Titus (P. de)

PRIMUM MOBILE,

WITH THESES TO THE THEORY,

AND CANONS FOR PRACTICE;

wherein is demonstrated,

FROM

ASTRONOMICAL AND PHILOSOPHICAL PRINCIPLES,

THE

NATURE AND EXTENT

OF

CELESTIAL INFLUX

UPON

The Mental Faculties and Corporeal Affections of Man;

containing

THE MOST RATIONAL AND BEST APPROVED

MODES OF DIRECTION,

BOTH IN ZODIAC AND MUNDO:

exemplified in

THIRTY REMARKABLE NATIVITIES

OF THE

Most Eminent Men in Europe,

According to the Principles of the Author, laid down in his "Celestial Philosophy."

Originally written in Latin,

By *DIDACUS PLACIDUS DE TITUS,*

Mathematician to His Serene Highness Leopold William Archduke of Austria.

The Whole carefully translated, and corrected from the best Latin Editions. Illustrated with NOTES *and an* APPENDIX, *containing several useful Additions to the Work,*

BY JOHN COOPER,

Teacher of the Mathematics.

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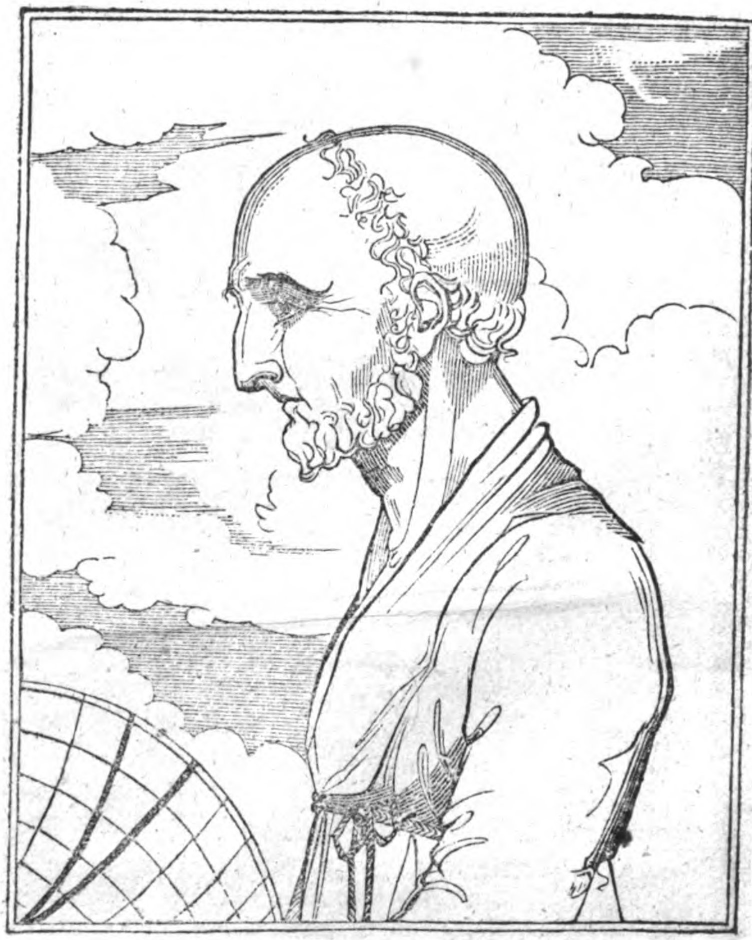

Didacus Placidus de Titus.

Engraved and Published by DAVIS and DICKSON,
No. 17, St. Martin's-le-Grand, London.

A SHORT ACCOUNT OF THE AUTHOR AND HIS WRITINGS.

THE Author of this work, DIDACUS PLACIDUS de TITUS, an Italian Monk, was a native of Bononia, and was Mathematician to Leopold William Archduke of Austria. It is very much to be regretted that we are not in possession of sufficient data to give any very satisfactory account of this most extraordinary Mathematician and Philosopher.

In the year 1647, he published that most elaborate Treatise known by the appellation of his Celestial Philosophy, under the title of "Questionum Physiomathematicarum Libri "Tres, in quibus ex naturæ principiis hu- "jusqui desideratis demonstratur Astrologia "pars illa, quæ ad Metrologiam, Medici-

"nam, Navigium, & Agricultarum spectat; "cum 12 Exemplis in fine." This valuable Work was printed in quarto, at Milan, and dedicated to Cardinal Fachinette. It is observable that the title-page of this curious book bears the name "Didacus Prittus," although the Dedication is signed Placidus de Titus. In this Work, both the Physical and Mathematical parts of Astrology are most clearly explained, and demonstrated by many curious Diagrams.

It was from this book that Mr. Partridge took all the best of the matter which he inserted in his Opus Reformatum and Defectio Geniturarum, though he very rarely acknowledged the obligation.

In 1657, the present Work was printed at Padua, under the title of "Tabulæ Primi "Mobilis cum Thesibus ad Theoricen, & "Canonibus ad praxim, additis in rerum "demonstrationem, & supputationem Ex- "emplum Triginta clarissimorum natalium "Thematibus." This Work was also printed in 4to, and dedicated to Leopold William Archduke of Austria.

A second edition was printed, at Milan, in 1675. The Theses prefixed to this book are, a Synopsis of the former Work, and contain a short abstract of each Chapter, detached from the arguments, reasons, and proofs, upon which those Theses are founded; and after the Nativities, are inserted, a Collection of Tables for Directions, and a Table of Common Logarithms. He likewise published some Ephemerides, known by the name of the Bononian Ephemeris, but for what number of years I cannot say, as they never yet came to my hands. But it appears, from the observations to be found in Partridge's Mene Tekel, that they contain some curious matter applicable to the Mundane part of Astrology. It is rather extraordinary that this great man never published his own Geniture, if he knew the time of birth; perhaps, the only reason was, his singular modesty.

THE EDITOR

To the Reader.

Benevolent Reader!

It is humbly presumed that the extremely imperfect and mutilated state of the former edition of this Work would alone form a sufficient apology for submitting the present Edition to your candid perusal, as every possible care and attention have been bestowed to make it a *fac simile* of the Original, until you arrive at that part of the Work which is composed of Tables, which, from length of time, are now become obsolete, and by far too incorrect to bear investigation by the present improved state of Astronomy, and are, on that account, for the most part omitted; it being in contemplation to publish a more useful collection for this purpose. The Reader will here find their use amply supplied by Trigonometrical Precepts, exemplified by the "Requisite Tables" of Dr. Maskelyne, the late Astronomer Royal; and, by attending to these Precepts, he will be enabled to compute his *Data*, and thereby his Arcs of Direction, with more facility, and to a much greater degree of accuracy, than by any set of Tables yet extant.

In order to render this Edition as complete as possible, the Reader will find a variety of useful Notes at the bottom of the pages, and an Appendix containing some curious observations and selections not generally known. The reputation of the Author, and the merits of the Work, being so universally established in the scientific world, entirely preclude the necessity of any eulogium upon either. It is a fact which is well known, that the Original of this Work is so extremely scarce, that fifty Guineas have been refused for a copy; and from this scarcity of the Original we have, in some measure, to regret that it was formerly published so imperfectly.

The manner in which it was before elicited to the public was as follows: About the time of the commencement of Sibly's "Illustration of Astrology," Dr. Browne, of Islington, being in possession of a Latin copy, caused the same to be translated into English; and that translation he lent to Mr. Benjamin Bishop, then Master of Sir John Cass's School, Aldgate, who copied it, and applied to Mr. Browne for the loan of the Latin copy, for the purpose of copying the Tables, but which was refused. Afterwards, a friend of Mr. Sibly's borrowed Mr. Bishop's copy only for a limited number of hours; and, in that time, it was clandestinely copied, without Mr. Bishop's knowledge or consent, and published by Sibly, under the title of "Astronomy and Elementary Philosophy," but in the most incorrect state imaginable; for, in that Work, there is not one single page which is correct, nor had the publishers the means of making it so, as they were not in possession of either the Original Work, or a correct Translation, whereby to rectify the errors committed in the hurry of copying the book.

In this Edition, every line of the Translation has been very carefully compared with the Latin, and made as correct as possible; so that the lovers of science will now be in possession of a book upon which they may rely with confidence, without the danger of being misled.

That this effort to restore PLACIDUS to his primitive purity may tend to the advancement of science, and be of general utility to every candid inquirer after truth, is the sincere wish and desire of their most humble and devoted servant,

JOHN COOPER,
No. 21, Baldwin's Gardens,
Gray's Inn Lane.

N. B. Arithmetic, Algebra, Geometry, Trigonometry, Navigation, Astronomy, Projection of the Sphere, the Use of the Globes, the Art of Directions, &c. taught on moderate Terms.

THE AUTHOR

To the Reader.

WITH regard to the revolutions of the Stars and their efficient power, no candid reader will deny that a genuine and true science may exist, though for a man to make a full acquirement in it, must doubtless be acknowledged no very easy task; and the more particularly, because its object is by nature incorruptible; its properties altogether immutable; and the passions are concluded in an uniform manner.

We learn from the unanimous consent of Philosophers and Professors of Theology, as well as from the *Egyptians*, *Arabians*, *Persians*, *Medes*, and other very extensive nations, that this science was cultivated, in the first place, among all the natural sciences, by kings and the greatest princes, and it was also held in the highest honour; the truth of which is found in several places among their historical annals. Having always had an eager desire from my youth to attain it, I boldly entered upon it, with no less cheerfulness of mind than hopes of acquiring it. In this pursuit I have spent several years, labouring much; but I was greatly offended at many things the professors had lately introduced as discoveries, determining, that, unless they were strictly conformable to reason and experience, and the opinions of the greatest doctors in physics and mathematics, to lay aside entirely their whole works; being, likewise, on the point of bidding adieu to all watchings; therefore, after uniting all the powers of my understanding, I secretly determined to investigate the chief causes and first principles of this science, which, by arguing from reasons, made *pro* and *con*; and as I found them every where to be probable, and agreeable to reason, I gladly communicated my discoveries to the professors and my friends; and, happily, they were not treated as chimerical, or thought to be unreasonable, bnt, on the contrary, they seemed to be greatly desired: and being frequently entreated to commit them to writing, I have published this short extract, or abstract, comprehending a very concise theory and praxis; to which are subjoined several examples, extracted from very eminent authors, by whom my own reasons were highly applauded. Under the title of CELESTIAL PHILOSOPHY, I exhibited an universal series of disputations, which might represent the reasons and principles as diffusedly as possible, in proportion as time and fortune gave me liberty: wherefore, having offered to the public, and given an explanation of every thing, some were, indeed, surprised at the strangeness of the doctrine; but none have hitherto attempted to oppose the reasons and causes on which they depend.

Some, with their applauses, mingled no small degree of pleasure, by reason that the principles of this most noble science, which were formerly natural, and aptly suited to reason, were now clearly explained, and made evident to the senses; and it is evidently certain, that they wonderfully agree with the true nature of things, and correspond with the accidental effects; and among the philosophical sciences, that of the stars may, and ought, with very good reason, claim the pre-eminence; but because of the difficulty of the calculations, which I have there explained very copiously, being intended for the learned, students are greatly discouraged, I have here given another explanation for general use, more copious and perspicuous, of all and each of the rules, together with the tables that are necessary, premising what related to the knowledge of the theory, in very short theses, that those who had not gone through the *labour* attending disputations might comprehend, in very few words, the causes and principles which I have laid down, and from which all this construction of numbers is derived.

Lastly: I have added, as well to facilitate calculations as to confirm the truth of things, the examples of thirty famous men, which I have extracted, only from the most learned authors. Yet, let every one remember, that Nature, in her means and effects, conducteth herself so secretly, that a man's understanding cannot trace her footsteps without the greatest labour and industry, which the many differences of opinion maintained among the professors of philosophy, who disagree among themselves concerning the nature of things, must evince: and do not her changes and mighty effects, in this vast construction of the world, appear wonderful, and altogether unsearchable? Without doubt, it must be confessed that the mind of man is too weak to comprehend them; so that no one can be surprised if the method of calculating should be attended with some difficulty. ~~The work of~~ the Efficient Infinite Power and Wisdom is the concord and harmony of nature; but it is like to infinity, at least as to the variety of effects.

In a work, the power and wisdom of the artist are ever perspicuous; what wonder, then, if the understanding of man is utterly unable fully to comprehend the works of God? For who will endeavour to empty with a cup the waters of the deep, which is as a drop in a bucket compared with the *Omnipotence* of the *Creator?* And shall we, with our confined powers of understanding, presume to comprehend, in any shape whatever, the prodigious extent of the heavens, from an idea of the immensity of the surrounding space? The utmost stretch of human thought cannot attain the least notion of it! Admire the rest, which is almost infinite.

Learn, friendly Reader, by experience, that you may have a true enjoyment in the wonderful works of the MOST HIGH.—Adieu!

EXPLANATION

OF THE

CHARACTERS USED IN THIS WORK.

SIGNS.

♈ Aries	♎ Libra
♉ Taurus	♏ Scorpio
♊ Gemini	♐ Sagittarius
♋ Cancer	♑ Capricorn
♌ Leo	♒ Aquarius
♍ Virgo	♓ Pisces

PLANETS.

♄ Saturn	♀ Venus
♃ Jupiter	☿ Mercury
♂ Mars	☽ Moon
☉ Sun	⊕ Fortune

ASPECTS.

☌ Conjunction	△ Trine
✱ Sextile	☍ Opposition
□ Square	

Primum Mobile.

THESES,

From the First Book *of the Author's*
"Celestial Philosophy."

1st. IT is impossible for the efficient heavenly causes (as being so very far distant from things below) to influence sublunary bodies, unless by some medium or instrumental virtue, by which they are united to bodies, subjected, or simple, or both. There can be no action in the subject, which is not affected by some active virtue; for if so, the effect might be produced in the subject, without any efficient cause; which is the reason, we say, that the instrumental cause of the stars is light, and that this only is sufficient to produce all the four primary qualities, by which they arrive at the whole species of natural effects: by motion the stars apply this light, and we reject a secret influence as superfluous, nay, even impossible.

2. The principal properties of the light of the stars are two, (viz.) intension and extension, the less principal colours, which the very senses shew are found in the stars; nor is it to be concluded from thence that the stars are corruptible, at least, with regard to the whole,

for the strange phenomena, which very frequently appear to us, demonstrate that there are changes in the heavens; for colours may be found in incorruptible bodies: in short, nothing is visible unless it have a colour. The other properties in the stars are figure, local disposition, brightness, and dimness: local motion is a kind of passion wherewith they apply, increase and diminish their light, rise, set, and recede, near and at distance.

3. The stars neither act nor suffer alternately in the heavens; they only receive light from the Sun, which with alteration they communicate to us from the proper colour of each of them: but they vary their actions in the inferior subjects, in proportion as they act together with equal harmony; and this is sufficient for the whole variety of effects.

4. Though the stars, by their motion in the heavens, alternately change their constitutions, and have a determinate degree of intension, and a definite quantity of extension of their light, they do not act upon those inferiors, according to the true and real intension and extension of that light which they have in common, but only according to the apparent; in respect of which they join those passable bodies: for this reason, the stars act upon the sublunaries only according to that degree of intension, and quality of extension of light, by which they are united to those passable bodies: the less are their intension and extension, the greater their distance from the subjected things; but their action is the same, with respect to that extension to which they are opposed, as we very plainly experience in the ☽. They influence according to their situation and proximity to the passable

subject. Invisible eclipses have no influence; new phenomena act only upon those provinces in which they are seen: so that the stars, where they do not rise, are inactive.

5. The stars are indeed the universal cause, and indeterminate, as to their specific and individual effects; but are determined according to the variety of the passable subjects and nearest causes: as the ☉ melts wax, dries up the mud, whitens it, blackens the human skin, with man generates man, a lion with a lion, &c.

6. The stars cannot be the signs of effects, unless they are also the causes; wherefore interrogations, in the manner of the antients, have no place in nature, unless only in eminent effects, in which they move the approximate cause of natural effects; they also move the parts, organs, and members of the passable subject. In the fœtus they respect the parents, sex, number, figure, &c. The present state of the planets bringeth forth the actual effect, according to a pre-ordinate and pre-existent power, and therefore they are the cause or non-cause, not only signs. But the constellations, which for the present bring their effects to act, are the same as the causes of pre-ordination; and so of death, &c. For unlike causes cannot bring to act the *dissimular* pre-existing, according to the power of the effects.

7. And since, to distinguish and know the effects of any star, it is necessary to know the difference, nature, and order of those effects, according to the soundest philosophy; after laying down the first principles of all things, Matter, and substantial Form, the primary and compound qualities, we distinguish all these into two

principal kinds, viz. into the passive or feminine, and the active or masculine. To the first sort, we again call in matter and quantity, or quality, so far as it is passive, with all the other qualities which are derived from its moisture, dryness, rarity, density, levity, &c. To the masculine kind, substantial and material forms, the qualities which are active, as light, heat, cold, smell, sound, and all the active virtues of the compounds, &c.

8. We call commixion a union of altered miscibles, but we add, perfected by the efficient superiors, Order and Nature, that is, from a celestial quality, on which the concoction of those miscibles depend; whence the compounds, which have a larger and more perfect concoction with those miscibles, and consequently a more intense celestial quality, are more perfect; such as have a less, the contrary.

9. The virtue of the compound, or the qualities, which, indeed, with respect to the great number, variety, and effects, deserve our admiration, we do not call elementary, nor proceeding from the elements, but celestial qualities, which are altogether derived from the celestial light; wherefore, the elementary and celestial qualities are of different kinds: and though the stars may produce elementary qualities in their alternate transmutation, they still produce others more excellent, whereby they attain the production of the whole species of the compounds.

10. The vital heat and radical moisture in animals, we agree with Aristotle in terming qualities entirely celestial, produced from the light of ☉ and ☽, with the concurrence (which cannot be denied) of all the other

stars, from which a distinction is made of the whole diversity of compounds, though of a nature so opposite to each other, that the *luminaries*, with the *malefics*, generate the poisonous, or the hostile, instead of those that engender with the benign, and on the contrary; whence the antipathies and sympathies of things are mutually derived.

11. The qualities, both of the compounds and elements, are at first powerful, at least, according to nature; then active: but those that are active have their existence by successive motion; for they successively come forth to action from their powerful stations: for which reason they are again restored to their co-natural state of actual qualities.

12. From the vital heat and radical moisture of the animal power, arise sensitives, appetitives, digestives, retentives, expulsives, &c. distinct from each other, and each hath its exercise and action; wherefore those powers have first a powerful, then an active existence.

13. Those vital qualities are extinguished in a two-fold manner, naturally, and violently. First, by a final consumption of a pre-existing power in an extreme old age; secondly, by a violent extinction, exhibited by a different concurrent cause.

14. The powers employ their influence on matter, suitable to every one of them; the sensitive on objects, the vegetative on elements; which, the more perfect they are by the concoction of mixture, the greater and quicker is their nourishment; for it is converted with greater ease and perfection into the substance of the animal, &c.

15. There are four principal colours, viz. white, black, light, and darkness: by light, we do not mean that which is diffused from the ☉ and from fire, but that colour which arises from the intension of that light which is almost like gold; by darkness, its privation. But there are some colours which are composed of celestial qualities, others elementary of these elements; but there possibly flow infinite from their alternate permixion. White is a colour merely passive, light an active.

16. The stars, though they never cease from action, and causing an alteration in things below, yet from that change they produce no remarkable effect, unless in familiarities. We call the familiarity of the luminaries, meeting with power, proportional by an influx motion. Under the name of luminaries, we understand not only all the stars, but likewise uncommon phenomena; and we exclude every other place in the heavens which is void of light, for it is by light only the stars influence, as has been said before. By the power of the conjuncts, we exclude from the familiarities those stars which cannot, by any means, be conjoined together; but it is plain that the familiarities have not their being in the heavens, but in the inferior passable subject, namely, according to their mode of receiving them, as is manifest.

17. Authors treat of the various and different distinctions and divisions of the celestial houses, whereof we only approve of that which Ptolemy places, that is by the two temporal hours: we reject all the rest as vain, and quite inconsistent with nature.

18. The signs and houses have not a real distinction

in the heavens, but in the inferior passable subject, according to its manner of receiving the influx of the stars; the signs likewise have a true and certain sex, in the same manner and masculine, by a proportional influx, to the places where the active quality commences; feminine where the passive; which we shall mention hereafter.

19. From the intension of light, proceeds an active quality; from its extension, a passive; in short, every natural principle of an active virtue has its rise from the intension of light; but the principle of a passive virtue, from its extension. For this reason, the substantial and material Forms, and all the qualities active in kind, are referred to the Sun; but to the Moon, that principle, Matter, and all its qualities, passive in kind.

Hence it is manifest, that the Sun has an active virtue, by reason of the intension of his light; but the Moon, a passive, by reason of extension, though, in reality, there are intension and extension in both; but in the Sun, intension is prevalent, and in the Moon intension is inconsiderable, and extension prevails; and as by its increase and decrease, it shews us the various quantity of its light, in things it augments and diminishes matter and moisture.

20. The variety of colours in the stars produces a diversity of effects. Thus the colour of the luminaries —☉ or of gold, is possessed of an active virtue, the same as the intension of light, for it proceeds from the intension of light, and, as it were, from the approximate cause. White possesses a passive virtue, as does extension; but these two primary colours relate to

effects of a simple nature which are excellent; such as material substances, &c. The other colours in the stars are the cause of specific qualities; so the blue and yellow, such as are in ♃ and ♀, which are a mixture of white and gold, give signs of a temperate nature from heat and moisture; in the blue, heat is predominant; in the yellow, moisture; and therefore these two planets confer that which is good, useful, and pleasant: the former is masculine, by reason of the too great heat; the latter, feminine, owing to excess of moisture. Leaden and fiery colours, such as are in ♄ and ♂, shew an intemperature, cold and dry in ♄, hot and dry in ♂. ♄ is more cold than dry, and therefore masculine; ♂ more dry than hot, and therefore feminine.

21. But in general, effects, according to their nature, properties, passions, motions, &c. imitate their cause; for the manner of acting follows that of being. As the work of Saturn is unpleasant, rigid, cold, dark, and black, his motion slow, &c. nay, more, from the passions of the luminary which proceed from local motion, follow the passions in the effects; as from access and recess, follows the access and recess of the passion and effects; from its near and distant situation, the near and remote action is derived; from its inception, the beginning of the action; from continuity, its continuance; from its increase, the increase.

22. From the access and near situation of the stars follows the increase of their light, according to extension; and from the increase respecting extension, follows a still greater intension of the light, according to the degree, at least in the effect. From

the increase of the luminary, with regard to extension, follows an increase of moisture: from a greater intension of the luminary, follows a greater heat; and so in every one of them. Aristotle's Second General Treatise, page 56, in his researches into the cause of the perpetuity of the rise and fall of things, informs us, that not only one inference may assign the cause of this rise and fall, but also that which contains different motions, to which the causes accede and recede, are near or distant in their constitution; and their access, and near situation, are the cause of generation; their recess and distant situation, of corruption.

23. There is a formation of four conjugations of the manner of starry influence, viz. in the luminary's increase and near situation; in its near situation and decrease; in its decrease and distance; and in its distance and increase. By these conjugations are constituted four quarters; First, in the world, which are the circuits of the stars by day from east to south, from south to west, from west to the lowest, and from the lowest to the east. Secondly, in the Zodiac, and the annual seasons, from ♈ to ♋, from ♋ to ♎, from ♎ to ♑, from ♑ to ♈.

24. There are four respects of the planets to the Sun; from the apogee of the epicycle towards the first station (in the ☽ towards the first decatom); from the first station to the perigee; from thence to the second station (in the ☽ towards the second decatom), at least as far as the apogee. From these are derived an excellent reason, why the three superiors are supposed to be stronger: if they are found to be matutine or eastern, from the ☉,

the three inferiors vespertine, or western; for then they have a greater degree of light, in which consists their virtual influence, and then they are called oriental; but occidental, if otherwise. Every one knows how largely, yet to no purpose, authors have treated of the orientality of the planets.

25. From the cardinal points of the world, and the Zodiac, the stars begin to influence the four primary qualities; from the imum cœli and tropic of ♋, moisture; from the ascendant and ♈, heat; from the medium cœli and tropic of ♑, dryness; from the west and ♎, coldness; but by all these means, the stars, though they have their nature absolute in themselves, they nevertheless produce all the four primary qualities, though with a difference, on account of the diversity of the nature of the stars; but they continually increase the qualities they produce, by advancing successively to the opposite points; such is the reason they likewise lessen the contrary quality.

26. From these, it is inferred, that the influx and rays of the stars depend on real motion and illumination, not on the quantity of the celestial spaces nor the situation: and therefore the stars in the cadent houses are weak; in the succeedents strong; in the cardinals strongest, &c.

27. All the active qualities, whether of the elements, or of the compounds, depend on the horary extent of the stars round the world; but because the duration of things is various, annual, monthly, and diurnal, with which Ptolemy agrees in his chapter of those that have no Nourishment, and the Second Stagyrite and

General Treatise, p. 57. They are diurnal, as being the first and immediate in the order of the work; for in the order of perfection they are the lowest, and the annual durations are in the first place, by reason of their perfection.

28. The virtual qualities of the elements depend on the latitudes of the stars in the Zodiac. The vital qualities of such as live through months and years, depend on the Sun's place in the Zodiac, and the Moon, in respect of the Sun, as from present causes, but are pre-ordained by the Sun's motion round the world, and by the Moon round the Earth: whence the motions of the directions and progressions are derived.

29. The differences of the celestial qualities that are in the compounds, both vital and those that are not vital, depend on the various congressions and familiarities of the luminaries, with the other stars both erratic and fixed, and on the different places in the Zodiac, so far as they are of a different nature; for from the simple places, both in the Zodiac, as well as round the world, that is (if they are thus considered), the primary qualities of the elements are derived.

30. The true moment of the day, on which any one is born (laying aside all opinions of authors), is when the fœtus becomes independent on its finitimate cause, or its ministry; an immediate influx then takes place. At the constitution of the celestial moment, there is no need of its longer perseverance, to make the effects the cause of preservation; for that is impossible; but it is sufficient that it concur with the nearest causes, to confer being, and the co-natural qualities: for so it

is, that he who is born, throughout his whole life has a reference to, and, as it were, represents the effects; and as a stamp resembles the seal, so does the constitution of the stars his nativity.

31. The stars insert their power in an animal, and the virtual qualities in certain latitudes of a shorter time: these they pre-ordain with effect. The accidents naturally active, operate at their appointed times to the conclusion of life, and begin at the moment of the nativity; but they are the latitudes of days and months, and pre-ordain successively, therefore orderly, and in cooperation; and they are ready to act at the time preordained, when the favourable constitutions are the same as their causes of pre-ordination; for dissimular present causes cannot produce any effect but what agrees with them.

32. In the constitution of the stars, the nativities are said to continue immoveable, as well as the significators and promittors of effects; and this only, by reason of the retrospect of that nativity's temperament to those places: for while the stars concur with the nearest causes in conferring existence, they imprint on that animal so many degrees of their qualities, as they effect from those places in which they are found; and therefore that animal respects, all its life, the places of the stars of its nativity, as being always immoveable.

33. But as there is a double motion of the stars, that is, under the *primum mobile*, and round the world, by both which, as we have said, they influence, we must consequently suppose, that the significators rule over things subjected to them by this twofold (or double)

motion, to wit, under the *primum mobile*, and round the world. So in the former moderation, the significators remain immoveable in the world, *i. e.* in their horary circles of position; in the latter they are in a state of immobility in their places immediately under the *primum mobile:* the promittors in the former moderation remain immoveable under the *primum mobile*, but are moved with their parts of the Zodiac to the horary circle of position of the same significator. In the latter moderation, they remain immoveable in the world, that is, in the horary circle of position, but are moved in a manner immediately under the *primum mobile*, to the moderator's place taken under the *primum mobile*.

34. We say that the significators continue immoveable in their mundane situation. By mundane situation we mean the horary circle, *i. e.* (according to Ptolemy) of unequal hours, not the circles of position which pass through the common sections of the horizon and meridian, as will appear more fully hereafter. Likewise, when we say that the significators in the former moderation remain immoveable, in such a situation, we do not exclude the change of declination; we mean that the moderators should always continue and advance by their own real and natural way; as if we speak of the Sun in the ecliptic, or the Moon in her circle, constituting the Dragon, in which she is in perpetual motion, and in which she successively alters her latitude.

35. The Sun, when it is found in the space of the crepuscules, before rising and after setting, does not remain there immoveable under the horary circle; but in the crepusculines, parallel to the horizon, in which it

always affords us the same degree of the intension of light, from which equality of the intension of light it is said to continue immoveable; for if it should, with regard to us, vary in the degree of the intension of light, it could not be said to remain immoveable, but would be in a state of motion. In the remaining space of obscurity, the Sun must be directed, with a reference from the limits of the crepuscles to the lowest; as if we should say, from the proportionable division of the obscure arcs, they were seminocturnal arcs. This will be more fully shewn hereafter.

36. Moderators of things are five, viz. the Sun, the Moon, *Medium Cœli*, Horoscope of the Country, and the Lunar Horoscope; every one of these so moderates its own proper species of things, that it cannot attain to that which relates to the other: it is necessary to observe this, that we fall not into error and confusion.

37. The Aphetic places of the world, or those wherein are received the moderators of life, are five, viz. the House of the East, the tenth, the ninth, the seventh, and the eleventh; in any of which the Sun being found, always becomes the moderator of life; but if he is absent, the Moon, &c. according to the doctrine delivered by Ptolemy in his third book, which we ought to follow so rigorously, absolutely, and without the least exception whatever, that whoever, by neglecting the luminaries, if in the Aphetic places, should receive the horoscope as the moderator of life, would be guilty of a very great error, and would be unworthy of the name of a professor of the true and natural Astrology.

THESES

From the SECOND BOOK.

38. There are two motions of the stars, whereby they influence those inferiors, that is, under the *primum mobile*, and round the world; but familiarity is nothing more than a proportional influx, exhibited by the motion, as has been said. It necessarily follows, that there are two kinds of familiarities of the stars; the one under the Zodiac, the other round the world: these two kinds of familiarities are delivered by Ptolemy in several places; first, in the Almagest, Book viii, chap. 4, in these words:

"It remains now to write of their aspects: of these, "therefore (excepting those that have a mutual formation, and are thought immoveable, as when in a "right line or triangular aspect, and others of the like), "some are aspected to the planets only, and the Sun "and the Moon, and parts of the Zodiac; some only "to the Earth; some to the Earth, together with the "planets and the Sun and Moon, or parts of the Zodiac," &c. From which words, it is evident, that Ptolemy places these two kinds of familiarity, viz. in the Zodiac, and towards the Earth, that is, towards the world.

In the Quadripartite, in the beginning of the first book, he speaks thus: "There is one which is first, "both in place and power, whereby we discover the "configurations of the Sun and Moon, and motions "of the stars, both towards themselves and the earth,"

&c. Again, book first, "The stars are said to appear "in their proper forms, &c. when every one of them "are configurated with the Sun, or even the Moon, in "the same manner as their houses are with those of the "luminaries, as Venus in the Sexangular, configurated "with the luminaries, but the Vespertine with the "Sun," &c. Venus never has the ✱ to the ☉ in the Zodiac, as it can only be extended by it 48°; wherefore, unless any one will say that Ptolemy was ignorant of this (which is absurd), he must of course say, he spoke of the Sextile in the world. Likewise, in the third book, chapter of Aphetic places, he says, "As "we are first to suppose those Aphetic places, in which "it is absolutely necessary to find that which is desirous, "to obtain the jurisdiction of presiding over life, as round "the Horoscope, from the five parts first immerging "above the horizon, to the other twenty-five succeed-"ing; and that which conjoins these thirty parts with "dexter hexagonal rays, is called the place of the Good "Genius. Likewise with quadrangular, or the highest "part of heaven above the earth; and with trigonal, "&c. and from no other places." It is evident, Ptolemy was of this opinion.

39. The familiarity in the Zodiac is the proportionable influx of the stars by local motion, whereby they are able to effect a favourable conjunction. That these familiarities happen, and are powerful only among the stars which are there in motion, but that they are powerful to the cardinals and rest of the houses, we absolutely deny; for omitting other reasons, the stars move not to the cardinals, by advancing in the Zodiac; which

is the reason they do not effect any proportional distances to those cardinals, but the rays are no more than proportional distances, &c.

40. The familiarities of the stars in the world are a proportionate influx of the stars, agreeable to motion round the world; and they happen, and are efficacious in the proportional distances taken by a proportional division of the diurnal and nocturnal arcs, and no other way.

41. But because the stars have a mutual motion under the *primum mobile*, and round the world, it happens that they mutually contract both kinds of familiarity; as Ptolemy, in the place already cited, insinuates. But familiarities, taken in any other manner, and in any other circle, even in the equator (according to the opinion of Maginus), are entirely reprobated, and to be rejected.

42. These two kinds of familiarities being given, we say, that in every kind, neither more nor less than nine species are found, which are ☌, ✱, Q, □, △, Sqq, Bq, ☍, and parallels called by some Antiscions, which Kepler, by an exquisite and plain reason, has selected from their concording harmonies. Of these familiarities, the Sextile, Quintile, Trine, and Biquintile, are benign; the Quadrate, Sesquiquadrate, and Opposition, malign; the rest indifferent, with the fortunate stars good, and equally evil with the unfortunate.

43. The latitudinal stars do not commit all their virtual influence to the ecliptic, but preserve it among themselves; and their greater or lesser proximity to the ecliptic, adds not to nor lessens their power of acting; the ecliptic cannot act without the stars, but the stars

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have their activity in themselves wholly independent of the ecliptic.

