	3.4	0.2
420	2.8	0.2	920	3.2	0.2
430	3.0	0.2	930	3.0	0.2
440	3.2	0.2	940	2.8	0.2
450	3.4	0.2	950	2.6	0.2
460	3.6	0.2	960	2.4	0.2
470	3.8	0.2	970	2.2	0.2
480	4.0	0.2	980	2.0	0.2
490	4.1	0.1	990	1.9	0.1
500	4.3	0.2	1000	1.7	0.2

Const. + 3″

Tabula XX.

Arg. XV seu (3 ♂ − 2 ♃) = 3. A. II + A VIII

N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	2.9″		500	1.1″	
10	3.0	+ 0.1	510	1.0	− 0.1
20	3.0	0.0	520	1.0	0.0
30	3.1	0.1	530	0.9	0.1
40	3.2	0.1	540	0.8	0.1
50	3.3	0.1	550	0.7	0.1
60	3.4	0.1	560	0.6	0.1
70	3.5	0.1	570	0.5	0.1
80	3.5	0.0	580	0.5	0.0
90	3.6	0.1	590	0.4	0.1
100	3.7	0.1	600	0.5	0.1
110	3.7	0.0	610	0.5	0.0
120	3.7	0.0	620	0.3	0.0
130	3.8	0.1	630	0.2	0.1
140	3.8	0.0	640	0.2	0.0
150	3.8	0.0	650	0.2	0.0
160	3.8	0.0	660	0.2	0.0
170	3.9	0.1	670	0.1	0.1
180	3.9	0.0	680	0.1	0.0
190	3.9	0.0	690	0.1	0.0
200	3.9	0.0	700	0.1	0.0
210	3.8	− 0.1	710	0.2	+ 0.1
220	3.8	0.0	720	0.2	0.0
230	3.7	0.1	730	0.3	0.1
240	3.7	0.0	740	0.3	0.0
250	3.6	0.1	750	0.4	0.1
260	3.5	0.1	760	0.5	0.1
270	3.5	0.0	770	0.5	0.0
280	3.4	0.1	780	0.6	0.1
290	3.4	0.0	790	0.6	0.0
300	3.3	0.1	800	0.7	0.1
310	3.2	0.1	810	0.8	0.1
320	3.1	0.1	820	0.9	0.1
330	3.0	0.1	830	1.0	0.1
340	2.9	0.1	840	1.	0.1
350	2.8	0.1	850	1.2	0.1
360	2.7	0.1	860	1.3	0.1
370	2.6	0.1	870	1.4	0.1
380	2.5	0.1	880	1.5	0.1
390	2.4	0.1	890	1.6	0.1
400	2.3	0.1	900	1.7	0.1
410	2.2	0.1	910	1.8	0.1
420	2.1	0.1	920	1.9	0.1
430	1.9	0.2	930	2.1	0.2
440	1.8	0.1	940	2.2	0.1
450	1.7	0.1	950	2.3	0.1
460	1.6	0.1	960	2.4	0.1
470	1.5	0.1	970	2.5	0.1
480	1.4	0.1	980	2.6	0.1
490	1.2	0.1	990	2.8	0.2
500	1.1	0.1	1000	2.9	0.1

Const. + 2″

Tabulae perturbationum in longitudine.

Tabula XXI.						Tabula XXII.					
Arg. XVI ſeu (3 ♅ − 5 ♂) = A. VI − A. III						Arg. XVII ſeu (3 ♅ − 4 ♂) = 2 A. V − A. IV.					
N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	0.5″	+ 0.1	500	5.5″	− 0.1	0	1.3″	0.0	500	0.7″	0.0
10	0.6	0.0	510	5.4	0.0	10	1.3	− 0.1	510	0.7	+ 0.1
20	0.6	0.1	520	5.4	0.1	20	1.2	0.0	520	0.8	0.0
30	0.7	0.1	530	5.3	0.1	30	1.2	0.0	530	0.8	0.0
40	0.8	0.1	540	5.2	0.1	40	1.2	0.1	540	0.8	0.1
50	0.9	0.2	550	5.1	0.2	50	1.1	0.0	550	0.9	0.0
60	1.1	0.1	560	4.9	0.1	60	1.1	0.0	560	0.9	0.1
70	1.2	0.1	570	4.8	0.1	70	1.1	0.1	570	1.0	0.0
80	1.3	0.1	580	4.7	0.1	80	1.0	0.0	580	1.0	0.0
90	1.4	0.2	590	4.6	0.2	90	1.0	0.0	590	1.0	0.0
100	1.6	0.1	600	4.4	0.1	100	1.0	0.1	600	1.0	0.1
110	1.7	0.2	610	4.3	0.2	110	0.9	0.1	610	1.1	0.1
120	1.9	0.1	620	4.1	0.1	120	0.8	0.0	620	1.2	0.0
130	2.0	0.2	630	4.0	0.2	130	0.8	0.1	630	1.2	0.1
140	2.2	0.1	640	3.8	0.1	140	0.7	0.0	640	1.3	0.0
150	2.3	0.2	650	3.7	0.2	150	0.7	0.0	650	1.3	0.0
160	2.5	0.2	660	3.5	0.2	160	0.7	0.0	660	1.3	0.0
170	2.7	0.1	670	3.3	0.1	170	0.7	0.1	670	1.3	0.1
180	2.8	0.2	680	3.2	0.2	180	0.6	0.1	680	1.4	0.1
190	3.0	0.1	690	3.0	0.1	190	0.5	0.0	690	1.5	0.0
200	3.1	0.2	700	2.9	0.2	200	0.5	0.0	700	1.5	0.0
210	3.3	0.2	710	2.7	0.2	210	0.5	0.0	710	1.5	0.0
220	3.5	0.2	720	2.5	0.2	220	0.5	0.1	720	1.5	0.1
230	3.7	0.1	730	2.3	0.1	230	0.4	0.0	730	1.6	0.0
240	3.8	0.2	740	2.2	0.2	240	0.4	0.0	740	1.6	0.0
250	4.0	0.2	750	2.0	0.2	250	0.4	0.0	750	1.6	0.0
260	4.2	0.1	760	1.8	0.1	260	0.4	0.0	760	1.6	0.0
270	4.3	0.2	770	1.7	0.2	270	0.4	0.1	770	1.6	0.1
280	4.5	0.1	780	1.5	0.1	280	0.3	0.0	780	1.7	0.0
290	4.6	0.1	790	1.4	0.1	290	0.3	0.0	790	1.7	0.0
300	4.7	0.1	800	1.3	0.1	300	0.3	0.0	800	1.7	0.0
310	4.8	0.1	810	1.2	0.1	310	0.3	0.	810	1.7	0.0
320	4.9	0.1	820	1.1	0.1	320	0.3	0.0	820	1.7	0.0
330	5.0	0.1	830	1.0	0.1	330	0.3	0.0	830	1.7	0.0
340	5.1	0.1	840	0.9	0.1	340	0.3	0.0	840	1.7	0.0
350	5.2	0.1	850	0.8	0.1	350	0.3	0.0	850	1.7	0.0
360	5.3	0.1	860	0.7	0.1	360	0.3	0.0	860	1.7	0.1
370	5.4	0.1	870	0.6	0.1	370	0.3	+ 0.1	870	1.6	0.0
380	5.5	0.0	880	0.5	0.0	380	0.4	0.0	880	1.6	0.0
390	5.5	0.1	890	0.5	0.1	390	0.4	0.0	890	1.6	0.0
400	5.6	0.0	900	0.4	0.0	400	0.4	0.	900	1.6	0
410	5.6	0.1	910	0.4	0.1	410	0.4	0.	910	1.6	0.0
420	5.7	0.0	920	0.3	0.0	420	0.4	0.0	920	1.6	0.0
430	5.7	0.0	930	0.3	0.0	430	0.4	0.1	930	1.6	0.1
440	5.7	0.0	940	0.3	0.0	440	0.5	0.0	940	1.5	0.0
450	5.7	− 0.1	950	0.3	+ 0.1	450	0.5	0.1	950	1.5	0.1
460	5.6	0.0	960	0.4	0.0	460	0.6	0.0	960	1.4	0.0
470	5.6	0.0	970	0.4	0.0	470	0.6	0.0	970	1.4	0.0
480	5.6	0.0	980	0.4	0.0	480	0.6	0.1	980	1.4	0.1
490	5.6	0.1	990	0.4	0.1	490	0.7	0.0	990	1.3	0.0
500	5.5		1000	0.5		500	0.7		1000	1.3	
Conſt. + 3″						Conſt. + 1″					

Tabulae perturbationum in longitudine.