44. The stars alternately conjoined, do not acquire greater or lesser powers to act in a favourable conjunction, which falls out when another is found within the sphere of the other's activity, from a greater or less alternate proximity; but we only say, that their active virtues are the more or less conjoined. Under the name of the Sphere of Activity, we understand those that Ptolemy has placed, in Jupiter twelve degrees, in Venus eight degrees, &c.

45. But the stars which are found in the same partial longitude, we do not call conjoined in a favourable conjunction, if their alternate distance be greater by latitude, than is their sphere of activity; as ♀ with 8° of south latitude, is not favourably conjoined with ☿, having a northern latitude, though they are found in the same degree and minute of longitude; they may indeed be said to be conjoined by virtual conjunction, if they ascend or descend in the same horary circle, or cardinal, which is one of the species of mundane aspects.

46. The stars therefore should not be cardinally placed; nor even those that are fixed, with the other planets, if the latitude distance from the circles of position be greater than their sphere of activity; nor ought any difference to be made between the aspects of the natural constitution, and those produced by the motion of direction in preserving the latitude, as Argol thinks, there being equal reason in both cases.

47. In defining the intermediate rays, the half latitude in ✱ and △ is not to be observed, nor rejected in quar-

tile, as Blanolinus has taught, whom some authors imitate: but the latitude of both aspects are to be observed; for the rays are to be projected from the body of one to that of another, as it happens that these stars are found by latitude; so that in whatever latitude the planets are, they emit and receive the rays in proportional distances, taken with regard to longitude; as the ✶ in the distance of 60°, the □ in 90, &c. We would have this always observed, both in the daily motions of the planets, and in the directions and progressions, wherein the significators advance by their own real and natural way, on which they receive and emit the aspects; and in all the motions of the stars.

48. The fixed stars that are in a favourable conjunction with the planets, effect with them the other aspects, in the *primum mobile*, which otherwise have no effect. The same must be supposed of their familiarities in Mundo.

49. The rays in their kinds, from the brevity or longitude of the ascension of the signs, do not alter their nature from the fortunate to the unfortunate, or the contrary, as it is generally supposed by authors; yet it may be, that the quadrate in the Zodiac is either △ or ✶ in the world, or the contrary: but then every one has its effect according to its nature in both kinds, or it may be, they alternately moderate each other; but if these rays be found by the favourable stars, they doubtless produce happiness; if by the unfortunate, otherwise.

50. That which is vulgarly termed antiscions, we call parallels in the *primum mobile*; because we would have

them to be nothing else but parallels to the equator, as Ptolemy hints, "as they rise at an equal space of "time, and describe the same parallels," for which reason they are called the antiscions, or parallels in the *primum mobile*, and are equidistant from the equator; and if it be of the same country, it is called the primary parallel, or opposite if of a different country. The North commands, the South obeys; and they are taken from the table of declination, but parallel, in its physical sense, is an equal power of the influence of the stars from the *primum mobile.*

51. The twelve houses or mansions in heaven, authors divide several ways, but they all disagree. Rejecting the opinion of them all, we, with Ptolemy, distinguish them by the two temporal hours; for so it is, that there is proportional and equal division, not indeed of the heavenly and aerial space, but of the successive influx of the stars and houses; and the Mundane rays appear equal and proportional. But it is our opinion, that the division of the houses, by great circles passing through the common sections of the horizon and meridian, and the twelve equal divisions of the equator, which late authors make use of, are, of all, the most remote from and abhorrent to natural truth.

52. As many kinds of aspects as are found in the *primum mobile*, of which mention is already made; so many, we say, are found in the world. Wherefore, besides the usual ray, we likewise place in the world the parallels, which are an equipollence of the influx of the stars round the world.

53. Several resemblances are found between the mun-

same parallels, and those in the *primum mobile*. (1.) The efficacy of the aspects in both consists in the parity of equal power, and equipollence of the active virtue. (2.) As in the *primum mobile*, they represent the same quantity of the ascension of the signs: for example, the signs ♓ and ♈, also ♊ and ♋, ascend in the same time; and with so much likeness do they exhibit the same quantity of ascension and descension in the world, that the eleventh house causes an ascension equal to the descension of the ninth, and the twelfth house equal to the second, &c. (3.) As the parallels in the *primum mobile* are equidistant from the cardinal points of the Zodiac, so are parallels in Mundo equidistant from the cardinal points of the world. (4.) As in the *primum mobile* they exhibit equal temporal hours, so in the world they exhibit equal temporal hours of the distances from the cardinals. (5.) The parallels in the *primum mobile* are at an equal distance from the pole of the world; the parallels in the world have the same polar elevation; and other resemblances, if required, will be found.

54. The efficacy of all the parallels, both in the *primum mobile*, and in the world, consists in the parity of the degree of quality, which the stars effect when found in the parallels; as it is plainly gathered from those which we mentioned in sect. 25; for by going through intension, and returning through remission, from the cardinal points, it happens, that they effect an equal degree of quality, as well under the *primum mobile* as round the world.

55. As for the *circles of position* in which the signi-

ficators are said to remain immoveable, and upon which they are to be directed, and their oblique ascension to be taken, those great circles passing through the common sections of the horizon and meridian, according to late authors, cannot be received; for this opinion is openly inconsistent with the precepts of Ptolemy; but those seats or parts of the circle are to be received, in which the stars, having a different declination, effect equal temporal-hours. From what has been said, this conclusion is drawn, and agrees with the divisions of the houses, through the two temporal hours, and with the mundane rays. For this reason, we call such a seat the *horary situation of position*.

56. The dignity of the planets in the signs and their parts, which are called the bounds and terminations, have a real and natural foundation; to wit, the powerful aspect or proportional influxes to the moveable points in which the stars begin to produce the primary qualities. So that, according to those things we have explained, in the Philosophy of the Heavens, these are found to agree so well with the Egyptian boundaries, that they are highly deserving of admiration.

THESES

From the Third Book.

57. To speak physically, the stars are moved but by one motion, which is of the *primum mobile*, viz. from West to East; but for the easier explaining astronomical matters, we say in a simpler language, that the

stars are moved by a double motion; of which frequent mention has already been made; nay, more, we say there are many motions in the heavens, by which the stars change their aspects with respect to us.

58. The motion of direction is that which the Sun causes round the world every day, following that of the nativity, in whatever latitude, preordaining in power and virtue, the vital heat with its natural effects, viz. from every day to every year by Order: for it happens, that at the end of the first, after the natal day, when the Sun has returned to the same equal hour of the nativity, the parts of the *primum mobile*, with all the stars, have nearly gone through one degree of the equator; and the same happens every subsequent day: meanwhile the stars, as they advance, apply either by body or rays to the stations of the significators.

59. There is a double motion of direction. The *direct*, which Ptolemy calls *Actinobolium*, and tells us is formed toward the following signs; and the *converse*, which he terms *Horimeamy*, and shews us it is formed towards the preceding places.

60. By the direct motion of direction, we direct the angles and all the moderators; but by a converse motion, the angles cannot be directed.

61. The angles only receive the rays in the world, but not the parallels, nor the rays in the Zodiac. The other significators, by a direct motion, receive the rays and parallels both in the Zodiac and in the world; but by a converse motion, the rays only, and parallels in the world, and by no means in the Zodiac.

62. By a converse direction, the significator, if it

descends from the Medium Cœli, strikes against the west, and all the rays that are between the significator and the west; and the rays are to be taken in the world; for in a converse direction, the rays have no place in the Zodiac, as has been said, but the hostile rays of the malignant that lie between, either cut off, or take away, the years from the number of direction to the west; as on the contrary, the rays of the benign either preserve or add the years according to Ptolemy's method, which we shall treat upon in the Canons.

63. It also happens, that when the significator and promittor are both hurried away together, by the rapt motion of the *primum mobile,* that they effect parallels in the world—equally powerful with all the other aspects.

64. In a direct direction, the significators advance by their own real way; as the Sun by the ecliptic, the Moon by her circle, upon which successively she alters her latitude, in proportion to her latitudinal motion. The same is to be said of all, when they become significators.

65. Authors are divided, as to measure in direction; for some take the whole degree of the equator, for all and every one of the years; others, the Sun's motion of the natal day: some, the Sun's mean motion; whilst many more vary in their computations. But we, to the first year after the natal, take that part of the equator in which the Sun ascends in a direct sphere, by the motion of the first day following the nativity; to the second year, that which ascends by the second day's motion; to the third, that which he ascends the third day after

the nativity; and thus of the other subsequent ones; for we would have the directional motion successive, and always formed towards the succeeding places, and the Sun's motion each day to be referred to, as the cause and rule to every year, as to their effects, in the same order and number.

66. But because the primary and principal motion of direction is derived from the motion of the Sun on the days following that of the nativity, as has been said, it consequently happens, that by some secondary means, the aspects that are made to the luminaries and angles on those days, jointly assist the significators of the primary directions; for this reason, we say, that the days whereon these aspects happen are very powerful in those years, which answer to those days, and on which they depend. From those motions, in preference to the rest, appears the true, real, and hitherto unknown, foundation of the critical or climactrical years; for the Moon, almost every seventh day, is placed in the critical place with respect to her place in the nativity; and (which is very important) experience wonderfully proves the truth of it; as may be seen in the examples extracted from Argol and Maginus. We call these motions the secondary directions, to distinguish them from the primary and principal; and we are of opinion, that Ptolemy, speaking of annual places, is to be understood of the places of those motions, and when of the menstrual, hints at the places of the progression.

67. The equal and uniform progressions which are commonly made use of, are supposed to be false; for there appears no reason or foundation to support them;

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nay, all the professors with one voice affirm, they do not correspond with the effects. Wherefore, because we think the motions take their rise from the Moon's circuit towards the Sun, by which it pre-ordains in power and virtue, the radical humidity with its co-effects; so in like manner the motion of the direction originates from the Sun, by which it pre-ordains the vital heat; therefore the progressional motions are caused by the Moon in her circuits towards the Sun, and her returns to the same appearance, illuminations, or distance; consequently every one of the circuits, after the nativity, has a reference and respect to as the cause, of each year of the life of the native, and the Moon's progress, through each of the signs, to every month.

68. In the universal daily motions, the stars are continually agitating things of an inferior and material nature; but they produce surprising effects, when they arrive at the places of the moderators: and if they be radical, they are called natural transits. But at the places of the directions and progressions, they are called *ingresses*; for then, if the constellations of those motions be similar to the constitutions of the nativity, or the directions or progressions, they force to action the pre-ordained effects; for in this, and no other manner, the stars act upon inferior objects; that is, according as they find the next in power.

69. Of the ingresses some are active, others passive; the active are caused by the stars, which have an active virtue, when they enter the places of the directions and progressions of the moderators; for then they act upon the moderators. The passive are produced by the

universal moderators in the whole world, viz. by the ☉, ☽, angles, and part of Fortune, when they enter upon the places of the directions and progressions of the stars, whatever they are, which have an active virtue: but the active ingresses, if they be similar to the preordained effects, cause them to influence; if dissimular, they either diminish or retard, as Ptolemy has it in the last chapter of Book IV. The passive ingresses administer nourishment towards the cooling and preserving the vital heat, and refreshing the radical moisture.

70. In like manner of transits; some are active, others passive: and hence it is evident how powerful are the accidental aspects of the luminaries and cardinal signs at their setting; and at other times of the natural accidents, arising from those fortunate or unfortunate stars, both of the nativity and of the place of the direction and progression, agreeably to which, as has been said, we are to reason on uncommon phenomena: for from the extension and intension of light, from the colour, diuturnity, apparition, situation, either in the world, or among the images of the starry orb, and other passions, are gathered their effects, and the provinces under their influence. New phenomena being found in nativities, experience has already shewn the wonders they have performed, chiefly as to the powers of the understanding, inventions, the performing of business, &c. And remember, reader, that art, or the human understanding, according to its ability and industry, is capable of changing, increasing, diminishing, and perverting, any influxes whatever of the stars; especially if the effects are considered, which the power of man is capable of attain-

ing; and therefore, they who are possessed of a more subtle and acute understanding, attain to greater things than those of duller capacities: but they who are entirely negligent, attain nothing. By all that has been said in these Theses, it will not be difficult to understand the questions and explanations of my Celestial Philosophy. And, finally, it is requisite that this doctrine of the stars should be attentively observed, not only in nativities, but also in decumbitures and judgments of critical days, and changes in the air, wherein you will find wonderful effects. For this doctrine is universal, and shews the manner in which the stars act upon these inferiors, whether compound or simple, &c.

Use of the Tables.

PART I.

FOR greater distinction and perspicuity, I have divided the following rules into four parts:—

The first contains the calculation of the places of the stars, in order to know their places under the *primum mobile*, in longitude and latitude, with the situation of each of them in the world, and the distance from the angles and houses, the right and oblique ascension, the horary times, the semi-diurnal and nocturnal arcs, and many things of this kind.

The second consists of methods to compute the directions of the significator to the aspects in the Zodiac, or *primum mobile*.

The third, the calculations of the directions to the aspects received in the world.

The fourth, the observations and precepts of the progressions, ingresses, transits, &c.

But, because all the tables confine their numbers to the whole degree, both of latitude and longitude, as often as the given place is in degrees and minutes, either by longitude or latitude, the proportional part corresponding with those minutes is to be taken with the given place, in both beyond the degree; concerning which, in the first Canon or rule, a method is explained for young beginners; and also, in the Canon of the use of the Sexagenary tables, and several of the Canons, that it might not be sought in vain whenever it happens that the proportional part is to be taken. It is, therefore, to be observed, that the method is always the same as in the first and fourteenth Canon; consequently, it is ever, and on all occasions, to be looked to and observed*.

Canon I.

To take the Declination of the Planets, and from the Declination the Longitude, in the Ecliptic.

The table of declinations contains six signs in the first part, and six in the last; those under the left columns have the degree of longitude descending, but those on the right, ascending: it is divided into two parts, viz. into north and south latitude, the degrees of which latitudes are seen under their denominations. It is likewise divided by the intermediate scale into north and south declination; that in the former place, i. e. above the scale, is north, and below the scale is the southern. If the given place, whose declination you want to know, has no latitude, seek for that under the column of latitude 0°, which is in the ecliptic; and if it be in the integral parts, as, for example, in ♌, 24° 0′, under the column of latitude 0°, over against ♌, 24°, you will have the declination 13° 34′: but if the given place be in degrees and minutes, suppose in 24° 10′ of ♌, the proportional part belonging to the 10′ must be taken from the difference, which is between the declina-

* For the Trigonometrical Precepts relative to the Canons, see the Appendix.

tion of 24° and 25° of ♌; the declination of 24° of ♌ is 13° 34′. But 25° gives 13° 14′ declination: the difference between the two declinations is 20′, wherefore, by the golden rule, I say, if the integral part, i. e. 60′, gives 20′, what will 10′ give? Answer, 3′, which is to be taken from the declination 13° 34′, which is facing 24° of ♌; because the declination is less (but if it should be increased it ought to be added), and there remains for the declination of 24° 10′ of ♌, 13° 31′. But if the given place has latitude, and is in the integral degrees both for longitude and latitude, at one view you will have its declination; viz. in the common angle. Suppose, then, the given place 24° of ♌ with 2° north, in the common angle, you will have the declination 15° 27′. But if it be according to longtitude in degrees and minutes, and for latitude in the integral degree, the proportional part is to be taken from the difference of the declination of the greater and lesser degree of longitude, between which is the given minute, under the column of the said latitude.

Let the place be in 24° 10′ of ♌, with 2° north, under the column north, latitude 2° to the longitude 24° 0′, the declination is 15° 27′; and to the longitude 25° 0′, under the same column, the declination is 17° 7′; the difference of those declinations is 20′, from which for the 10′, 3′ is to be subtracted, as before. If the given place be by longitude in the integral degree, and latitude in degrees and minutes, the proportional part must be taken from the difference of the declination of the greater and lesser degree of latitude, between which is the given minute, and to the same longitude; as if the given place the 24° of ♌, with north latitude 2° 51′, under the latitude 2°, the declination is 15° 27′; under the latitude 3°, the declination is 16° 24′, and the difference is 57′; from which, for the 51′, will be found by the golden rule to give 48′ to be added, because the declination is increased by latitude. Lastly, if the given place be by longitude and latitude in degrees and minutes, as in the nativity of Sebastian, King of Portugal, the Moon's place, according to longitude, as in 24° 10′ of ♌, with 2° 51′ north, the proportional part must be taken doubly; wherefore, subtracting the 3′ from 15° 27′, there remains 15° 24′; and by adding the 48′, there remains the Moon's declination 16° 12′. To take the proportional part, you have the logistical logarithms, or sexagenary table: its use is shewn in the fourteenth Canon, though the golden rule may likewise serve; but this method of calculating is to be rightly understood; for in all the tables it would be too tedious always to repeat it. In the scale which divides the northern declination from the southern, care should be taken as often as it happens to pass through the scale, from one part to the other, either in longitude or latitude, to have the declination conjoined, and there will be a very great difference; from which, subtracting the proportional part, if it be less than the declination of the former angle which belongs to the integral degrees, either the longitude or latitude is to be taken from the declination of that angle, and there will remain the declination of the same denomination; but if, on the contrary, the proportional part taken be greater, the former must be taken from the latter, and the remaining declination changes the denomination.

Let the Moon be in 9° 10′ of ♎, with latitude 4° north, I add the 6′ to the 18′, and the difference is 24′; from which, to the 10′, 4′ is due: these, as they are less than 6′, I subtract from the 6′, and there remains the declination 2′ north. Suppose the Moon in 9° 40′ of ♎, from the difference for the 40′, 16′ is due; which, as they are more than 6′, I take 6′ from the 16′, and there remains the Moon's declination 0° 10′ south; but if the Moon in this case should have 4° 30′ north, I add 18′ to the 38′, which are under 4° and 5°, and the difference is 56′; from which, for the 30′, 28′ are due: from these, as they are more than 10′, I subtract the 10′, and there remains the declination 0° 18′ north. Again, if they are less, suppose 5′, I should take these 5′ from 10′, and the declination is 0° 5′ south. The given declination is brought back to the degree in the ecliptic in this manner, however, if it be not greater than 23° 28′, for otherwise it would fall out of the ecliptic. Under the column of latitude 0° 0′, that is, of the declination of the ecliptic, let the given declination be sought for, and above the scale if northern, but below if southern: but if it should be found even to its minutes, the degrees of the signs in the ecliptic corresponding with it are those which are placed opposite on both sides; but if the minutes of the given declination are not expressed, the proportional part is to be taken, instead of the minutes that are wanting to be added or subtracted from the degree in the ecliptic, &c. in this manner:—Let the declination be south 7° 28′ under the scale, and in the column of latitude 0°, I find it opposite to 19° of ♎, or in 11° of ♓, therefore it answers to these degrees. In the nativity of Sebastian, King of Portugal, the declination of ♄ is 7° 47′, which is not expressed in the table; but I take the next less, 7° 28′, then the next greater is 7° 51′; the difference of these is 23′: the declination of ♄ exceeds the less by 19′. I then ask, if the whole difference of 23′ give 60′ of longitude, how many will 19′ give? Answer 50′, which are to be added to the 19° of ♎; so that ♄'s declination corresponds with 19° 50′ of ♎, or with 10° 10′ of ♓: the same happens if the proportional part be taken differently; for the next greater declination exceeds ♄'s declination by 4′, for which the proportional part is 10′, which are added to the 10° of ♓, or the 20° of ♎, from the place of the ecliptic, as before.

Canon II.

The Ascensional Difference.

In the upper part of the table of ascensional differences look for the Pole's elevation in the latitude of the country, and in the first column the declination of the given place; which, if it be with the integral degrees, the ascensional difference required is placed in the common angle; but if the declination be with degrees and minutes, then take the proportional part, as in Canon I. As if the given declination be 12°, at the Pole's elevation 42°, the ascensional difference is placed in the common angle, 11° 2′; but if the declination be given 12° 25′, the ascensional difference at declination 13°, is 12°; wherefore the difference between this and the former is 58′, from which 24′ is due, i. e. to be taken in their room, 25′ to be added, and the ascensional difference becomes 11° 26′.—*Another way*: If you have already by you the tables of oblique ascension of the given place, and the right ascension, subtract the less from the greater, and the remainder is the ascensional difference. In like manner, if you have already the semi-diurnal or nocturnal arc, subtract it from 90°, if it be less; if greater, subtract 90° therefrom, and the remainder is the ascensional difference.

Canon III.

Semi-Diurnal or Nocturnal Arcs.

The semi-diurnal or nocturnal arcs are thus obtained; the semi-diurnal in degrees and minutes, by adding the ascensional difference to 90; when a star has north declination, by subtracting it from 90, when south. On the contrary, the semi-nocturnal is found by subtracting the ascensional difference from 90°, when a star declines to the north; and by adding it to 90, when the star declines to the south; for either the remainder or sum will be the semi-nocturnal or diurnal arc in degrees and minutes. If the declination above given, viz. 12° 25′, be northern, the semi-diurnal arc will become 101° 26′, by adding the ascensional difference 11° 26′ to 90°: if the declination be south, the semi-nocturnal will be the same; if the declination be north, and subtracted from 90, there will remain the semi-nocturnal arc 78° 34′; but if it be southern, the semi-diurnal will be the same. If you would reduce the semi-diurnal or semi-nocturnal arc into hours and minutes (see Canon XI.), you will likewise have the semi-diurnal and semi-nocturnal arc of the places in the ecliptic from the tables of semi-diurnal and nocturnal arcs. At your Pole's elevation, if the sign of the given degree be in the upper part, look for its degree in the descendant degree placed to the left; but if it be at the lower part, in the ascendant degree, which is to the right, and in the common angle of meeting, you will have the arc required, whose denomination you will perceive under the very sign, whether diurnal or nocturnal. And remember, if there are minutes, to take the proportional parts; but if it be denominated semi-diurnal, and you want the semi-nocturnal, or the contrary, subtract the arc found from 12 hours, and the remainder is the other arc required. In the nativity of Charles V. the Sun is in 14° 30′ of ♓: at the Pole's elevation 52°, I find the sign ♓ in the lower part; wherefore, to the 14 ascendant degrees, I take in the common angle the semi-nocturnal arc, 6^h 33′; but because the Sun has above 30′, I subtract one minute, and there remains the semi-nocturnal arc, 6^h 32′: whereas, if I want the semi-diurnal arc, I take 6^h 32′ from 12^h, and there remains 5^h 28′. Of the latitudinal planets, provided their declination does not exceed 23° 28′, the said semi-diurnal or nocturnal arc, in hours and minutes, may be had thus: After reducing their declination to the longitude of the ecliptic, in the manner explained in Canon I. with this degree of the ecliptic, I enter the table of semi-diurnal arcs, and take out the hours and minutes, corresponding thereto, in the manner we have mentioned, &c. as in the nativity of Sebastian. Saturn hath declination 7° 47′, and is reduced to 19° 50′ of ♎, or, 10° 10′ of ♓, whose semi-nocturnal arc, at the Pole's elevation 40°, is 6° 27′.

Canon IV.

The Horary Times.

These may be taken several ways; first, the diurnal from the partition of the semi-diurnal arc in degrees and minutes taken by six; the nocturnal from the partition of the semi-nocturnal, likewise by six, which six temporal hours the cardinal signs of the world are mutually distant: let the semi-diurnal arc be 104° 45′, the 104° divided by 6 make 17, and there remains 2; which, reduced to minutes, and these added to the other 45, makes 165; which, when divided by 6, the quotient is 27′, and makes the horary times 17° 27′ diurnal. Secondly, the horary times of the parts of the ecliptic are collected in the proper tables; as to the pole's elevation 45 to 15° of ♉ in the ecliptic, the horary times diurnal are 17° 51′. Thirdly, the semi-diurnal arc taken in hours and minutes, if multiplied by two and a half, is converted into the diurnal horary times; and, in like manner, the semi-nocturnal arc into the nocturnal horary times; as the semi-diurnal arc of 15 of ♉, at the Pole 45°, is 7^h 9′, which, multiplied by 2 and a half, becomes 17° 52′. Fourthly, of the planets having latitude, let their given declination be brought back to the ecliptic in the manner as explained in Canon I, and with that degree of the ecliptic in the table of horary times, they may be taken as above-mentioned; but if the planet has a greater declination than 23° 28′, the horary times cannot be taken any other way, except by the help of the ascensional difference. But if you have the diurnal horary times, and want the nocturnal, or the contrary, subtract your sum from 30, and the rest will be the horary times required: as in the given example, I subtract 17° 51′ from 30, and there remains the horary times nocturnal 12° 9′.

Canon V.

Right Ascension.

This you will take from the proper table; and if the given place be in the ecliptic, so as to have no latitude, look for the right ascension under the column 0° 0′, and in the common angle you have it, by taking the proportional part for the minutes of longitude, if there are any, as in Canon I. In the nativity of Charles V, the Sun is in 14° 30′ of ♓; the right ascension of 14 of ♓, is 345° 16′; for the 30′, 28′ are due, to be added, and the Sun's right ascension becomes 345° 44′. If the given place be not in the ecliptic, but has latitude from it, and is in the integral degrees, both according to longitude and latitude in the common angle, you will have the right ascension: but if there are likewise minutes, let the proportional part be taken, as in Canon I.

Canon VI.

Right Distance.

To know the distance by right ascension of the stars in a right circle, subtract the lesser from the greater, that is, the right ascension of the preceding place from the right ascension of the following, and the remainder is the right distance required. And this caution is to be observed, that as the right ascension is an arc of a circle, numbered in degrees of the equator, which are 360, commencing at the beginning of the sign ♈, and terminating with the end of ♓, when it happens that the right ascension of the preceding place is less than a circle, as in ♓, ♒, &c. and the following place greater than the beginning of the circle, as ♈, ♉, &c. a whole circle, or 360, must be added to the right ascension of the following places, and from their sum subtract the right ascension of the preceding place. Let the 18° of ♒ be upon the Medium Cœli, whose right ascension is 320° 30′, and the following place be 15° of ♈, whose right ascension is 13° 48′; you cannot subtract 320° 30′ from 13° 48′, unless you add 360°, which makes the sum 373° 48′; from which subtracting the 320° 30′, there remains 53° 18′, the right distance required. And this caution is to be observed in all subtractions of ascensions, whether right or oblique, and whether in degrees and minutes, or hours and minutes.

Canon VII.

Oblique Ascension and Descension,

Will be had by subtracting the ascensional difference from the right ascension of the star, if its declination be northern; but, if south, by adding the ascensional difference to the right ascension, and the sum, or remainder, is the oblique ascension. Lastly, if it has no declination, that right ascension becomes oblique ascension. On the contrary, the oblique descension will be found, by adding; if the declination be northern, by subtracting; if south, to or from the right ascension. Example: to 1° 23′ of ♉, the declination is 12°; its ascensional difference at the Pole's elevation 42°, as we have mentioned in Canon II, is 11° 2′; the right ascension is 29° 13′; but as the declination is northern, subtract the ascensional difference 11° 2′ from the right ascension, and there remains the oblique ascension 18° 11′. Now, 1° 23′ of ♏, has the same declination and ascensional difference, which is to be added to the right ascension 209° 13′, because the declination is southern, and the oblique ascension is 220° 15′; besides, there are extant many tables of oblique ascensions by which they may be gained; as those of Argoll's, and several others.

Canon VIII.

To reduce the Right Ascension, or Oblique, to the Degree of Longitude in the Ecliptic, or to any other Place of Latitude or Longitude.

Look for the given right ascension of the ecliptic in the body of the table of right ascensions under the column of latitude 0° 0′, and you will have the places in the ecliptic, corresponding to it, by taking the proportional part for the minutes, if there be any. But if, when the right ascension of a latitudinal planet is given, you are desirous to know to what longitude in the ecliptic it corresponds, look for that right ascension under the column of the given latitude, and in the column of longitude you will have the degree of the ecliptic corresponding to it: as, for example, the right ascension of 157° 48′ in the ecliptic answers to 6 of ♍; but if the right ascension 157° 48′ be, for example, for the Moon, in latitude 5° southern, it answers to 8 of ♍; but with this caution, because the Moon then mediates the mid-heaven with 6° of ♍, but has the rays in the Zodiac to the other planets from 8° of ♍. In like manner you must reduce the oblique ascension to the ecliptic from the table of the oblique ascensions of the Pole's elevation; as the oblique ascension of the ecliptic 168° 9′ to the Pole's elevation 45° is reduced to 21 of ♍ in the ecliptic; but, if the oblique ascension be of the Moon in south latitude 5°, I say it is reduced to 19° of ♍ with latitude, as is there posited, but with the same distinction; for then the Moon co-ascends in the same circle of position with 21° of ♍, but has the rays to the other planets in 19° of ♍. This revocation is of service, in order to know what longitude and declination the significator encompasses by the direction, and consequently with what planets it contracts the aspect when in the Zodiac, which is, by adding the arc of direction to its right ascension, if it be found in the right circle in the nativity; or to the oblique ascension, if elsewhere.

Canon IX.

Distances from the Cusps of the Angles or other Houses.

The distance from any cardinal sign or house (that is) from their cusp, will be easily obtained after the ascension of that house or cardinal sign, and likewise the ascension of a star is given; for subtracting the lesser, which is the preceding place, from the greater, which is the following, the remainder will be the distance of the star from that house or cardinal sign; but if the house or angle be in the descending part of heaven, taking the descensions of the house, and the same of the star, or the ascensions of the opposite places, and subtracting, in like manner, the lesser from the greater, the remainder will be the distance required. The preceding place is that which is in the lesser degrees; the succeeding in the greater: as the beginning of ♈ precedes, the beginning of ♊ follows; and thus in all. The distances of the stars from the cusps of the houses may be taken without the oblique ascensions; but the right ascension is to be known, together with the semi-diurnal and nocturnal arcs, or the temporary hours; for after taking their primary distance from the culminations, the secondary distances are made at the cusps of the houses; and the ninth and eleventh houses are distant from the meridian, by the double horary times, or the third part of the semi-diurnal arc; the eighth and twelfth, by double gemination, &c. Wherefore, the primary and secondary distance of a star from the meridian being given, always subtract the lesser from the greater, and you will have the star's distance from the given house; by primary distance I mean that which the planets have in a nativity; but the secondary, that which they acquire by direction. There are several examples in the nativities which are shewn farther on.

Canon X.

To describe a Figure of the Heavens.

This we are taught by almost all professors, but in a very different manner; therefore be pleased to take here a very concise method. If the italic hour be given, let the astronomical be made, by adding the semi-diurnal arc. In the tables of houses at the Pole's elevation given, let the place of the Sun be looked for, upon the cusp of the tenth house, and let the time from noon be taken, which is found on the back of it, and added to the astronomical hours found above. Finally, with this sum, when it is found in the same table of houses, directly opposite, will appear the signs and degrees which belong to the six eastern houses, taking the proportional part, when there is occasion. Of the other six western houses, the cusps are described with the opposite signs, and the same degree as the opposite houses.

Another way.—The italic hour being given, let the gree opposite to the Sun of the given day be sought for in the ascendant, and let the time from noon, which shall be found there, be added to the given hour; when this sum is found, let the division of the houses, directly opposite, be taken, &c. From this same sum of the hours, subtract the time from noon found at the degree of the ☉'s place on the same day, constituted in the tenth house, and there will remain the astronomical hour; or, in other words, *post meridian*, as in the nativity of Charles V. The given italic hour is $10^h\ 11'$; which place in the horoscope is 14° of ♍, on the back of which the time from noon is $4^h\ 29'$, to which add $10^h\ 11'$, and the sum is $14^h\ 40'$; which, when I find in the tables of houses, I take their divisions, &c. Again, I place the Sun in the medium cœli, and there I take $23^h\ 1'$, from which reject $14^h\ 40'$, first adding the 24^h (as we have said in Canon VI), there remain the astronomical hours $15^h\ 39'$ *post meridian.*

To place the planets in the figure, let the astronomical hour be equated; first, by the table of equation of natural days, then for the difference of meridians, in the manner they are noted. The places of the planets are very easily calculated to the equated hour, from the Sexagenary table, in this manner :—In the first column on the left hand, to the number 24, for 24 hours, look in the body of the table for the planet's motion; and, directly under the same column, at the given hour, you will have its motion, to be added to the place of the same, at noon; or to be subtracted, if the planet be retrograde, as in the example of Charles V. The diurnal motion of the Moon is 14° 39', which, opposite to the 24th number, I find, in the body of the table Sexagenary, under the 37th column; but because there they do not go so far as minutes, I take the proportional part, and I find it corresponds under 36° 37': with the 15th hour, under the 36° I take 9°; and, for the 37' from the difference which is there made, I add 9'; again, for the 39' of the given hour, I look under 37, and, at 39, in the common angle, I take 24' to be added, and this makes all the Moon's motion 9° 33', to be added to its place, calculated for noon; but as the ☽ is in 27° 12' of ♐, its place immerges to the given hour, 15ʰ 39' in 6° 45' of ♑. As for the other planets, when their motion exceeds 72', whereas in the Sexagenary table at 24, the greater number is 72, make use of half the diurnal motion of the planet, and the product of the given hour must be doubled: as the diurnal motion of ♀ is 75', I use half this number 37, and I find opposite 24, under the column 93; wherefore, opposite 15, under the same column, I take 24', which, doubled, make 48; or use the geminated hours, as 48, for 24'. In the body of the table, I find the motion of ♀ 75, under the column 94; but opposite 31, for the 15^h 39′, I take 48 or 49, as before. In like manner are the latitudes calculated, by reducing the parts to minutes, and looking on the sides for days, and in the body for the difference of latitudes, &c. As the latitude of ☿ to the 20th of February is 3° 16′, to the first day of March it is 2° 11′, the difference is 65′ for the 10 days; from which, for the 4 days, are produced 26, to be subtracted: but, because the Sexagenary table to number 10 is not extended above 30, I look for it at the triplicate of 10, which is 30, and I find 65 under 130; but, at the triplicate 4, *i. e.* 12 under 130, I find 26 as above: I look for 10 at the quadriplicate, which is 40, and I find it either under 97 or 98; for in the one it is deficient, in the other it exceeds in the minutes 20 seconds; and at the quadriplicate 4, *i. e.* 16 under either of the same columns, I find 26 as above. The *Part of Fortune* is placed according to the Moon's distance from the Sun. And you must observe, what rays the Moon has to the Sun, for the latter ought to have the same, and with the same excess or deficiency as the ⊕ to the horoscope. As the Moon is to the Sun, so is ⊕ to the horoscope; and as the Sun is to the horoscope, so is the Moon to the *Part of Fortune;* as in the nativity of Charles V, the Moon applies to the ultimate Sextile of the Sun, but with a deficiency of 7° 45′: I subtract the 7° 45′ from 5° 34′ of ♏, the ultimate Sextile to the horoscope, and the ⊕ is placed in 28° 9′ of ♎. But the partitions of the houses may also be made by the right and oblique ascensions to the polar elevations of the houses; first, you are to bring back the given hour to the degrees of the equator: if the given hour be *Italic*, add these degrees to the oblique ascension of the Sun's opposite place, and the sum will be the oblique ascension of the horoscope of the figure to be erected: if the given hour be astronomical to the Sun's right ascension, add the degrees to which you have reduced the astronomical hours, and the sum will be the right ascension of the medium cœli: the ascensions of the other houses are made by constantly adding 30° for the ascensions of every one of them; and from the tables of oblique ascensions, to the elevation of the houses, are had the degrees of the Zodiac, to be placed in these houses. Finally, directly under the horoscope, describe the latitude of the planets, the declination, horary times, right ascension, &c. Likewise, to every house, draw the Pole's elevation and oblique ascension, which you may do by adding 30 degrees to the right ascension of the *medium cœli;* for the eleventh, likewise add 30, and you will have the oblique ascension of the twelfth, and so for the rest. The elevation of the Poles of the houses is shewn in the proper table, and also in the tables of the houses.

Canon XI.

To convert Hours and Minutes of Time into Degrees and Minutes of the Equator; and, vice versa, *the Degrees and Minutes of the Equator into Hours and Minutes.*

This is too obvious to require any explanation.

CANON XII.

On the Circle of Position, or the Pole's Elevation of any Planet.

Under the circle of position, later authors are to be understood of the nature of that passing through the common sections of the horizon and meridian; and upon such circles they direct their moderators, and constitute the intervals of the houses. But how frivolous and remote from natural truth this opinion is, may be seen in my Celestial Philosophy, where it is largely and plainly demonstrated; but it is also contrary to the doctrine of the *Prince of Mathematicians*, PTOLEMY, who has transmitted to posterity this universal science, founded only on the most sublime principles of Philosophy, which, I think, innumerable examples fully prove. Those who refuse to follow him, doubtless proceed through confused ways, which have no claim to the least commendation whatever. I desire no other guides but Ptolemy and Reason. I have no idea of circles of position which are directed through the common sections of the horizon and meridian, but those that are described by the proportional distances of the stars towards the angles; and we may, by means of a very easy method, know the Pole's elevation upon the Ptolemaic circle of any star whatever. In the first place, let the quantity of the house be taken; which the star, whose polar elevation is sought for, measures by lustration. This quantity of the house may be had several ways: (1.) The horary conditionary times of that star, when doubled, produce the quantity of the starry house. (2.) The third part of the semi-diurnal arc of the star, is the measure of the house above the earth; of the semi-nocturnal, under the earth. (3.) The distance of a star from the preceding house, joined with the distance of the same star from the succedent, taking the distance as mentioned in Canon IX; I say, these distances, added together, produce the space or quantity of the house. I then let the difference of the Pole's elevation be taken, which is between the succedent and preceding houses, as before, between which the star is found by the table of the poles of houses; then let the distance of the star be taken, either from the succedent or preceding houses, as before mentioned. (4.) By the Golden Rule. *Quere*, If the whole quantity of the starry house give the polar difference between the succedent and preceding houses, what part of the difference will the distance of the star from either house give? Let the fourth number, which is the product, if the Pole's elevation be augmented by the house from which the distance of the star is taken, be added to the house's elevation; if diminished, subtracted; and the remainder or sum will be the polar elevation of that star, of which many examples follow in the nativity of Francis, the first King of France, Cardinal Salvatius, &c. Here we must be cautious, because the polar elevations of the houses are not increased or diminished uniformly; that is, for example, to the latitude of the country 45°, the polar elevation of the eleventh house is increased 18° 50′; the twelfth house is augmented 15° nearly, and the horoscope is increased 11°, so that you see they have no equal increase. When a star is about the mean distance from the centres of the preceding and succeeding houses, if any one desire to have a true polar elevation of that star, he ought to avoid this inequality; as, suppose the star to be in the middle distance from the *medium cœli* to the eleventh, where, by the golden rule, the pole increases 9° 25′, which is the half of 18° 50′, to which the eleventh house is elevated. A star in this case hath, in reality, a polar elevation greater than this half, and the reason is, because the difference of the polar elevation is always diminished from the *medium cœli* to the horoscope; and, therefore, in the tenth house, the polar elevation has a greater augmentation in the first moiety than in the latter. The difference of the Pole's of the houses are these, 11, 15, and 19: if we divide 11 into 5 and 6, but 15 into 7 and 8; lastly, 19 into 9 and 10, the division will appear very agreeable to reason, viz. into 5, 6, 7, 8, 9, and 10, which are the difference of the Pole's elevation in the middle of each of the houses; wherefore, to the given star placed in the middle distance from the culmination to the 11th, you will have the Pole's elevation 10. But the caution is only to be observed when a star stops about the mean distance from the cusps, where, first taking the proportional parts, by the golden rule, near one degree, as mentioned above, should afterwards be added or subtracted; but, when it remains about the cusps of the houses, it may be entirely neglected, as it makes but little difference.

CANON XIII.

The Distances of the Aspects both in the Zodiac and World, and the Degrees in them.

In the Zodiac the Sextile has 60°, the Quintile 72°, the Square 90°, the Trine 120°, the Sesquiquadrate 135°, the Biquintile 144°, and the Opposition 180°.

But because every ray is a circle, whose centre is the star projecting the ray, excepting the opposition, doubtless every ray cuts the whole latitude of the Zodiac; wherefore, whenever it happens that another star passes through that ray's section, whatever latitude the other star may have, it receives the ray, and mutually projects the same from that section to another star; and not only from the point of latitude which this star has there, but this manner of receiving and projecting the rays happens in the daily motion of the stars in the directions, progression, and all the motions of the stars; and indeed from the great difference of latitude of such stars as are mutually aspected, there follows some difference of the ray's longitude, but of a very few minutes, which may be omitted; however, those who wish for further investigation, may consult Regiomontanus and Maginus.

At the *medium cœli*, the stars have their SEXTILE from the cusp of the eighth and twelfth houses.

QUINTILE,

When their distance from it is four of the five parts of the semi-diurnal arc, or six parts of five of the ✱.

QUADRATE,

From the eastern and western points, that is, from the ascendant and seventh.

TRINE,

From the centre of the second and sixth houses.

SESQUIQUADRATE,

From the mean distance between the east and the *imum cæli,* and between this and the west.

BIQUINTILE,

When their distance from the *imum cœli* is two of the five parts of the semi-nocturnal arc, or three of the five parts from east to west below the earth.

OPPOSITION,

From the *imum cœli.*

At the horoscope, the stars have the sextile from the cusp of the eleventh and third houses.

QUINTILE,

When the distance from the east is four of the five parts of the semi-diurnal arc, or nocturnal; or in other words, when they are distant one part out of five of the above arc from the *medium cœli,* or *imum cœli,* towards the east.

QUADRATE,

At the *Medium* and *Imum Cœli.*

TRINE,

From the cusp of the ninth and fifth.

SESQUIQUADRATE,

From the middle distance between the *medium cœli* and west, and between the west and *imum cœli.*

BIQUINTILE,

When the distance is two out of five parts from the west above and below the earth. To the Sun and Moon existing in the cusp of any house, the rest of the planets have their rays in the world in like manner as towards the angles; that is, if they abide in the cusp of the ninth house, they have

The SEXTILE,

From the cusp of the eleventh and west.

QUINTILE,

When the distance from the luminary is beyond the Sextile a fifth part, from a double gemination of the horary times, and diurnal if a star remains above the earth; nocturnal, if below; for the Quintile has twelve parts more than the *, which are the fifth part of it.

QUADRATE,

From the cusp of the twelfth and sixth houses.

TRINE,

From the east and cusp of the fifth.

SESQUIQUADRATE,

When their distance beyond the Trine is one change in the horary times, in like manner conditionary, *i. e.* nocturnal; I may say, when their distance beyond the Quadrate is the half of the semi-nocturnal arc, because both the Sesquiquadrates to the cusp of the ninth house fall below the earth.

BIQUINTILE,

When they are distant beyond the Trine twice the fifth part of the nocturnal Sextile, *i. e.* when taken below the earth, or when their distance from the opposition of the luminary is two of the five parts of the semi-nocturnal arc; and in like manner, in whatever other place they are found, whether luminaries, or any other star, the rays in the world are taken by a proportional division of the semi-nocturnal and diurnal arc.

PARALLELS *in the* ZODIAC,

Which are commonly called antiscions, are circles equidistant from the equator, and are taken from the equal declination of the stars of what latitude soever, which, if it be of the same name, are called equal in dignty; if one circle be northern, the other southern, the former is said to be of authority, but the latter in subjection.

PARALLELS *in the* WORLD,

Are distances equally proportional from one of the cardinal houses in both distances; though, indeed, they appear to have distances equally proportionate to all the cardinals; as the eleventh with the ninth and third; and they are taken by a proportion of the semi-diurnal and nocturnal arcs of the stars.

CANON XIV,

Contains the use of the Sexagenary table, to find the part proportional, and is shewn by examples in other parts of this work, to which we refer the reader.

CANON XV.

*The Use of the Logarithms**.

We have placed the logarithms of absolute numbers, because in that manner of Ptolemean direction, which we

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* N. B. Instead of the common logarithms, use Dr. Maskelyne's Proportional Logarithms.

follow, they are of very great service in exhibiting the fourth proportional number; therefore the three numbers being given, whether of parts or hours, if they are minutes, let each of them be reduced to minutes, adding them as they are disposed in their places; then take the logarithms of the 2d and 3d number, add them together; from this sum subtract the logarithm of the first, and look for the remainder in the middle of the table; opposite to which, take the number for the fourth required, which divide by 60, and with the remainder you will have parts or hours with their minutes. For example; let the numbers be given, the first 95° 25′, the second 35° 45′, the third 100° 15′, reduced to minutes are 5725′—2145′—6615′; the logarithm of the first 3.75778, of the second 3.33143, of the third 3.82053. I add the second and third together, and I make the sum 7.15196, from which I subtract the first, and there remains the logarithm 3.39418, answering to the number 2478, which, reduced to degrees, makes 41° 18′, the fourth number required. But because the logarithm consists of eight figures, the six first of these are sufficient for this purpose, and it seemed not good to rescind the rest, by reason of other advantages resulting from them, you may only make use of the six first, provided you think proper, for it is of little use or consequence; but if the seventh figure be five or greater, you should add unity to the sixth figure, which will be your last; and if the seven figures be 4, 3, 2, 1, 0, omit it entirely. In the given example of the first number 5725, the logarithm of eight figures is 3.7577755, I leave out the two last figures 55, and add the unit to the sixth, which make it 3.75778. Observe also, that the logarithms are easier collected by taking two figures for every change; thus first collect 37, then 57, lastly 78.

Canon XVI.

To equate the Arc of Direction.

Add the arc of direction to the right ascension of the natal Sun, look for this sum in the table of right ascensions under the ecliptic, and take the degree and minute of longitude corresponding with that sum: then in the best Ephemeris reckon in how many days and hours the Sun from the day and hour of birth, has arrived at that degree and minute. The number of days indicate as many years; every two hours over, reckon a month.—See examples in the following nativities.

PART II.

To calculate the Directions to the Aspects in the Zodiac.

I HAVE divided the Canons into four parts, for greater distinction and perspicuity, that I might not always repeat the same thing under any other title than that of Canons, that is, either in the Zodiac, or in Mundo; wherefore, in this SECOND PART, know, that I treat of the Directions to the Aspects in the Zodiac only; or, in other words, in the *primum mobile,* and of no other. But what the aspects in the *primum mobile* are, and what in the world, together with the cause of this true distinction, I have very plainly demonstrated, from natural principles, in my Celestial Philosophy; for the aspects in the *primum mobile,* which happen between the stars, are mutually independent of the horizon of the country, by reason of their motions in the same *primum mobile;* under which they are in the same situation in all countries and cities of the world, with the difference only of time and polar elevation. The aspects in the world are made dependent on the horizon of every country, because of the motion of the stars towards the world, and cardinal houses. But, as it may be disputed, whether it is proper to say, that the significator is directed to the promittors, and their rays, or the promittors and rays to the significator, know, there is a double motion of directions, direct and converse. I say, that in the direct direction the significator remains immoveable in the mundane situation, always under the same Pole's elevation, but advances under the same *primum mobile* from its more western parts, to the more eastern; the occourses, however, remain immoveable under the *primum mobile*, but are moved with a rapt and universal motion from the eastern quarter of the world to the more western, or the place of the significators. Again, I say, that in the converse motion of direction, the significator remains immoveable under the *primum mobile*, but is moved by an universal rapt motion from the eastern quarter of the world to the more western, towards the place of the promittors in the world; but the occourses remain always immoveable in their mundane situation, or polar elevation. It follows, therefore, that both may have a name, but with a distinction; and, I will say, indifferently, according as I should have occasion to mention them. Finally, as experience in every place ever convinces us, that besides the reason I have advanced in the Philosophy of the Heavens, the aspects of the star to the luminaries and cardinal houses, which happen every day after the nativity, have a very strong influence, viz, from every day to every year, whence, above the rest, are derived the climactrical years, as I shall shew afterwards; and it is likely that Ptolemy, in the last Chapter of Book IV, under the name of Annual Places, means the places of those motions. I thought proper to give these motions the name of Secondary Directions; but the others, which we are going to mention, to characterize under that of Primary Directions.

Canon XVII.

To direct the Sun, being near the Mid-heaven, to the Conjunctions, and all Rays.

The Sun is accounted near the cusp of the house when he is not more than 3° distant. First, take the Sun's right ascension, then that of the aspect, whether it be the conjunction or opposition, or any other intermediate ray, by always taking the right ascensions, and omitting the latitude in this case, even in the conjunction and opposition, if, however, the promittor hath not greater latitude than the orb of his light (for this is the difference between the zodiacal and mundane aspects; the former being caused by a greater proximity to the greater distance of the stars between each other, and upon their real way in the Zodiac, the greater proximity happening in the same partile longitude, though their distance and difference be according to latitude, if the distance of latitude in the conjunction and opposition, as I have said, be not greater than the sphere of activity of light of the stars; for if it be greater, the conjunction is not powerful, nor the opposition in the Zodiac, as I have demonstrated in the Celestial Philosophy). Lastly, subtract the Sun's right ascension from that of the aspects, and the remainder is the arc of direction. *Example:* In the nativity of George Aldobrandinus, the ☉'s right ascension is 215° 58', but the

A

right ascension of Venus, taken in the ecliptic, is 262° 8′, from which, subtracting the Sun's right ascension, there remains the arc of direction, 46° 10′.

Canon XVIII.

To direct the Sun, when found near the Cusp of the Horoscope, or Seventh House, to the Conjunctions, and all the Rays.

Take the Sun's oblique ascension, if in the ascendant, under the latitude of the country, or the descension, if in the seventh, or the oblique ascension of the opposite place; then the ascension or descension of the place of the aspect under the same Pole, leaving out the latitude in this case, provided that, in conjunction and opposition, the latitude of the planet does not exceed its orbs, as before mentioned, and take the Sun's oblique ascension from that of the ray, and the remainder is the arc of direction required.

Canon XIX.

To direct the Sun, when found above the Earth, far distant from the Cardinal Houses, to the Conjunction, and all the Rays.

If the Sun remains above the earth, and his distance from the cardinal house is more than 3° from the cusp, first take the Sun's right distance from the meridian; and from the same, the right distance of the aspect which the Sun is to be directed to, which call the primary, the semi-diurnal arc, and that of the aspect; and by the Golden rule say, if the Sun's semi-diurnal arc gives the right distance of the same, what distance will the semi-diurnal arc of the promittor, or occurrent place give: multiply the second and third, and the product divide by the first, which is the secondary distance of the aspect. Then, if both the primary and secondary distance of the aspect be from the same cardinal house, and in the same hemisphere of Heaven, ascendant or descendant, subtract the lesser from the greater, and the remainder is the arc of direction; but if one is in the ascendant, and the other in the descendant, add both distances together, and the sum is the arc of direction. You may take the semi-diurnal arc, both of the Sun and the aspect, either in hours or minutes, or degrees and minutes; or, instead of the semi-diurnal arc, you may use the temporal hours.

Example. In the nativity of Cardinal Fachenetti, I have a mind to direct the Sun to the quintile of Jupiter in the Zodiac, which happens in 19° 41′ ♈, the right ascension of the medium cœli being 326° 26′.

	h.	m.		h.	m.
Semi-diur. arc of ☉	6	0	Semi-diurn. arc of 19° 41′ ♈	6	30
Right ascension .	0	8	Right ascension	18	9
Dist. *a medium cœli*	33	42	Primary distance . . .	51	43 from *medium cœli*.

Now, by the Golden rule, if the Sun's semi-diurnal arc, viz. 6h, give its distance from the *medium cœli* 33° 42′, what will the semi-diurnal arc of ♈, 19° 41′, viz. 6h 30′ give? *Answer*, 36° 30′,* which is the secondary distance of the aspect's place. But because both the primary and secondary distances are produced in the ascending part of heaven, I subtract the second-

* See Appendix, Use of the Proportional Logarithms.

ary distance from the primary, and the remainder is the arc of direction. Thus,

Primary distance at *medium cæli* is . . .	51°	48′
Secondary distance, ...	36	30
Subtract and arc, =	15	18

For the equation, I add the arc of direction to the Sun's right ascension; and I make the sum 15° 21′, which answers to 16° 40′ ♈, to which the Sun, from the day and hour of the nativity, arrives in 16 days, and some hours, which are the compass of so many years.

Another way.—To direct the Sun by the oblique ascension, under his Pole of position, take the Pole's elevation, in the manner explained in Canon XII, and the oblique ascension of the Sun, and of the aspect, and subtract the oblique ascension of the one from the other, &c. of which more examples will be given; we having laid down a table of the Pole's elevation of the eleventh, twelfth, second, and third houses, for the latitude of the country, to 60°: also, in the tables of the houses, there is placed, above every house, its polar elevation.

Canon XX.

To direct the Sun, when found below the Earth, in the Space of the Crepuscule, to the Conjunctions and Rays.

The reason why the Sun, when found in the crepuscular space, should be directed upon the circles parallel to the horizon, and not upon the horary circles, as when the Sun is above the Earth, has been given in the Theses, and demonstrated in the clearest manner in the

Celestial Philosophy; but now attend to what pertains to the practice of calculation. If the Sun is found in the morning crepuscule, first direct the Sun to the degree of the aspect, under the latitude of the country, that is, to the elevation of your pole, though indeed the Sun does not remain there, but below, and in a separate place. You must observe the arc of direction, and then take the Sun's distance from the horoscope, by its oblique ascension, which call the Sun's primary distance; and observe, that if this distance be greater than the whole quantity of the crepusculine to the parallel of depression, 18°, the Sun is not in the crepusculines; and, in this case, you are to calculate by the following Canon. But if the Sun is in the space of the crepuscules, with the Sun's distance, from the horoscope, above taken, enter the table of crepuscules at your Pole's elevation, placed in your first column; and with the Sun's sign, and degree, according as they are placed, in the beginning or end; and when, in the body of the table, you have found this distance of the Sun from the east on the back of the same opposite to it, you are to observe what degree of the crepusculine parallels the Sun possesses, viz. in the second column, by taking the part proportionate only to the Sun's degree of longitude, as I shall mention afterwards; and under the same parallel see what the distance of the place or occurrent degree is, by direction; that is, what the Sun's distance is from the horoscope, in the same crepusculine parallel, after the direction is finished; and this distance I call the secondary; and if the primary and secondary distances are equal, the true arc is that which you have calculated above, viz. the Sun's arc in the horoscope; but if they are unequal, subtract the lesser from the greater, and the remainder call the ortive difference. Lastly, if the secondary distance be less, and the primary greater, add that remainder, or ortive difference, to the Sun's arc of direction, calculated in the horoscope; but, if the secondary distance be greater, and the primary less, subtract the ortive difference from the arc of direction, and you will have in the remainder the true arc of direction calculated in the crespusculine circle, which is to be equated the usual way, as in Canon XVI. And observe, that in seeking for the Sun's primary distance from the horoscope in the tables of the crepusculine, it is sufficient to take the part proportional to the degree of the Sun's place, which is found at the degree of the crepusculine, or parallel's depression; opposite to which you will find the distance which you have taken, with the proportional part near it, omitting that primary one of the natural Sun; for it is of no consequence to take the degree and minute of the crepusculine depression; but it is enough if you take the integral degree nearest the Sun's longitude distance, taken with the proportional part. For example; In John Duke Rainutius Farnese, the Sun's distance from the horoscope is 18° 56′, to the latitude of the country 44°; opposite to 13° of the depression, under 10° of ♈, the distance is 18° 32′, under 20° of ♈ the distance is 19° 1′, the difference is 29′, from which, for the 6° (for the Sun is in 16° of ♈) 17′ are due, which, when added together, the distance is 18° 49′, but the Sun's distance 18° 56′; yet this is nothing to the purpose, as the distance is but small, therefore make use of the former 18° 49′, without any regard to that of the Sun, 18° 56′. To the same depression of the crepusculine 13°, under 0° 0′ of ♋, the place of the quartile of Mars, I take the secondary distance, 24° 45′, from which I subtract the Sun's distance obtained after taking the part proportional, which is 18° 49′; and I suppose that the Sun in the nativity might have this distance from the horoscope, that I may place it under the crepusculine circle 13° exactly. But if you are desirous to have the crepusculine circle in minutes, take the proportional part; but it would be attended with greater trouble than advantage; for you will find the difference in the ascensions almost imperceptible, and not greater than that which arises from the difference of some minutes of the pole's elevation of the circle of position, in which all professors entirely omit the minutes. Wherefore, when you have occasion to use the ortive difference, do as already mentioned, &c. of which examples follow in Gustavus King of Sweden, Odoardus Cardinal Farnese, Rainutius, of whom we have just now spoken, and John Columna, which are given by Argol. Had I met with more examples of other authors, relating to this point, I would have undertaken to give you a thorough examination. I alledge nothing of my own observations, lest they should be rejected as spurious and false; but from these four, and all examples that Argol gives of this nature, I think, that to any one diligent in searching into the truth of things, my opinion on this subject will appear highly satisfactory. But if, again, the Sun possesses the evening twilight, the same method entirely is to be observed, except only changing the manner. Let the Sun's direction be to the place of the aspect, by the oblique descension, or the oblique ascension of the opposite places under the Pole of the country; then let the Sun's distance be taken from the west, by the same descensions or opposite ascensions; let this distance be required in the table of twilight, which, if it be greater than the whole quantity of the crepusculine to the inferior parallels, 18°, the Sun is no longer in the crepusculine; and then we must make use of the following Canon. Lastly, let the secondary distance under the same crepusculine circle be taken, namely, of the occurrent place, and let the lesser be subtracted from the greater, and the remainder added to the arc of direction found above, if the secondary distance be greater than the primary; but let it be subtracted, if less (that is, in a manner contrary from that we spoke of above); and the sum or remainder is the true arc of the direction.

Canon XXI.

To direct the Sun when found in the Space of the obscure Arcs to the Conjunctions and other Aspects.

When the Sun is under the Earth, and distant from the horizon, either eastern or western, more than the whole Crepuscular Arc, it is then in the obscure arc. First, take the Sun's semi-nocturnal arc, from which subtract the whole crepusculine arc, which you will have at the inferior parallel 18°; and the remainder is the obscure arc, which you must observe in a separate place; then take the semi-nocturnal arc of the place of the occourse, from which subtract the whole arc of crepusculine, that is, that which is found there by the Sun; and this you will have, under the degree of the occurrent place to the inferior parallel, 18°, and there will remain the obscure arc of this place of the occourse. Thirdly, take the Sun's right distance from the *imum cœli*. Lastly, by the rule of proportion, say, if the obscure arc of the Sun gives his distance from the *imum cœli*, what distance will the obscure arc of the occurrent place give? and you will know the secondary distance of the place of the occourse, and you must proceed to the end in the same manner as set forth in Canon XIX, as if the obscure arc were semi-diurnal or semi-nocturnal.

Suppose the Sun to be in 29° 31′ of ♑, as in the fourth example produced by Argol in his first edition of Critical Days; if ♃ be in 3° 21′ of ♎, with 1 40′ north latitude, as it is placed in the more correct tables; in the *imum cœli*, 24° of ♐, whose right ascension is 263° 28′; but as ♃'s declination is 0° 12′ north, t happens that its parallel of declination falls in 29° 30′ of ♓ in the ecliptic, to which the Sun moves by direction.

Of the ☉.	h.	m.
From the semi-nocturnal arc	7	23
Arc of the crepuscular, take	1	48
Arc which remains obscure	5	35
Right ascension	301	42
Distance from the *imum cœli*	38	14

Of the Part 29° 30′ of ♓.

	h.	m.
Semi-nocturnal arc	6	0
Crepusculine arc	1	42
The obscure arc	4	18
Right ascension	359	33
Primary distance from the *imum cœli* . .	96	5

Now, by the golden rule, if the Sun's obscure arc, 5h 35′, gives its distance from the *imum cœli*, 38° 14′, the obscure arc of the aspect gives its secondary distance from the *imum cœli* 29° 26′, which, subtracted from the primary, as both that and the secondary distance of the aspect or place are from the same cardinal house and descendant hemisphere, leaves the arc of direction 66° 39′. Then for the equation, add this to the Sun's right ascension, and it makes the aggregate 368° 21′; from which, subtracting the integer circle 360, there remains 8° 21′, which answers to 9 of ♈, at which the Sun, from the hour of the nativity, arrives in 67 days, comprehending so many years of age, at which time the native shewed himself capable of discharging the highest honours, and accordingly was raised to them; the rays meeting in the place of direction, are the quintile of Venus, and the sextile of the Sun, proper. See another example of *Card. Salviatis*, explained further on to the 47th year, wherein is a calculation of the Sun's direction to the parallel of Jupiter's declination. You may likewise perform these calculations by logistical logarithms. These two examples serve also for the subsequent Canon, and are a convincing proof that I am right in my opinion. See other examples calculated in Charles V, Francis I, King of France, and others.

Canon XXII.

To direct the Sun, wherever found, to the Parallels.

It was thought proper to call those parallels, which are commonly called antiscions, it being necessary to preserve the latitude of the planets in taking them. And, as I have said, those stars only are alternately in the antiscions which describe the same parallel or parallels, as Ptolemy says; that is, those which have the same declination, both in number and name, are called primary antiscions; or only in number, which are places of authority, and subjection; wherefore, if you want to direct the Sun to the parallels of a planet, first take their declination, by observing their latitude, then take the degree and minute of the ecliptic answering to the same declination. Now when the ☉, by the motion of direction, arrives at the same declination, or degree, and minute of the ecliptic, it will be said to have reached the parallel or antiscions of those stars; take, therefore, the right or oblique ascension of that degree and minute of the ecliptic, the semi-diurnal or nocturnal arc, the horary times, and every thing else, according as the situation of the Sun requires. See the example in the former Canon.

Canon XXIII.

To direct the Significator, wherever it is found, accompanied with Latitude, to the Conjunction and Rays.

As the Sun, whilst he is moved in a right direction, advances on his real way, which is the ecliptic, even so the other moderators, whose motion is latitudinal, whilst they are moved by direction, advance upon their true and real way, which is that of their successive latitude; I say, successive latitude, by reason that it is not always the same as in the nativity, or in the beginning of the direction's motion, but is changed according as such pro-prorogators vary the distance from their nodes, as has been observed; then, as the conjunction in the Zodiac happens when the stars are in the same longitude and become alternately nearer, and the opposition in the greater alternate distance, not omitting their latitude, when it happens to be great; consequently the directions of the prorogators moving latitudinally to the conjunctions and rays in the Zodiac, upon their true and real latitudinal ways, should be calculated, omitting the latitude of the occourses, either through the conjunctions or rays. But the ways of directing differ in nothing from the abovementioned, except that, what has been said of the Sun, constituted below the Earth, is omitted in the other prorogators; for, having found the direction's place, according to longitude and latitude, that is, according to the latitude of the significator in the direction's place, in proportion to the distance there from their nodes, take the right or oblique ascension of that place, the semi-diurnal or semi-nocturnal arc, the horary times, right distance, &c. always in the same manner, both above and below the earth; of which mention has been made. See examples in Charles V, Henry IV, &c. &c.

Canon XXIV.

To direct the Significator with Latitude, wherever it is found, to the Parallels of Declination.

First find the declination of the star, to whose parallel the significator is said to be carried; then in the body of the table of declination, look up or down according to the order of degrees and signs from the significator's place, changing also the latitude in the same manner as the significator varies in his motion, till you come to the declination of the promittor or star found as above; and when you have obtained it, take the right ascension or oblique ascension of that place according to its latitude and longitude, &c. and you will have every thing entirely in the same manner as before explained. You have examples in Sebastian King of Portugal, Ferdinand Gonzagius, Cardinal Salviata, Zachia, Verospus, Spinelli, and others. See likewise the seven nativities, which, for my own purpose, I lately extracted out of Maginus; in all which, by an exact calculation, you will find that the true prorogator of life, when chosen as the doctrine of Ptolemy teaches, arrived at such a parallel of declination, at the time of death. You will know whether the prorogator may fall on the parallels of declination of the stars, by observing the following rule: If the prorogator leaves the tropics, so as to lessen his declination, he will fall on the parallels of those stars, whose declination is less than his; and if it departs from the equinoctial, on the parallels of greater declination.

Canon XXV.

To direct the Significators to their own proper Rays in the Zodiac.

First mark out the proper ray of the significator longitudinally in the ecliptic, if it be the Sun, or latitudinally if the Moon, preserving that latitude which it hath in the place of the ray, according to its distance there from its nodes; then take the right or oblique ascension of the aspect, longitudinally and latitudinally; and work according to the foregoing rule. See an example in Charles V. Meanwhile, observe that the angles are not directed to the planetary rays in the Zodiac; neither to the parallels, nor the proper rays, for they receive only the rays of the stars taken in the world. These we shall mention in the following Part.

PART III.

To calculate the Directions to the Aspects in the World.

ASPECTS in the world are proportional distances acquired by motion round the world; for every star, after leaving the east, when its distance is the third part of its diurnal arc, is in the ✱ to the east, when the half part is in the quadrate; when two third parts is in the △, when the whole diurnal arc is in the ☍, for it is in the west; therefore the first house has the ✱ with the eleventh and third houses, quadrate with the tenth and fourth, △ with the ninth and fifth. The second house has its ✱ with the twelfth and fourth, its quadrate with the eleventh and fifth, its △ with the tenth and sixth. The third house hath its ✱ with the first and fifth, its quadrate with the twelfth and sixth, its trine with the eleventh and seventh.

And thus the houses, always in the same manner, through the diurnal and nocturnal arcs, differ between each other. The stars also have their mutual aspects alternately from those houses, with such rays as are taken in the world, whatever may be their latitude or declination. Farther, as those houses have no real existence, and no distinction, or are proper by nature, force, or limits, but from the stars; so that if they had no existence, and did not move round the world, there could be no place in the heavens for the houses or their partitions, as I have fully demonstrated in the Celestial Philosophy. Now, the houses are not alternately aspected, with respect to one another; but it is the stars that aspect, constitute, and are the measure of the houses; and for this reason they mutually and alternately aspect each other from those houses; and to these and the cardinal signs they direct their aspects. But in the partition of the houses by the duplicate horary times, or, according to Ptolemy, by the two temporal hours, no respect is had to the ecliptic, just as if there was no ecliptic in the heavens; but we respect always the diurnal and nocturnal arcs of the stars. And it follows, that even the aspects of the stars to the houses, and *vice versa*, from the houses, which I thought fit to call mundane, have no respect to the ecliptic, but to the diurnal and nocturnal arc of every single star, or to their motion round the world. All this, if rightly understood, will render every calculation in this Third Part perfectly easy.

Canon XXVI.

To direct the Cardinal Signs to the Conjunctions and Opposition.

If you direct the right cardinal sign, take its right ascension from that of the occurrent star, preserving its latitude, and the remainder is the arc of direction required. In like manner to the opposition, keeping to the contrary latitude. If you direct the cardinal sign of the ascendant, take its oblique ascension from that of the occurrent star, carrying the oblique ascension of both to the latitude of the country, but always preserving the latitude of the occurrent star, the remainder will be the arc of direction required. To the ☍ use the ascensions of the opposite places. The ascendant may be directed to the stars without the oblique ascension; for if you subtract the semi-diurnal arc from the star's right ascension, and from the remainder take the right ascension of the *medium cœli*, what remains is the arc of direction required. Or, if you subtract the star's primary distance, that is, betwixt it and the *imum cœli*, from its semi-nocturnal arc, the remainder is the arc of direction. But if the star has not reached the *imum cœli*, add its primary distance from the *imum cœli* to its semi-nocturnal arc, and the sum will be the arc of direction.