Tabula XXIII						Tabula XXIV					
Arg. XXIII ſeu (3 ♂ - ♅) = 2 A. XII - A. V						Arg. XIX ſeu (♂ — 2 ♄) = Arg. X -- Arg. XI.					
N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	0.7″	0.0	500	3.3″	0.0	0	1.1″	+ 0.1	500	2.9″	− 0.1
10	0.7	− 0.1	510	3.3	+ 0.1	10	1.2	0.1	510	2.8	0.1
20	0.6	0.0	520	3.4	0.0	20	1.3	0.1	520	2.7	0.1
30	0.5	0.0	530	3.4	0.0	30	1.4	0.1	530	2.6	0.1
40	0.6	0.0	540	3.4	0.0	40	1.5	0.1	540	2.5	0.1
50	0.6	0.0	550	3.4	0.0	50	1.6	0.1	550	2.4	0.1
60	0.6	0.0	560	3.4	0.0	60	1.7	0.1	560	2.3	0.1
70	0.6	0.0	570	3.4	0.0	70	1.8	0.1	570	2.2	0.1
80	0.6	0.0	580	3.4	0.0	80	1.9	0.1	580	2.1	0.1
90	0.6	0.0	590	3.4	0.0	90	2.0	0.2	590	2.0	0.2
100	0.6	+ 0.1	600	3.4	0.0	100	2.2	0.1	600	1.8	0.1
110	0.7	0.0	610	3.4	− 0.1	110	2.5	0.1	610	1.7	0.1
120	0.7	0.0	620	3.3	0.0	120	2.4	0.1	620	1.6	0.1
130	0.7	0.1	630	3.3	0.0	130	2.5	0.1	630	1.5	0.1
140	0.8	0.0	640	3.3	0.1	140	2.6	0.1	640	1.4	0.1
150	0.8	0.1	650	3.2	0.0	150	2.7	0.1	650	1.3	0.1
160	0.9	0.1	660	3.2	0.1	160	2.8	0.1	660	1.2	0.1
170	1.0	0.0	670	3.1	0.1	170	2.9	0.1	670	1.1	0.1
180	1.0	0.1	680	3.0	0.0	180	3.0	0.1	680	1.0	0.1
190	1.1	0.1	690	3.0	0.1	190	3.1	0.0	690	0.9	0.0
200	1.2	0.0	700	2.9	0.1	200	3.1	0.1	700	0.9	0.1
210	1.2	0.0	710	2.8	0.0	210	3.2	0.1	710	0.8	0.1
220	1.2	0.1	720	2.8	0.0	220	3.3	0.1	720	0.7	0.1
230	1.3	0.1	730	2.8	0.1	230	3.4	0.0	730	0.6	0.0
240	1.4	0.1	740	2.7	0.1	240	3.4	0.1	740	0.6	0.1
250	1.5	0.1	750	2.6	0.1	250	3.5	0.1	750	0.5	0.1
260	1.6	0.1	760	2.5	0.1	260	3.6	0.0	760	0.4	0.0
270	1.7	0.1	770	2.4	0.1	270	3.6	0.1	770	0.4	0.1
280	1.8	0.1	780	2.3	0.1	280	3.7	0.0	780	0.3	0.0
290	1.9	0.1	790	2.2	0.1	290	3.7	0.0	790	0.3	0.0
300	2.0	0.1	800	2.1	0.1	300	3.7	0.0	800	0.3	0.0
310	2.1	0.1	810	2.0	0.1	310	3.7	0.0	810	0.3	0.0
320	2.2	0.0	820	1.9	0.1	320	3.7	0.1	820	0.3	0.1
330	2.2	0.1	830	1.8	0.1	330	3.8	0.0	830	0.2	0.0
340	2.3	0.1	840	1.7	0.1	340	3.8	0.0	840	0.2	0.0
350	2.4	0.0	850	1.6	0.0	350	3.8	0.0	850	0.2	+ 0.0
360	2.4	0.1	860	1.6	0.1	360	3.8	− 0.1	860	0.2	0.1
370	2.5	0.1	870	1.5	0.1	370	3.7	0.0	870	0.3	0.0
380	2.6	0.1	880	1.4	0.1	380	3.7	0.1	880	0.3	0.0
390	2.7	0.1	890	1.3	0.1	390	3.6	0.0	890	0.3	0.1
400	2.8	0.1	900	1.2	0.1	400	3.6	0.0	900	0.4	0.0
410	2.9	0.1	910	1.1	0.1	410	3.6	0.1	910	0.4	0.1
420	3.0	0.0	920	1.0	0.0	420	3.5	0.0	920	0.5	0.0
430	3.0	0.0	930	1.0	0.0	430	3.5	0.0	930	0.5	0.0
440	3.0	0.1	940	1.0	0.1	440	3.5	0.1	940	0.5	0.1
450	3.1	0.1	950	0.9	0.1	450	3.4	0.1	950	0.6	0.1
460	3.2	0.0	960	0.8	0.0	460	3.3	0.1	960	0.7	0.1
470	3.2	0.0	970	0.8	0.0	470	3.2	0.1	970	0.8	0.1
480	3.2	0.1	980	0.8	0.1	480	3.1	0.1	980	0.9	0.1
490	3.3	0.0	990	0.7	0.0	490	3.0	0.1	990	1.0	0.1
500	3.3		1000	0.7		500	2.9		1000	1.1	
Conſt. + 2″						Conſt. + 2″					

T A B V L A XXV.

Pro diſtantia Martis a ſole in hypotheſi elliptica pro Anno 1800 cum variatione ſeculari.

Argumentum anomalia media Martis.

Anom. med.	O^s	Diff. pro 1'	Variat. ſecul. +	I^s	Diff. pro 1'	Variat. ſecul. +	II^s	Diff. pro 1'	Variat. ſecul. +	Anom. med.
° ′ 0 0	1. 665721	0.1	138	1. 649639	17.7	124	1. 603947	32.4	86	° ′ 30 0
0 15	1. 665720	0.2	138	1. 649373	17.9	124	1. 603461	32.5	86	29 45
0 30	1. 665717	0.4	137	1. 649105	18.0	124	1. 602973	32.7	85	29 30
0 45	1. 665711	0.5	137	1. 648835	18 1	124	1. 602483	32.7	85	29 15
1 0	1. 665703	0.7	137	1. 648564	18.3	123	1. 601992	32.9	84	29 0
1 15	1. 665693	0.8	137	1. 648290	18.4	123	1. 601499	33.0	84	28 45
1 30	1. 665681	1.0	137	1. 648014	18.5	123	1. 601005	33.1	84	28 30
1 45	1. 665666	1.1	137	1. 647736	18.7	123	1. 600510	33.1	83	28 15
2 0	1. 665649	1.3	137	1. 647456	18.8	123	1. 600013	33.2	83	28 0
2 15	1. 665630	1.4	137	1. 647174	18.9	123	1. 599515	33.3	83	27 45
2 30	1. 665609	1.6	137	1. 646890	19.1	122	1. 599015	33.5	82	27 30
2 45	1. 665585	1.7	137	1. 646604	19 2	122	1. 598513	33.5	82	27 15
3 0	1. 665559	1.9	137	1. 646315	19.3	122	1. 598010	33.7	81	27 0
3 15	1. 665531	2.0	137	1. 646025	19.5	122	1. 597505	33.7	81	25 45
3 30	1. 665500	2.2	137	1. 645733	19.7	122	1. 596999	33.8	80	26 30
3 45	1. 665467	2.3	137	1. 645438	19.8	121	1. 596492	33.9	80	26 15
4 0	1. 665432	2.5	137	1. 645141	19.9	121	1. 595984	34.0	79	26 0
4 15	1. 665395	2.6	137	1. 644842	20.1	121	1. 595474	34.1	79	25 45
4 30	1. 665356	2.8	137	1. 644541	20.2	121	1. 594963	34.2	78	25 30
4 45	1. 665314	2.9	137	1. 644238	20.3	121	1. 594450	34.3	78	25 15
5 0	1. 665270	3.1	137	1. 643934	20.5	120	1. 593936	34.3	77	25 0
5 15	1. 665225	3.3	137	1. 643627	20.6	120	1. 593421	34.5	77	24 45
5 30	1. 665174	3.4	137	1. 643318	20.7	120	1. 592904	34.5	77	24 30
5 45	1. 665123	3.5	137	1. 643007	20.8	120	1. 592386	34.7	76	24 15
6 0	1. 665070	3.7	137	1. 642695	21.0	119	1. 591866	34.7	76	24 0
6 15	1. 665015	3.9	137	1. 642380	21.1	119	1. 591345	34.8	76	23 45
6 30	1. 664957	4.0	137	1. 642063	21.2	119	1. 590823	34 9	75	23 50
6 45	1. 664897	4.1	137	1. 641744	21.3	119	1. 590299	35.0	75	23 15
7 0	1. 664835	4.3	137	1. 641424	21.5	118	1. 589774	35.1	74	23 0
7 15	1. 664771		137	1. 641101		118	1. 589248		74	22 45
	XI^s		+	X^s		+	IX^s		+	

TABVLA XXV.

Pro diſtantia Martis a ſole in hypotheſi elliptica pro Anno 1800 cum variatione ſeculari.

Argumentum anomalia media Martis.

Anom. med.	III s	Diff. pro 1'	Variat. ſecul. +	IV s	Diff. pro 1'	Variat. ſecul. +	V s	Diff. pro 1'	Variat. ſecul. +	Anom. med.
° ′										° ′
0 0	1.536857	40.8	26	1.463295	38.9	48	1.404444	24.3	112	30 0
0 15	1.536245	40.9	25	1.462711	38.9	48	1.404080	24.1	112	29 45
0 30	1.535632	40.9	25	1.462128	38.7	49	1.403719	23.9	112	29 30
0 45	1.535019	40.9	24	1.461547	38.7	49	1.403360	23.7	113	29 15
1 0	1.534406	40.9	23	1.460967	38.6	50	1.403004	23.6	113	29 0
1 15	1.533792	40.9	23	1.460388	38.5	51	1.402650	23.4	113	28 45
1 30	1.533178	41.0	22	1.459810	38.5	51	1.402299	23.2	114	28 30
1 45	1.532563	41.0	22	1.459233	38.4	52	1.401951	23.1	114	28 15
2 0	1.531948	41.1	21	1.458657	38.3	53	1.401605	22.9	115	28 0
2 15	1.530332	41.1	21	1.458082	38.3	53	1.401262	22.7	115	27 45
2 30	1.530716	41.1	20	1.457508	38.2	54	1.400922	22.5	115	27 30
2 45	1.530100	41.1	20	1.456935	38.1	54	1.400585	22.3	116	27 15
3 0	1.529483	41.1	19	1.456363	38.0	55	1.400250	22.1	116	27 0
3 15	1.528866	41.1	18	1.455793	37.9	55	1.399918	21.9	116	26 45
3 30	1.528249	41.2	18	1.455224	37.9	56	1.399589	21.8	117	26 30
3 45	1.527631	41.2	17	1.454656	37.8	56	1.399262	21.6	117	26 15
4 0	1.527013	41.2	16	1.454089	37.7	57	1.398938	21.4	118	26 0
4 15	1.526395	41.3	16	1.453524	37.6	58	1.398617	21.2	118	25 45
4 30	1.525776	41.3	15	1.452960	37.5	58	1.398299	21.1	118	25 30
4 45	1.525157	41.3	15	1.452397	37.5	59	1.397983	20.9	119	25 15
5 0	1.524538	41.3	14	1.451835	37.3	60	1.397670	20.7	119	25 0
5 15	1.523918	41.3	13	1.451275	37.3	60	1.397360	20.5	119	24 45
5 30	1.523298	41.3	13	1.450716	37.2	61	1.397053	20.3	120	24 30
5 45	1.522678	41.3	12	1.450158	37.1	61	1.396748	20.1	120	24 15
6 0	1.522058	41.3	11	1.449601	37.0	62	1.396446	19.9	121	24 0
6 15	1.521438	41.4	11	1.449046	36.9	62	1.396147	19.7	121	23 45
6 30	1.520817	41.4	10	1.448492	36.8	63	1.395851	19.5	121	23 30
6 45	1.520196	41.4	10	1.447940	36.7	63	1.395558	19.4	122	23 15
7 0	1.519575	41.4	09	1.447389	36.6	64	1.395267	19.2	122	23 0
7 15	1.518954		09	1.446840		65	1.394979		122	22 45
	VIII s		+	VII s		−	VI s		−	

T A B V L A XXV.

Pro diſtantia Martis a ſole in hypotheſi elliptica pro anno 1800 cum variatione ſeculari.

Argumentum anomalia media Martis.