These calculations are easy, and need no example; and from what will be said afterwards, they will still be easier. To the fixed stars, in like manner, by the ascensions, &c. by taking their oblique ascension, with the help of the ascensional difference, if their latitude be extensive.

Canon XXVII.

To direct the Medium Cœli to the Sextile, Quartile, and Trine.

Now, it is plain from what has been said, that the intermediate rays to the angles are taken by dividing the semi-nocturnal or semi-diurnal arc into three equal parts; or, which is the same, by doubling the horary times of the aspecting stars, by which is known the space of the houses, as to longitude, what the measure in degrees and stay of those stars in their motions round the world is. When this is known, it is very easy to calculate the directions of the angles to the intermediate rays of the stars; for the sextile is the distance of two houses, the square three, the trine four; and these are called secondary distances. So, if you want the ✱ to the *medium cœli*, which begins from the eighth house, add two diurnal houses, that is, the stars diurnal horary times twice doubled to the right ascension of the star. If you want the other Sextile, which is produced by the 12th house, subtract, in the same manner, the two diurnal houses from the right ascension, and from the sum or remainder take the right ascension of the *medium cœli*, and it will give the arc of direction. But if you seek for the Trine, which originates from the sixth house, subtract two nocturnal houses from the star's right ascension: if you seek for the other Trine, which comes from the second house, add the two nocturnal houses to the star's right ascension, and from the remainder or sum subtract the right ascension of the *imum cœli*, the remainder will be the arc of direction of the *medium cœli* to the △ and *imum cœli* to ✱ of the star. Lastly, if you want the arc of direction to the square, direct the star to the horizon, as above mentioned. But if you have already the primary distance of the star from the *medium cœli*, if the star is in the ascending part of heaven, subtract the secondary of the sextile from the primary of the star from the *medium cœli*, and you will have the arc of direction of ✱ to the *medium cœli*; subtract that star's primary distance from the *imum cœli* from the sextile's secondary, and you will have the arc of direction to the trine of the *medium cœli*. But if the star is in the descending part of heaven, subtract its primary distance from the *medium cœli* from that of the sextile's secondary, and you will have the arc of direction to the sextile. Subtract the secondary of the sextile to the *imum cœli* from the stars primary distance, and you will have the arc of direction of the trine. But if the star passes from the ascendant to the descendant part of heaven, or on the contrary, add both distances together, and you will have the arc of direction.

Note. The △ ray to the *medium cœli* is the ✱ to the *imum cœli*, and the ✱ to the *medium cœli* is the △ to the *imum cœli*. Lastly, the rays to the angles are easily calculated by the oblique ascension of every house; for after taking the star's oblique ascension, under the pole of that house, from which it emits the ray to the *medium cœli*, and taking the oblique ascension of the house from that of the star, there will remain the arc of direction required. But if the star goes to project the ray to the descending part of heaven, use the oblique ascension of the opposite place, and this method is of use also in the following Canon, and is, of all, the most expeditious.

Canon XXVIII.

To direct the Oblique Cardinal Sign to the Sextile, Quartile, and Trine.

If you require the rays to the horoscope, which are projected from supra-terraneous places, divide the semi-diurnal arc of the aspecting star into three equal parts, or into two diurnal horary times, and you will have the spaces of the houses that are above the earth. If you add two of these to the star's oblique ascension, taken in the horoscope, and from the sum subtract the horoscope's oblique ascension, what remains is the horoscope's arc of direction to the sextile of the star, produced from the eleventh house; but if you add four houses, and from the sum subtract the horoscope's oblique ascension, you will have the arc of direction to the trine which is caused by the ninth house.

Another way.—Subtract one house from the star's right ascension, and from the remainder take the right ascension of the *medium cæli*, and there will remain the direction's arc to the sextile; add one house to the star's right ascension; from the sum subtract that of the *medium cæli*, and you will have the direction's arc to the trine, that is, to the horoscope.

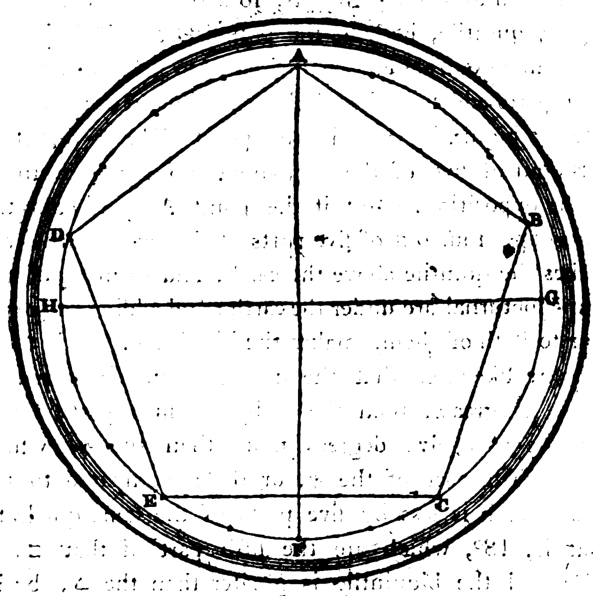
But if you are desirous to find the rays that are emitted from subterraneous places, divide the star's semi-nocturnal arc into three equal parts, or its double nocturnal horary times, and you will have the space of the houses that are below the earth; of these, for the sextile, which proceeds from the third house, by subtracting two; and for the trine, which is produced from the fifth, by subtracting four from the star's oblique ascension taken in the horoscope; and if from the remainders you subtract the horoscope's oblique ascension, you will have the arcs of direction to the sextile and trine. You may also use the *imum cæli* by the right ascension, as has been said of the *medium cæli*. Quadrate rays are produced by the *medium cæli* and the *imum cæli*; therefore, for these, direct the stars to the *medium* and *imum cæli*, as has been said in Canon XXVI. Let there be an example for both Canons, under the Pole's elevation 45°, the ascendant 13° 30′ of ♑. In the *medium cœli*, let us suppose 12° 0′ of ♏, whose right ascension 219° 33′, the horoscope's oblique ascension 309° 33′. Let the Sun be in 1° 0′ of ♑, within the twelfth house, the Sun's right ascension 271° 5′, the oblique ascension to the Pole 45°, is 296° 51′; the diurnal horary times 10° 42′, which, being doubled, constitutes the diurnal house, or the third part of the Sun's semi-diurnal arc 21° 24′. If I want to direct the horoscope to the sextile of the Sun, I add to the oblique ascension the Sun's horary times, twice doubled, which makes 339° 39′. From which I subtract the horoscope's oblique ascension, and there remains the arc of direction 30° 6′. And observe, that the arc of direction consists of 8° 44′ preceding the direction, and likewise of the Sun's duplicate horary times; that is, of one house, or 21.24. Wherefore, from the bare adding of this one house to the computed direction of the sextile to the *medium cœli*, there arises the arc of direction of the horoscope to ✱ of ☉.

I want to direct the horoscope to the □ of the Sun: I subtract the right ascension of the *medium cœli* from that of the Sun, and there remains the arc of direction, 51.32; or to the sextile's arc of direction 30.6, above calculated. I add the ☉'s duplicate diurnal horary times 21.24, and the arc of direction is 51.30. In like manner, if to this I add the duplicate, horary times, I make the arc of direction to the trine of the horoscope, 72.54. Again, if I add to this the geminated horary times, the direction's arc of the *medium cœli*, to the Sun's sextile, will be 94.18, and so in all of them. Under the earth, we must make use of the nocturnal horary times, and the semi-nocturnal arc; but the direction both of the cardinal signs and houses to the rays of the sextile, quartile, and trine, are calculated (in a manner much easier than any of the afore-mentioned) by the oblique ascension of those houses from which the stars project the rays, as is before recited, and as may be seen in the former Canon. This Canon needs no other example, nevertheless you will meet with several in the sequel.

Canon XXIX.

To direct the Cardinal Signs to the Rays of the Quintile, Sesqui-quadrate, and Biquintile.

Beside the usual rays of the ⚹, □, △, and ☍, I only suppose the quintile, sesqui-quadrate, and biquintile, to be powerful, as experience evinces from the symmetrical concerts of sound, from which the very excellent Kepler, in a most exquisite manner of resemblance, collects the rays of the stars in the heavens. Whatever may be the opinion of others, with regard to the semi-sextile, semi-quadrate, and several others, to which it seems quite absurd to assign any efficacy (with this one exception), I confess, that in the semi-quadrate's distance, sounds begin to arrive at a degree of harmony, but altogether imperfect; to this, therefore, some portion of efficacy may be attributed; and, on this principle, I think that neither the Sun nor Moon become the prorogators of life, except they be semi-quadrate distance from the horoscope, or half of their semi-diurnal arc above it. We may easily calculate the sesqui-quadrate ray to the cardinal signs, for it consists of the quarter of the world, and half of another quarter; or, of the semi-diurnal or nocturnal arc; and, also, of half of the same, or another, so that the stars have this ray to the *medium cœli*, and the east, in the mean distance between the west and *imum cœli*; to the *medium cœli* and west, in the mean distance from the *imum cœli* to the east; to the west and *imum cœli*, in the middle distance between the east and the *medium cœli*, to the *imum* and east; in the middle distance between the *medium cœli* and the west. For the calculation, divide the semi-diurnal arc into two equal parts; or, as occasion requires, the semi-nocturnal arc of the star, and this half part is the secondary distance from both the cardinal signs, as before mentioned.—In the example of the former Canon, the Sun forms the sesquiquadrate to the west, and to the *imum cœli*: when it is the mean distance between the east and *medium cœli*, the Sun's semi-diurnal arc is 64.12, the half of which is 32.6; wherefore I subtract this secondary distance from the primary, which is betwixt it and the *medium cœli*, being 51.32, and there remains the arc of direction 19.26. But as this secondary distance, as well from the preceding as the succedent cardinal house, is the same, the Sun's primary distance from the east is 12.40. I subtract this from the secondary, and the remainder is the same arc of direction, 19.26. Likewise, half the same semi-diurnal arc consists of the triplicate horary times; wherefore, if we add the Sun's horary times to its distance from the twelfth house, which was the arc of direction of the *medium cœli* to the Sun's ✱, that is, 8° 44′, the Sun's horary times are 10° 42′; the sum is the arc of direction 19° 26′. You see, therefore, there are several ways of directing the angles to the aspects of the stars; but to calculate the rays quintile and biquintile with ease and exactness, we must understand the following Pentagonal figure,



wherein the point A may represent any cardinal sign of the world, or any other significator to be directed to the quintile and biquintile; the points F, G, H, are the other three cardinal signs; B is the end of the quintile, C of the biquintile, D the point of another quintile, E of another biquintile, and F of the opposition; the four lines AG, CF, FH, HA, are the quadrates or quarters of the world, or arcs, which are effected by the stars in those quarters, and are semi-diurnal or semi-nocturnal, which may be various in quantity, according to the variety of the declination of the stars, and altitude of the pole. If the point A may be said to be the *medium cœli*, divide the semi-diurnal arc of the aspecting star into five equal parts, four of which constitute the ray quintile, both in the points D and B: also let the semi-nocturnal arc be divided into five equal parts; three parts added to the whole semi-diurnal arc, constitute the biquintile rays in the point EC; so that two parts out of five of the semi-nocturnal arc are wanting to the opposition. But if the point A represents the horoscope, four out of five parts of the semi-diurnal arc makes the quintile above the earth, and so many of the semi-nocturnal arc under the earth; and adding the other four to both of them, makes the biquintile. It is to be known, likewise, that the quintile ray, compared to the ✱, is greater than the ✱ by its fifth part; for it consists of twelve degrees more than the ✱, which is the fifth part of the ✱, or 60°; compared to the quadrate, it is less by five parts of the same quadrate, that is, 18°, which are the fifth part of that □, or 90°; and the biquintile is greater than the △, by its fifth part, viz. 24°, which are the fifth part of the trigon or 120°, but is less than the ☍ by five parts, that is, 36° of the ☍, viz. 180°, or three parts out of five of the ✱, that is, made at the ☍; from these it is inferred that there are two ways very easy to calculate the directions of these rays.

The first is, by adding the quintile's distance to the ascension of the aspecting star, if it precedes the cardinal sign that is directed; or by subtracting, if it follows; and from the sum or remainder, subtracting the cardinal ascension, for the remainder is the arc of direction required.

Let there be an example of the Quintile.

We have said, in the above given example, the Sun's oblique ascension is 296° 51′, that is, to the latitude of the country; the semi-diurnal arc 64° 12′, the fifth part of which is 12° 50′; which taken from the whole semi-diurnal arc, leaves four of the five parts of that semi-diurnal arc, viz. 51° 22′. I add these to the Sun's oblique ascension taken in the horoscope, as it precedes it; and I make the aggregate 348° 13′, from which I subtract the horoscope's oblique ascension, and there remains the arc of direction 38° 40′, viz. the quintile of Sol to the horoscope. Or I subtract 51° 22′ from the Sun's right ascension, which is 271° 5′, by reason it succeeds the *medium cæli*, and the remainder is 219° 43′; from these subtracting the right ascension of the *medium cæli*, which is 219° 33′, leaves the arc of direction of the *medium cæli* to the Sun's quintile 0° 10′; or I subtract the quintile's secondary distance, which is 51° 22′, from the Sun's primary distance from the *medium cæli*, which is 51° 32′, and there remains the same arc of direction 0° 10′.

Of the biquintile, care must be taken that if we want to subtract the distance of this ray, which consists of eight parts out of ten of the whole diurnal or nocturnal arc, when to those rays we direct either the *medium* or *imum cœli*; instead of these five parts, we must take the whole semi-diurnal or nocturnal arc of the aspecting star of the other hemisphere; the other three of the same hemisphere in which the star remains; but of the biquintile, let us reject this method. The easier way, which also serves for all these rays, whenever the significators, as we call them, are found out of the cardinal signs, is this:

When you have found the arc of direction, either to the sextile, quartile, or opposition, by only adding or subtracting the proportional parts, by which the quintile, sesqui-quadrate, and biquintile, are greater or less than the other ray, we shall obtain the arc of direction; for, if you have the arc of direction to the ✱, and want the same to the quintile, add, if the quintile be subsequent, or subtract if it precedes the fifth part of the sextile to or from its arc of direction, and the remainder or aggregate is the arc of direction required. But, remember the ✱ consists of the diurnal horary times, four times computed, if the aspecting star be above the earth; of the nocturnal, if below. Or if you have the arc of direction to the quartile, for the quintile add, if it succeed; or subtract, if the quintile precede the fifth part of the quadrate, to or from that quartile's arc of direction.

If you have the arc of direction to the trine, and want that of the sesqui-quadrate, add, if this follows, or subtract, if it precedes, the horary times of the aspecting star, by which the sesqui-quadrate is greater than the trine. When I say horary times, understand diurnal, if the aspecting star be above the earth, and nocturnal if below.

If you require the direction's arc to the biquintile, and have already the arc of direction to the trine, multiply four times the diurnal horary times of the aspecting star, if it be above the earth; the nocturnal, if under the earth; and, from the product, take two of the five parts, which add, if the biquintile succeeds the trine; but, if it precedes, subtract from the trine's arc of direction, and the remainder or sum is the arc of direction to the biquintile; but if you have the direction's arc to the opposition, take two of the five parts of the star's semi-diurnal arc, if it is above the earth; or semi-nocturnal, if below; and if the biquintile succeeds the opposition, add to the same direction's arc; but, if it precedes, subtract these two parts, and the remainder, or sum, is the arc of direction to the biquintile. As in the example of the former Canon, the arc of direction of the *medium cœli* to the Sun's sextile is 8° 44′, the Sun's diurnal horary times, as being above the Earth, are 10° 44′; four times computed makes the sextile's quantity 42° 48′, whose fifth part is 8° 34′; I therefore take 8° 34′ from the sextile's arc of direction, for the quintile to the *medium cœli*, because it precedes the sextile, and there remains the arc of direction to the Sun's quintile 0° 10′. The direction of the *imum cœli* to the Sun's sesqui-quadrate (as it follows the trine), is had by adding the Sun's diurnal horary times 10° 42′, to the arc of direction of the *medium cœli* to its ✱, which is the △ to the *imum cœli*, and the arc of direction becomes 19° 26′, as above.

Of the *imum cœli*, to the Sun's biquintile, by adding (as it succeeds the △), two of the fifth parts of the Sun's diurnal ✱, because it is above the Earth, which, as we have said, is 42° 48′, whose fifth part 8° 34′, doubled, makes 17° 8′; wherefore the arc of direction becomes 25° 52′.

Another way.—The arc of direction of the *medium cœli* to the Sun, or of the *imum cœli* to the Sun's ☍, is 51° 32′; from this I subtract (as the biquintile precedes) three parts out of five of the ✱ of the Sun diurnal, that is, 25° 40′, and there remains the arc of direction 25° 52′, as above.

The direction of the horoscope to the Sun's quintile is thus obtained:

We have already, in the former Canon, calculated the Sun's sextile to the horoscope, which was 30° 6′; to this I add (as the quintile succeeds the sextile) the fifth part of the Sun's sextile ray, which is 8° 34′, and I make the horoscope's arc of direction to the quintile of the Sun 33° 40′.

Another method.—The Sun's semi-diurnal arc, which is the quadrate to the horoscope, is 64° 12′ (that is, of the distance, not of direction), its fifth part is 12° 50′, which is the Sun's secondary distance from the *medium cœli*, the primary is 51° 32′; from which, subtracting that of the secondary, leaves the arc of direction 38° 42′ greater than the former by 2′, by reason of the fractions that are to be met with in the different calculations.

We have said, that the horoscope's direction to the Sun's trine was 72° 56′; to this I add the Sun's horary times, 10° 42′, and I make the horoscope's arc of direction, to the Sun's sesqui-quadrate, 83° 38′; or, I add the Sun's semi-diurnal arc, 64° 12′, to the arc of direction of the *imum cœli*, to the Sun's sesqui-quadrate, which was, as we have said, 19° 26′, and it produces the same arc of direction, 83° 38′.

And it is the same in all of them; so that by addition and subtraction only, the arc of direction of those rays may be calculated with the greatest exactness. But, if any one would provide himself with a Ptolemaic Planisphere, with the horary circles, crepuscules, the Zodiac's latitude, and all other things requisite, it would be of very great service towards foreseeing the aspects, before the calculation, both of this and the following Canons.

Canon XXX.

To direct any Significator, being placed about the Cusps of the Cardinal Houses, to the ☌ and ☍.

Understand this, as within 3° beyond, or on this side the cusp, the right ascension of the Prorogator, if he possesses the right circle; or the oblique, if the oblique, is to be taken to the polar elevation of the house in which it remains; which subtract from the right ascension of the occurrent, or the oblique taken to the same pole, preserving the latitude of both, and the remainder is the arc of direction required. In the opposition, the contrary latitude of the occurrent place is preserved; the difference in regard to preserving the latitude, between this Canon and XVII and XVIII, is, that the ☌ and ☍ are *there* taken in the Zodiac, but *here* in the world; *those* aspects in the same real longitude, but *these* in the horary circle: as in the example, Canon XVII, the right ascension of ♀, with latitude, is 261° 52′, from which, subtracting the right ascension of the Sun, which is 215° 58′, there remains the Sun's arc of direction to the ☌ of ♀ in the world 45° 54′.

Concerning the Sun constituted below the Earth, the things to be avoided shall be mentioned in a proper Canon, viz. XXXV. The significator, when found distant from the cusp of the house, is directed in the manner explained in Canon XIX, except only that the latitude of both should, as we have remarked, be preserved.

Canon XXXI.

To direct any Significator, when near the Cardinal Houses, to the ⚹, □, or △.

If the significator has the same ascension exactly to minutes, as the angle, or the other houses, wherein he is found, then, as it is on the cusp, the directions to the sextile, quartile, and trine, are made like those of the angle, as before explained: but if it is not on the cusp, exact to the minutes, provided its distance be not more than 3° of the equator, add the ascension or descension of the significator to that of the angle, or house, so that the significator may be constituted on the cusp of the angle or house. According to this situation, by adding or subtracting 30° you will constitute the ascensions of the other houses as usual; and by subtracting the ascensions of the houses (from whence the star aspects the significator) from the ascension of that star, taken under the pole of the same house, you will have the arc of direction. As, for example, in Cardinal Gymnaseus, the Sun is in the ninth house, not 3° of the equator distant from the cusp, the oblique ascension of the Sun's opposite place under the pole of the third house, which is 18°, is 314° 0′. I want to direct the Sun to the sextile of Jupiter, which Jupiter has to the Sun from the cusp of the seventh, wherefore I subtract 60 from the oblique ascension of the third house, constituted in the Sun's opposition, and there remains the horoscope's oblique ascension 254° 0′, that is, supposing that the Sun remains on the cusp of the ninth house, though, indeed, it is about 3° distance. Lastly, I subtract this oblique ascension of the horoscope 254° from the oblique ascension of Jupiter's opposite place, taken in the horoscope, which is 296° 52′, and there remains the arc of direction, 42° 52′. For the subsequent square which Jupiter has to the Sun from the sixth house, I add to this arc of direction the duplicate nocturnal horary times of ♃, by reason that the sixth house is below the Earth: for the △ I add again the duplicate nocturnal horary times of ♃, &c.

Canon XXXII.

To direct any Significator, when found beyond the Cusp of the Cardinals and Houses, to the ⚹, □, and △.

Find the horary times of the significator, or its semi-diurnal arc, if it be above the earth; or semi-nocturnal arc, if below, and its distance from the cusp of the preceding or succeeding house, as you please. Find, also, the horary times, the semi-diurnal arc, or semi-nocturnal arc of the promittor, with this proviso:—If the promittor's ray, to which you direct the significator, projects from places above the earth, take the diurnal horary times, or semi-diurnal arc; and below the earth, the nocturnal horary times, or the semi-nocturnal arc; but that you will know from the houses; for the whole tenth house has all the twelfth and eighth houses for the sextile; the first and seventh, for a quartile; the second and sixth for the trine; and so of the rest.—*Query*, By the Golden Rule, if the horary times of the significator give its distance from the house, what will the distance of the promittor's horary times give? The fourth number that is produced, is the secondary distance of the promittor from the cusp of either the preceding or succeeding house, after the same manner as you have seen of the significator; and from this house, the ray is emitted by that promittor to the significator; wherefore, if that house precedes the promittor in both distances, primary and secondary, subtract the lesser from the greater. So, also, if it follows in both distances. But, finally, if in the one distance it precedes, and in the other it follows, so that the promittor, by the motion of the direction, has passed through its cusp, add both distances, and the remainder or sum is the arc of direction required. Let the example be in *Cardinal Salviatis*: I would direct the ☽ to the □ of ♃, which has this ray to the ☽ from the sixth house. The ☽'s horary times diurnal, are 19° 5′; distance from the *medium cœli*, 10° 24′. ♃'s horary times nocturnal is 14° 32′, and distance from the seventh house 8° 59′. Now the oblique ascension of the ☍ of ♃ is 193° 1′; from which subtracting the oblique ascension of the horoscope, there remains the distance of Jupiter 8° 59′. But by the Golden Rule, there arises the secondary distance of ♃ from the west 7° 55′, which, added to the primary, because ♃ in the nativity is above the west, and is placed below when the direction is complete, makes the arc of direction 16° 54′. To this direction, if the duplicate horary times nocturnal of ♃ be added, as he now lustrates the lower hemisphere, it makes the arc of direction to the △ of ♃ 45° 48′; but if you want the ☽'s direction to the ✶ of ♄, take the horary times diurnal of ♄, together with its primary distance from the twelfth house, the fourth emerging number is the secondary distance from the twelfth house; from which, subtracting the primary, because the distance from both is from the succedent house, the remainder is the arc of direction required. If you want the ☽'s direction to the △ of ♀, find the horary times nocturnal of ♀, as it is below the Earth; and its distance from the sixth house, by the oblique ascension of the opposite places at the twelfth house. The fourth number that is produced, is the secondary distance of ♀ from the sixth house; from which subtract the primary, which is less than the secondary, as the distance of both is from the succedent house, and the remainder is the arc of direction required. And observe, that the first number of the Golden Rule is always either the semi-diurnal arc, or the horary times of the significator; the second is the distance of the same from the nearest house.

Canon XXXIII.

To direct any Significator, wherever posited, to the Quintile, Sesqui-quadrate, or Biquintile.

The method is nearly the same as that explained in Canon XXIX, for when any direction is known, whe- it be of the sextile, quartile, trine, or opposition, from only adding or subtracting the proportional part, whereby the rays of the quintile, sesqui-quadrate, and biquintile, either exceed or are less than the other rays, is produced the arc of direction. As, in the example of *Cardinal Salviatis*, the ☽'s arc of direction to the △ of ♃ is 45° 48′. If we add the nocturnal horary times of ♃ 14° 32′, we make the ☽'s arc of direction to the sequi-quadrate of ♃ 60° 20′. But, if to the same arc of direction of the △ 45° 48′, we add two of the five parts of ♃'s nocturnal ✱, which consists of his quadruplicate nocturnal horary times, that is, 58° 8′, the two-fifth parts of these are 23° 16′, we make the ☽'s arc of direction to the biquintile of ♃ 69° 4′. But, first of all, care must be taken, that if the rays are emitted from the superior places above the Earth, the proportional parts of the rays to be added or subtracted, should be taken by the diurnal horary times, or by the semi-diurnal arc of the aspecting star; but, if from the inferior places, or under the Earth, by the nocturnal, as you have seen in the given example. The second necessary caution is, that, to the adding or subtracting for the ray which is projected from the subterraneous places, we cannot make use of the ray which is emitted from those subterraneous places; or the contrary, because their transit is from one quantity of the horary times to another; from one hemisphere to the other; from the semi-diurnal to the semi-nocturnal arc, or the contrary, from which a true proportion cannot be had; but it is necessary, that, for the ray which is projected from the subterraneous places, we add or subtract the proportional part to or from the ray which is found above the Earth, and likewise under the Earth; as in the example of *Cardinal Salviatis*, the direction of the quintile of ♃ to the ☽ cannot be taken by subtraction from the direction of the quartile, as the □ falls below the Earth, the quintile above. Wherefore, in such cases as these, let the distances of the rays of the ✱, □, and △, be taken in the same hemisphere in which the significator remains, if they fall upon that same hemisphere; but if they fall in the other, in which the opposition of the significator falls, they must be taken in the other, as in the example of *Salviatis*, for the quintile of Jupiter to the Moon. I first take the quantity of ♃'s diurnal ✱; that is, from the diurnal horary times, which are 15° 28', four times computed, and the ✱ becomes 61° 52'; the fifth part of these are 12° 22', and, added to 61° 52', they make the quantity of the ray quintile 74° 14', and are the secondary distance of ♃ from the ☽. The oblique ascension of ♃'s opposition to the pole of the ☽, is 190° 6'; this subtracted from the oblique ascension of the ☽'s opposition, which is 265° 33', leaves the primary distance of ♃ from the ☽ 75° 17', which being greater than that of the ray by 1° 3', this quintile ray had preceded, and ♃ had this ray to the ☽ in the nativity. In the example of *Cardinal Gymnaseus*, the ✱ of ♃ to the Sun falls above the Earth, the quintile below; for which reason we cannot add to the ✱'s arc of direction the quintile's excess above the ray. But I direct the Sun to the quartile of ♃, and from that direction I subtract the fifth part of the nocturnal quadrate or semi-nocturnal arc of ♃, thus:

The Sun's direction to the □ of ♃ is thus obtained: From the Sun's semi-diurnal arc $7^h\ 18'$, is given its distance from the *medium cœli* 33° 31'; wherefore from ♃'s semi-nocturnal arc $7^h\ 33' = 113°\ 24'$, you have his secondary distance from the west 34° 40'; the oblique ascension of ♃'s opposition is 312° 33'; from which, subtracting the oblique ascension of the horoscope, there remains the primary distance of ♃ from the west 61° 28'; but because ♃ is above the west, and posited below, by the direction I add both his distances together, and make the arc of direction of ♃'s □ to the Sun 96° 8'; the semi-nocturnal arc of ♃ is 66° 36', whose fifth part is 13° 19'; which I subtract from the quadrate's arc of direction 96° 8', and there remains the Sun's arc of direction to the quintile of ♃ 82° 49'. There is not any difficulty in the Canon, if due attention be paid to the rays, whether they are projected from places above the Earth, or below, which cases seldom happen.

Canon XXXIV.

To direct the Significators to their own Rays.

The Sun and Moon, only by reason that they possess the virtue both of the significator and promittor, if directed to their own rays, have remarkable effects, but the houses are entirely excluded from their own rays; the arc of direction of each luminary's proper sextile is that which arises from its horary times, four times computed; of the quintile, with the addition of the fifth part of that sextile; the quartile's arc of direction is either the semi-diurnal or nocturnal arc; and so of the rest. If, however, the significator in these rays passes not from the upper to the lower hemisphere, or the contrary, as we have said, then we must calculate in the manner laid down in Canon XXXII, as if the Sun in the *primum mobile* was another promittor; and we shall know when it happens that the significator passes to the other hemisphere; by the oblique ascensions from which will appear the significator's distance from the horizon, which distance, if it be less, and the ray greater, that ray falls on the other hemisphere: if the distance be greater, the ray less, it falls on the same. As in *Cardinal Gymnascus*, the Sun's proper sextile is, indeed, a proof of itself, that it falls above the Earth, that is, above the west, because the Sun is above the cusp of the 9th house; yet, if we inquire by calculation, the Sun's horary times are 18° 15', which, four times computed, makes the ✱ ray 73°; but the Sun's distance from the west is 75° 56', which is greater, and the ✱ ray less; and, therefore, the Sun's ✱ ray falls upon the same hemisphere, and its arc of direction will be from the diurnal horary times, four times computed, 73°; but the Sun's proper quartile falls below the Earth, and is to be calculated as in Canon XXXII, as if the Sun was another promittor. Other examples follow; and remember, that if the Sun is below the Earth, he must likewise be directed to the proper rays, in the manner shewn in Canon XXXVI.

Canon XXXV.

To direct any Significator whatever to the Parallels.

I call a parallel in the world, that distance which two stars have in an equal proportion from the same angle, the one remaining beyond, the other within; as if one possesses the cusp of the 11th, and the other the 9th, then they are equally distant from the *medium cœli*, or meridian; and if one is found in the twelfth, the other in the second, they are equally distant from the ascendant, or horizon. But it is to be observed, that in this aspect it not only happens that an equal proportionate distance is formed from one of the angles, but likewise in some manner from every one of them; as a star in the ninth is equidistant from the *medium cœli*, as another star in the 11th; and these two stars are at an equal distance from the *imum cœli*, and from the east and west horizon. This will be evident, from the calculation, and should be taken as a proof of the virtue and efficacy of this aspect, and likewise for the ease of calculation. From hence it is inferred, that the calculation of this aspect may be made several ways, of which the easiest is by the distance from the *medium cœli*, whether these two stars form a parallel to the meridian or horizon, that is, whether both are found above the Earth, or below it: I mean when the direction is finished; for it matters not where they remain in the nativity. If both are found above, when they have this parallel, take the significator, and promittor's right distance, which they have in the nativity, from the *medium cœli*, and this distance I call the primary. Then say, by the Rule of Three, if the horary times, or semi-diurnal arc of the significator, give his distance from the *medium cœli*, what distance will the promittor's horary times give? When you have found that, proceed according to Canon XIX. But if they form this aspect, while they are both below the Earth, take the distances from the *imum cœli* in the same manner, and the distances from the horoscope may be taken by the oblique ascension. If one be above the Earth, and the other posited below, or the contrary, take the distance of one from the *medium cœli*, and the other from the *imum cœli*, or make use of the opposite place of one. Examples follow.

Mundane Proportion.

Hitherto in this Canon, mention has been made of the direction to the parallels in the world, with the supposition that the significators remain immoveable in the horary circle of position. But because, in the nativity, the virtue both of the significator and promittor is impressed in the *primum mobile*, and this agreeable to the opinion of all professors, therefore both their virtues are conveyed, by the *primum mobile*, from east to west; consequently it may sometimes happen, that the significator and promittor are posited in an equal proportionate distance from the same angle, that is, in a mundane parallel of the same kind, of which, in this Canon, we give the calculation; and how great the active virtue of this application is, will be seen in the examples following: but it may happen that, by direction, even the significator and promittor, both may be posited above the Earth, or both below; or the one above, the other below, though in the nativity they are different. If both are posited above the Earth, take the semi-diurnal arc, and the significator's primary distance from the *medium cœli*, and the semi-diurnal arc of the promittor, with his distance, in right ascension from the significator, subtracting the lesser from the greater; then add their semi-diurnal arcs together, and say, as that sum is to the semi-diurnal arc of the promittor, so is the promittor's distance from the significator to the promittor's secondary distance from the *medium cœli;* use this distance, as in Canon XIX. You may likewise make use of the promittor's place, as significator, together with its semi-diurnal arc, right distance, &c. called a converse direction. If both are below the Earth, use the semi nocturnal arcs and distances from the *imum cœli*, in like manner. Lastly, if one be above, and the other below the Earth, take its opposite place, and use the semi-diurnal arc of that above the Earth, and the other's opposite place. Examples in Henry IV, King of France; Cardinals Pius and Gymnascus.

Rapt Canon

CANON XXXVI.

To direct the Sun, when below the Earth, to the Aspects in the World.

As the situation of the immobility, or position of the Sun, constituted below the Earth, is not the horary circle after the manner of others, but either the crepusculines parallel to the horizon, if the ☉ is in the crepusculines, or that which is made in the proportional distances from the obscure arc, as has been mentioned before, then doubtless the Sun receives the promittor's aspect in the world, when the promittor is proportionally distant from a Cardinal, or other house, as the Sun's distance is in the afore-mentioned places after the direction is finished, where his distance is different from his primary one in the nativity, as has been remarked; for the Sun changes successively his secondary distance; wherefore, the calculations of the Sun's directions to the aspects in the world, are attended with somewhat more difficulty. If the Sun is in the crepuscules, first calculate the Sun's direction to the promittor's ray, whether it be sextile, quartile, or trine, in the manner of other significators, that is, from the proportional distances from the angles, and other houses, by the horary times, &c. as hath been said above, which arc of direction may be called a fictitious one. Secondly, you may know what degree of the Zodiac the Sun at that time hath arrived at, by taking his polar elevation, in the usual manner, and in the same place the oblique ascension; and by adding thereto the false arc of direction above taken, for this sum of the oblique ascension, will give the degree of the Zodiac, at which the Sun arrives in its revolution; for it is of very little, or no consequence, in case you do not know its true place in this calculation. Thirdly, with the Sun's primary distance from the horizon, see what crepuscular parallel it possesses, and in the same, take his secondary distance under the degree to which the supposed feigned direction shall come; then say, fourthly, As the ☉'s nocturnal horary times is to his secondary distance from the horizon, so is the promittor's horary times to his secondary distance from the angle or other determinate house, to be applied as usual, and you will have the true arc of direction. Let the example be in Cardinal Odoardus Farnese; I want to direct the ☉ to the △ of ♃ in the world, which he has to the Sun in an equal proportional distance from the cusp of the fifth, as the Sun is distant from the east, the Sun's horary times nocturnal 19° 17′; his primary distance from the horoscope 20° 57′, ♃'s horary times 11° 51′, to the pole of the eleventh house 18°, the oblique ascension of ♃'s opposition is 242° 38′; by subtracting from this the oblique ascension of the eleventh house, there remains ♃'s distance from the fifth house, 34° 3′. By the Rule of Three, you have ♃'s secondary distance 12° 59′, which, subtracted from the primary, as both distances are from the preceding house, leaves the arc of direction 21° 4′, which arc is necessary, in order to know the degree which the Sun may arrive at.

I require the Sun's polar elevation. If its duplicate nocturnal times gives the polar difference between the first and second houses 11°, the Sun's primary distance from the horoscope, 20° 57′, will give 6° nearly, and there remains the Sun's polar elevation 38°, to which the Sun's oblique ascension is 284° 35′. To this I add the arc of direction 21° 4′, and I make the sum 305° 39′, answering in the same table to 15° 20′ of ♑. In the tables of crepuscules for the pole 44°, I look for the Sun's primary distance from the horoscope, under 25° of ♐, and I find the ☉ in the crepusculine circle 13° 28′;

under 15° 0′ of ♑, I take the Sun's secondary distance 20° 46′, always keeping the proportional part; wherefore again, by proportion, I say, As the Sun's horary times 19° 7′, is to his secondary distance from the horoscope 20° 46′, so is Jupiter's horary times, 11° 51′ to ♃'s secondary distance from the fifth, 12° 52′, which, being subtracted from the primary, leaves the true arc of direction, 21° 11′. To equate this, proceed as directed in Canon XVI, and it gives 18 years, at which time he was made a Cardinal (vide the Geniture). If the Sun is found in the obscure nocturnal place, first calculate the false direction, whether it be to the sextile, quartile, or trine ray, as we said in the first part of this Canon; secondly, find the degree of the ecliptic to which the Sun arrives by this direction; thirdly, let it be required, if the Sun's obscure arc gives his primary distance from the 4th, what secondary distance of the same will the obscure arc of that degree of the ecliptic give, at which the Sun arrives by the aforesaid direction; and when this secondary distance of ☉ from the *imum cœli* is known, if the ☉ be in the third or fourth house, use this distance; but if it be in the second or fifth house, subtract the Sun's duplicate nocturnal horary times from this distance, and the remainder will be the Sun's secondary distance from the third or fifth house; that is, when the direction is finished: then again say, As the Sun's nocturnal horary times is to his secondary distance from the determinate house, so is the promittor's horary times to its distance from that house from which it projects its proposed ray to the other house, from which you have taken the Sun's secondary distance, &c.: you must finish as usual. Let the example be in Cardinal Zachia: in this I want to calculate the Sun's direction to the ✱ of ☿, in the world, which ☿ has to the ☉, in a proportional distance from the third house, as the Sun is from the fifth; the Sun's horary times nocturnal are 14° 26′, the oblique ascension of the Sun's opposition under the pole 18° of the eleventh house is 189° 7′, from which subtract the oblique ascension of the eleventh, which is 175° 22′, and there remains the Sun's distance from the fifth house, 13° 45′. Mercury's horary times nocturnal is 16°; his oblique ascension, under the pole of the third house, is 354° 13′, wherefore there remains his primary distance from the third 58° 51′. I therefore say, if the Sun's horary times, 14° 26′, give his distance from the fifth house, viz. 13° 45′, what distance will ☿'s horary times 16° 0′ give from third? Answer, the secondary distance of ☿ is 15° 15′, which, subtracted from the primary, leaves the false arc of direction 43° 36′, which is necessary to know the degree of the ecliptic, at which the Sun may arrive in its revolution. The Sun's pole, taken as usual is 25°; the oblique ascension of the same in the place of his opposition is 189° 35′; by adding to this the feigned arc of direction, the sum is 233 11′, answering in the same table to 17° 30′ of ♏, so that the Sun must remain in 17° 30′ of ♉. Now it remains to know what is the Sun's distance from the *imum cœli*, or fifth house under 17° 30′ of ♉, according to the proportional parts of the Sun's obscure arc, and also of 17° 30′

of ♉. The semi-nocturnal arc of the ☉ is 5^h 46′, the arc of the whole crepusculine 1^h 44′; the Sun's obscure arc is, by subtraction, 4^h 2′.

	h.	m.
The semi-nocturnal arc of 17° 30′ of ♉ is	4	50
The arc of the whole crepusculine . . .	2	4
The obscure arc of ♉, 17° 30′	2	46

The Sun's right ascension is 8°, from which subtract the right ascension of the *imum cœli*, gives the ☉'s primary distance therefrom 42° 38′. Now say, if the Sun's obscure arc 4^h 2′ gives his primary distance from the *imum cœli* 42° 38′, what will be the distance of the obscure arc of ♉ 17° 30′, which is 2^h 46′ ? And there arises the secondary distance 29° 15′; from which I subtract the ☉'s duplicate horary times 28° 52′, for the fourth house, and there remains the ☉'s distance from the fifth 0° 23′. Lastly, I demand, if the ☉'s horary times 14° 26′ give his distance from the 5th, 0° 23′, what will the horary times of ☿, 16° 0′, give? Answer, ☿'s secondary distance from the third, 0° 26′; which being subtracted from the primary distance of the same, 58° 51′, there remains the true arc of direction 58° 25′: more examples you will see afterwards in their places. To the other rays, quintile, sesqui-quadrate, and biquintile, after you have calculated the false arc of direction to the sextile, quartile, or trine, add or subtract the proportional parts, as we have said above, then see what degree the Sun has arrived at, and in that his secondary distance from the angles and houses; and what distance he hath, the promittor always should be at the same distance. See also, what I have said elsewhere in an example given for illustration. To this Canon pertains the mode of directing the Sun to the proper rays in the world, for his place is to be taken under the *primum mobile*, as if it was another promittor different from the Sun, always remaining immoveable under the same polar elevation; wherefore let all be done as has been said. The Sun's virtue is impressed on the *primum mobile*, under the determinate degree of the ecliptic, and in mundo to a determinate polar elevation, and in either place their virtue continues immoveable; but that which is impressed in the *primum mobile*, is moved round the world with the same *primum mobile*, and is separated from the mundane impression; and this remaining immoveable, under its polar elevation, is moved to the more eastern parts under the *primum mobile*, and so arrives at the rays of the other virtue impressed under the *primum mobile*; this, in a direct motion, is the same as the promittor; in a converse, as a significator; on the contrary, the other, &c.; the reasons of which distinction you may see in the Celestial Philosophy.

Canon XXXVII.

To direct any Significator whatever, in a converse Motion, to all the Aspects made in the World.

If you have rightly understood all the Canons in this third part, this, likewise, before you will be found very easy; for it contains nothing more than what we have said in this third part, with this difference only, that in a contrary manner, not the promittor, but the significator, remaining immoveable under the *primum mobile*, is carried to the place of position of the promittor, or to their rays, which continue immoveable in a mundane situation; therefore the rules given, concerning the significator, are to be understood of the promittor; and, on the contrary, those given relative to the promittor, are to be understood of the significator; for which reason, there is an alteration in the order of numbers of the Golden Rule; so that, in the first place, the horary times of the promittor are to be taken; and, in the second, its distance from the angles or houses; in the third, the horary times of the significator; and the fourth number will be the secondary distance of that significator, which is to be compared with the primary distance of the same from the cardinals or houses, in the manner before explained, relating to the promittor in Canon XIX. There are more examples afterwards, together with their effects. The angles are not directed in a converse motion, for they have none to the preceding places.

Canon XXXVIII.

To direct the Significator to the West, with the Addition and Subtraction of the Parts which is formed from the interjacent Rays or Stars, according to the Precepts of Ptolemy.

By the oblique descensions or the ascensions of the opposite places to the horizon of the country, direct the significator to the west, not omitting his latitude, if it has any; meanwhile, you must consider what stars or mundane rays are intercepted between the significator and the west, which you will know from the direction of the stars or rays to the west; for those that arrived first, that is, by a less arc of direction than that of the significator to the west, are interposited; but those that follow by a greater arc of direction are not interjacent, and you must observe their arc of direction, whether of the stars or rays to the west. Then of every one of the planets, which either lie between or interpose the rays, take the conditionary arc, the horary times to the hemisphere, wherein the stars, and not the rays, may be; for it is thus, the nocturnal from the night, and diurnal from the day, as Ptolemy informs us. Lastly, say, by the Golden Rule, if the whole conditionary arc of a star give its horary times, what will a star or rays arc of direction to the west give? Multiply the second and third, and divide by the first; add the result, if treating of the fortunate; but if of the unfortunate, subtract it from the significator's arc of direction to the west, and it will give the arc of direction, augmented or diminished, according to Ptolemy, which is be equated in the usual manner. Suppose the example be in *Cardinal Dominic Gymnascus*, the Sun's arc of direction to the west is 75° 56'; ♃ is interjacent, whose semi-diurnal arc is 113° 24'; horary times 18° 53', his arc of direction to the west is 61° 28'. I then require if the whole diurnal arc of ♃, 226° 48', give his horary times 18° 53', How many will the arc of direction 61° 28' give? The answer is 5° 7'.† Venus interposes the Sextile; the right ascension of ♀ is 160° 46'; which, subtracted from the right ascension of the *medium cœli*, makes the distance of ♀ from thence 0° 19'; which, subtracted from the duplicate horary times of ♀ 33° 14', there remains the arc of direction of ♀ to the ✱ of the west 32° 55'. If, therefore, the whole diurnal arc of ♀, which is 199° 36', gives the horary times 16° 37', how many will the arc of direction 32° 55' give? and I receive for answer, 2° 45'. Venus likewise interposes the quintile. I compute the four horary times of ♀, and they make 66° 28', the fifth part of which is 13° 28'; I subtract this from the ✱'s arc of direction, and there remains the arc of direction of the quintile of ♀ to the west 19° 27', from which, in the fourth place, are had 1° 38', all which make 9° 24' of the fortunate to be added; so that the Sun's arc of direction to the west is augmented to 85° 20'. Mars interposes the □, whose arc of direction, by the right ascensions of the *medium cœli*, is 7° 57'; if, therefore, the whole diurnal arc of Mars, which is 189° 48', gives his horary times 15° 15', the direction's arc 7° 57' will give 0° 40'. Saturn interposes the sesqui-quadrate; his distance from the *imum cœli* is 18° 13', which I subtract from his duplicate horary times, which are 35° 24', and there remains his distance from the third house, 17° 11'; to this I add his horary times,

† If you divide the arc of direction to the west by 12, it gives the proportional part required.

and I make the arc of direction of the sesqui-quadrate of ♄ to the west 34° 53′. If, therefore, the whole nocturnal arc of ♄ 212° 14′ gives his horary times 17° 42′, the arc of direction 34° 53′ will give 2° 54, which, added to ♂'s 0° 40′, make 3° 34′ to be subtracted from the Sun's arc of direction, 85° 20′, and there remains the true arc of direction 81° 46′, calculated according to Ptolemy's method, which shews the years the native has lived, as you may see afterwards in its proper place. That you may not look upon what we have said as a dream, and therefore to be rejected, see the example of Urban VIII. In the Celestial Philosophy, page 277, you may likewise do the same in the example of Leonora Ursina, Duchess of Sfortia. But how largely and differently authors have spoken of this direction of the significator to the west, putting various constructions on the words of Ptolemy, is known to every one. See Cardan in his Commentaries, Maginus in his *Primum Mobile*, and the Use of Legal Astrology in Physic, c. viii, where he delivers the sentiments of Naibod. Argoll censures wholly this doctrine of Ptolemy's, of directing the moderators of Life to the west, as vain and useless. But I say, it is worthy of remark, and altogether conformable to truth; because, then the rays and intermediate stars of the malign only lessen the arc of direction to the west, and do not destroy life; when, by a right direction, the moderator of life does not remain at the same time with the malignant planet; for should this happen, they kill, without any manner of doubt, as in *Salviatis*, and several other examples.

PART IV.

OF

Secondary Directions, Progressions, Ingresses, and Transits.

HAVING already calculated and obtained the number of years of the primary directions of the significators to their promittors, and likewise taken the lords of the Terms, all which Ptolemy, in the last chapter of the fourth book, calls the General Arbiters of Times; for this reason, because they preordain the general times of their effects, which, as its motion is slow, and its perseverance long, discovers its effects after a very long time; that is, after months and years. In order that we may know, in this extent of time, on what particular month and day the effects appear, Ptolemy proposes these motions for observation, wherein, when the majority of the causes agree together, then, doubtless, the effect is accomplished, or most clearly manifests itself; whence we ought to conclude, that though, with our greatest care and exact calculation, we have obtained the true time, not only to the year, but also month and day of the primary direction, we cannot argue from thence, that the effect has happened on that very day, and therefore it matters not, though the primary direction has been even exceeded, or not quite exactly accounted to a few minutes, as notwithstanding the particular times of their effects, may depend upon other motions of the causes now proposed; for which reason the times of these subsequent motions of the causes demand our greatest attention; and we must not insist upon the first places which present themselves, but inquire further, till we find where proof may be had, viz. by the method we are now going to speak of.

Canon XXXIX.

OF SECONDARY DIRECTION.

Under this name, I understand the motion of the celestial causes which are made on the days succeeding the nativity, according as they are marked in the Ephemeris; for the aspects to the luminaries and angles, which happen on those days, have their effects from every day to every year; so that the first day may be referred to the first year, as a measure to the mensurate; the second to the second, &c. for which reason we must observe, when the luminaries are posited in any aspect of the stars; for if with the fortunes, they conduce to happiness and good health; if with the unfortunate, and from an hostile ray or parallel of declination, they portend misery and distress in those years which depend on those days these aspects happen on. But, without doubt, these effects are remarkable, if at that time there are primary directions of the same kind and nature; and, moreover, from such motions originate the climactical, or, more properly, critical years; for, on the days the ☽ is posited in the ☌, □, or ☍, to and with the place of the nativity, she makes the years which depend on those days obnoxious to dangers and infirmities. But, if at that time any unfortunate primary direction of the vital prorogator is powerful, life may be said to be in danger, and, particularly, if in the secondary direction, the Moon is afflicted by the malignant planets. But, if the Sun is so too, the danger is still greater. Lastly, if the primary direction is unfortunate, when the ingress and transit agree, death is inevitable. See the examples in the Exposition of the Nativities.

CANON XL.

OF PROGRESSIONS.

That progressions, or, if we should say, equal processes, taken as usual, according to the general opinion and custom hitherto received, are fictious, impossible, and contrary to nature, has been sufficiently proved in my Celestial Philosophy. The method which you are to take as natural, we now explain and prove in every one of the future examples. Know, therefore, that progressions are derived from embolismical lunations succeeding the nativity, every one of which are formed in the space of twenty-nine days nearly, in which time the Moon separates from her ☌, with the Sun forming the □ and ☍, and returns to a □ and ☌ again, in which circuit she passes over almost thirteen signs, and the Sun one sign.

Progressions, if we may give our judgment, originate from these motions of the luminaries; for the first lunation succeeding the nativity, or the ☽'s circuit, bounds the progression of the first year of the native; the second, the progression of the second year; the third, of the third, &c. in such a manner, however, that the first part of the ☽'s circuit may measure or bound the first part of the year; the middle, the middle; the last, the last, &c.

To calculate the progressions, and know with ease where they will arrive at; so many embolismical lunations succeeding the nativity, must be computed, as there are years which have elapsed of the age of the native, by always placing the Moon in that appearance and distance from the Sun she is at in the nativity. Lastly, for every month to the Moon's place, there must be added 32° 30′, which are the twelfth part of one lunation; but if you desire to obtain a ready calculation of the progressions for several years, take notice that the ☽ does not finish the twelve lunations in one whole year, but in eleven days less; having, therefore, the Moon's distance from the Sun in the nativity, look for this eleventh day before the end of the first year after the nativity; and when you have found it, then the progression of twelve years are completed; in like manner, twenty-two days before the end of the second year after the nativity, the progression of twenty-four years are completed, &c. Thence proceed from every lunation to every year of the native's age, and from every one of the signs with 32° 30′ of the ☽'s motion to every month; and whenever the luminaries are well affected, as well in the progressions as towards the places of the favourable planets of the nativity, they induce to happiness; and on the contrary, &c. See examples in every one of the nativities following.

Canon XLI.

OF INGRESSES.

Of these we have said some are active, some passive. Active ingresses are the familiarities of active stars, acquired by an universal daily motion, with the places of the primary and secondary directions and processes of the significators. Passive are the familiarities of the universal prorogators in the whole world with the active stars of the secondary directions and processes. Under the name of active stars, we mean whatever hath the quality of acting, and are usually posited in the promittor's place, as ♄, ♃, ♂, ♀, ☿; and the ☉ and ☽ also, when they assume the nature of any of the afore-mentioned; and such ingresses, whether of the benign to the places of the motions of the significators, or of any of the significators to the places of the motions of the benign; that is, both active and passive are good, but of the malign, in the same manner, are hurtful, as will be observed in the following examples.

Canon XLII.

OF TRANSITS.

Some of these, also, are active, some passive; the active are the familiarities of active stars acquired by an universal daily motion with the prorogators of the nativity; that is, with their immoveable places. Passive Transits are the familiarities of any of the significators in the world with the active stars of the nativity; that is, with their immoveable places, according to their immobility, of which we have frequently mentioned;

so that in this, ingresses differ from transits; that ingresses respect the places of the moveable motions; but transits, the fixed places of the nativity. But the most of all to be observed, are the lunations in the daily motions, whether it be ☌, □, or ☍ of the ☽, with the ☉ upon the obnoxious places; for when the subject of the direction is on the progress to happiness, if the lunations are good, by reason of the aspects of fortunate stars, they greatly conduce to the procuring of happiness in their effects; but if, on the contrary, we are speaking of the directions and process to the unfortunate planets, and those lunations are unfortunate, on account of the hostile rays there of the malignant stars, the native must be supposed to be in very great danger; and, doubtless, there is great reason to fear it, from the unhappy event of the things signified. Hence it is evident, that promotions to dignity very frequently happen in lunations wherein the luminaries are surrounded by the benefics. On the contrary, tribulations, diseases, murders, &c. in lunations wherein the luminaries are besieged by the unfavourable planets: and this is found never to fail.

And this is the true doctrine of Ptolemy, and the whole of this most noble science.

But let us begin our observations on the examples which we have subjoined to verify things, and likewise to elucidate the Canons.

THIRTY

Remarkable Nativities,

TO PROVE THE

TRUTH OF THINGS BY EXAMPLE,

AND ILLUSTRATE THE

METHOD

OF

Computation by the Canons.

TO THE READER.

There is nothing by which man ever arrived at a more perfect knowledge of the secrets of nature, than by the immediate effects of things, that is, by the experience which the understanding discovers to us; for from these, it is evident, that they who first directed their studies to philosophy, have opened a way to discover secrets replete with wonder.

And, indeed, reason, for its excellence, is better than example; as is the immortal soul, whose work it is, than that of corporeal sense: yet, in a consequential order, this has the precedence, and is, as it were, the door and way to that understanding, to which there is not the least access, unless transmitted through the senses. Further, whatever, by the light of reason, the mind of man may either comprehend or invent, if experience does not make it plain, is justly and deservedly condemned and rejected as false. Of the power of the Stars, and their manner of acting upon those inferior elementary and compound bodies, beginning from the first causes, properties, passions, motions, and other active qualities, being guided by reason in all and each of them, from the axioms of the most eminent men in physic and mathematics, I have sufficiently treated in my Celestial Philosophy; and from thence, by way of theory, I have transferred hither a few theses the most concise. But, as there are some who refuse to follow reason and the most enlightened authors for their guides, I was unwilling to make any distinction between this part of philosophy and experience; that they who will listen to reason and the understanding, might, by the help of the senses, and, to use the expression, with their hands, attain to and comprehend the method I have taken; for which reason, it seemed good to me, in this place, to subjoin thirty Nativities of the most famous men, truly worthy of admiration; and, that no one might condemn them, either as false or selected, in preference to any casually taken, to suit my purpose, I have extracted them from the most approved authors, and such only, wherein not the horoscope, which may, with a small variation of time, be very easily adapted to the aspects of the stars, but the luminaries become the moderators of life; which, as they always continue in the same place in the Zodiac, notwithstanding the times of the nativities are remote, I thought proper to dispose these with the calculations of the aspects and directions, in the most convenient order.

Now, therefore, my very courteous reader, if you look for any power in, or true and natural knowledge from, the stars, in any of these examples, when, from the natural effects contained in them, you find any calculations for directions more agreeable to time and nature, be so kind as to publish them, and point out my errors; and, by so doing, you will oblige me greatly, as, in every thing, I desire nothing but plain and simple truth; but if, after all, you cannot find any, confess, ingenuously, that my opinion concerning this Celestial Science is right, my mode of calculation true, and the method universal; and hesitate no longer in confirming it to be so. But, in these examples, it is to be observed:—

1. That the luminaries preside over subjected things, not only by that one motion of direction, which is made in the Zodiac according to the succession of the signs, agreeable to the method usually followed by all professors, but by both, viz. the right and converse.

2. That the same familiarities, by the same method of calculating, may be found in more of the like examples, when alledged as proofs, is the greatest evidence of the truth of things; for it might be argued, that they happened to agree only in one example.

3. That my directions are conformable to the nature of things; as, for example, I do not take the dignities from the horoscope, but from the Sun and *medium cœli*, according to Ptolemy and others.

4. I have not taken remarkable effects from the fixed stars, as many do (and, truly, without foundation), but from the erratics; though the fixed stars do specify and afford some little assistance to the power of the erratics.

5. In all these examples, the measure I have found for the arc of direction corresponds with the years of the age.

6. I have not varied the time of the nativities to make the directions agree with my calculations; but if, in any example, I have made a little alteration, it is very small, and scarce makes any difference in the arc of direction of the luminaries, whether direct or converse, except only in the mundane parallels. However, from this

small alteration it may be inferred, that either on that account the time is reduced to the true one, or, at least, that the directions of the parallels in the world were not far distant, and might, notwithstanding, have been of very good use, though there were no change of time in the nativity; for every direction causes an alteration in bodies; but the full effect plainly appears, by means of the powerful directions which arrive first, and the subsequent assist more or less, according to the proximity of the application, or their strength and power are greater or less: but no credit is to be given to the time of those nativities, in which authors have adopted the horoscope for the giver of life, where either of the luminaries ought to have been taken; for we may reasonably conclude, that, when the said authors have not found their directions of that luminary to which, undoubtedly, belonged the power of life, to agree with the effects, they have made a considerable alteration in the given time of the nativity, in order that they might bring down the horoscope to any aspect of the planets. I can affirm what I have said to be true, for in my youth I saw several nativities, which were afterwards published by the authors, wherein was a visible alteration in the time, and the reason why was, that they might answer the above end.

7. In these examples you will plainly see, that I have always taken the moderator of life by the rules of Ptolemy; as in the day, first the Sun, if he is found in an aphetical place, then the Moon, &c.; but in the night, first the Moon, &c.

8. You are to observe, that if either of the luminaries, being the significator of life, is found in a nativity, with an hostile ray in the zodiac, by the application of any malignant planet strong in power, the same is weak, for its virtues are but small, as a prorogator in the zodiac, but stronger through the other motions and aspects, for then the moderation in the zodiac seems to be, in a manner, separated; and in the same

manner ought we to reason in the other motions; for if, lastly, according to all the motions, and every species of aspect, the significator of life is aspected by the rays of the unfortunate planets, the native, according to Ptolemy, will not survive, especially if the fortunate afford no assistance, &c. yet each direction must always be consulted and calculated, agreeably to the two kinds of familiarities.

9. You may know that those nativities are stronger, when either of the luminaries become the significator of life, by reason of the duplicate motion of the prorogation, which does not happen when the horoscope of the country is the giver of life, for it only performs in a right motion, and not converse.

10. You are not to observe what is generally alledged by professors, respecting the satellites of the luminaries for dignities; viz. that the satellites are those planets which are found within 30° on either side towards

the luminaries; but that a satellite is any kind of aspect of the stars to the luminaries of what kind soever; which, if it be made by application, its power extends inwardly over the whole orb of light of the aspecting planet, and the more so, as the proximity is greater, but by separation it is not so. This doctrine may be seen in several chapters of Ptolemy; for, an aspecting star influences the significator, and disposes him to produce effects co-natural to him, by a subsequent direction. But a star of no aspect does not predispose the significator, and produces very little or no effect of its nature by a subsequent direction; this is the true doctrine of the stars.

11. That in these examples, as to the time of death, I have observed the most powerful directions of them all, and afterwards I give a reason why the antecedents that are past are not anaretical; from which it is evident, that the directions, whereof I now give the calculations, were the true anaretic causes.

12. There is no truth in what is commonly alledged by some; viz. that as I invented the mundane aspects, it is no wonder if any aspect may agree with the times of the effects in those examples, as well the familiarities in mundo among the stars as to the angles; but I afterwards rejected the aspects in the zodiac, and also the antiscions to the angles. I do not direct the significators to the cusps of the houses, nor to the ☊, ☋, or to the fixed stars, as having of themselves a power to kill. I do not direct the planets ♄, ♃, ♂, ♀, ☿, as if they were significators, which is the practice of several professors. Maginus has described the rays in the equator; others, besides the rays, which the ingenious Kepler thought to be efficacious, add the semi-sextile and sesquiquadrate. Wherefore, if you carefully observe, you will doubtless perceive I have produced less aspects than other authors.

13. If you are desirous to see of what importance the secondary directions are, to discern the particular times of effects, and

also the progressions, I have calculated the ingresses and transits, both active and passive; but the equal processes, according to the usual and general way, how idle and empty in effect they are, I will leave to yourself to consider, as I would not spend time to no purpose to calculate them.

14. The revolution, as taught by some, I have not seen, though in reality they may possess some virtue, but only according to the constitution of the stars to the places of the prorogators of the nativity, and their places of direction, but no farther, as Ptolemy was of opinion, and briefly expresses himself in his Chapter of Life. "Those "who are afflicted, both in the places and "conclusions of the years, by the revolution "of the stars infecting the principal places, "have reason to expect certain death;" therefore, let any one, if he pleases, observe the return of the years, but at the same time, let him not place so great a value on them, as some authors usually do; who, from the constitution of the stars, judge of

the Sun's return in the same manner as of the nativity; so that they are not afraid to dissent from the same, nor even from the directions.

15. And note, that when I speak of dignities and promotions, I am to be understood in a natural way, as I have made mention of in the Celestial Philosophy, and in such a manner, that men may endeavour to render themselves capable and worthy of mental accomplishments, as well as of the other virtues, and not by any means that those who are at liberty to act as they please should be compelled to, and, as it were, pushed upon, advancement: for I am wholly of opinion, that every man is the author of his own fortune, next, however, to the divine decree, according to that of the prophet,

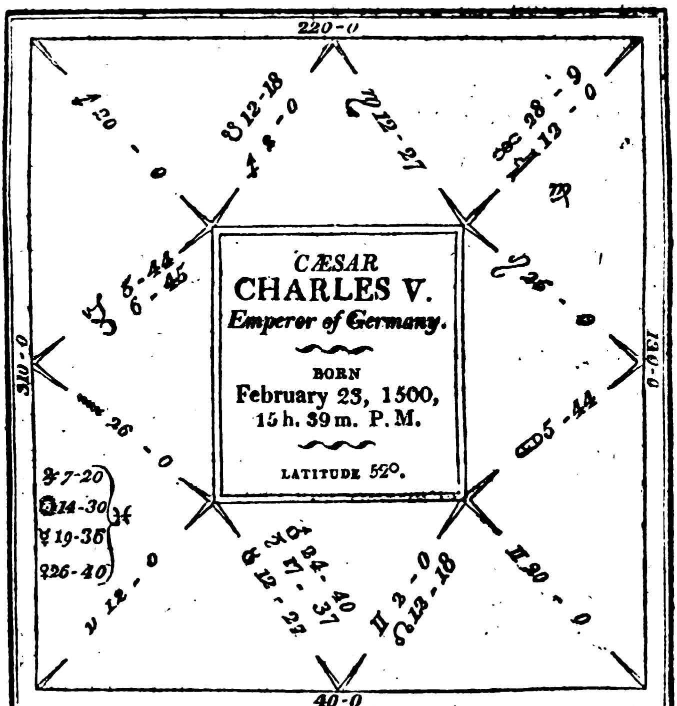
> "*In manibus tuis sortes meæ.*"
> "My lot is in thine hand."

Lastly, if, in the calculations of the directions, you find any difference of minutes from the time of the effects (this, however, I am certain, will always be very small), remember, first, that the places of the stars are not perfectly known to us; and then in the producing of effects, several motions of the stars concur to prevent a true calculation; as the secondary directions, the process, ingress, transit, lunation, &c. which may cause the effect either to precede or follow the true calculation.

THIRTY
Remarkable Nativities.

I SHALL begin, by drawing my examples from the most principal families in Europe; and in them, by way of conciseness, only regard important accidents.

EXAMPLE I.



	LATITUDES.			DECLINATIONS.		
♄ . .	2°	0′	S.	15°	13′	N.
♃ . .	0	50	S.	9	37	S.
♂ . .	0	53	N.	19	52	N.
☉ . .	0	0		6	8	S.
♀ . .	1	3	S.	2	18	S.
☿ . .	3	0	N.	1	51	S.
☽ . .	2	4	S.	25	24	S.

HE lived fifty-eight years and seven months, nearly; and died on the 21st of September, 1558, at which time the ☽, who is moderator of life, came, by right direction, to her own □ in the Zodiac, arc 55°, and also to her own □ in Mundo, arc 55° 33′, and to the ☍ of ♄, by converse direction, arc 52° 58′

The Moon's oblique ascension to her pole 52°, is 314° 52′. In ♈ 6° 45′; the Moon's latitude is 4° 32′ S.; the oblique ascension of that place by longitude and latitude is 9° 52′; from which subtract the Moon's oblique ascension, adding, first, the integer circle 360°, and there remains the arc of direction of the ☽ to her own □ in the Zodiac 55°.

The ☽ to her own □ in the world (by which direction both the prorogatory virtues of life are injured, viz. that in the *primum mobile*, and that which is impressed in the world; for THIS is directed by a direct motion, and THAT by a converse) is thus wrought:—The ☽'s semi-nocturnal arc is 127° 27′, her distance from the horoscope is 4° 52′, ☽'s semi-diurnal arc is 52° 33′, from which, for the fourth number, arises the Moon's secondary distance from the *medium cœli* 2° 0′: This subtracted from the primary, which is 57° 33′, there remains the arc of direction 55° 33′.

To the ☍ of ♄, by converse motion, the distance of ♄ from the *imum cœli* is 5° 43′, for his right ascension is 45° 43′; the pole's elevation of the fifth and eleventh is 24°, the semi-nocturnal arc of ♄ is 69° 37′, the third part thereof 23° 13′, which gives the pole's elevation of ♄ nearly 6°; to this pole the oblique ascension of the opposite place of ♄ is 227° 21′, and the ☽'s oblique ascension there is 280° 19′; from which subtracting that of the opposition of ♄, leaves the arc of direction 52° 58′. For the equation, to take the years, I add this arc 52° 58′ to the ☉'s right ascension, which is 345° 44′, and I make the sum 38° 42′, answering to 11° 10′ of ♉, at which the sun, from the day and hour of the nativity, arrives in 58 days, which denotes so many years; but it must be observed, that the converse directions did not wait for the other two by a right motion, as by it the ☽ in the nativity, applied to the □ of the infortunes in the world, and to the sesqui-quadrate of ♂ in the zodiac; so that the significator of life appeared stronger and more fortunate by a converse motion: for though the ☽ was favoured by the ✱ of ♃ in the zodiac, the infortunes prevailed, as being more numerous and in the angles.