Anom. med.	0ˢ	Diff. pro 1'	Variat. ſecul. +	Iˢ	Diff. pro 1'	Variat. ſecul. +	IIˢ	Diff. pro 1'	Variat. ſecul. +	Anom. med.
° '										° '
7 15	1.664771	4.5	137	1.641101	21.7	118	1.589248	35.2	74	22 45
7 30	1.664704	4.6	137	1.639776	21.8	118	1.588720	35.3	73	22 30
7 45	1.664635	4.7	137	1.639449	21.9	117	1.588191	35.4	73	22 15
8 0	1.664564	4.9	137	1.640121	22.1	117	1.587660	35.5	72	22 0
8 15	1.664491	5.1	137	1.639790	22.2	117	1.587128	35.5	72	21 45
8 30	1.664415	5.2	137	1.639457	22.3	116	1.586595	35.6	71	21 30
8 45	1.664337	5.3	137	1.639122	22.4	116	1.586061	35.7	71	21 15
9 0	1.664257	5.5	136	1.638786	22.6	115	1.585526	35.8	70	21 0
9 15	1.664175	5.7	136	1.638447	22.7	115	1.584989	35.9	70	20 45
9 30	1.664090	5.8	136	1.638106	22.9	115	1.584451	35.9	69	20 30
9 45	1.664003	5.9	136	1.637763	22.9	114	1.583912	36.0	69	20 15
10 0	1.663914	6.1	136	1.637419	23.1	114	1.583372	36.1	68	20 0
10 15	1.663823	6.3	136	1.637072	23.2	114	1.582830	36.2	68	19 45
10 30	1.663729	6.4	136	1.636724	23.3	114	1.582287	36.3	67	19 30
10 45	1.663633	6.5	136	1.636374	23.5	113	1.581743	36.4	67	19 15
11 0	1.663535	6.7	136	1.636022	23.6	113	1.581197	36.5	66	19 0
11 15	1.663435	6.8	136	1.635668	23.7	113	1.580650	36.5	66	18 45
11 30	1.663333	7.0	136	1.635312	23.9	113	1.580102	36.6	65	18 30
11 45	1.663228	7.1	136	1.634954	24.0	112	1.579553	36.7	65	18 15
12 0	1.663121	7.3	135	1.634594	24.1	112	1.579003	36.7	64	18 0
12 15	1.663012	7.5	135	1.634232	24.3	112	1.578452	36.8	64	17 45
12 30	1.662900	7.6	135	1.633868	24.4	112	1.577900	36.9	63	17 30
12 45	1.662786	7.7	135	1.633502	24.5	111	1.577346	37.0	63	17 15
13 0	1.662670	7.9	135	1.633135	24.7	111	1.576791	37.1	62	17 0
13 15	1.662552	8.0	135	1.632765	24.8	111	1.576235	37.1	62	16 45
13 30	1.662432	8.2	135	1.632393	24.9	111	1.575678	37.2	61	16 30
13 45	1.662309	8.3	135	1.632020	25.0	110	1.575120	37.3	61	16 15
14 0	1.662184	8.5	135	1.631645	25.1	110	1.574561	37.4	60	16 0
14 15	1.662057	8.6	135	1.631268	25.3	110	1.574000	37.5	60	15 45
14 30	1.661928		135	1.630889		109	1.573438		59	15 30
	XIˢ		+	Xˢ		+	IXˢ		+	

T A B V L A XXV.

Pro distantia Martis a sole in hypothesi elliptica pro anno 1800 cum variatione seculari.

Argumentum anomalia media Martis.

Anom. med.	III s	Diff. pro 1'	Variat. secul. ±	IV s	Diff. pro 1'	Variat. secul. —	V s	Diff. pro 1'	Variat. secul. —	Anom. med.
7° 15'	1.518954	41.4	9	1.446840	36.5	65	1.394979	19.0	122	22° 45'
7 30	1.518333	41.5	8	1.446292	36.5	65	1.394694	18.8	122	22 30
7 45	1.517711	41.5	8	1.445745	36.4	66	1.394412	18.6	123	22 15
8 0	1.517089	41.5	7	1.445199	36.3	67	1.394133	18.4	123	22 0
8 15	1.516467	41.5	6	1.444655	36.1	67	1.393857	18.2	123	21 45
8 30	1.515845	41.5	6	1.444113	36.1	68	1.393584	18.0	123	21 30
8 45	1.515223	41.5	5	1.443572	35.9	68	1.393314	17.8	124	21 15
9 0	1.514601	41.5	4	1.443033	35.9	69	1.393047	17.6	124	21 0
9 15	1.513979	41.5	4	1.442495	35.7	69	1.392783	17.4	124	20 45
9 30	1.513357	41.5	3	1.441959	35.7	70	1.392522	17.3	125	20 30
9 45	1.512735	41.5	3	1.441424	35.5	70	1.392263	17.1	125	20 15
10 0	1.512112	41.5	2	1.440891	35.5	71	1.392007	16.9	126	20 0
10 15	1.511490	41.5	1	1.440359	35.3	72	1.391754	16.7	126	19 45
10 30	1.510867	41.5	1	1.439829	35.2	72	1.391504	16.5	126	19 30
10 45	1.510245	41.5	0	1.439301	35.1	73	1.391257	16.2	127	19 15
11 0	1.509622	41.5	1	1.438774	35.0	74	1.391014	16.0	127	19 0
11 15	1.509000	41.5	1	1.438249	34.9	74	1.390774	15.9	127	18 45
11 30	1.508377	41.5	2	1.437725	34.8	75	1.390536	15.7	127	18 30
11 45	1.507755	41.5	2	1.437203	34.7	75	1.390301	15.5	128	18 15
12 0	1.507132	41.5	3	1.436683	34.6	76	1.390069	15.3	128	18 0
12 15	1.506510	41.5	4	1.436164	34.5	76	1.389840	15.1	128	17 45
12 30	1.505888	41.5	4	1.445647	34.3	77	1.389614	14.9	128	17 30
12 45	1.505266	41.5	5	1.435132	34.3	77	1.389391	14.6	129	17 15
13 0	1.504644	41.5	6	1.434618	34.1	78	1.389172	14.5	129	17 0
13 15	1.504022	41.5	6	1.434106	34.0	78	1.388955	14.3	129	16 45
13 30	1.503400	41.4	7	1.433596	33.9	79	1.388741	14.0	129	16 30
13 45	1.502779	41.4	7	1.433088	33.8	79	1.388531	13.8	130	16 15
14 0	1.502158	41.4	8	1.432581	33.7	80	1.388324	13.6	130	16 0
14 15	1.501537	41.4	8	1.432076	33.5	81	1.388120	13.4	130	15 45
14 30	1.500916		9	1.431573		81	1.387919		130	15 30
	VIII s		±	VII s		—	VI s		—	

TABVLA XXV.

Pro distantia Martis a sole in hypothesi elliptica pro Anno 1800 cum variatione seculari.

Argumentum. anomalia media Martis.

Anom. med.	Os	Diff. pro 1'	Variat. secul. +	Is	Diff. pro 1'	Variat. secul. +	IIs	Diff. pro 1'	Variat. secul. +	Anom. med.
14° 30'	1.661928	8.8	135	1.630889	25.4	109	1.573438	37.5	59	15° 30'
14 45	1.661796	8.9	134	1.630508	25.5	109	1.572875	37.6	59	15 15
15 0	1.661672	9.1	134	1.630126	25.6	108	1.572311	37.7	58	15 0
15 15	1.661526	9.2	134	1.629742	25.7	108	1.571746	37.7	58	14 45
15 30	1.661388	9.3	134	1.629356	25.9	108	1.571180	37.8	57	14 30
15 45	1.661248	9.5	134	1.628968	26.1	107	1.570613	37.8	57	14 15
16 0	1.661105	9.7	134	1.628577	26.1	107	1.570046	37.9	56	14 0
16 15	1.660960	9.8	134	1.628185	26.3	107	1.569477	38.0	56	13 45
16 30	1.660813	9.9	133	1.627791	26.3	107	1.568907	38.1	55	13 30
16 45	1.660664	10.1	133	1.627396	26.5	106	1.568336	38.1	55	13 15
17 0	1.660512	10.3	133	1.626999	26.6	106	1.567764	38.2	54	13 0
17 15	1.660358	10.4	133	1.626600	26.7	106	1.567191	38.3	54	12 45
17 30	1.660202	10 5	133	1.626199	26.9	105	1.566617	38.3	53	12 30
17 45	1.660044	10.7	133	1.625796	27.0	105	1.566042	38.4	53	12 15
18 0	1.659884	10.8	133	1.625391	27.1	104	1.565466	38.5	52	12 0
18 15	1.659722	11.0	133	1.624984	27.2	104	1.564889	38.5	52	11 45
18 30	1.659557	11.1	133	1.624576	27.3	104	1.564311	38.6	51	11 30
18 45	1.659390	11.3	132	1.624166	27.5	103	1.563732	38.6	51	11 15
19 0	1.659221	11.4	132	1.623754	27.6	103	1.563153	38.7	50	11 0
19 15	1.659050	11.5	132	1.623340	27.7	103	1.562572	38.8	50	10 45
19 30	1.658877	11.7	132	1.622925	27.8	103	1.561990	38.9	49	10 30
19 45	1,658701	11.9	132	1.622508	27.9	102	1.561407	38.9	49	10 15
20 0	1.658523	12.0	132	1.622089	28.1	102	1.560824	39.0	48	10 0
20 15	1.658343	12.1	132	1.621668	28.1	102	1.560239	39.0	48	9 45
20 30	1.658161	12.3	132	1.621246	28.3	101	1.559654	39.1	47	9 30
20 45	1.657977	12.5	131	1.620822	28.4	101	1.559068	39.1	47	9 15
21 0	1.657790	12.6	131	1.620396	28.5	100	1.558481	39.2	46	9 0
21 15	1.657601	12.7	131	1.619968	28.7	100	1.557893	39.3	46	8 45
21 30	1.657410	12.9	131	1.619538	28.7	100	1.557304	39.3	45	8 30
21 45	1.657217	13.0	130	1.619107	28.9	99	1.556715	39.3	45	8 15
22 0	1.657022		130	1.619674		99	1.556125		44	8 0
	XIs		+	Xs		+	IXs		+	

TABVLA XXV.

Pro diſtantia Martis a ſole in hypotheſi elliptica pro Anno 1800 cum variatione ſeculari.

Argumentum anomalia media Martis.