In the 41st year of his age, when, after a series of successes, *Fortune* turned her back upon him; he suffered a very great loss of his fleet and army, by a tempest near the coast of Africa: the ☽ arrived at the parallel of ♂ in the world, whilst both, by a converse motion of the *primum mobile*, were in rapt motion round the world, for they happened to be posited in equally proportional distances from the horoscope. The ☽'s semi-diurnal arc is 52° 33′, the semi-diurnal arc of ♂'s ☍ is 62° 27′, and their sum is 115° 0′; therefore, as the sum of the semi-diurnal arcs 115° 0′ is to the ☽'s semi-diurnal arc 52° 33′, so is the difference between ♂'s ☍ and the ☽ in right ascension 45° 25′ (for the right ascension of ♂'s ☍ is 232° 3′, and the right ascension of the ☽ 277° 28′), to the ☽'s secondary distance from the *medium cœli* 20° 45′, which, subtracted from the primary, which is 57° 28′, leaves the arc of direction 36° 43′, which, being equated in the usual way, gives 41 years.

In his 19th year, when he was chosen emperor, the ☽ had arrived at the cusp of the twelfth, and ♀ at the second; therefore the *medium cœli* was directed to the ✱ of the ☽ and △ of ♀, and they were both in parallel by rapt motion: the ☽ also came to the ✱ of ♀ in zodiac, near 26° ♑, and to the quintile in the world by converse motion. But the most important was, the ☉ to parallel of ♃ in the zodiac, near 25° of ♈, where he acquires the same declination as ♃; the ☉'s crepuscular arc is 1^h 58′, his semi-nocturnal arc 6^h 32′, from which subtract the crepusculine arc, and his obscure arc is 4^h 34′. The crepusculine arc of ♈ 25° is 2^h 18′, its semi-nocturnal arc is 5^h 9′, and the obscure arc is 2^h 51′. The ☉'s distance from the *imum cœli* is 54° 16′; wherefore, as the ☉'s obscure arc 4^h 34′ is to his distance 54° 16′, so is the obscure arc of 25 ♈ 2^h 51′ to its secondary distance 32° 22′; from which, subtracting the primary distance of ♈ 25°, there remains the arc of direction 17° 31′, which being equated, gives 19 years. For 58 years and 7 months nearly, I thus calculate the secondary directions. To the day and hour of the nativity I add 58 days for the same number of years, and 14 hours for the 7 months, and I come to the 22d day of April of the same year 1500, with 5^h 39′ P. M., and in the secondary directions the planets are in the following position:

	☉	♄	♃	♂	♀	☿	☽	☊
Deg. of Long.	♉	♉	♓	♊	♊	♉	♓	♊
	11.36	24.11	20.28	29.19	8.4	5.45	4.0	9.8
Lat.		S. 1.46	S. 1. 2	N. 0.38	S. 0.22	S. 1.23	S. 5.0	

When the ☽ was in the 4th degree of ♓, lat. 5° South, by which she had the declination 14° 44′; the same with ♄, as well there as in the nativity; and lastly, on the day of death, wherein ♂ was in the 4th degree of ♍, in ☍, (that is partile) to this place of the ☽. The ☉, in the secondary direction, on the 22d day of April, was in 12° of ♉, in the parallel of ♄'s declination there both from the nativity and at death. The ☉, on the day of death, from the ☍, entered the place of the direction of the ☽'s □ in the zodiac; and, two days before he died, there happened to be a lunation of the ☽'s □ with the ☉ in those obnoxious places. On the day of his death, the Moon was in the last degree of ♑, with South latitude, whereby she was posited in the same parallel of declination ♂ was in, on the 22d day of April, of the secondary direction; therefore, there was a mutual permutation of aspect between the Moon and Mars, viz. an active and passive ingress to these motions on the day of death; and is an admirable proof of the calculation being exactly true. The places of the planets, on the day he died, which was the 21st of September 1558, are as follow:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♎ 7.31	♑ 29.29	♉ 24.31	♒ 2. 4	♍ 4.28	♌ 29.25	♎ 17.23	♈ 19.20
Lat.		S. 4.55	S. 2.34	S. 0.51	N. 0.24	0. 0	N. 0.42	

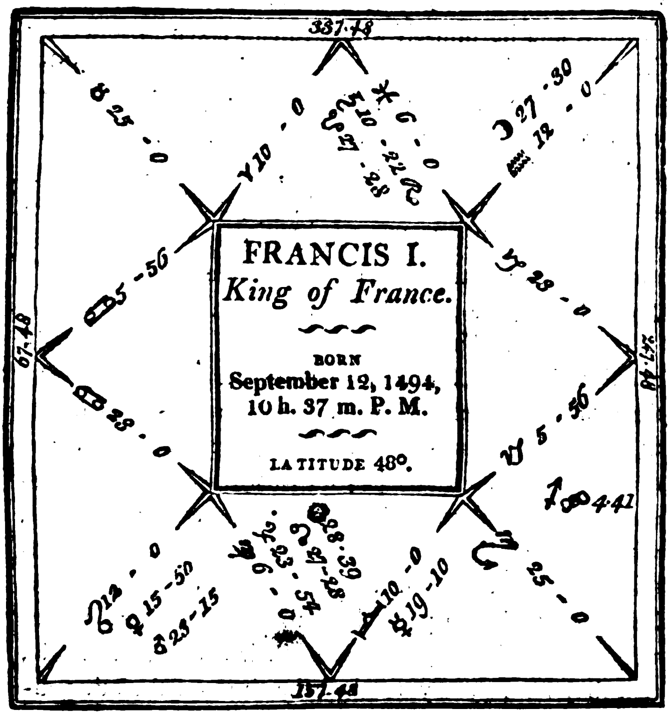
The manner I look for the process for the same year is thus: For full 48 years, 48 embolismic lunations are finished, in four years following the nativity, yet less than that by 44 days, that is, 11 × 4, for we have said in its Canon, that the Moon finisheth 12 embolismic lunations in 11 days less than a whole year; wherefore, from the 23d February, 1504, subtracting 44 days, we go back to the 10th January, when the Moon, from the 22d degree of ♏, is posited in the same distance from the Sun which she hath in the nativity, viz. of 68°; and then the process is finished for full 48 years; then, for the other ten years, passing over the other 10 embolismic lunations, I come to the 31st of October of the same year, 1504, when the Moon was in 10 degrees of ♍, and the Sun in 18 degrees of ♏. That we may preserve their distance from each other at the nativity for the six remaining months, and 27 days, *i. e.* to the day of his death, I add to this place of the Moon six signs and 15 degrees for the six months, and 29° 30′ for the 27 days, and I come to 24° 30′ of ♈, wherein the Moon is posited on the 18th of November. In the progressions, the planets are thus posited:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♐	♈	♌	♌	♐	♐	♐	♓
	6.3	24.30	3.26	16.15	14.15	13.40	22.44	10.39
Lat.		N.	N. 0.11	N. 0.40	S. 0.2	N. 0.9	S. 0.40	

The Sun was in six degrees of ♐, which ♂ entered by a quadrate ray, on the day of death: the Moon had passed the place of her direction in the zodiac; but when she was arrived at 25 degrees of ♈, she struck upon, by ingress, (on the day of death) the parallel of ♂'s declination, and entered on the fatal day from the □; from the 24th degree of ♑, this place of her progression; the Moon also applied in the progression to the □ of ♄. The most noble satellite in this Nativity is to the Moon the conditionary luminary, from the ✱ of ♃, and from the quintile of ☿. To the *medium cœli*, from ♃ and the Sun the △, from ♀ the biquintile. To the ☉, from ♃ and ☿ by presence, from ♄ and ♂ the Sextile.

It is presumed that the following incidents of the life of this extraordinary man will not be unacceptable to the intelligent reader, as they may serve to illustrate the effects of Celestial Influx, by comparing the effects with the cause which produced them. At the age of 14, he had the government of the Netherlands given him; at 16 he was crowned King of Spain; at 19 he was elected Emperor, and crowned the following year at *Aix la Chapelle*. He had great wars with Francis the First King of France, whom he took prisoner at the battle of Pavie, in the year 1525, and sent him to Madrid; he likewise seized Rome, and besieged the Pope in his castle there, and annexed the Dutchy of Milan to his house for ever. In 1532, at a diet then held at Ratisbon, the Protestant confession of faith was exhibited, and publicly read before him; some years after which he entered into wars with the Protestants, and took John Frederick, Elector of Saxony, prisoner in 1545; and thereupon transferred the Electoral dignity from him to Maurice, Duke of Saxony. He also caused Philip, Landgrave of Hesse, to be put into custody; but, in the end, concluded the Peace of Passaw, in the year 1552; three years after which, he abdicated the government, and retired to a cloister, in St. Justus's monastery in Spain, where he died in 1558. He married Isabel, the daughter of Emanuel, King of Portugal, by whom he had issue, one son and two daughters; besides whom he had one natural daughter, named Margaret, by Mademoiselle de Plumbes, which daughter was married to Alexander de Medicis, Duke of Urbin; and, after his decease, to Octavia Farnesse, Duke of Parma. He had also a natural son by Mademoiselle de Blomberg, viz. the renowned Don John of Austria.

EXAMPLE II.



	LATITUDES.			DECLINATIONS.		
♄ . .	2°	10′	S.	9°	43′	S.
♂ . .	0	24	N.	14	12	N.
☿ . .	2	0	S.	9	22	S.
☽ . .	2	30	N.	10	2	S.

THIS King, in a stout engagement with a large body of the enemy, at the river Po, in Italy, suffered a very great overthrow, his general and valiant armies being all slain, and he himself wounded and taken prisoner by the soldiers of the Emperor Charles V. This was in the year 1525, on the 24th of February, when he was 30 years and five months old; at which time the Sun, who is the significator of glory, liberty, and power, came, by a right direction, to the mundane parallel of ♄, and also to the parallel declination of ♂; and, by a converse motion, was posited as near as possible to the Moon's ☍, and mundane parallel of ♄.

To the parallel of the declination of Mars, the calculation is as follows; and it corresponds with the time of the direction, when the Sun arrives at 6° of ♏, where he obtains the declination 13° 34′, and the declination of Mars 14° 12′, for this reason, either because the true place of Mars is wanting a few minutes, which made the declination of Mars lesser; or, as the luminaries, by reason of the magnitude of their bodies, begin to touch at a parallel of their declination, before they arrive at it by the centre of their bodies; or, lastly, that they have already reached the times of the other directions: be it as it will, the Sun was conjoined, as near as could be, to the declination of ♂; it might be, likewise, that the secondary directions and powerful ingresses may have made the effect appear a little before the exact application of the primary direction.

Of the Sun.

The semi-nocturnal arc is	5^h	57′
Crepusculine arc	1	50
Obscure arc	4	7
Right ascension	178°	46′
Distance from the *imum cœli*	20	58

Of the 6th degree of ♏.

The semi-nocturnal arc is	7^h	2′
Crepusculine arc	1	50
Obscure arc	5	12
Right ascension	213°	40′
Primary distance from the *imum cœli*	55	52
wherefore, as ☉'s obscure arc	4^h	7′
is to his dist. from the 4th	20°	58′
so is the obscure arc of ♏ 6°	5^h	12′
to its secondary distance	26°	29′

which being subtracted from the primary, leaves the arc of direction 29° 23′.

The Sun's direction to the parallel of ♄ in *Mundo*, by direct motion is thus calculated.

As the ☉'s semi-nocturnal arc, 5^h 57′, is to its distance from the *imum cœli*, 26° 29′ (which the Sun requires after the direction is finished, at which time, as we have said, he lustrates the sixth degree of Scorpio), so is ♄'s semi-diurnal arc, 5^h 16′, to his secondary distance from the *medium cœli* 23° 47′, which added to the primary (because ♄ passes from the ascendant part of heaven to the descendant), which is 4° 56′, give the arc of direction 28° 43′; to equate which I add to it the ☉'s right ascension, and it makes 207° 29′ = 29° 30′ ♎, to which the ☉, from the day and hour of nativity, arrives in 31 days, answering to so many years.

The next is the ☉ to the parallel of ♄ in *Mundo*, converse direction.

Thus wrought, as ♄'s semi-diurnal arc, 5^h 16′, is to his distance from the *medium cœli* 4° 56′, so is the ☉'s semi-nocturnal arc 5^h 57′ to the ☉'s secondary distance from the 4th, 5° 35′, which, added to the primary 20° 58′, makes the arc of direction 26° 33′, so that this direction had preceded two years and some months before.

It is easy to calculate the ☉'s converse direction to the ☍ of the ☽, whereby he applied also to the ☌ of ♂: the ☽'s declination is 10° 2′, answering to ♓ 4° in the ecliptic, whose horary times, 13° 7′, doubled, are 26° 14′, the ☽'s right ascension is 328° 50′, which subtracted from the right ascension of the *medium cœli*, leaves the ☽'s distance 8° 58′: the polar elevation of the 9th house is 21°; therefore, As the double horary times of ☽, 26° 14′, is to the polar elevation of the 9th house 21° 0′, so is the ☽'s distance from *medium cœli* 8° 58′ to the ☽'s pole 7° 0′, under which the oblique ascension of the ☽'s ☍ is 147° 36′, that of the ☉ 178° 42′, from which subtracting that of the ☽, leaves the arc of direction 31° 6′, so that the ☉ and ☽ were as nearly opposite as possible.

I look for the secondary directions thus: To the day and hour of the nativity I add 30 days and 10 hours, for the 30 years and 5 months, and I come to the 12th of October, with 20^h 26′ P. M. when the ☉ was in ♎

29°, in exact parallel of ♄'s declination, who was in ♓ 7°, with latitude 2° 10′ South, ♂ had arrived at ♍ 11°, to wit, the opposition of the *medium cœli* of the nativity, and the ☽ in ♈ 8 degrees. On the 22d of February, 1525, there happened a remarkable new ☽, in ♓ 13°, in which the three superiors, by an exact calculation, had the same declination, and, for this reason, were in parallel, and the luminaries applied to their declination nearly. These aspects of the stars usually are the causes of very grievous wars, and this new ☽ was celebrated upon ♄ of his nativity, and then ♄ applied to the ☍ of the ☉ of the nativity, and place of the ☽'s direction. This new Moon likewise happened in the ☍ of ♂ in the progressions, and, by the ingress of ♂ from ♎ 22°, had its morning station nearly above the place of the secondary direction of the ☉, and in the ☽'s declination.

On the 24th of February, the ☽ was found in the same 9° of ♈, in its secondary direction, under the parallel of ♂; in the same place the ☽ also was in the parallel of ♃, but could be of no service, as not being conjoined to the places as well of the radix as the directions: yet she delivered from a more grievous calamity, which, from the constitution of the nativity, was denoted to be extremely unfortunate; for the ☽, the conditionary luminary, was in the parallel declination of ♄, and in his mundane parallel; but, what is worse, is ♄ being in the centre of the supreme cardinal house, or *medium cœli*, and the ☽ cadent in the ninth, from which ♄ was very strongly elevated above it, and, moreover, as the unfortunate directions were, as has been observed, at that time powerful, ♃ afforded but small assistance.

He died in the year 1547, in the month of April, from the ☽'s direction, the significator of life, to the ☍ of ☿, followed by the parallel declination of ♄, for ☿ was of the nature of ♄, on account of the parallel of declination, and by reason of the sign ♎, and had something of ♂, because of the sextile. The oblique ascension of ☿ to the pole of the ☽ 7°, is 198° 4′, from which, subtracting the ☽'s oblique ascension there taken, 147° 36′, there remains the arc of direction 50° 28′, which, for the equation, I add to the ☉'s right ascension, and I make the sum 229° 14′ = 21° 20′ of ♏, at which the ☉, from the day and hour of the nativity, arrives in 52 days 16 hours, which denotes 52 years 8 months. By converse direction, the ☽ had descended to the ☉'s □ :

As the ☉'s semi-nocturnal arc . . .	5^h	57′
is to the ☉'s dist. from the *imum cœli* .	20°	58
so is the ☽'s semi-nocturnal arc . . .	5^h	15
to the ☽'s secondary dist. from the west	18°	30

The oblique ascension of the ☽'s opposition in the horoscope is 137° 30′, from which, subtracting the horoscope's oblique ascension, there remains the ☽'s primary distance from the west 69° 42′; the secondary subtracted from this, leaves the arc of direction 51° 12′, greater by 44′ than that taken above, which makes but little difference.

You will ask, why the ☌ of ♄ with the ☽ was not the cause of his death. I answer, because there the ☽ was in a contrary latitude, and happened in the terms of a benefic: also the ☍ of ♂ to the ☽, by a converse direction, did not kill*, as the ☽ applied to the parallel of ♃ in the world by the same converse motion. But this nativity, with respect to life, certainly was not very strong, by reason of the unfortunate state of the ☽, the significator of life.

The causes of the antipathy between these two princes were the ascendants in signs and places opposite to degrees and minutes; ♄ of Francis upon the ☉ of Charles; ♂ of Charles in □ to the ☽ of Francis; the ☽ of Charles in the sesqui-quadrate of ♂ of Francis; ♄ in the opposite cardinals; ♂ angular in the one, cadent in the other, alternately in the □, &c.

Francis the First was crowned King of France in 1515, and, in the same year, lost the Duchy of Milan, but overthrew the Swiss at the battle of Marignan. He was taken prisoner by the Emperor Charles the Fifth, at the battle of Pavia, in the year 1525, and, being set at liberty, began the war again, but was wholly beaten out of Italy. Francis had likewise wars with Henry the Eighth, King of England, who took Boulogne from him in 1544. He was married twice; his first wife was Claudia, daughter of his predecessor Lewis the Twelfth; and, his second, Eleanor, daughter of Philip the First, King of Spain, by whom he had issue one son and two daughters, viz. Henry the Second, who succeeded him in the throne of France; Magdalen, who was afterwards married to James the Fifth, King of Scotland; and Margaret, married to Charles, Duke of Alencon; and, after his death, to Henry the Second, King of Navarre.

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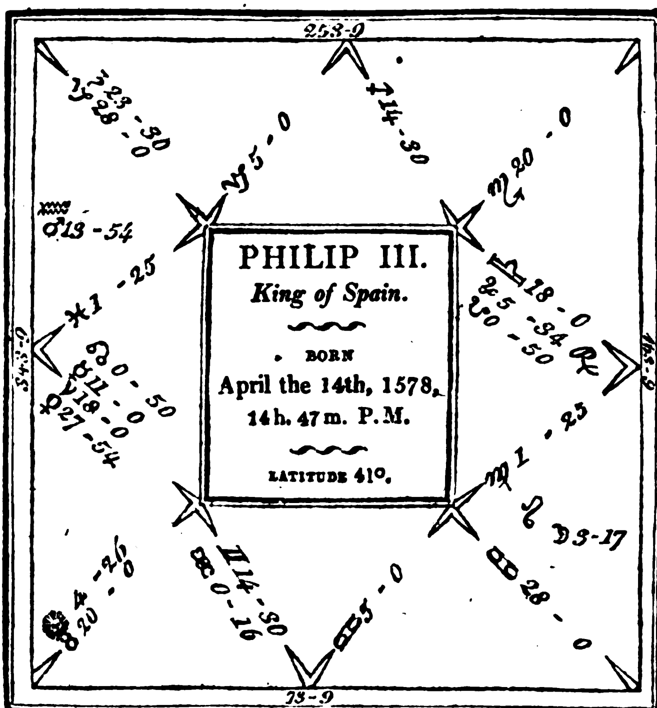
* Ptolemy says, there is only one converse direction able to kill, viz. *Apheta ad Occasu.*

EXAMPLE III.



	LATITUDES.			DECLINATIONS.		
♄ . .	0°	6′	N.	23°	15′	S.
♃ . .	1	35	N.	0	43	S.
♂ . .	1	39	S.	18	17	S.
☉ . .	0	0		19	13	N.
♀ . .	1	13	S.	9	40	N.
☿ . .	3	0	S.	1	37	N.
☽ . .	4	14	N.	23	40	N.

HE died on the 31st of March, 1621, aged 42 years 11 months. He was, for the first time, in 1614, seized with a flow of humours from the head, which lasted without any intermission, together with a weak state of health.

The horoscope, significator of life, in the 43d year of his age arrived at the □ of ♄ by our method, whereof the calculation is as follows:

The right ascension of the *medium cœli* is 253° 0′, the right ascension of ♄ 295° 23′; from which there remains the arc of direction of the *medium cœli* to ♄ 42° 14′, from which place ♄ projects the □ to the horoscope.

For the equation, I add this arc of direction to the ☉'s right ascension 32° 9′, and I make the sum 74°. 23′, answering to 15° 40′ of ♊, which the ☉ from the day of the nativity arrives at in 43 days, which denote so many years of life. For the secondary directions, I add 42 days for so many years, 22 hours for 11 months, and 28′ for 7 days; therefore, the secondary directions are made on the 27th of May, 1578, with 13h 15′, P. M.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of	♊	♓	♑	♎	♓	♊	♊	♓
Lon.	15.40	12.0	22.50	1.50	15.0	21.0	28.0	28.37
Lat.		S. 1.25	N. 0.14		S. 2.18			

The ☉ is found in the parallel of the declination of ♄, and in the □ of ♂ and □ of the ☽ in ☌ with ♂, by long. and lat. And to the hour, P. M. 13ʰ 15′, the 27th of May, is posited in the horoscope ♈ 5° 45′, and in the *medium cœli* 3° of ♑. The progressions for 43 years happen on October the 5th, 1581, whilst the ☽ had 21° ♑; but we must subtract 24°, in order that the ☽ may be posited in ♐ 27°; the rest as follow:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of	♎	♐	♒	♑	♎	♏	♎	♑
Lon	20.0	27.19	22.19	10.20	28.15	10,0	3.40	23.42

The ☉ was conjoined to ♂, the ☽ to the □ of ☿; the former had arrived at the □ of ♄ of the nativity, and the latter to its parallel. On the day of death, the stars were posited thus:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of	♈	♋	♋	♉	♏	♓	♈	♐
Lon.	10.58	19.3	0.42	21.16	22.6	13.9	18.53	10.53

The ☉, on the day he died, was posited upon ☿ of the nativity, for ☿ was malefic by reason of the sign and mundane parallel of ♂; ☽ opposite to ♄ of the nativity, and secondary direction; ♄ in the □ (of the secondary direction) of the horoscope, that is, from the *imum cœli*; for in the *medium cœli* are, as we have said, ♑ 3°; and, when the horoscope is significator of life, such rays, when directed to it, are very powerful. Lastly, there is a remarkable new Moon in ♈ 3° before his death, and, afterwards, the quadrant of the ☉ being upon the secondary direction of the horoscope, and the ☽ in its □, and ☿ with ☉ with the ray □ of ♄ to the horoscope; but it was expected that the ☽ would arrive at the ☍ of ♄, of the nativity and secondary direction. An eclipse of the ☽ preceded the year 1620, in 24° of ♐; the ☽ remaining between the ☍ of ♂ and ♄ in the *medium cœli;* the sign ♐ respects Spain and the men, the *medium cœli* royal dignities; all this is agreeable to the sentiments of Ptolemy; and, also, another eclipse of the ☉ in 14° of ♊, that is, in the □ of the king's ascendant; and, lastly, in the revolution, the ☉ was with ♂ and the ☽ in their □ and parallel of declination, and ♄ in the □ of the ascendant of the nativity.

In the year 1614, on the 2d of June, in the 36th year of his age, he was taken ill of a violent flow of humours from the head, at which time the ☽ arrived at the sesqui-quadrate of ♂ in the zodiac near ♉, and parallel of the declination of ☿, and, by converse motion, the ☽ to the □ of ☿, when she was separated from the sesqui-quadrate of ♂; the quintile of ♀ followed, which is injured by the □ of ♄, the ascendant to the ☌ of ♀.

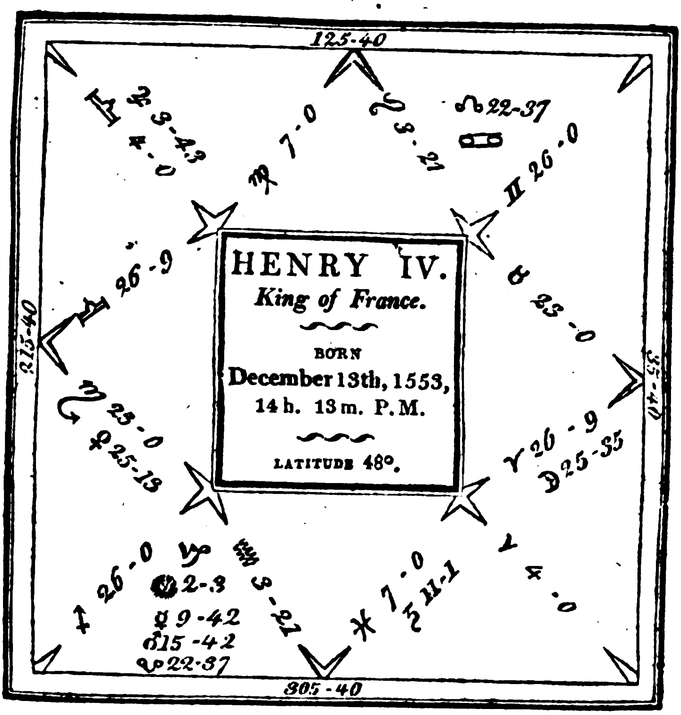
As any one will find, if he pleases to calculate these directions.

By secondary directions, on the 36 days succeeding the nativity, the ☉ was conjoined to ♀, and entered the parallel of the declination of ♄, with ☍ of the ☽, followed by the □ of ♂ to both, in which parallel the ☉ continued almost without interruption, but was not the significator of life.

A disorder in the head is chiefly denoted from the parallel of the ☽'s declination with ♄ in the nativity and mundane parallel with ☿, who is also found in the mundane parallel of ♂.

This king came to the crown of Spain in 1598, at the age of 20 years; and, in 1610, he expelled 900,000 Moors and Jews out of Spain. He was married to Margaret, daughter of Charles, Archduke of Austria, by whom he had eight children, three of which died infants.

EXAMPLE IV.



LATITUDES.				DECLINATIONS.		
♄ . .	1°	55′	S.	9°	13′	S.
♃ . .	1	26	N.			
♂ . .	0	8	S.	22	42	S.
☉ . .	0	0		23	31	S.
♀ . .	2	12	N			
☽ . .	5	0	S	5	16	N.

IN the year 1610, on the 14th of May, 4^h 48′ P. M. he received a wound of which he died. In 1594, on the 15th of December, he was slightly wounded in the face.

Argol describes this nativity in his works on the Critical Days: He places in the *medium cæli* 3° 21′ ♌, but in the horoscope 27° 20′ of ♎, although, according to the latitude of the country, which he explains in the figure, page 48, there should be placed in the horoscope 26° 9′ ♎. He likewise places the ☽ 21° 14′ of ♈; but, according to the common Ephemeris and Tables of moveable seconds, the ☽ is posited in 25° 35′ of ♈, in which place she is a very powerful significator of life, and which is manifestly proved by an agreement of the time of death with the ☽'s direction to the □ of ♄ in the zodiac, near 11° 1′ of ♊, when the ☽ has 3° 21′ south latitude.

The oblique ascension of the ☽'s opposite place to the pole 48°, is 211° 25′, which, subtracted from the oblique ascension of the horoscope, there remains the ☽'s distance from the west 4° 15′. The nocturnal horary times of the ☽ are 14° 2′, the elevation of the pole of the sixth house is 37°; the difference, therefore, of the pole of the sixth and seventh houses is 11°; I say, if the duplicate nocturnal horary times of the ☽ 28°, gives the polar difference of the houses 11°, what will the ☽'s distance from the west 4° 15′ give? Facit 2°, which, being subtracted from the pole of the seventh house, there remains the ☽'s pole 46°, under which the oblique ascension of the ☽'s ☍ is 210° 59′, and the oblique ascension of ♐ 11° 1′, in north latitude 3° 21′, is 270° 37′, from which, subtracting the former, leaves the arc of direction 59° 38′, which, being equated, points out 56 years and 6 months nearly.

By converse direction the ☽ and ♄, by the rapt motion of the *primum mobile*, happened to be posited in equal proportional distances from the *imum cœli*, called a rapt parallel, calculated thus:

The ☽'s semi-nocturnal arc is 84ʰ 6′ or	5ʰ	37′
Saturn's semi-nocturnal arc	6	41
The ☽'s right ascension	25°	33
Her distance from the *imum cœli* . . .	79	53
Saturn's right ascension	343	14
Distance in right ascension from the ☽ .	42	19
Then, as the sum of the semi-noct. arcs .	12ʰ	18
is to the ☽'s semi-nocturnal arc . . .	5	37
so is the distance in right ascension . .	42°	19
to the ☽'s secondary dist. from the 4th .	19	19

which, being subtracted from the primary, leaves the arc of direction 60° 34′, one degree subsequent to the other direction.

Argol tells us, King Henry escaped, with danger, by a wound he received in his under lip, which struck out some of his teeth, in the year 1594, on the 15th of December, when he was exactly 41 years of age; at which time the ☽, in a right motion, arrived at the □ of ♄ in the world, which is thus wrought:

As the ☽'s semi-nocturnal arc	5ʰ	37′
is to her distance from the west	4°	15
so is the semi-nocturnal arc of ♄ . . .	6ʰ	41
to the secondary distance of ♄ from the 4th	5°	3

which, added to his primary, = 37° 34′, makes the arc of direction 42° 37′, which being equated, as usual, gives 40 years; therefore, the true direction had preceded some time before.

There was likewise, a little before that, the ☽ = to the rapt parallel of ♂, being equi-distant from the *imum cœli*. The ☽'s semi-nocturnal arc is 5ʰ 37′, the semi-nocturnal arc of ♂ 7ʰ 50′, their sum 13ʰ 27′, the right ascension of ♂ 287° 5′, his distance in right ascension from the ☽ 98° 28′; hence you have her secondary distance 41° 7′, which, subtracted from her primary, which is 79° 53′, leaves the arc of direction 38° 46′.

These directions of ♄ and ♂ to the ☽ were not mortal, as she continued, by right direction, within the rays of ♃, and in his terms, and, also, in a parallel of the declination of ♀. On the 15th of December, 1594, ♂ was in 23° ♏, in ☍ of the ☽'s place of direction, and the ☽ in 4° of ♒, with latitude south 5°; nearly in the parallel of ♂'s radical place.

The secondary directions to the 56th year, together with the 4 months and 20 days, fall on February 8, 1554, almost in the meridian.—The places of the planets were as follow:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♒	♉	♓	♎	♓	♒	♒	♋
	29.44	18.14	17.19	1.55	1.16	4.47	16.26	18.36
Lat.	·	·	S. 1.42	N. 1.52	S. 0. 2	N. 0.16	N. 1.26	

Where the ☉ was conjoined to ♂ by longitude and latitude, about the beginning of the sign ♓, ♂ was also there, and not far from ♄, who surrounded the ☉'s place on the day he received the wound, and which place the ☉ entered by a □ ray, in which he was afflicted by ♄ in an angle; and the ☽, on the 8th of February, was in 18° of ♉, in latitude 4° 20′ south, by which she gained the declination 14° 20′; ♄ had this same declination, and likewise was in □ to this same place of the ☽, on the day he got the wound; at which time the ☽ was in 7° of ♒, in □ of ☿, which received the nature of ♂ from the parallel of declination; and, also, ♄'s □ in the world.

Places of the Progressions of the Planets, the 7th of July, 1558.

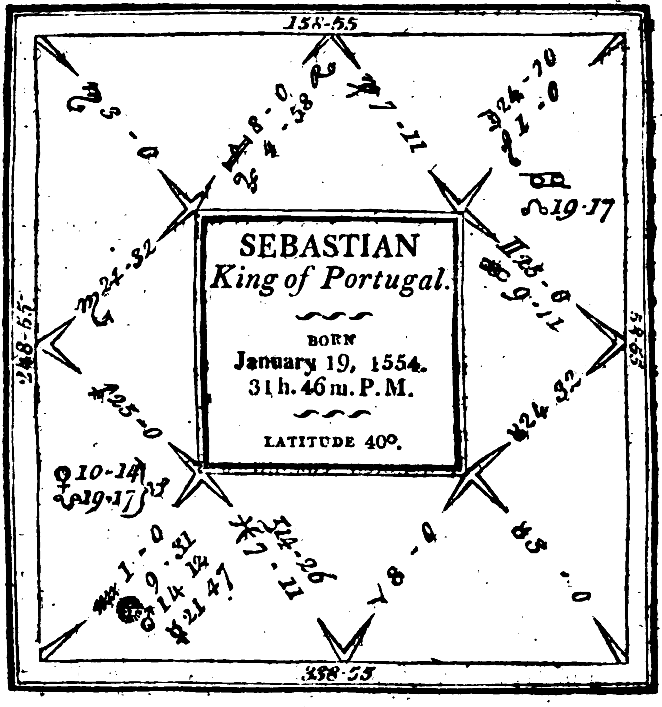
	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♋	♈	♉	♒	♋	♊	♌	♈
	24.0	11.34	22.51	8.33	16.19	10.11	15℞0	23.21

The progressions to the end of the 56th year, depend on the 24th of June, 1558, when the ☽ was posited in 6° of ♏; for the 4 months and 24 days, we advance five signs and 6°, and come to the 7th of July; the ☉ was then separated from ♂, denoting a conspiracy to have preceded; ♄ was in 23° of ♉; the ☉ entered this place exactly on the day he was wounded, ♂ in 17° of ♋, whose declination the ☽ had on the same day.

But it was six days before the famous full Moon, the ☉ being 17° of ♉, and the ☽ 17° of ♏, which, applied to □ of ♄, and the ☽, having 4° latitude, was in exact parallel of the declination of ♄ and ♂. You see, therefore, that the many agreements with the places of the secondary directions and progressions from the day he received the wound, together with the preceding lunation, are agreeable to what Ptolemy says in the last chapter of Book IV; from which we are likewise taught, always to observe those lunations wherein the luminaries are afflicted by inimical rays; and, particularly, if the places in which those rays are unfortunate, either by ingress or transit, and afflict the prorogators of the nativity, or, rather, if their aspects with them be hostile, as we shall find in the following examples.

Henry the Fourth was called the Great King of France and Navarre. In his 15th year he was head of the Protestants in France. At 19 he was invited to the French Court at Paris, to be present at the massacre of the Protestants, and in the same year, upon the death of his mother, he took upon himself the title of King of Navarre. He thrice extorted peace from the King's party; and, by the battle of Courtray in 1581 (Henry III. being then living), dissolved the league entered into by the Pope, the King of Spain, and the Guisian Faction, against the Protestants. Henry was crowned King of France in 1594, and was assassinated in Paris by Francis Ravillac, on May 4th, 1610. He was married twice, but divorced his first wife and married Mary de Medicis, daughter of Francis the Great Duke of Tuscany, by whom he had four children, two sons and two daughters.

EXAMPLE V.



	Latitudes.			Declinations.		
♄ . .	1°	43'	S.	7°	47'	S.
♃ . .	1	44	N.			
♂ . .	0	4	S.	16	42	S.
☉ . .	0	0				
♀ . .	1	10	N.			
☿ . .	1	48	N.			
☽ . .	2	51	N.	16	19	N.

IN the year 1578, on the 4th of August, he was mortally wounded in the war in Africa, aged 24 years, 6 months, and 11 days.

This nativity has a very near resemblance to that of Francis I, King of France; in both, the ☽ is posited in the ninth house, declining from an ☍ of ♂, which remains in the third. In Sebastian, the ☽ has the declination of ♂, which constitution denotes journies for the cause of war. In both, the ☽ is injured by the aspects of the malefics. In Francis, by the declination of ♄; in Sebastian, by that of ♂; in both ♄ is in the sign ♓, angular in the mundane parallel of the ☽, above which he is elevated. In Francis, from the *medium cœli;* in Sebastian, from the *imum cœli;* in both, the ☽ is the conditionary luminary; which being so unhappily affected, denoted calamities in journies; in both ♃ is unfortunate, succeeding the rays of ♄ to the *medium cœli;* in Francis cadent in the sign ♍; in Sebastian ℞; where to the good things by him signified, he added sorrows; in both, ☿ assumes the nature of the enemies; for in Francis, he is in the parallel of declination of ♄, and ⚹ of ♂; in Sebastian, in the mundane parallel of ♄, which is elevated above it from the fourth house; in the other from the *medium cœli;* which constitution infers the fixed obstinacy of his mind and tendency to perform things that are difficult, nay, even impossible.

Argol, in this nativity, omitting the ☽, to whom the right of hyleg belongs, directed (when the numbers of his calculation did not agree), the ascendant to the □

of ♄, which ray contains signs of the smallest ascensions, as are ♑, ♒, and ♓; the place also of the direction is in the terms of ♀, and the antiscion of ♀ succedent, according to common opinion, and doubtless they were strong and sufficient grounds for this opinion; but as we have fully demonstrated in the Celestial Philosophy, the rays of the stars taken to the angles in the zodiac, are altogether as nothing; and in this nativity the ☽ becomes a very powerful significator of life; who, at the time of this King's accident, came by direction to 21° of ♍, with latitude 4° 23′ north, where it was afflicted by the parallel declination of ♄ 7° 47′, which is thus calculated.

The ☽'s declination 16° 12′, answers to ♌ 15° 40′, whose horary times, 17° 22′, doubled, are 34° 44′; the polar elevation of the ninth house is 16°, the ☽'s right ascension 147° 29′; from hence arises her distance from the *medium cœli* 11° 26′, and her polar elevation 5°; under which the oblique ascension of the ☽'s ☍ is 328° 56′; the oblique ascension of ♓ 21°, with latitude 4° 23′ South, is 354° 9′, from which subtracting the former, leaves the arc of direction 25° 13′, which being equated, as usual, produces 25 years.

By converse motion, the ☽ was separated from the ✱ of ♃, and applied to the sesqui-quadrate of ♄; but the hyleg, by a converse motion, was weak, owing to the ☍ of ☿ and ♂, to which the ☽, by a converse motion, applied nearly.

When ♃ arrived at the *medium cœli*, he undertook he friendly office of restoring Prince Muly to his father's kingdoms.

But you will ask, why the ☍ of ♄ to the ☽ did not destroy life? I answer, from several causes: the King, at that time, was preserved; first, the ☽ in the ☍ had gained much latitude, whereby she was far distant from the diametrical point; second, the direction happened in the terms of ♀; third, the mundane △ of the same was succedent; fourth, after the mundane parallel of ♃ had preceded by a right motion, he applied by a converse motion*; but in ♍ 21°, none of the friendly rays assisted, but there is the beginning of the terms of ♂. All these remarks are taken from Ptolemy, in the Chapter of Life.

The Secondary Directions are made on the 13*th of February*, 1554, *at* 2 *Hours* 26 *Minutes, P. M.*

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♓	♋	♓	♎	♓	♒	♒	♋
	4.50	21.20	18.0	1.26	5.10	11.1	13.30	18.20

The Progressions on the 14*th of January*, 1556.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♒	♒	♈	♏	♒	♒	♑	♊
	3.55	27.13	8.7	29.26	27.34	10.14	8.47	11.16

The following was the Position of the Planets on the unfortunate Day.

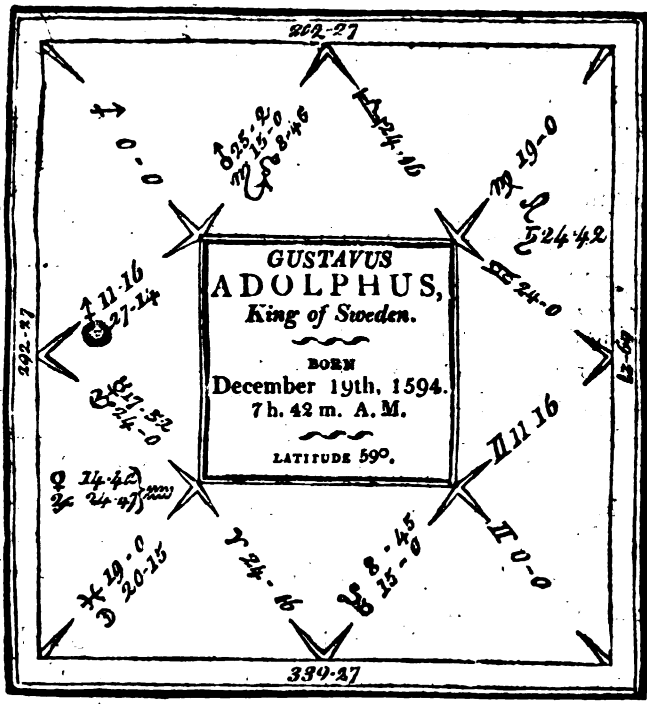
	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♋	♍	♑	♎	♈	♍	♌	♓
	21.7	7.25	18.12	10.58	26.0	14.45	10.23	25.0

For the secondary directions I add to the hour of the nativity 24 days, 12 hours, 40 minutes; and I come to the 13th of February, 1554, 2^h 26′, P.M. in which the ☉ was conjoined in longitude and latitude with ♂, exactly in 5° of ♓, without the least assistance of the friendly rays; but the ☽ was, on the day of his accident, in the ☍ of the ☉, applying to the parallel of the declination of ♄ of these motions; the ☽, on the same 13th of February, was in 21° of ♋, to which, on the unhappy day, ♄ from the ☍, and ♂ in the □, were mischievously disposed; therefore, from the active and passive ingress, the ☽ continued unhappily situated, and was also on the unfortunate day, with the declination of ♄ of the nativity, and of his direction; and hath the same almost with that of ♂, from 26° of ♈, with latitude 4° south. The progressions for 24 years are finished on the 29th of December, 1555, when the ☽ is there posited in 2° of ♌; for the other six months I add six signs and a half, and I come to the 13th of January, 1556, when the ☽ was found in 17° of ♒, that is, when the ☌ with the ☉ has passed 15°, as the ☍ of the ☉ had passed so many in the nativity, and the ☽ is posited in 28° of ♒; on the 14th of January, the ☽

was in partile ☌ with ♂, and both in the ☍ of the ☽ of the nativity, to whose ☍ the ☉ applied on the fatal day. The ☉, in the progressions, was between the ✱, and quintile, together with the parallel of declination of ♃, who, during the war, favoured by his △ this place of the ☉. There had also preceded in the progressions a ☌ with the ☉ and ♀; and ♃, by transit from a △, aspected the ☉ of the nativity; hence it is evident, that the affairs of the King, together with his army, were successful, as he with his troops had seized upon the kingdoms of others; but the stars threatened life, which when extinguished, every thing fell equally with it.

The four following nativities, as they have the ☉ in the crepusculums, the significator of life, and the calculations of the directions belonging to the same Canons, I was unwilling to separate, but have explained them, one after another: as they bear testimony to the truth of my opinions concerning the crepuscules, it was likewise my desire to have them all ready at hand, for every one who wishes to have a proof of it.

EXAMPLE VI.



LATITUDES.

♄ . .	0°	29′	N.
♃ . .	0	47	S.
♂ . .	0	14	N.

ON the 16th of October, 1632, 3^h 17′, P.M. he was mortally wounded in an engagement, aged 37 years 10 months.

In this nativity, to the given matutine hours, 7^h 28′, there ought to be placed 20° 30′ of ♎ in the *medium cœli*, and not 15° 42′ of ♎, according to the Argoline position; others assert, that the true hours are 7^h 42′: however it be, it matters not, as we do not direct the horoscope, but the ☉, who, at the time of this king's death, was directed, by a right motion, to the ☌ of ♃, the □ of ♂, and the ☍ of ♄ in the zodiac, within the terms of ♂; but the presence of ♃ could be of no service as being alone, the enemies numerous; then the ☉, by converse motion, was directed to the ☌ of ♂ and □ of ♄, followed by the parallel of ♄ in the world, where indeed there is a concurrence of the □ of ♃; but, as I have said, being alone against several, he could not influence, and even when he was the giver of true valour, he changed it to rashness, because afflicted by the enemies, as Ptolemy tells us in his chapter on the Nature of the Mind.

The calculation of the right direction. The ☉'s oblique ascension in the horoscope is 313° 15′, from which subtracting the horoscope's oblique ascension, there remains the ☉'s primary distance from the horoscope 20° 48′, the oblique ascension of 25° ♒ the place of the rays of ♄ and ♂ is 350° 21′, from which subtracting the ☉'s oblique ascension, there remains the arc of direction, 37° 36′, calculated in the horoscope; but as the ☉ is in the morning crepuscule, I enter the table of crepuscules to the pole 59°, with 28° ♐, and the ☉'s distance 28° 48′, which is his primary; and I find the ☉ remaining in the crepusculine circle of depression 8°, opposite to this crepusculine circle under ♒, 25°; after taking the proportional part, I obtain 16° 33′, which I call the secondary distance, and subtract it from the primary; there then remains the ortive difference, 4° 15′, but as the secondary distance is less than the primary, the difference therefore must be added to the arc of direction, taken in the horoscope, and the true arc of direction is then 41° 21′; this arc I add to the ☉'s right ascension, which is 266° 59′, and the sum is 308° 20′, answering to 5° 56′ of ♒, at which the ☉, from the day of the nativity, arrives in 38 days, which denotes so many years. The calculation of the ☉'s converse direction to ♂ is thus: The 11th house is elevated 31°, its oblique ascension is 232° 27′; to the same pole the oblique ascension of ♂ is 244° 33′; the distance therefore of ♂ from the 11th house is 12° 6′: the 12th house is elevated 49°, its oblique ascension is 262° 27′; the oblique ascension of ♂ to the pole of the 12th, is 255° 51′; therefore the distance of ♂ from the 12th house is 6° 36′; those distances of ♂, added together, make 18° 42′, the space of the house of ♂ above the earth: the difference of the polar elevation of the 11th and 12th houses is 18°, from which arises the polar elevation of ♂ 43° nearly; the oblique ascension of ♂ to this pole 43°, is 251° 16′; the ☉'s oblique ascension there is 290° 52′; from which there remains the arc of direction 39° 36′, less than the preceding by

1° 45', so that from the ☌ with ♂ the ☉ began to be separated.

The direction of the ☉ to the □ of ♄ *in mundo*, by converse motion is calculated as follows: the oblique ascension of the ☋ of ♄ is 351° 16', to the pole 59° (that is, in the horoscope); the right ascension of ♄ is 327° 11', which, subtracted from the former, leaves the ascensional difference of ♄ 24° 5', and the semi-diurnal arc of ♄ becomes 114° 5': the distance of ♄ from the West is 58° 49', the ☉'s declination is 23° 30', ascensional difference 46° 23', semi-diurnal arc 43° 37'; and the ☉'s right ascension is 266° 59', from which his primary distance from the *medium cœli* is 64° 32'. I now require, if the semi-diurnal arc of ♄ 114° 5', gives his distance from the West 58° 49', what distance from the *medium cœli* will the ☉'s semi-diurnal arc 43° 37' give? and by the logarithms the ☉'s secondary distance from the *medium cœli* is 22° 29', which subtracted from the primary, leaves the arc of direction 42° 3' of the ☉ to □ of ♄. But if we add this secondary distance of the ☉ 22° 29' to his primary from the horoscope, we make the ☉'s arc of direction to the mundane parallel of ♄ 43° 17'; therefore the directions followed very near one after the other. But as I declare myself sincerely ingenuous, and desire nothing but the bare truth of every thing, observe, gentle Reader, that I have inserted this example in my Celestial Philosophy, page 252, and have there remarked, that from Tycho's calculation, one degree is to be added to the ☉'s place; for as Argol has placed a matutine hour, that is, from midnight, in the middle of this figure, I thought it belonged to the night following the 19th day, for, among several reasons, midnight is the end of the preceding, and the beginning of the following day; but if $7^h\ 28'$ be from midnight, it certainly preceded the 19 days; and I afterwards found, from the ☽'s place, that that matutine hour belonged to the night preceding the 19th day, therefore the ☉'s place seems to have been rightly calculated.

For the secondary directions, I add to the hour of the nativity 37 days 20 hours, for so many years and 10 months, and I come to the 25th of January 1595, with the hour from meridian $17^h\ 42'$: the ☉ was in ♒ 6°, and the ☽ in ♌ 6°, who by a sesqui-quadrate ray and parallel of declination assumed the nature of ♂, with whom she had these aspects while remaining in partile ☍ of the ☉, and infected the ☉ also with the same evil qualities; the ☉ too was in parallel of ♂ in the radix, and likewise at setting ♄ and ♂ entered a parallel exactly to this place of the ☉; and ☽ at the time of the accident entered the exact parallel of ♂ by these motions on the 25th of January. The progressions for full 38 years were made on the 13th of January 1598, whilst the ☽ was in ♈ 16°; but there is a deficiency of two months and four days, for the ☉ at his death was in ♎ 23°, but in the nativity ♐ 27°, wherefore, from this place of the ☽ in ♈ 16°, I subtract 65° for the two months and four degrees, to denote so many days, so that the ☽ is posited in ♒ 7°, that is, on the 8th of January 1598, when the ☉ was in ♑ 18° upon ☿ of the nativity; and it is to be observed, that ☿ in the nativity takes upon him an inimical nature, because not conjoined with the benefics, but, on the contrary, in the house of ♄; the in ☽ the exaltation of ♄, ✱, and also mundane parallel of ♂; and applied to the parallel of ♂ in the nativity, and also set with ♄ and ♂ on the day of the accident, ♂ in the progressions from 28° of ♊ was found in ☍ to the ☉ of the nativity. On the 13th of October, 1632, three days before the accident, there was celebrated a new ☽ in 20° of ♎, in □ of ☿ of the nativity, and □ of the ☉'s progression.

But it appears that ☿ contributed not a little to the accident which befel the King, who is reported to have gone, merely out of curiosity, to reconnoitre the enemy, and was by them wounded mortally.

Secondary Directions.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♒	♌	♌	♓	♐	♓	♑	♉
	6.0	6.0	22.40	1.55	21.29	16.50	13.10	6.37

Progressions.

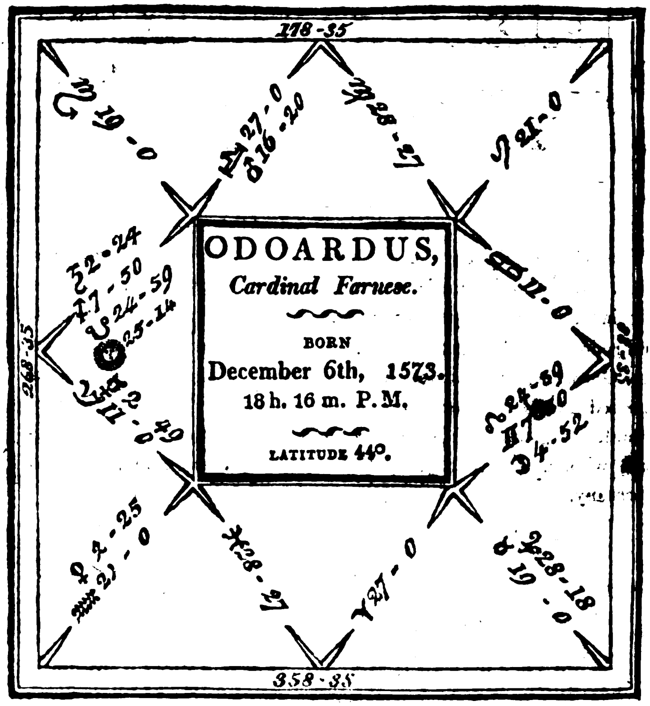
	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♑	♒	♎	♊	♊	♒	♑	♓
	18.0	7.0	4.28	6.40	28.9	28.22	8.0	9.30

Places of the Stars at the Time of the Accident.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♎	♐	♏	♉	♏	♏	♎	♈
	23.35	0.15	27.11	24.29	25.48	0.31	23.44 R.	27.5

Gustavus Adolphus was crowned King of Sweden in the year 1617. In 1613 he made peace with the Danes; and, with the Russians, the year he was crowned. He had wars with the Poles, and reduced all Lifland in 1625. In 1630, he made an expedition into Germany, and was slain at the battle of Lutzen. Gustavus married Mary Eleanor, daughter of John Sigismund, Elector of Brandenburg, and left issue only one daughter, the Princess Christina, who, under the regency of her mother, carried on the war in Germany.

EXAMPLE VII.



	LATITUDES.			DECLINATIONS.		
♄ . .	1°	46′	N.			
♃ . .	1	18	S.	18°	35′	N.
♂ . .	1	5	N.	5	26	S.
☉ . .	0	0				
♀ . .	1	41	S.			
☿ . .	1	56	S.			
☽ . .	1	43	S.			

HE was elected Cardinal in March 1591, being 17 years and 3 months old: a catarrh put an end to his life on the 21st of February, 1626, in the 52d year, 2 months and 7 days of his age.

Argol directs the ascendant to the antiscion of ♄; whereas the significator of life belongs entirely to the ☉, which he omits, because the numbers of his calculation do not agree. And as my method is perfectly right, insomuch, that not only in these examples, wherein the ☉ is in the crepuscules, but also in others, wherein the ☉ is found in the obscure space, my calculations agree wonderfully with the times. Doubtless, these examples of deceased persons ought to be received; and that no one may look upon this new opinion concerning the crepuscules as ridiculous, and not to be depended upon, there are several people who can vouch for its truth.

The ☉ then, in the 53d year, arrived at the □ of ♄ in the zodiac; the ☉'s oblique ascension in the horoscope is 289° 32′; the oblique ascension of the quadrate of ♄ is 344° 50′; from which, subtracting the former, leaves the arc of direction 55° 18′, calculated in the horoscope; I subtract the horoscope's oblique ascension from the oblique ascension of the ☉, and there remains the ☉'s primary distance from the horoscope 20° 57′, which I look for in the Tables of the Crepuscules to the pole's elevation 44°, but, as I do not find it, I take the nearest, which is 20° 14′, to the crepusculine circle of depression 13°; to the solar degree 25° of ♐; and, to the same circle, under 2° ♓, I take the secondary distance 18° 20′; I subtract this from the primary found in the Tables, which is 20° 14′ (for it is of little or no consequence, as we have said in its Canon, if we do not take the exact distance of the ☉ 20° 57′), and there remains the ortive difference 1° 54′; but as the secondary distance is less than the primary, I add the ortive difference to the arc of direction 55° 18′, and I make the true arc of direction 57° 12′.

By converse motion, whilst the ☉ and ♂ were carried away by the rapt motion of the *primum mobile*, they happened to be posited in the mundane parallel alternately, that is, in an equal proportional distance from the *medium cœli*; the ☉'s semi-diurnal arc is 4h 21′; the semi-diurnal arc of ♂ is 5h 38′ (for the declination of ♂ is 5° 26′, answering to 14° of ♎ in the ecliptic). I add these semi-diurnal arcs together, and I make the sum 9h 59′, which I put in the first place; in the second, the semi-diurnal arc of ♂ 5h 38′; in the third, the right distance which is between ♂ and the ☉, the right ascension of ♂ is 195° 27′, but, of the ☉, 264° 48′; therefore, there remains their alternate right distance 69° 21′; and, in the fourth place is produced the secondary distance of ♂ from the *medium cœli* 39° 8′, which I add to the primary, because ♂ is in the ascendant part of heaven, and when the direction is finished is in the descendant, and the arc of direction is 56° (for the primary distance of ♂ from the *medium cœli* is 16° 52′). For the equation, I add this arc to the ☉'s right ascension, which is 264° 48′, and the sum is 320° 48′, answering to ♒ 18° 20′, at which the ☉ from the day and hour of the nativity arrives in 52 days and 2 hours. The right direction to the □ of ♄ was succedent; if, however, the place of ♄ be true, which was succeeded by a □ of ☽ in the zodiac, which, in the nativity, was in the ☍ to ♄, and the disease in its proper and natural signification was denoted to be mortal from the violence of the catarrh, which was so great, that it caused a suffocation. For the secondary directions, I add to the hours of the nativity 52 days, 4 hours, 30 minutes; for the 52 years, 2 months and a quarter, and I come to the 28th of January, 1574, a little before noon; the ☉ applied there to the exact parallel of ♂; also, the ☉ was conjoined to ☿ ℞, who, being in 3.50 south latitude, was in the same parallel of declination with ♄, and so, by reason of the signs and aspects, assumed the nature of ♄. But it deserves admiration, to find, that on the day he took to his bed, the ☉ was found in ☌ with ☿ ℞, and nearly in the same degrees of that sign, both being in the parallel of ♂, in which parallel ♂ entered the ☉'s place of these motions; and, on the day preceding the sickness, there happened a full ☽ also near to these places; the ☽, by her motion, was in ♉ 1°, with 3° 58′ south latitude, whereby she had the declination of 18° 14′; this declination ♄ entered at his sickness and death; on the day his disorder began, the ☽ was in ♍ 7°, in a □ of ♄ by these motions. You see, therefore, a mutual commutation of the active and passive ingresses. Lastly, on the day he died, the ☉ arrived at ♓ 3° by primary direction, under a □ of ♄ of the nativity, and ♂ to 7° in ♉; whence both in the quadrate and parallel he maligned the ☉'s place of these motions of the secondary direction; but, when ☿ communicates any kind of aspect to the significator of life, if endued with the nature of the malefics, he assists towards a defluxion of humours, and, more particularly, if he participates with ♄.

Hear what Ptolemy says in the Chapter of Diseases incident to the Body: "But ☿ (says he) is a help to "the inveteracy of disorders, as he increases the frigi-"dity of ♄, when reconciled to him, and with a more "constant motion stimulates the phlegm and heap "of humours, in particular, about the breast, belly, "and throat, &c."

The progressions for 48 years are finished on the 24th of October, 1577, when the ☽ remains in ♈ 21°, for its distance there from the ☍ of the ☉ is 20°, as in the nativity, for 52 years are finished on the 20th of February, 1578, whilst she was in ♌ 22°; for the two remaining months the ☽ goes over 65°, and is posited in ♎ 27°. Lastly, for the other 7 days she goes 8°, and is posited in 5° of ♏; the ☉ was then in ♓ 17°, to which, from the opposition, ♄ entered at the time of his sickness and death; and ♂ in the parallel, and nearly in the ☍, entered the ☽'s place of the progression ♏ 5°.

In his 18th year, when the native was created a Cardinal, the ☉, by right direction, had arrived at a △ of ♃ in the world, which we have calculated in Canon XXXVI, to which we refer you; the *medium cœli* likewise came to the △ of ♀; for the oblique ascension of the second house, which is elevated 33°, is 298° 35′; the oblique ascension of ♀ in the same place is 318° 3′, from which, subtracting the former, leaves the arc of direction 19° 28′; so that *this* preceded, and *that* succeeded.

Secondary Directions to the Time of his Death, January 28, 1574.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♒	♉	♐	♉	♏	♈	♒	♊
	18.48	1.0	7.14	27.12	11.55	2.57	19.10 R.	22.21

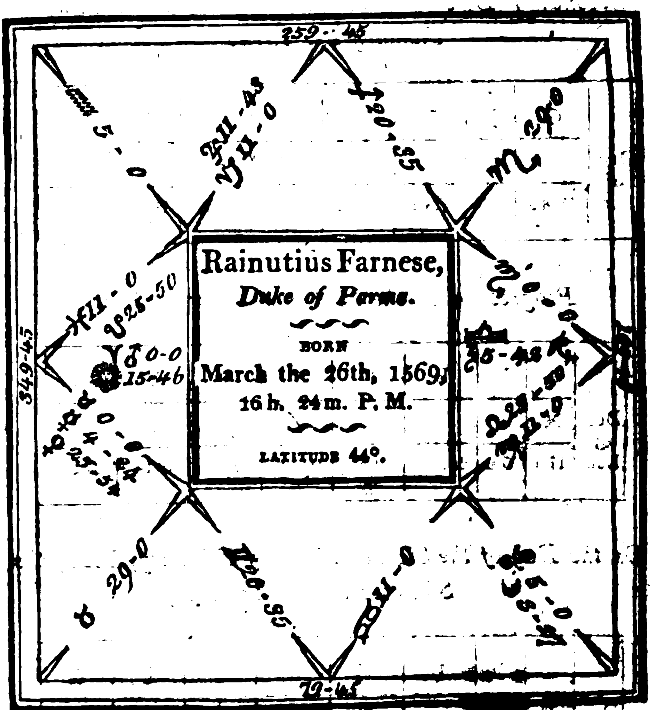
Progression on the 25*th of February*, 1556.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♓	♏	♑	♎	♑	♒	♈	♈
	17.0	5.0	21.10	9.30	10.36	27.14	6.14	3.30

On the Day of the Sickness, 12*th of February*, 1626, *the Stars were posited thus:*

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♒	♍	♍	♏	♉	♒	♒	♍
	24.1	7.37	13.48 R.	1.0	11.32	2.59	22.29 R.	5.20

EXAMPLE VIII.



LATITUDES.				DECLINATION.
♄ . .	2°	35′	N.	0° 6′ N.
♃ . .	0	42	N.	
♂ . .	0	9	S.	

HE died the 5th of March, 1622, of a dropsy, aged 52 years and 11 months. The ☉ is, doubtless, the significator of life in this nativity; but Argol not finding, in his numbers, any direction of the ☉ for 53 years, directs the ascendant to a △ of ♄, which is in signs of the longest ascension, and the place of the direction is the beginning of the terms of ♃, so that this direction has not the least deadly appearance. According to our method the ☉ arrives by right direction to a □ of ♂ in the zodiac; the ☉'s oblique ascension in the horoscope is 8° 28', from which, subtracting the horoscope's oblique ascension, there remains the ☉'s distance from the horoscope, 18° 43'; the oblique ascension of ♋ 0.0 is 65° 10', from which, subtracting the ☉'s oblique ascension, leaves the arc of direction calculated in the horoscope 56° 42'. In the Table of Crepuscules I look for this distance of the ☉ 18° 43', under the pole's elevation 44°, to the degree of the ☉ in ♈ 16°, and I take the proportional part between the distance 18° 32', which is to ♈ 10° to the crepusculine circle 13°, and the distance 19° 1' which is to 20° ♈, *i. e.* for 6°, for the ☉ is in ♈ 16°; and the difference is 29', from which, for the 6°, 17' are due to be added to 18° 32', and I make 18° 49'. But the ☉'s distance is 18° 43'; this I reject, and take 18° 49', for it matters not, as we have said in the Canons. To the same crepusculine circle 13° under ♋ 0.0, I take the 24° 45', which are the secondary distance, and greater than the primary by 5° 56', which are therefore to be subtracted from the arc of direction above found, and there remains the true arc of direction 50° 46′, which, for the equation, I add to the ☉'s right ascension 14° 31′, and I make the sum 65° 17′ answering to ♊ 7°, which the ☉ from the hour of the nativity reaches in 53 days, which measures so many years. At the same time, the ☉, by a converse motion, came to the sesqui-quadrate of ♄ *in mundo*. The oblique ascension of the opposite place of ♄ is 6° 19′, from which, subtracting the horoscope's oblique ascension, there remains the distance of ♄ from the west 16° 34′; but, as the horary times of ♄ are 15°, it is evident that ♄ was posited about the middle of the seventh house, distant from the middle 1° 34′; therefore, the ☉, as he has nearly the same horary times as ♄, is posited in his sesqui-quadrate before he arrives at the cusp of the twelfth house 1° 34′; the ☉'s horary times 16°, doubled, make 32°, to which I add the ☉'s distance from the east 18° 43′, and I make the sum 50° 43′, from which, subtracting 1° 34′, there remains the arc of direction 49° 9′, so that this direction had preceded a year, in case the place of ♄ be true. But there happened also to be a sesqui-quadrate of ♄ to the ☽ *in mundo*, by a converse motion. There had likewise preceded a parallel of ♃ to the ☉ in the world, whilst both were moved together by the motion of the *primum mobile*; but, as ♃ is unfortunate, and the ☽ in the sixth house in the sesqui-quadrate of the ☉, the significator of life, they denoted a dropsy, and, according to Ptolemy, a bad state of the lungs. I take the secondary directions to the 52d year complete, together with the 11 months, from the 18th of May, 1569, with the meridional hours 14^h 24′; the ☽ was in ♋ 12°, who was separated from the ☍ of ♃. On the day he died, which was the 5th of March, ♄ was found upon the place of the ☽; and, again, on the same day, the ☽ entered a □ of ♄ of these motions; the ☉ arrived at ♊ 7°: there was a full ☽ before he died, that is, on the 26th of February, 1622, the ☉ being in 8° of ♓, and the ☽ in ♍ 8°, in □ to the place of the ☉'s secondary direction; and, at the full ☽, the luminaries were in the parallel of ♂: on the day he died, ♄ entered the parallel of ♊ 7°, the place of the ☉'s secondary direction.

The progressions are made on the 6th of July, 1573; the ☉ was in ♋ 23°. On the day he died, ♂ entered, from the □, this place of the ☉; the ☽ in □ of ♂ near ♎ 11°, to which ♄, on the day of his death, was in □.

The secondary directions were as follow:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♊	♋	♎	♑	♉	♋	♉	♍
	7.0	12.0	3.27	10.21	11.32	22.21	15.26	23.10

The places of the progressions are these:

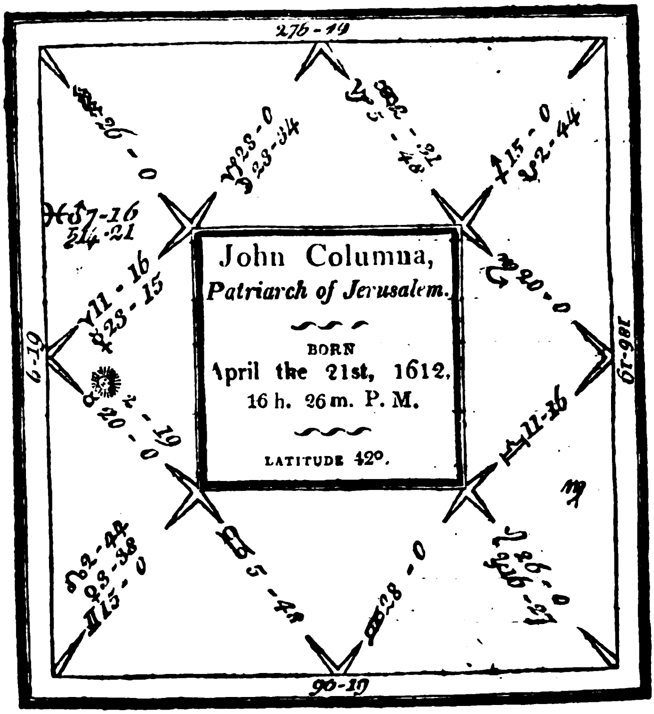
	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♋	♎	♏	♉	♋	♋	♋	♋
	23.0	11.0	20.10	29.33	11.15	20.3	4.0	3.16

On the day he died, the planets were in the following places:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♓	♐	♋	♊	♈	♉	♓	♏
	15 0	28.0	14.6	16.54	21.15	1.6	15.39	23.13

Observe the unfortunate disposition of ♃ in all these places to signify a dropsy.

EXAMPLE IX.



	LATITUDES.			DECLINATIONS.		
♄ . .	1°	7′	S.	7°	14′	S.
♃ . .	0	50	N.	16	34	N.
♂ . .	0	41	S.	9	30	S.
☉ . .	0	0				
♀ . .	1	2	N			
☿ . .	1	55	S.	7	18	N.
☽ . .	3	53	S.			

HE died the 14th of April, 1637, of an apoplectic fit. In June, 1626, he was much troubled with violent pains in the head.