Anom. med.	III s	Diff. pro 1′	Variat. ſecul. —	IV s	Diff. pro 1′	Variat. ſecul. —	V	Diff. pro 1′	Variat. ſecul. —	Anom. med.
° ′										° ′
14 30	1.500916	41.4	9	1.431573	33.4	81	1.387919	13.2	130	15 30
14 45	1.500295	41.4	9	1.431072	33.3	82	1.387721	13.1	131	15 15
15 0	1.499674	41.4	10	1.430573	33.1	83	1.387525	12.8	131	15 0
15 15	1.499053	41.3	11	1.430076	33.0	83	1.387333	12.6	131	14 45
15 30	1.498433	41.3	11	1.429581	32.9	84	1.387144	12.4	131	14 30
15 45	1.497813	41.3	12	1.429088	32.8	84	1.386958	12.1	132	14 15
16 0	1.497193	41.3	13	1.428596	32.7	85	1.386776	11.9	132	14 0
16 15	1.496574	41.3	13	1.428106	32.5	85	1.386597	11.7	132	13 45
16 30	1.495955	41.3	14	1.427618	32.4	86	1.386421	11.5	132	13 30
16 45	1.495336	41.3	14	1.427132	32.3	86	1.386248	11.4	132	13 15
17 0	1.494717	41.2	15	1.426648	32.1	87	1.386077	11.1	132	13 0
17 15	1.494099	41.2	16	1.426166	32.0	87	1.385910	10.9	132	12 45
17 30	1.493481	41.2	16	1.425686	31.9	88	1.385746	10.7	133	12 30
17 45	1.492863	41.1	17	1.425207	31.8	88	1.385585	10.5	133	12 15
18 0	1.492246	41.1	18	1.424730	31.7	89	1.385428	10.3	133	12 0
18 15	1.491629	41.1	18	1.424255	31.5	89	1.385274	10.1	133	11 45
18 30	1.491013	41.1	19	1.423782	31.3	90	1.385123	9.9	134	11 30
18 45	1.490397	41.1	19	1.423312	31.2	90	1.384975	9.7	134	11 15
19 0	1.489781	41.0	20	1.422844	31.1	91	1.384830	9.5	134	11 0
19 15	1.489166	41.0	21	1.422378	30.9	91	1.384688	9.2	134	10 45
19 30	1.488551	41.0	21	1.421914	30.8	92	1.384550	9.0	134	10 30
19 45	1.487936	40.9	22	1.421452	30.7	92	1.384415	8.8	135	10 15
20 0	1.487322	40.9	23	1.420992	30.5	93	1.384283	8.6	135	10 0
20 15	1.486709	40.9	23	1.420534	30.4	93	1.384154	8.4	135	9 45
20 30	1.486096	40.9	24	1.420078	30.3	94	1.384028	8.1	135	9 30
20 45	1.485483	40.8	24	1.419624	30.1	94	1.383906	7.9	135	9 15
21 0	1.484871	40.8	25	1.419173	30.0	95	1.383787	7.7	135	9 0
21 15	1.484259	40.7	26	1.418723	29.8	95	1.383671	7.5	135	8 45
21 30	1.483648	40.7	26	1.418276	29.7	96	1.383558	7.3	136	8 30
21 45	1.483038	40.7	27	1.417831	29.5	96	1.383448	7.1	136	8 15
22 0	1.482428		28	1.417388		97	1.383342		136	8 0
	VIII s		—	VII s		—	VI s		—	

TABVLA XXV.

Pro diſtantia Martis a ſole in hypotheſi elliptica pro anno 1800 cum variatione ſeculari.

Argumentum anomalia media Martis.

Anom. med.	0ˢ	Diff. pro 1'	Variat. ſecul. +	Iˢ	Diff. pro 1'	Variat. ſecul. +	IIˢ	Diff. pro 1'	Variat. ſecul. +	Anom. med.
22° 0'	1.657022	13.1	130	1.618674	28.9	99	1.556125	39.4	44	7° 0'
22 15	1.656825	13.3	130	1.618240	29.1	99	1.555534	39.5	43	7 45
22 30	1.656625	13.5	130	1.617804	29.2	98	1.554942	39.5	43	7 30
22 45	1.656423	13.6	130	1.617366	29.3	98	1.554349	39.5	42	7 15
23 0	1.656219	13.7	130	1.616926	29.4	97	1.553756	39.6	41	7 0
23 15	1.656013	13.9	129	1.616485	29.5	97	1.553162	39.7	41	6 45
23 30	1.655895	14.1	129	1.616042	29.7	97	1.552567	39.7	40	6 30
23 45	1.655694	14.2	129	1.615597	29.8	96	1.551971	39.8	40	6 15
24 0	1.655381	14.3	129	1.615150	29.9	96	1.551374	39.8	39	6 0
24 15	1.655166	14.5	129	1.614702	30.0	96	1.550777	39.9	39	5 45
24 30	1.654949	14.6	128	1.614252	30.1	95	1.550179	39.9	38	5 30
24 45	1.654730	14.7	128	1.613801	30.2	95	1.549580	40.0	38	5 15
25 0	1.654509	14.9	128	1.613348	30.3	94	1.548980	40.0	37	5 0
25 15	1.654286	15.0	128	1.612893	30.4	94	1.548380	40.1	37	4 45
25 30	1.654061	15.2	128	1.612437	30.5	94	1.547779	40.1	36	4 30
25 45	1.653833	15.3	128	1.611979	30.7	93	1.547177	40.1	36	4 15
26 0	1.653603	15.5	128	1.611519	30.7	93	1.546575	40.2	35	4 0
26 15	1.653371	15.6	127	1.611058	30.9	93	1.545972	40.3	35	3 45
26 30	1.653137	15.7	127	1.610595	31.0	92	1.545368	40.3	34	3 30
26 45	1.652901	15.9	127	1.610130	31.1	92	1.544764	40.3	34	3 15
27 0	1.652663	16.0	127	1.609664	31.2	91	1.544159	40.3	33	3 0
27 15	1.652423	16.1	126	1.609196	31.3	91	1.543554	40.4	32	2 45
27 30	1.652181	16.3	126	1.608727	31.4	90	1.542948	40.5	32	2 30
27 45	1.651936	16.5	126	1.608256	31.5	90	1.542341	40.5	31	2 15
28 0	1.651689	16.6	126	1.607785	31.6	89	1.541734	40.5	30	2 0
28 15	1.651440	16.7	125	1.607309	31.7	89	1.541126	40.5	30	1 45
28 30	1.651189	16.9	125	1.606833	31.8	89	1.540518	40.6	29	1 30
28 45	1.650936	17.0	125	1.606356	31.9	88	1.539909	40.6	29	1 15
29 0	1.650681	17.1	125	1.605877	32.0	88	1.539300	40.7	28	1 0
29 15	1.650424	17.3	124	1.605397	32.1	88	1.538690	40.7	28	0 45
29 30	1.650165	17.5	124	1.604915	32.2	87	1.538080	40.7	27	0 30
29 45	1.649903	17.6	124	1.604432	32.3	87	1.537469	40.8	27	0 15
30 0	1.649639		124	1.603947		86	1.536857		26	0 0
	XIˢ		+	Xˢ		+	IXˢ		+	

TABVLA XXV.

Pro distantia Martis a sole in hypothesi elliptica pro anno 1800 cum variatione seculari.

Argumentum anomalia media Martis.

Anom. med.	III^s	Diff. pro 1'	Variat. secul. —	IV^s	Diff. pro 1'	Variat. secul. —	V^s	Diff. pro 1'	Variat. secul. —	Anom. med.
22° 0'	1.482428	40.6	28	1.417388	29.4	97	1.383342	6.9	136	8° 0'
22 15	1.481819	40 5	28	1.416947	29.2	97	1.383239	6.7	136	7 45
22 30	1.481211	40.5	29	1.416509	29.1	98	1.383139	6.5	136	7 30
22 45	1.480603	40.5	29	1.416073	28 9	98	1.383042	6.2	136	7 15
23 0	1.479996	40.5	30	1.415639	28.8	99	1.382949	6.0	136	7 0
23 15	1.479389	40.4	31	1.415207	28.6	99	1.382859	5.8	136	6 45
23 30	1.478783	40.4	31	1.414778	28.5	100	1.382772	5.6	136	6 30
23 45	1.478097	40.3	32	1.414351	28 3	100	1.382688	5.3	137	6 15
24 0	1.477572	40.3	33	1.413926	28 2	101	1.382608	5.1	137	6 0
24 15	1.476968	40.2	33	1.413503	28.0	101	1.382531	4.9	137	5 45
24 30	1.476365	40.2	34	1.413083	27 9	102	1.382457	4.7	137	5 30
24 45	1.475762	40.1	34	1.412665	27.7	102	1.382387	4.5	137	5 15
25 0	1.475160	40.1	35	1.412249	27.5	103	1.382320	4.3	137	5 0
25 15	1.474559	40.0	36	1.411836	27.4	103	1.382256	4.1	137	4 45
25 30	1.473959	40.0	36	1.411425	27.3	104	1.382195	3.8	137	4 30
25 45	1.473359	39.9	37	1.411016	27.1	104	1.382138	3.6	137	4 15
26 0	1.472760	39.9	38	1.410610	26.9	105	1.382084	3.4	137	4 0
26 15	1.472162	39.8	38	1.410206	26.7	105	1.382033	3.2	137	3 45
26 30	1.471565	39.8	39	1.409805	26.6	106	1.381985	2.9	137	3 30
26 45	1.470968	39.7	39	1.409106	26.5	106	1.381941	2.7	137	3 15
27 0	1.470372	39.7	40	1.409009	26.3	107	1.381900	2.5	137	3 0
27 15	1.469777	39.6	41	1.408615	26.1	107	1.381862	2.3	137	2 45
27 30	1.469185	39.5	41	1.408223	25.9	107	1.381827	2.1	137	2 30
27 45	1.468590	39.5	42	1.407834	25.8	108	1.381796	1.9	137	2 15
28 0	1.467998	39.4	43	1.407447	25.6	108	1.381768	1.7	137	2 0
28 15	1.467407	39.3	43	1.407063	25.5	108	1.381743	1.4	137	1 45
28 30	1.466817	39.3	44	1.406681	25.3	109	1.381722	1.2	137	1 30
28 45	1.466228	39.2	44	1.406302	25.1	110	1.381704	1.0	137	1 15
29 0	1.465640	39.1	45	1.405925	24.9	110	1.381689	0.8	137	1 0
29 15	1.465053	39.1	46	1.405551	24.8	110	1.381677	0.5	137	0 45
29 30	1.464466	39.1	46	1.405179	24.6	111	1.381669	0.3	137	0 30
29 45	1.463880	39.0	47	1.404810	24.4	111	1.381664	0.1	138	0 15
30 0	1.463295		48	1.404444		112	1.381663		138	0 0
	VIII^s		—	VII^s		—	VI^s		—	

Tabulae perturbationum pro diſtantia Martis a Sole.

Tabula XXVI. Arg. II ſeu (♂ — ♃.)						Tabula XXVII. Arg. III. ſeu (♂ — 2 ♃).					
N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	1472		500	0		0	84		500	1009	
10	1479	+ 7	510	3	+ 3	10	67	− 17	510	1027	+ 18
20	1497	18	520	19	16	20	51	16	520	1042	15
30	1525	28	530	47	28	30	38	13	530	1055	13
40	1563	38	540	86	39	40	26	12	540	1067	12
50	1609	46	550	136	50	50	17	9	550	1077	10
60	1662	53	560	197	61	60	9	8	560	1084	7
70	1721	59	570	268	71	70	4	5	570	1090	6
80	1785	64	580	347	79	80	1	3	580	1093	3
90	1851	66	590	435	88	90	0	− 1	590	1094	+ 1
100	1919	68	600	530	95	100	1	+ 1	600	1093	− 1
110	1985	66	610	631	101	110	4	3	610	1089	4
120	2049	64	620	737	106	120	10	6	620	1084	5
130	2110	61	630	848	111	130	18	8	630	1076	8
140	2165	55	640	961	113	140	28	10	640	1066	10
150	2213	48	650	1076	115	150	39	11	650	1055	11
160	2252	39	660	1191	115	160	53	14	660	1041	14
170	2283	31	670	1306	115	170	69	16	670	1025	16
180	2303	20	680	1418	112	180	86	17	680	1007	18
190	2311	+ 8	690	1527	109	190	106	20	690	988	19
200	2309	− 2	700	1633	106	200	127	21	700	967	21
210	2297	12	710	1733	100	210	150	23	710	944	23
220	2272	25	720	1826	93	220	174	24	720	920	24
230	2236	36	730	1912	86	230	200	26	730	894	26
240	2188	48	740	1990	78	240	227	27	740	867	27
250	2129	59	750	2058	68	250	255	28	750	838	29
260	2061	68	760	2117	59	260	285	30	760	808	30
270	1983	78	770	2165	48	270	316	31	770	778	30
280	1896	87	780	2202	37	280	347	31	780	746	32
290	1802	94	790	2228	26	290	379	32	790	714	32
300	1701	101	800	2243	15	300	412	33	800	681	33
310	1595	106	810	2247	+ 4	310	446	34	810	648	33
320	1483	112	820	2239	− 8	320	480	34	820	614	34
330	1368	115	830	2221	18	330	514	34	830	580	34
340	1251	117	840	2192	29	340	549	35	840	545	35
350	1134	117	850	2155	37	350	583	34	850	511	34
360	1016	118	860	2110	45	360	617	34	860	477	34
370	900	116	870	2058	52	370	651	34	870	443	34
380	786	114	880	2001	57	380	684	33	880	409	34
390	677	109	890	1940	61	390	717	33	890	376	33
400	572	105	900	1877	63	400	749	32	900	344	32
410	473	99	910	1813	64	410	781	32	910	313	31
420	382	91	920	1751	62	420	812	31	920	282	31
430	298	84	930	1691	60	430	842	30	930	252	30
440	223	75	940	1636	55	440	870	28	940	224	28
450	158	65	950	1587	49	450	897	27	950	197	27
460	103	55	960	1545	42	460	922	25	960	171	26
470	60	43	970	1512	33	470	946	24	970	147	24
480	28	32	980	1488	24	480	969	23	980	125	22
490	7	21	990	1475	13	490	990	21	990	104	21
500	0	7	1000	1472	3	500	1009	19	1000	84	20
Conſt. + 1492						Conſt. + 547					

Tabulae perturbationum pro diſtantia Martis a Sole.

Tabula XXVIII.						Tabula XXIX.					
Arg. IV ſeu (2♂ — ♄.)						Arg. V. ſeu (♄ — ♂).					
N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	291	+ 3	500	128	+ 12	0	29	— 0	500	377	— 1
10	294	2	510	140	11	10	29	1	510	376	2
20	296	0	520	151	11	20	28	3	520	374	3
30	296	0	530	162	11	30	25	3	530	371	4
40	296	— 2	540	173	9	40	22	3	540	367	5
50	294	3	550	182	9	50	19	4	550	362	7
60	291	5	560	191	8	60	15	4	560	355	8
70	286	5	570	199	7	70	11	3	570	347	9
80	281	7	580	206	6	80	8	4	580	338	10
90	274	8	590	212	5	90	4	2	590	328	12
100	266	9	600	217	4	100	2	2	600	316	12
110	257	10	610	221	4	110	0	0	610	304	13
120	247	12	620	225	2	120	0	0	620	291	13
130	235	12	630	227	1	130	0	+ 2	630	278	15
140	223	13	640	228	1	140	2	3	640	263	15
150	210	14	650	229	0	150	5	5	650	248	15
160	196	14	660	229	— 1	160	10	5	660	233	15
170	182	14	670	228	2	170	15	7	670	218	16
180	168	15	680	226	2	180	22	8	680	202	15
190	153	16	690	224	2	190	30	9	690	187	16
200	137	15	700	222	3	200	39	11	700	171	15
210	122	15	710	219	3	210	50	11	710	156	15
220	107	14	720	216	3	220	61	12	720	141	16
230	93	14	730	213	2	230	73	12	730	125	14
240	79	13	740	211	3	240	85	13	740	111	13
250	66	12	750	208	2	250	98	14	750	98	13
260	54	11	760	206	2	260	112	13	760	85	12
270	43	10	770	204	2	270	125	16	770	73	12
280	33	9	780	202	0	280	141	15	780	61	11
290	24	8	790	202	1	290	156	15	790	50	11
300	16	6	800	201	0	300	171	16	800	39	9
310	10	5	810	201	0	310	187	15	810	30	8
320	5	3	820	201	+ 3	320	202	16	820	22	7
330	2	2	830	204	3	330	218	15	830	15	5
340	0	0	840	207	3	340	233	15	840	10	5
350	0	+ 1	850	210	4	350	248	15	850	5	3
360	1	3	860	214	5	360	263	15	860	2	2
370	4	4	870	219	5	370	278	13	870	0	0
380	8	5	880	224	5	380	291	13	880	0	0
390	13	7	890	229	6	390	304	12	890	0	+ 2
400	20	8	900	235	6	400	316	12	900	2	2
410	28	9	910	241	7	410	328	10	910	4	4
420	37	9	920	248	6	420	338	9	920	8	3
430	46	11	930	254	7	430	347	8	930	11	4
440	57	11	940	261	6	440	355	7	940	15	4
450	68	12	950	267	6	450	362	5	950	19	3
460	80	12	960	273	5	460	367	4	960	22	3
470	92	12	970	278	6	470	371	3	970	25	3
480	104	12	980	284	4	480	374	2	980	28	1
490	116	12	990	288	3	490	376	1	990	29	0
500	128		1000	291		500	377		1000	29	
Conſt. + 173						Conſt. + 123					

Tabulae perturbationum pro diſtantia Martis a Sole.

Tabula XXX.						Tabula XXXI.					
Arg. VI ſeu (2 ♅ − 3 ♂).						Arg. VII ſeu (♀ − 3 ♂).					
N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	35	− 7	500	398	+ 7	0	14	− 1	500	36	+ 1
10	28	7	510	405	6	10	13	1	510	37	1
20	21	5	520	411	6	20	12	2	520	38	2
30	16	5	530	417	5	30	10	1	530	40	1
40	11	4	540	422	4	40	9	1	540	41	1
50	7	3	550	426	3	50	8	1	550	42	1
60	4	2	560	429	2	60	7	1	560	43	1
70	2	2	570	431	1	70	6	1	570	44	1
80	0	0	580	432	1	80	5	1	580	45	1
90	0	0	590	433	0	90	4	1	590	46	1
100	0	+ 1	600	433	− 2	100	3	1	600	47	1
110	1	2	610	431	2	110	2	0	610	48	0
120	3	3	620	429	3	120	2	1	620	48	1
130	6	4	630	426	3	130	1	0	630	49	0
140	10	4	640	423	5	140	1	1	640	49	1
150	14	5	650	418	5	150	0	0	650	50	0
160	19	7	660	413	6	160	0	0	660	50	0
170	26	7	670	407	7	170	0	0	670	50	0
180	33	7	680	400	7	180	0	0	680	50	0
190	40	8	690	393	8	190	0	0	690	50	0
200	48	9	700	385	9	200	0	0	700	50	0
210	57	10	710	376	10	210	0	+ 1	710	50	− 1
220	67	10	720	366	10	220	1	0	720	49	0
230	77	10	730	356	11	230	1	1	730	49	1
240	87	12	740	345	11	240	2	0	740	48	0
250	99	11	750	334	12	250	2	1	750	48	1
260	110	12	760	322	12	260	3	1	760	47	1
270	122	13	770	310	12	270	4	1	770	46	1
280	135	13	780	298	13	280	5	1	780	45	1
290	148	13	790	285	13	290	6	1	790	44	1
300	161	13	800	272	13	300	7	1	800	43	1
310	174	13	810	259	13	310	8	1	810	42	1
320	187	14	820	246	14	320	9	1	820	41	1
330	201	13	830	232	14	330	10	2	830	40	2
340	214	14	840	218	13	340	12	1	840	38	1
350	228	13	850	205	14	350	13	1	850	37	1
360	241	14	860	191	13	360	14	2	860	36	2
370	255	14	870	178	13	370	16	1	870	34	1
380	269	13	880	165	13	380	17	2	880	33	2
390	282	12	890	152	13	390	19	1	890	31	1
400	294	13	900	139	13	400	20	2	900	30	2
410	307	12	910	126	12	410	22	2	910	28	1
420	319	12	920	114	12	420	24	1	920	27	2
430	331	11	930	102	11	430	25	2	930	25	1
440	342	11	940	91	11	440	27	1	940	24	2
450	353	10	950	80	10	450	28	2	950	22	2
460	363	10	960	70	10	460	30	1	960	20	1
470	373	9	970	60	9	470	31	1	970	19	2
480	382	8	980	51	9	480	33	1	980	17	1
490	390	8	990	42	7	490	34	2	990	16	2
500	398		1000	35		500	36		1000	14	
Conſt. + 216						Conſt. + 25					

Tabulae perturbationum pro distantia Martis a sole.

Tabula XXXII.						Tabula XXXIII.					
Arg. VIII seu ♃						Arg. IX seu (♀ — 2♂)					
N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	81	− 5	500	211	− 13	0	106	+ 2	500	9	− 2
10	76	6	510	198	13	10	108	2	510	7	2
20	70	5	520	185	14	20	110	1	520	5	1
30	65	6	530	171	14	30	111	1	530	4	1
40	59	5	540	157	14	40	112	1	540	3	1
50	54	6	550	143	15	50	113	1	550	2	1
60	48	5	560	128	15	60	114	+ 1	560	1	− 1
70	43	4	570	113	14	70	115	0	570	0	0
80	39	3	580	99	14	80	115	0	580	0	0
90	36	3	590	85	13	90	115	0	590	0	0
100	33	2	600	72	12	100	115	− 1	600	0	0
110	31	0	610	60	11	110	114	0	610	0	+ 1
120	31	0	620	49	11	120	114	1	620	1	1
130	31	+ 1	630	38	9	130	113	1	630	2	1
140	32	3	640	29	8	140	112	1	640	3	1
150	35	4	650	21	7	150	111	2	650	4	2
160	39	6	660	14	6	160	109	1	660	6	1
170	45	6	670	8	4	170	108	2	670	7	2
180	51	7	680	4	2	180	106	2	680	9	2
190	58	9	690	2	1	190	104	3	690	11	3
200	67	9	700	1	− 1	200	101	2	700	14	2
210	76	11	710	0	+ 1	210	99	3	710	16	2
220	87	11	720	1	2	220	96	2	720	18	3
230	98	12	730	3	3	230	94	3	730	21	3
240	110	13	740	6	5	240	91	3	740	24	3
250	123	13	750	11	5	250	88	3	750	27	3
260	136	13	760	16	6	260	85	4	760	30	3
270	149	13	770	22	6	270	81	3	770	33	4
280	162	13	780	28	7	280	78	3	780	37	3
290	175	13	790	35	7	290	75	4	790	40	4
300	188	13	800	42	7	300	71	3	800	44	3
310	201	12	810	49	7	310	68	4	810	47	4
320	213	11	820	56	7	320	64	3	820	51	3
330	224	10	830	63	7	330	61	4	830	54	4
340	234	10	840	70	6	340	57	4	840	58	4
350	244	8	850	76	6	350	53	3	850	62	3
360	252	6	860	82	6	360	50	4	860	65	4
370	258	6	870	88	4	370	46	4	870	69	3
380	264	4	880	92	4	380	42	3	880	72	4
390	268	+ 2	890	96	3	390	39	3	890	76	3
400	270	0	900	99	2	400	36	4	900	79	4
410	270	0	910	101	+ 1	410	32	3	910	83	3
420	270	− 2	920	102	1	420	29	3	920	86	3
430	268	4	930	103	− 1	430	26	3	930	89	3
440	264	6	940	102	2	440	23	3	940	92	3
450	258	7	950	100	2	450	20	2	950	95	2
460	251	8	960	98	4	460	18	3	960	97	3
470	243	10	970	94	3	470	15	2	970	100	2
480	233	10	980	91	5	480	13	2	980	102	2
490	223	12	990	86	5	490	11	2	990	104	2
500	211		1000	81		500	9		1000	106	
Const. + 106						Const. + 40					

Tabulae perturbationum pro diſtantia Martis a ſole.

Tabula XXXIV						Tabula XXXV.					
Argument. X ſeu (♂ — ♄)						Argument. XII ſeu ♅					
N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	87	0	500	0	0	0	3	0	500	43	— 1
10	87	0	510	0	+ 1	10	3	+ 1	510	42	0
20	87	0	520	1	1	20	4	1	520	42	1
30	87	+ 1	530	2	2	30	5	1	530	41	1
40	88	1	540	4	2	40	6	1	540	40	1
50	89	1	550	6	2	50	7	1	550	39	1
60	90	1	560	8	3	60	8	1	560	38	1
70	91	1	570	11	3	70	9	1	570	37	1
80	92	2	580	14	4	80	10	1	580	36	2
90	94	1	590	18	4	90	11	2	590	34	1
100	95	1	600	22	4	100	13	1	600	33	1
110	96	1	610	26	4	110	14	1	610	32	2
120	97	1	620	30	5	120	15	2	620	30	1
130	98	1	630	35	5	130	17	1	630	29	1
140	99	0	640	40	4	140	18	2	640	28	2
150	99	1	650	44	5	150	20	1	650	26	1
160	100	0	660	49	5	160	21	1	660	25	2
170	100	— 1	670	54	5	170	22	2	670	23	1
180	99	0	680	59	4	180	24	1	680	22	2
190	99	1	690	63	5	190	25	1	690	20	1
200	98	2	700	68	4	200	26	2	700	19	1
210	96	2	710	72	4	210	28	1	710	18	2
220	94	2	720	76	4	220	29	2	720	16	1
230	92	2	730	80	4	230	31	1	730	15	1
240	90	3	740	84	3	240	32	1	740	14	2
250	87	3	750	87	3	250	33	2	750	12	1
260	84	4	760	90	2	260	35	1	760	11	1
270	80	4	770	92	2	270	36	1	770	10	1
280	76	4	780	94	2	280	37	1	780	9	2
290	72	4	790	96	2	290	38	1	790	7	1
300	68	5	800	98	+ 1	300	39	1	800	6	1
310	63	4	810	99	0	310	40	1	810	5	0
320	59	5	820	99	1	320	41	1	820	5	1
330	54	5	830	100	0	330	42	1	830	4	1
340	49	5	840	100	— 1	340	43	0	840	3	1
350	44	4	850	99	0	350	43	1	850	2	0
360	40	5	860	99	1	360	44	1	860	2	1
370	35	5	870	98	1	370	45	0	870	1	0
380	30	4	880	97	1	380	45	0	880	1	1
390	26	4	890	96	1	390	45	1	890	0	0
400	22	4	900	95	1	400	46	0	900	0	0
410	18	4	910	94	2	410	46	0	910	0	0
420	14	3	920	92	1	420	46	0	920	0	0
430	11	3	930	91	1	430	46	0	930	0	0
440	8	2	940	90	1	440	46	— 1	940	0	0
450	6	2	950	89	1	450	45	0	950	0	0
460	4	2	960	88	1	460	45	0	960	0	+ 1
470	2	1	970	87	0	470	45	1	970	1	0
480	1	1	980	87	0	480	44	0	980	1	1
490	0	0	990	87	0	490	44	1	990	2	0
500	0		1000	87		500	43		1000	3	
Conſt. + 68						Conſt. + 23					

Tabulae perturbationum pro diſtantia Martis a Sole.

Tabula XXXVI.						Tabula XXXVII.					
Arg. XIII ſeu (2 ♂ — 3 ♃).						Arg. XIV ſeu (2 ♂ — ♃).					
N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	42	+ 6	500	173	— 6	0	165	— 3	500	10	+ 3
10	48	6	510	167	5	10	162	3	510	13	3
20	54	6	520	162	6	20	159	3	520	16	3
30	60	6	530	156	6	30	156	4	530	19	4
40	66	6	540	150	7	40	152	4	540	23	3
50	72	7	550	143	6	50	148	4	550	26	4
60	79	6	560	137	7	60	144	4	560	30	5
70	85	7	570	130	6	70	140	4	570	35	4
80	92	6	580	124	7	80	136	5	580	39	5
90	98	7	590	117	7	90	131	5	590	44	5
100	105	7	600	110	7	100	126	5	600	49	5
110	112	7	610	103	7	110	121	5	610	54	5
120	119	7	620	96	6	120	116	5	620	59	5
130	126	7	630	90	7	130	111	5	630	64	5
140	133	6	640	83	6	140	106	6	640	69	6
150	139	6	650	77	7	150	100	5	650	75	5
160	145	7	660	70	6	160	95	6	660	80	6
170	152	6	670	64	6	170	89	5	670	86	5
180	158	5	680	58	6	180	84	6	680	91	6
190	163	6	690	52	6	190	78	5	690	97	5
200	169	6	700	46	5	200	73	6	700	102	5
210	175	5	710	41	5	210	67	5	710	107	6
220	180	5	720	36	5	220	62	5	720	113	5
230	185	4	730	31	5	230	57	5	730	118	5
240	189	4	740	26	4	240	52	5	740	123	5
250	193	4	750	22	4	250	47	5	750	128	5
260	197	4	760	18	4	260	42	5	760	133	4
270	201	3	770	14	3	270	37	4	770	137	5
280	204	3	780	11	3	280	33	4	780	142	4
290	207	2	790	8	2	290	29	4	790	146	4
300	209	2	800	6	2	300	25	4	800	150	4
310	211	2	810	4	2	310	21	3	810	154	3
320	213	1	820	2	1	320	18	3	820	157	3
330	214	+ 1	830	1	— 1	330	15	3	830	160	3
340	215	0	840	0	0	340	12	3	840	163	3
350	215	0	850	0	0	350	9	2	850	166	2
360	215	0	860	0	+ 1	360	7	2	860	168	2
370	215	— 1	870	1	1	370	5	2	870	170	1
380	214	2	880	2	1	380	3	1	880	171	2
390	212	1	890	3	2	390	2	1	890	173	1
400	211	2	900	5	2	400	1	— 1	900	174	0
410	209	3	910	7	2	410	0	0	910	174	+ 1
420	206	3	920	9	3	420	0	0	920	175	0
430	203	3	930	12	3	430	0	0	930	175	— 1
440	200	4	940	15	4	440	0	+ 1	940	174	1
450	196	4	950	19	4	450	1	1	950	173	1
460	192	5	960	23	4	460	2	2	960	172	1
470	187	4	970	27	5	470	4	2	970	171	2
480	183	5	980	32	5	480	6	2	980	169	2
490	178	5	990	37	5	490	8	2	990	167	2
500	173		1000	42		500	10		1000	165	
Conſt. + 108						Conſt. + 87					

Tabulae perturbationum pro diſtantia Martis a ſole.

Tabula XXXVIII.						Tabula XXXIX.					
Arg. XV ſeu (3 ♂ — 2 ♃)						Arg. XVI ſeu (3 ♁ — 5 ♂)					
N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	7	+ 2	500	121	— 2	0	47	— 4	500	103	+ 4
10	9	2	510	119	2	10	43	4	510	107	4
20	11	3	520	117	3	20	39	4	520	111	4
30	14	3	530	114	3	30	35	4	530	115	4
40	17	2	540	111	2	40	31	4	540	119	4
50	19	3	550	109	3	50	27	4	550	123	4
60	22	3	560	106	3	60	23	3	560	127	3
70	25	4	570	103	4	70	20	3	570	130	3
80	29	3	580	99	3	80	17	3	580	133	3
90	32	4	590	96	4	90	14	2	590	136	3
100	36	3	600	92	3	100	12	3	600	139	2
110	39	4	610	89	4	110	9	2	610	141	2
120	43	4	620	85	4	120	7	2	620	143	2
130	47	4	630	81	4	130	5	1	630	145	2
140	51	4	640	77	4	140	4	2	640	147	1
150	55	4	650	73	4	150	2	1	650	148	1
160	59	4	660	69	4	160	1	0	660	149	0
170	63	4	670	65	4	170	1	— 1	670	149	+ 1
180	67	4	680	61	4	180	0	0	680	150	0
190	71	4	690	57	4	190	0	0	690	150	0
200	75	4	700	53	4	200	0	+ 1	700	150	0
210	79	4	710	49	4	210	1	0	710	150	— 1
220	83	3	720	45	3	220	1	1	720	149	1
230	86	4	730	42	4	230	2	2	730	148	2
240	90	4	740	38	4	240	4	1	740	146	1
250	94	3	750	34	3	250	5	2	750	145	2
260	97	3	760	31	3	260	7	2	760	143	2
270	100	4	770	28	4	270	9	3	770	141	3
280	104	3	780	24	3	280	12	2	780	138	2
290	107	3	790	21	3	290	14	3	790	136	3
300	110	2	800	18	3	300	17	3	800	133	3
310	112	3	810	15	2	310	20	4	810	130	4
320	115	2	820	13	2	320	24	3	820	126	3
330	117	2	830	11	2	330	27	4	830	123	4
340	119	2	840	9	2	340	31	4	840	119	4
350	121	2	850	7	2	350	35	4	850	115	4
360	123	1	860	5	1	360	39	4	860	111	5
370	124	2	870	4	2	370	43	5	870	106	4
380	126	1	880	2	1	380	48	4	880	102	4
390	127	+ 1	890	1	0	390	52	5	890	98	5
400	128	0	900	1	— 1	400	57	4	900	93	5
410	128	0	910	0	0	410	61	5	910	88	4
420	128	0	920	0	0	420	66	4	920	84	4
430	128	0	930	0	0	430	70	5	930	80	5
440	128	— 1	940	0	+ 1	440	75	5	940	75	5
450	127	1	950	1	1	450	80	5	950	70	5
460	126	1	960	2	1	460	85	4	960	65	4
470	125	1	970	3	1	470	89	5	970	61	5
480	124	2	980	4	2	480	94	4	980	56	4
490	122	1	990	6	1	490	98	5	990	52	5
500	121		1000	7		500	103		1000	47	
Conſt. + 64						Conſt. + 75					

Tabulae perturbationum pro diſtantia Martis a ſole.

Tabula XL						Tabula XLI.					
Argument. XVII ſeu (3♁ − 4♂)						Argument. XVIII ſeu (3♂ − ♁)					
N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	53	− 1	500	12	+ 2	0	65	− 3	500	35	+ 4
10	52	2	510	14	1	10	62	3	510	39	3
20	50	2	520	15	2	20	59	3	520	42	3
30	48	2	530	17	2	30	56	3	530	45	3
40	46	1	540	19	2	40	53	3	540	48	3
50	45	2	550	21	2	50	50	3	550	51	3
60	43	2	560	23	2	60	47	3	560	54	3
70	41	2	570	25	2	70	44	4	570	57	3
80	39	2	580	27	2	80	40	3	580	60	3
90	37	2	590	29	2	90	37	3	590	63	3
100	35	2	600	31	2	100	34	3	600	66	3
110	33	3	610	33	2	110	31	3	610	69	3
120	30	2	620	35	2	120	28	2	620	72	3
130	28	2	630	37	2	130	26	3	630	75	3
140	26	2	640	39	2	140	23	3	640	78	3
150	24	2	650	41	2	150	20	2	650	81	2
160	22	2	660	43	2	160	18	3	660	83	3
170	20	1	670	45	2	170	15	2	670	86	2
180	19	2	680	47	2	180	13	2	680	88	2
190	17	2	690	49	1	190	11	2	690	90	2
200	15	2	700	50	2	200	9	2	700	92	1
210	13	1	710	52	2	210	7	1	710	93	2
220	12	2	720	54	1	220	6	1	720	95	1
230	10	1	730	55	2	230	5	2	730	96	1
240	9	2	740	57	1	240	3	1	740	97	1
250	7	1	750	58	1	250	2	1	750	98	1
260	6	1	760	59	1	260	1	0	760	99	1
270	5	1	770	60	1	270	1	− 1	770	100	0
280	4	1	780	61	1	280	0	0	780	100	1
290	3	1	790	62	1	290	0	0	790	101	0
300	2	− 1	800	63	1	300	0	0	800	101	0
310		0	810	64	+ 1	310	0	0	810	101	− 1
320	1	1	820	65	0	320	0	+ 1	820	100	0
330	0	0	830	65	0	330	1	1	830	100	1
340	0	0	840	65	0	340	2	1	840	99	1
350	0	0	850	65	0	350	3	1	850	98	1
360	0	0	860	65	0	360	4	1	860	97	1
370	0	0	870	65	0	370	5	2	870	96	2
380	0	0	880	65	0	380	7	1	880	94	1
390	0	+ 1	890	65	− 1	390	8	2	890	93	2
400	1	1	900	64	0	400	10	2	900	91	2
410	2	0	910	64	1	410	12	2	910	89	2
420	2	1	920	63	1	420	14	2	920	87	3
430	3	1	930	62	1	430	16	3	930	84	2
440	4	1	940	61	1	440	19	2	940	82	3
450	5	1	950	60	1	450	21	3	950	79	2
460	6	1	960	59	1	460	24	3	960	77	3
470	7	2	970	58	2	470	27	3	970	74	3
480	9	1	980	56	1	480	30	2	980	71	3
490	10	2	990	55	2	490	32	3	990	68	3
500	12		1000	53		500	35		1000	65	
Conſt. + 53						Conſt. + 50					

Tabulae perturbationum pro diſtantia Martis a Sole.

Tabula XLII.

Arg. XIX. ſeu (♂ − 2♄).

N.	Aequat.	Diff.	N.	Aequat.	Diff.
0	7	− 2	500	111	+ 1
10	5	1	510	112	2
20	4	1	520	114	1
30	3	1	530	115	1
40	2	1	540	116	1
50	1	1	550	117	0
60	0	0	560	117	1
70	0	0	570	118	0
80	0	0	580	118	− 1
90	0	+ 1	590	117	0
100	1	0	600	117	1
110	1	1	610	116	1
120	2	1	620	115	1
130	3	2	630	114	1
140	5	1	640	113	2
150	6	2	650	111	1
160	8	2	660	110	2
170	10	2	670	108	2
180	12	2	680	106	3
190	14	3	690	103	3
200	17		700	100	3
210	19	3	710	97	2
220	22	3	720	95	3
230	25	3	730	92	3
240	28	3	740	89	3
250	31	4	750	86	3
260	35	3	760	83	4
270	38	3	770	79	3
280	41	4	780	76	4
290	45	4	790	72	3
300	49	4	800	69	4
310	53	3	810	65	4
320	56	4	820	61	3
330	60	4	830	58	4
340	64	3	840	54	4
350	67	4	850	50	3
360	71	4	860	47	4
370	75	3	870	43	4
380	78	3	880	39	3
390	81	4	890	36	3
400	85	3	900	33	4
410	88	3	910	29	3
420	91	3	920	26	3
430	94	3	930	23	3
440	97	3	940	20	2
450	100	2	950	18	3
460	102	3	960	15	2
470	105	2	970	13	3
480	107	2	980	10	2
490	109	2	990	8	1
500	111		1000	7	

Conſt. + 59

TABVLA XLIII.

Latitudo heliocentrica Martis.

Argumentum latitudinis, seu longitudo vera ♂ — longit. nodi.

Grad.	Latitudo 0s Boreal. VIs Austr.	Diff. pro 1'	Latitudo Is Boreal. VIIs Austr.	Diff. pro 1'	Latitudo IIs Boreal. VIIIs Austr.	Diff. pro 1'	Grad.
°	° ' "	"	° ' "	"	° ' "	"	°
0	0 0 0.0	1.94	0 55 33.1	1.67	1 36 13.1	0.95	30
1	0 1 56.3	1.94	0 56 13.3	1.65	1 37 10.4	0.92	29
2	0 3 52.6	1.94	0 58 52.5	1.63	1 38 5.9	0.89	28
3	0 5 48.8	1.94	1 0 30.6	1.62	1 38 59.6	0.86	27
4	0 7 45.0	1.93	1 2 7.7	1.60	1 39 51.5	0.83	26
5	0 9 41.0	1.93	1 3 43.6	1.58	1 40 41.6	0.80	25
6	0 11 36.8	1.93	1 5 18.3	1.56	1 41 29.9	0.77	24
7	0 13 32.4	1.92	1 6 51.8	1.54	1 42 16.3	0.74	23
8	0 15 27.8	1.92	1 8 24.1	1.52	1 43 0.8	0.71	22
9	0 17 22.9	1.91	1 9 55.1	1.50	1 43 43.4	0.68	21
10	0 19 17.6	1.91	1 11 24.9	1.48	1 44 24.2	0.65	20
11	0 21 12.0	1.90	1 12 53.4	1.46	1 45 3.1	0.61	19
12	0 23 6.0	1.89	1 14 20.5	1.43	1 45 40.0	0.58	18
13	0 24 59.6	1.89	1 15 46.3	1.41	1 46 14.9	0.55	17
14	0 26 52.7	1.88	1 17 10.7	1.38	1 46 47.9	0.52	16
15	0 28 45.3	1.87	1 18 33.7	1.36	1 47 19.0	0.49	15
16	0 30 37.5	1.86	1 19 55.3	1.33	1 47 48.2	0.45	14
17	0 32 29.1	1.85	1 21 15.3	1.31	1 48 15.4	0.42	13
18	0 34 20.1	1.84	1 22 33.9	1.28	1 48 40.5	0.39	12
19	0 36 10.4	1.83	1 23 51.0	1.26	1 49 3.7	0.36	11
20	0 38 0.0	1.82	1 25 6.6	1.23	1 49 24.9	0.32	10
21	0 39 48.9	1.81	1 26 40.6	1.21	1 49 44.1	0.29	9
22	0 41 37.2	1.79	1 27 33.0	1.18	1 50 1.3	0.25	8
23	0 43 24.7	1.78	1 28 43.9	1.15	1 50 16.5	0.22	7
24	0 45 11.4	1.76	1 29 53.1	1.12	1 50 29.7	0.18	6
25	0 46 57.3	1.75	1 31 0.6	1.10	1 50 40.8	0.15	5
26	0 48 42.3	1.74	1 32 6.5	1.07	1 50 49.9	0.12	4
27	0 50 26.4	1.72	1 33 10.7	1.04	1 50 57.0	0.08	3
28	0 52 9.6	1.70	1 34 13.3	1.01	1 51 2.1	0.05	2
29	0 53 51.8	1.69	1 35 14.1	0.98	1 51 5.2	0.02	1
30	0 55 33.1		1 36 13.1		1 51 6.2		0
	XIs Austr. Vs. Boreal.		Xs. Austr. IVs Boreal.		IXs Austr. IIIs Boreal.		

TABVLA XLIV.

Reductio ad eclipticam et logarithmus cosinus latitudinis heliocentricae.

Argumentum, longitudo vera ♂ — longit. nodi.

Grad.	Reductio ad eclipt. O^s — VI^s —	log. cosin. latit. helioc. ♂	Reductio ad eclipt. I^s — VII^s —	log. cosin. latit. helioc. ♂	Reductio ad eclipt. II^s — VIII^s —	log. cosin. latit. helioc. ♂	Grad.
0°	0.0″	0.0000000	46.7″	9.9999433	46.7″	9.9998299	30°
1	1.9	9.9999999	47.6	9.9999419	45.8	9.9998265	29
2	3.8	9.9999997	48.4	9.9999363	44.7	9.9998231	28
3	5.6	9.9999994	49.3	9.9999327	43.6	9.9998199	27
4	7.5	9.9999989	50.0	9.9999291	42.5	9.9998167	26
5	9.4	9.9999983	50.6	9.9999253	41.3	9.9998137	25
6	11.2	9.9999975	51.2	9.9999217	40.0	9.9998107	24
7	13.0	9.9999967	51.8	9.9999178	38.8	9.9998078	23
8	14.9	9.9999956	52.3	9.9999140	37.5	9.9998049	22
9	16.6	9.9999945	52.8	9.9999102	36.1	9.9998023	21
10	18.4	9.9999931	53.1	9.9999063	34.6	9.9997997	20
11	20.2	9.9999918	53.4	9.9999024	33.2	9.9997972	19
12	21.9	9.9999902	53.6	9.9998985	31.7	9.9997948	18
13	23.6	9.9999885	53.8	9.9998945	30.2	9.9997926	17
14	25.5	9.9999867	53.9	9.9998906	28.6	9.9997904	16
15	26.9	9.9999848	53.9	9.9998866	26.9	9.9997884	15
16	28.6	9.9999828	53.9	9.9998826	25.3	9.9997864	14
17	30.2	9.9999806	53.8	9.9998786	23.6	9.9997846	13
18	31.7	9.9999783	53.6	9.9998747	21.9	9.9997830	12
19	33.2	9.9999760	53.4	9.9998708	20.2	9.9997814	11
20	34.6	9.9999735	53.1	9.9998669	18.4	9.9997800	10
21	36.1	9.9999708	52.8	9.9998630	16.6	9.9997787	9
22	37.5	9.9999682	52.3	9.9998592	14.9	9.9997775	8
23	38.8	9.9999654	51.8	9.9998553	13.0	9.9997765	7
24	40.0	9.9999625	51.2	9.9998516	11.2	9.9997756	6
25	41.3	9.9999595	50.6	9.9998478	9.4	9.9997748	5
26	42.5	9.9999564	50.0	9.9998441	7.5	9.9997743	4
27	43.6	9.9999532	49.3	9.9998405	5.6	9.9997738	3
28	44.7	9.9999500	48.4	9.9998369	3.8	9.9997735	2
29	45.8	9.9999466	47.6	9.9998334	1.9	9.9997732	1
30	46.7	9.9999433	46.7	9.9998299	0.0	9.9997732	0
	XI^s + V^s +		X^s + IV^s +		IX^s + III^s +		

TABVLA XLV.

Pro Diſtantia Martis a Terra.

Argumentum. Commutatio.

Argum.	Δ	Argum.	Argum.	Δ	Argum.	Argum.	Δ	Argum.
0°	0.5237	360°	60°	1.3409	300	120°	2.2012	240°
2	0.5255	358	62	1.3751	298	122	2.2219	238
4	0.5308	356	64	1.4092	296	124	2.2418	236
6	0.5394	354	66	1.4430	294	126	2.2612	234
8	0.5514	352	68	1.4765	292	128	2.2799	232
10	0.5663	350	70	1.5098	290	130	2.2979	230
12	0.5839	348	72	1.5428	288	132	2.3153	228
14	0.6040	346	74	1.5753	286	134	2.3321	226
16	0.6263	344	76	1.6077	284	136	2.3481	224
18	0.6507	342	78	1.6395	282	138	2.3635	222
20	0.6768	340	80	1.6711	280	140	2.3783	220
22	0.7043	338	82	1.7022	278	142	2.3923	218
24	0.7333	336	84	1.7330	276	144	2.4056	216
26	0.7633	334	86	1.7632	274	146	2.4183	214
28	0.7943	332	88	1.7931	272	148	2.4302	212
30	0.8261	330	90	1.8226	270	150	2.4415	210
32	0.8587	328	92	1.8515	268	152	2.4520	208
34	0.8918	326	94	1.8800	266	154	2.4618	206
36	0.9254	324	96	1.9079	264	156	2.4710	204
38	0.9593	322	98	1.9354	262	158	2.4794	202
40	0.9936	320	100	1.9624	260	160	2.4870	200
42	1.0282	318	102	1.9888	258	162	2.4940	198
44	1.0628	316	104	2.0147	256	164	2.5002	196
46	1.0976	314	106	2.0400	254	166	2.5057	194
48	1.1325	312	108	2.0648	252	168	2.5105	192
50	1.1674	310	110	2.0890	250	170	2.5145	190
52	1.2013	308	112	2.1127	248	172	2.5178	188
54	1.2371	306	114	2.1357	246	174	2.5204	186
56	1.2718	304	116	2.1581	244	176	2.5225	184
58	1.3064	302	118	2.1800	242	178	2.5234	182
60	1.3409	300	120	2.2012	240	180	2.5237	180

T A B V L A XLVI.

Pro Parallax. Semiadiamet. ♂ et Corret. distant. ♂ a terra.

Argumentum. Commutatio.

Argum.	(d Δ)	Argum.	Argum.	Parallax.	Argum.	Argum.	Semidiam.	Argum.
0°	1,0000	360°	0°	16.8″	360°	0°	8.8″	360°
5	0.9866	355	5	16.5	355	5	8.6	355
10	0 9526	350	10	15.5	350	10	8.1	350
15	0.9179	345	15	14.3	345	15	7.5	345
20	0.8632	340	20	13.0	340	20	6.8	340
25	0.8253	335	25	11.8	335	25	6.2	335
30	0.7961	330	30	10.7	330	30	5.6	330
35	0.7756	325	35	9.8	325	35	5.1	325
40	0.7625	320	40	8.9	320	40	4.6	320
45	0.7561	315	45	8.1	315	45	4.2	315
50	0.7546	310	50	7.5	310	50	3.9	310
55	0.7574	305	55	7.0	305	55	3.6	305
60	0.7634	300	60	6.6	300	60	3.4	300
65	0.7724	295	65	6.2	295	65	3.2	295
70	0.7827	290	70	5.8	290	70	3.0	290
75	0.7948	285	75	5.5	285	75	2.9	285
80	0.8081	280	80	5.3	280	80	2.8	280
85	0.8217	275	85	5.0	275	85	2.6	275
90	0.8360	270	90	4.8	270	90	2.5	270
95	0.8505	265	95	4.6	265	95	2.4	265
100	0.8654	260	100	4.5	260	100	2.3	260
105	0.8793	255	105	4.3	255	105	2.2	255
110	0.8931	250	110	4.2	250	110	2.2	250
115	0.9065	245	115	4.1	245	115	2.1	245
120	0.9193	240	120	4.0	240	120	2.1	240
125	0.9316	235	125	3.9	235	125	2.0	255
130	0.9428	230	130	3.8	230	130	2.0	230
135	0.9532	225	135	3.7	225	135	2.0	225
140	0.9628	220	140	3.7	220	140	1.9	220
145	0.9714	215	145	3.6	215	145	1.9	215
150	0.9788	210	150	3.6	210	150	1.9	210
155	0.9852	205	155	3.6	205	155	1.9	205
160	0.9905	200	160	3.5	200	160	1.8	200
165	0.9947	195	165	3 5	195	165	1.8	195
170	0.9977	190	170	3.5	190	170	1.8	190
175	0.9994	185	175	3.5	185	175	1.8	185
180	1.0000	180	180	3.5	180	180	1.8	180

TABVLA XLVII.

Aberratio Martis in longitudine.

Pars I. Arg. Elongatio.			Pars II. Arg. annua Parall.			Pars. III. longit. geocentr.		
Elongat.	Aberrat.	Elongat.	Annua Parall.	Aberrat.	Annua Parall.	longit. geoc.	Aberrat.	longit. geoc.
0	— 20.″3 —	360°	0°	— 16.″5 —	360°	0°	— 1.″2 +	180°
5	20.2	355	5	16.4	355	5	1.2	185
10	20.0	350	10	16.3	350	10	1.1	190
15	19.6	345	15	15.9	345	15	1.1	195
20	19.1	340	20	15.5	340	20	1.0	200
25	18.4	335	25	14.9	335	25	0.9	205
30	17.6	330	30	14.3	330	30	0.8	210
35	16.6	325	35	13.5	325	35	0.8	215
40	15.6	320	40	12.6	320	40	0.6	220
45	14.4	315	45	11.7	315	45	0.5	225
50	13.0	310	50	10.6	310	50	0.5	230
55	11.6	305	55	9.5	305	55	0.4	235
60	10.1	300	60	8.2	300	60	0.3	240
65	8.6	295	65	7.0	295	65	— 0.1 +	245
70	6.9	290	70	5.6	290	70	0.0	250
75	5.3	285	75	4.3	285	75	+ 0.1 —	255
80	3.5	280	80	2.9	280	80	0.2	260
85	— 1.8 —	275	85	— 1.4 —	275	85	0.3	265
90	0.0	270	90	0.0	270	90	0.4	270
95	+ 1.8 +	265	95	+ 1.4 +	265	95	0.5	275
100	3.5	260	100	2.9	260	100	0.6	280
105	5.3	255	105	4.3	255	105	0.7	285
110	6.9	250	110	5.6	250	110	0.8	290
115	8.6	245	115	7.0	245	115	0.9	295
120	10.1	240	120	8.2	240	120	0.9	300
125	11.6	235	125	9.5	235	125	1.0	305
130	13.0	230	130	10.6	230	130	1.1	310
135	14.4	225	135	11.7	225	135	1.1	315
140	15.6	220	140	12.6	220	140	1.2	320
145	16.6	215	145	13.5	215	145	1.2	325
150	17.6	210	150	14.3	210	150	1.2	330
155	18.4	205	155	14.9	205	155	1.3	335
160	19.1	200	160	15.5	200	160	1.2	340
165	19.6	195	165	15.9	195	165	1.3	345
170	20.0	190	170	16.3	190	170	1.3	350
175	20.2	185	175	16.4	185	175	1.2	355
180	+ 20.3 +	180	180	+ 16.5 +	180	180	+ 1.2 —	360