In this nativity, Argol directs the ascendant to the □ of ♃ for the time of his death, as if it happened that ♃ was an anareta; whereas the significator of life is entirely proper to the ☉, who is in the angle of the east, and the benefics can by no means be anaretas. Indeed, it is true, if they are unfavourably mixed together with the destroyers of life, they can distinguish the kind, nature, and cause of death. But, from their nature, the benefics use their power rather to save than destroy, even from the ray □ and ☍, as we find it in Ptolemy, in the Chapter of Life; the ☉, therefore, the significator of life, arrives at a □ of ♂ in the zodiac in 25 years, and, by converse motion, was elevated above the horizon to the mundane parallel of ☿; the ☉'s oblique ascension is 18° 52′, from which, subtracting the horoscope's oblique ascension, there remains the ☉'s primary distance from the east 12° 33′; the oblique ascension of the □ of ♂ is 44° 37′, from which, subtracting the ☉'s oblique ascension, leaves the arc of direction 25° 45′, calculated in the horoscope. In the Table of Crepuscules, for latitude 42°, I look for the ☉'s distance, and, in the crepusculine circle 9° to 0° of ♉, I find 12° 54′; to 10° of ♉, I find 13° 21′; the difference is 27′. I take the proportional part for 2° and one-third, and I make the primary distance 13°; then, in the same crepusculine circle 9°, under ♊ 7°, by taking the proportional part, &c., I obtain the secondary distance 14° 45′; the ortive difference is 1° 45′. But as the secondary distance is greater than the primary, the difference, therefore, must be subtracted from the arc of direction 25° 45′; therefore the true arc of direction is 24°, which, for the equation, added to the ☉'s right ascension 30° 7′, makes the sum 54° 7′, answering to ♉ 26° 26′, to which the ☉, from the day and hour of the nativity, arrives in 25 days, which signifies so many years of age. The ☉ is, by a converse motion, posited in a mundane parallel of ☿, whose declination is 7° 17′, answering to 18° 30′ of the ecliptic; its horary times nocturnal are 13° 54′; its distance from the east 9° 20′; and its oblique ascension in the horoscope is 15° 39′. The diurnal horary times of the ☉ (for he is posited above the earth) are 16° 53′, wherefrom, in the fourth place, is produced the ☉'s secondary distance 11° 20′, which, added to the primary, makes the arc of direction 23° 53′.

But it is very evident, that ☿ possesses an anaretic power; even from the nature of the effect, which is apoplexy; for ☿ is in exact parallel of ♄'s declination, applying to the declination of ♂; he is likewise in the mundane parallel of ♄; and, as he has his □ to the

☽, denotes a very grievous disorder in the head, especially when found in the centre of the horoscope, and western angle. The ☉ was likewise joined, by a converse motion, to ♄, whose declination is reduced to ♓ 11° 40′ in the ecliptic, and the diurnal horary times become 13° 55′, which, doubled, is 27° 50′; the pole of the twelfth house is 31°, the oblique ascension of ♄ in the horoscope is 352° 34′, and there remains his distance from the east 13° 45′; from which, in the fourth place, are produced 5°, to be subtracted from the pole of the country, and there remains the polar elevation of ♄ 37°, under which his oblique ascension is 351° 28′: the ☉'s oblique ascension there is 20° 41′, from which, subtracting the former, leaves the arc of direction 29° 13′, so that the ☉ was only 4° distant from ♄; therefore, from these four examples of the ☉, constituted in the crepuscules, it is sufficiently and plainly proved how well the calculations by the crepusculine circles agree. But I proposed this method by reasoning upon, and also observing, the accidents in these examples, as I never could persuade myself to neglect the true significator of life. It it usual, with some, to answer this method of proceeding, by saying, that there is no occasion to be so rigorously exact in the judgment of nativities, and that a malign influence to the horoscope may kill, if it has not the primary signification of life. But, from such reasoning, the order and method which Ptolemy lays down for the election of a prorogator are quite absurd; unless life be at the disposal of a sole primary significator only, and a very powerful reason convinces us it is so. For either one prorogator only, that is, if more powerful with respect to the rest, denotes life; or else one, with others competent, as colleagues; but this last cannot be admitted, as it would create a confusion which could not be cleared up, and Ptolemy never taught it should be so. They say, that life primarily regards the principal prorogator; and, secondly, the ascendant; so that, in the occourses to the malefics, it may kill; but it is quite the reverse, for if a prorogator, who, from its powerful and dignified place, is entitled to the signification of life, can, by his influencing power, support that life, no other of inferior virtue can put an end to it. Again, they say, the reason why those nativities are stronger, wherein several concur, to signify life, is because the significators of life being numerous, there is a proportional increase of strength to prolong life. But it is quite otherwise, for, from several significators, the aspeets of the destroyers are multiplied by the different and numerous directions; therefore, any person having several significators of life, would be lower in station and shorter lived; in truth, they direct the horoscope to the malefics, purely that it may kill; though the luminaries at that time happily signify life, and are strong, owing to the aspects of the favourable planets with which they continue in direction; one, therefore, only signifies life, elected, according to Ptolemy's method, &c. But let us look for the other motions in the nativity now before us.

The secondary directions are made May 16, 1612, at 16 hours nearly, when the ☽ was in ♐ 24° in □ of

♂, ☿ in the □ of ♂'s radical place, and that of the deadly direction. At his illness, the ☽ was posited in □ to this place; and, on the day he died, was found there with the □ of ☿ in □ of ♂ of these motions, for ♂ was in ♓ 25°, and ☽ in ♐ 25° on the day of death, and ☿ in ♓ 26°. On the 9th of April, which preceded his death, there was celebrated a full ●, the ☉ being in ♈ 20°, upon ☿ of the nativity, and the ☽ opposite: and, at his death, the ☉ exactly transited this place of ☿, maligned by the □ of ♄, who, in his transit, was found to remain upon the ☽; and in the □ of ☿'s radical place.

The progressions to the end of the 25th year, are made on the 29th of April, 1614, the ☽ being in ♒ 0°; but 7° must be subtracted, for his death happened 7 days before the ☉'s return to the natal place, and the ☽ was posited in 23° of ♑ upon her proper place of the nativity, in the □ of ☿, where ♄ was found at death; the ☽, at his illness, entered the ☍ of ♂ of the progressions, where it was in 29° of ♓, and, at his death, she was posited in its □, and ☿ was found exactly in the same place on the day he died; the ☉, on the same day, was posited in the □ of the ☽ of the progressions, and parallel of ♂'s radical place; and it is truly admirable to see how well these agree. You are to observe, likewise, that the ingresses and transits, both active and passive, agree; aspecting the lunations in the places, which are the cause of the effect, according to the true sense of Ptolemy.

Secondary Direction Places of the Stars.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♉	♐	♓	♌	♓	♋	♊	♊
	26.0	24.0	16.52	17.50	25.17	2.39	10.1	1.48

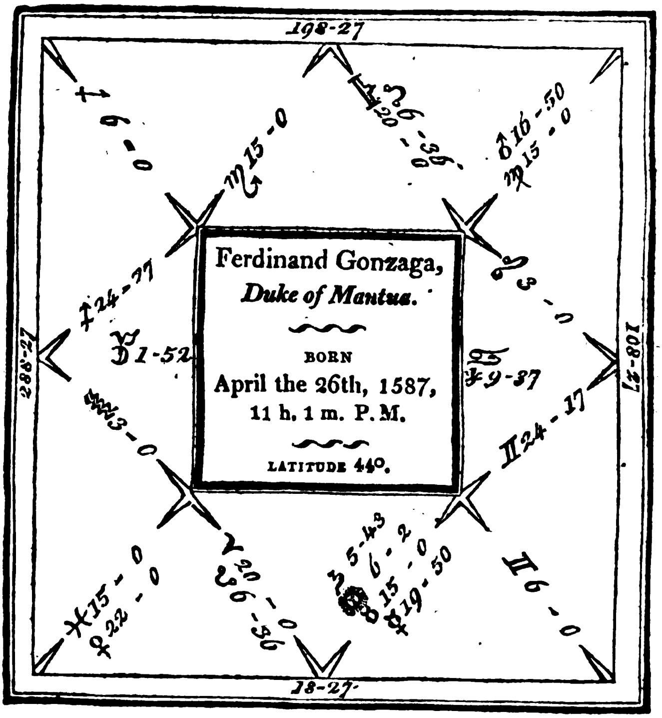
The Progressions of the Stars are those:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♉	♑	♈	♎	♓	♉	♉	♉
	8.20	23.0	7.50	19.36	28.57	24.19	28.52	24.6

Places of the Planets, at the Time of Death, on the 14th of April, 1637, 3^{h} *Night.*

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♈	♐	♑	♍	♉	♈	♓	♑
	24.48	27.0	25.7	7.20	14.31	1.34	27.0	29.0

EXAMPLE X.



	LATITUDES.			DECLINATIONS.		
♄ . .	2°	2′	S.	11°	34′	N.
♃ . .	0	11	S.			
♂ . .	2	34	N.	7	35	N.
☉ . .	0	0		13	34	N.
♀ . .	0	40	N.			
☿ . .	0	50	N.			
☽ . .	4	59	N.	18	34	S.

HE died in the month of October, 1626, aged 39 years and 6 months: as the ☽ is in the centre of the horoscope, she is the significator of life, which, in the 39th year and a half, had arrived, by right direction, to a parallel of the declination of the ☉ and ♄; and, as a question sometimes arises, to know at what place the significator arrives by direction in the zodiac, of this I will now shew an example: In the first place, I thus find the arc of direction adequate to the 39 years and a half; the ☉ in 39ᵈ 12ʰ, arrives at ♊ 14°, whose right ascension is 72° 38′; the ☉'s right ascension is 33° 42′, which, subtracted from the former, leaves the arc of direction for the given years 38° 56′; the ☽'s oblique ascension to the pole 44°, is 290° 48′, to which I add the arc of direction 38° 56′, and I make the sum 329° 44′, at which the ☽ arrives in the said year. I find this in the table of oblique ascensions about ♒ 16°, with 3° 50′ north latitude, that is, the same the ☽ has in that place; but the declination of this place, according to longitude and latitude, is 12° 50′; the ☉'s declination is 13° 34′; ♄'s declination is 11° 34′; therefore the ☽, in that place, obtained a mean declination between the ☉ and ♄. But, as the ☉ was conjoined to ♄, and in the mundane parallel of ♂, he was endowed with their deadly qualities; from which ♃ being alone, in his ⚹, could not relieve him. By a converse direction the ☽ applied to a mundane parallel with the ☉ and ♄, whilst all were carried away by the motion of the *primum mobile*. But if ♎ 26° 45′ are posited in the *medium cœli*, this ray, by a true calculation, exactly agrees, for the ☽'s semi-diurnal arc is 4h 44′; semi-diurnal arc of the ☉'s opposition is 5h 6′; which, added together, make the sum 9h 50′; the ☽'s right ascension is 271° 58′; her primary distance from the *medium cœli* (26° 45′ of ♎ being posited there, whose right ascension is 204° 48′) is 67° 10′; the right ascension of the ☉'s ☍ is 213° 42′; and the right distance between the ☽ and ☍ of the ☉, becomes 58° 16′; therefore, if that sum, 9h 50′, gives the ☽'s semi-diurnal arc 4h 44′, the right difference 58° 16′, will give 28° 3′, which, subtracted from the ☽'s primary distance from the *medium cœli,* leaves the arc of direction 39° 7′: she likewise applied to the mundane parallel of ♂; and lastly, to the ☍ of ☿, which direction may easily be calculated.

For the secondary direction, I add to the hours of the nativity 39 days 12 hours, for the same number of years and 6 months, and I come to the 5th of June, 1587, nearly in the meridian, in which the places of the planets were as under:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♊	♊	♉	♋	♍	♈	♊	♎
	13.43	14.24	10.45	16.38	24.25	28.55	10℞40	4.31
Lat.		S. 4.20	S. 2. 9	S. 0. 5	N. 1. 5	S. 2.10	S. 2.24	

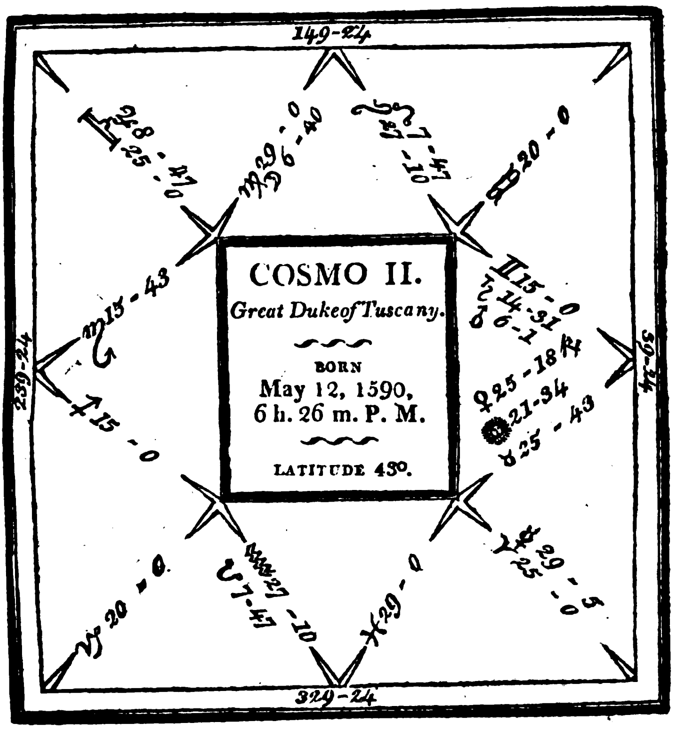
The ☽ under the ☉'s rays and the ☉ with ☿ ℞ in the parallel of ♃'s declination; but ♃ was adverse to the sign of the luminaries: in October, 1624, in which the native died, there was a full ● in ♎ 12°, with ☿ retrograde in ☌ with ♂ and parallel of ♄, and the secondary direction in the parallel of ♂, and to the nativity in the parallel of ♀ and ♂.

The progressions are made on the 6th of July, 1590, or on the following day, because the day is not known when the native died, yet the planets were nearly as follow:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of	♋	♍	♊	♎	♋	♉	♌	♌
Lon.	14.33	17.42	21.33	9.33	13.28	29.56	8.37	4.46
Lat.		N. 3.25	S. 1.36	N. 1.32	N. 0. 3	N. 3.11	N. 1.22	

The ☉ was with ♂, the ☽ in the □ of ♄; in the month he died, ♄ was upon this place of the ☽, and ♂ in the □ of the ☽'s place, and the lunations in an hostile ray to this place of ♂, and also of the ☉.

EXAMPLE XI.



LATITUDES.

♄ . .	1°	39′	S.
♂ . .	0	4	N.
☿ . .	4	8	S.
☽ . .	2	25	N.

HE died in the month of February 1621, being 30 years and 9 months old.

In this geniture, as explained by Argol, the directions are computed in this manner. Argol says the pole's elevation is 43°, the ☉'s ascension 64° 34′, the ascension of ♄'s ☌ 94° 42′, and by subtraction the arc of direction 30° 8′; then the horoscope's ascension 244°, the ascension of ♄'s ☍ 274° 42′, and by subtraction the arc of direction 30° 42′: but I confess I am ignorant how it can happen, that the same arc of direction should fall to the same promittor of two significators, who, according to the ascensions, are 3° of the equator distant from each other, for the oblique ascension of the ☉'s ☍ is 246° 58′, from which subtracting the oblique ascension of the horoscope (as given by Argol) there remains the ☉'s distance from the 7th house 2° 58′. If the ☉ remained upon the cusp of the 7th house, the arc of direction of the ☉ and the horizon would certainly be the same; but as his distance is 3°, there is no reason why, at the same time, the direction of the ☉ to ♄'s ☌ and the horoscope to his ☍ should both arrive together.

And as to the ☉'s ascension 64° 34′, it is uncertain in what manner that was taken; for ♄'s ascension 94° 42′ is the descension, for the ascension of his ☍ place is 274° 42′, from which take 180°, there remains the descension of ♄ 94° 42′. But the oblique ascension of the ☉'s ☍ is 246° 58′, from which subtract 180°, and it gives his descension 66° 58′; therefore the calculations of Argol are unintelligible.

In this nativity there should ascend ♏ 15° 43′; and the ☉ becomes altogether a powerful significator of life, and was first directed to the ☌ of ♂, but as the △ of ♃ followed about the beginning of ♃'s terms, the native was preserved; then he came to the ☌ of ♄, whose latitude was 1° 39′ south, and passed through, by a latitudinal distance, according to the doctrine of Ptolemy, "When the moderator and occourse have not the same latitude."

The place of the direction was likewise in the terms of ♀, and the ☉ at that time was in □ of ♃ *in mundo* from the *medium cœli*, all which profited the more, as the ☉ in the nativity was conjoined to ♀ in her house, and within the terms and mundane △ of ♃; therefore he escaped the ☉, also to the ☌ of ♄, yet, I think, not without a great detriment to his health, and that ♂ having descended below the horizon, and in an equal proportional distance which the ☉ hath from the 7th house, the ☉ entered into its mundane parallel at the time of his death, being found within the orbs of ♂ in the zodiac.

Also, the ☉, by converse motion, came to the parallel of ♄ *in mundo*, having passed by ☿, who was found under the same parallel of the enemies, and the ☽ in the □ of ♂, whereby a complaint in the head was pre-noted, without doubt the more grievous, as the ☽ in the nativity was in the mundane □ of ⊕. The calculation of the ☉ to the mundane parallel of ♂ direct direction:

As the semi-diurnal arc of the ☉	7ʰ 12′
To his distance from the 7th house . . .	7° 34

So is the semi-nocturnal arc of ♂ . . .	4^h	34′
To his secondary dist. from the 7th house .	4°	41
The oblique ascension of ♂'s ☍ . . .	265	34
Whence his prim. dist. from the 7th house is	26	9

which being added to his secondary distance is 30° 50′ for the arc of direction, and being equated as usual, produces 31 years, almost.

By converse motion the ☉ came to the parallel of ♄ *in mundo*, thus calculated:

As the semi-diurnal arc of ♄	7^h	24′
To his distance from the 7th house . . .	34°	55
So is the semi-nocturnal arc of the ☉ . .	4^h	48
To his secondary distance	22°	39
The oblique ascension of the ☉'s ☍ is . .	246	58
Whence his primary dist. from the West is	7	33

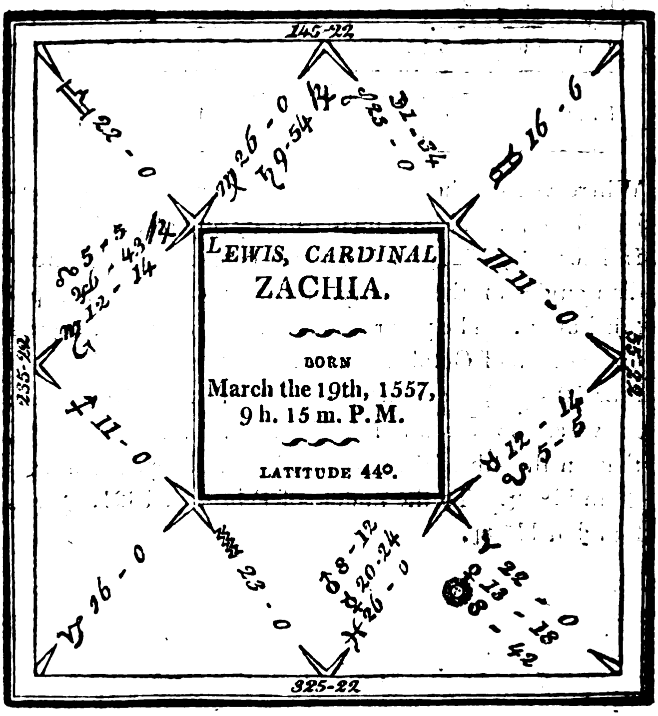
which, as he is above the earth, and posited below, must be added to the secondary, and makes the arc of direction 30° 12′. From this example we are taught carefully to observe the places of the occourses, for, if the fortunes assist, they preserve, and more particularly in their terms, as it happened in the preceding directions.

For the secondary directions, I add to the hour and day of the nativity 30 days for so many years, and 18 hours for 9 months, and I come to the 12th of June, 1590, nearly, in the meridian, in which the places of the planets are these:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of	♊	♎	♊	♎	♊	♉	♊	♌
Lon.	20.40	16.45	18.12	8.10	26 45	16.57	24.18	6.6
Lat.		N. 4.36	S. 1.35	N. 1.42	N. 0. 5	S. 1.55	N. 0.24	

Where you see the ☉ is between ♄ and ♂; ☿ conjoined to ♂, and both unassisted by any of the benefics. In February, 1621, the lunations happened in the meridian angles of the nativity, in the ☉'s □ with the parallel of ♂. The progressions for full 30 years, depend on the 14th of October, 1592: For the 9 months I add 9 or 10 signs and come to the 4th or 5th of November; for we are not certain of the day he died: this is certain, that on the 4th of the said month there happened a new ☽ in 11° ♏. To the middle of February, 1621, ♂ was found in 11° ♏.

EXAMPLE XII.



	LATITUDES.			DECLINATIONS.		
♄ . .	2°	13′	N.	9°	56	N.
♃ . .	1	55	N.	13	45	S.
♂ . .	0	13	S.	8	43	S.
☉ . .	0	0		3	28	N.
♀ . .	1	0	S.	4	21	N.
☿ . .	2	34	S.	6	9	S.
☽ . .	5	0	S.	15	0	N.

HE was made a Cardinal in 1626, on the 19th of January, aged 68 years and 10 months; and died on the 30th of August, 1637.

For which effect, Argol directs the horoscope to the □ of the ☉; whereas, the one is not aphæta, nor the other anareta; for the ☉ is conjoined to ♀, and in her declination, to which the ☽ applies by a fortunate △ ray, she also makes application to the □ and declination of ♃, being constituted in his terms; so that to the ☉ she transmits none but fortunate qualities. We, therefore, in imitation of Ptolemy, make the ☽ hyleg, who is past her first dichotome, in her increase, approaching nearest to the fulness of light, constituted in the ninth house, and between benefic rays.

She, in 70 years and 5 months, which the native lived, arrived at the parallel declination of ♂, that of ♄ succeeding near 18° of ♎, without the assistance of the benefics. I first look for the arc of direction, which is due for 70 years and 5 months: the ☉, in 70 days and 10 hours from the birth, comes to ♊ 17°, whose right ascension is 75° 52′; from which subtract the ☉'s right ascension, 8°, and there remains 67° 52′, the arc of direction. The ☽'s declination, 15°, answers to 19° 35′ of ♌ in the ecliptic, whose horary times are 17° 30′, her right ascension is 122° 40′; this, subtracted from the right ascension of the *medium cœli*, gives her distance from the 10th, 22° 42′; the pole of the ninth house is 18°, which produces the ☽'s pole 12°, under which the oblique ascension of her ☍ is 305° 57′, to which I add the arc of direction 67° 52′, and the sum is 13° 49′, which in the same table of oblique ascension is near 18° of ♈, with latitude 1° 28′ north, which the ☽ obtains there; so that she passed ♎ 18°, with 1° 28′ south latitude, the declination of which place is 8° 26′; but the declination of ♂ is 8° 43′; but the luminaries, as I have mentioned in another place, do not wait for a true and intimate declination, by reason of the magnitude of their bodies.

By converse motion the ☽ came to the *mundane* □ of ♂, and ♄ thus computed, the declination of ♂ is 8° 43′, answering to 7° 40′ ♓ in the ecliptic, whose nocturnal horary times are 16° 25′; the right ascension of ♂ is 339° 56′; his distance from the *imum cœli* 14° 34′; the ☽'s declination 15°, answers to 19° 35′ ♌, whose horary times are 17° 30′, which gives her secondary distance from the 7th house 15° 34′; the oblique ascension of the ☽'s ☍ under the pole of the horoscope is 317° 38′, from which subtracting the oblique ascension of the horoscope, there remains the ☽'s primary distance from the seventh house 82° 16′; from which subtracting the secondary 15° 34′, leaves the arc of direction 66° 42′, near 1° less than that above taken; the ☽ had also, about two years before, arrived at the □ of ♄ by converse motion; but as she, in the nativity, was very fortunate and strong, these directions waited for the approach of the direct directions.

This example also teaches us, what the sentiments of Ptolemy were concerning a violent death: when in a peremptory place both the enemies meet together, it is to be understood, that in the nativity the violence is sometimes first pre-ordained from the unfortunate position of the aphæta; at other times quite the contrary. But because the direct direction happened to be in the terms of ☿, the sickness was attended with a delirium and lethargy, so that you may perceive this to have been the true cause of the native's death.

It may be asked, why did not the multiplicity of evil aspects, as the ☌ of ♄, the ☍ of ♂, and their preceding parellels, kill? I answer, because the ☽ was in a different and distant latitude from that of the malefics, and had the declination of ♀ and the ☉; and was supported by the ✱ of ♃, both in the zodiac and in the world, in the terms of ♀; the ☽ was likewise fortunate, and strong to resist. Lastly, there was the parallel of ☿, who is of the nature of ♃, on account of the sign and mundane △ of ♃ and parallel of ♀; so that ☿ was entirely propitious. For which reason, he was the author of the dignities in the native, as we have calculated in Canon 36, and shall hereafter add; for neither the ☉ nor *medium cœli* had any aspect with ♃ in the 59th year, nor with ♀, who being combust, could not effect any thing, except only predispose the ☉, by being present with her. The secondary directions to the time of death are thus calculated. For the 70 years I add 70 days; and for the 5 months 10 hours, to the day and hour of the nativity; and I come to the 28th of May, 1567, with 19^h 13′, P.M. at which time these were the places of the planets:—

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♊	♒	♍	♎	♉	♋	♋	♏
	16.30	26.0	8.54	28R5	3. 0	9. 0	1R15	1.24
Lat.		N. 4.32	2. 4	N. 1.50	S. 0.20	N. 1. 6	S. 1.54	

The ☽ had the same declination as ♄, and both malefic in the nativity, the ☽ had likewise, by direction, the same declination; this place of the ☽'s ☍, ☿ entered on the day he died, and ♂, too, not far distant; the ☉ in ♊ 17°, which ♄ entered from a parallel declination on the day he died; and on the contrary, the ☉, on the day he died, entered the place of ♄ of these motions.

The Places of the Planets on the day of his death, the 30th of August, 1637.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♍	♑	♑	♎	♌	♍	♌	♑
	7.3	10.44	19.23	7.16	16.33	20.42	28.33	24.30

On the 19th of August there was celebrated a new ☽ in ♌ 27°, when she was in 3° south latitude, nearly, whereby she obtained the declination of the malefics, and near the ☍ of the ☽'s place of the secondary direction. We look for the progressions to the day of death, as follows: For 60 years I come to the

20th of March, 1572, but I go 55 days back, viz. to the 24th of January, when the ☽ is in ♊ 8°; afterwards I advance 10 embolismical lunations, and come to the 14th of November, by positing the ☽ in ♓ 27°. For the 5 months the ☽ goes over 5 signs and 12°, so that she is posited in ♍ 9° upon the malefics of the nativity.

Planets Places in the Progressions.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♐	♍	♏	♈	♒	♎	♏	♋
	15.0	9.0	21.14	21.10	1.0	28.50	27.0	15.0

Mars was, therefore, in ☍ to the ☽ of the nativity; ♄ on the day he died was in the parallel of the ☉'s progression; and on the 13th day, which was that of his sickness, there was a □ of the ☽ with the ☉; the latter continued in ♌ 21°, in the □ of ♄'s progression from ♉ 21°; and ♂ was found upon the ☽ of the nativity, and ♄ in the □ of the place of the ☽'s right direction. In 59 years the ☉ came to the ✱ of ☿, not only in the world, according to the calculations in Canon XXXVI, but also to his ✱ in the zodiac.

Of the ☉.

Right ascension	8°	0′
Distance from the *imum cœli*	42	38
Semi-nocturnal arc	5^h	47
Crepusculine arc subtracted	1	44
Remains the obscure arc	4	3

Of ♉ 21°.

Right ascension	48°	33′
Distance *ab imum cœli*	83	11
Semi-nocturnal arc	4ʰ	47
Crepuscline arc	2	7
Remains obscure arc	2	40

Hence the secondary distance is 28° 4′, which subtracted from the primary, leaves the arc of direction 55° 7′. The secondary directions to 58 years, 9 months, and 20 days, are made on the 17th of May, 1567, with hours P. M. 4ʰ 33′, in which the planets were as under:

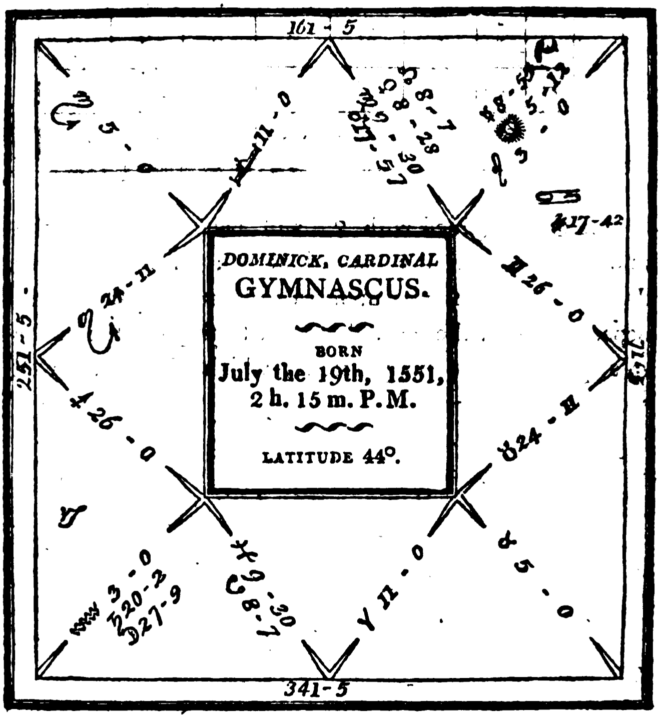
	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of	♊	♎	♍	♎	♈	♊	♋	♏
Lon.	5.30	2. 0	8.30	28R50	25.8	26.24	0.14	1.56
Lat.		S. 2.30	N. 2. 5	N. 1.51	S. 0.19	N. 0.44		

The ☉ is in exact biquintile of ♃ and △ of the ☽. On the 18th and 19th of January, 1626, the luminaries were in an alternate △ ray to these places, and ♃ was in the same sign and degree, viz. ♎ 29°, with the biquintile to the place of the ☉'s secondary direction. On the 12th of January, 1626, there was a full ●, the ☉ in ♑ 22°, the ☽ in ♋ 22°, in favourable rays to ☿ and the place of the ☉'s direction, and ✱ of ♃ of the progressions, and the ☉ in the quintile of ♃'s radical place. The progressions are made on the 19th of December, 1571, in the following position:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♑	♒	♏	♓	♎	♑	♐	♌
	8.0	23.0	13.14	18.10	3.20	9.0	20.0	3.0

The ☉ was joined with ♀, and between the quintile and ⚹ of ♃, in the parallel of ☿; on the 19th of January, 1626, ♀ was upon this place of the ☉, ♃ was separated from the ⚹ and applied to the quintile of the ☉'s place of the progressions, which things are well worth observing.

EXAMPLE XIII.



	LATITUDES.			DECLINATIONS.		
♄ . .	1°	14′	S.	16°	2′	S.
♃ . .	0	0		22	21	N.
♂ . .	0	17	N.	5	3	N.
☉ . .	0	0		19	2	N.
♀ . .	1	42	N.	10	0	N.
☿ . .	4	0	S.	14	12	N.
☽ . .	0	57	N.	11	37	S.

WHEN he was 52 years and 10 months old, he was created a Cardinal, on the 9th of June, 1604. His death happened on the 12th of March, 1639, aged 87 years, 7 months, and 20 days.

Argol directs the horoscope to the ☽; but the moderator of life altogether pertains to the ☉, who, according to our calculation, came to a parallel of ♄'s declination near 13°, with some minutes, of the sign ♏: the ☉ does not reach the cusp of the 9th house, but his distance therefrom is 2°: the polar elevation of the 9th house is 18°, therefore the ☉'s polar elevation will be near 17°, to which the oblique ascension of the ☉'s ♌ is 313° 37′; the oblique ascension 13° of ♉ is 35° 35′, from which subtracting that of the ☉, leaves the arc of direction 81° 58′, which, for the equation, add to the ☉'s right ascension, which is 127° 34′, and the sum is 209° 32′, answering to 1° 40′ of ♏, to which the ☉, from the day of birth, arrives in 88 days, so that the ☉ had not yet exactly reached the declination of ♄; but as, by reason of the magnitude of his body, he did not, by his centre, gain that declination, yet a part of his body entered it.

By converse direction, the ☉ was in a mundane parallel with ♄ under the earth whilst both advanced by the motion of the *primum mobile*, which is calculated thus: The ☉'s semi-nocturnal arc is 4^h 42′; the semi-nocturnal arc of ♄ is 7^h 4′, which I have taken with 13° 47′ of ♏ in the ecliptic, or with ♒ 16° 13′, which is the declination of ♄; I add these arcs together, and they make 11ʰ 46′. The right ascension of ♄ is 322° 52′; this I reject from the ☉'s right ascension, in order that I may have their right difference below the earth, and the remainder is 164° 44′. I now say,

As the sum of the semi-nocturnal arcs .	11ʰ	46′
is to the semi-nocturnal arc of ♄ . .	7	4
so is the right ascen. diff. of ♄ from ☉	164°	44
to ♄'s secondary distance from 4th . .	99	10

The primary distance of ♄ from the *imum cœli* is 18° 13′; which, subtracted from the secondary, gives the arc of direction 80° 57′, less by 1° than that above taken: this parallel precedes, and the other succeeds. Lastly, the ☉, by converse direction, applied very closely to a □ of the ☽, whose declination is 13° 23′, which, reduced to the ecliptic = ♒ 24° 30′, whose semi-nocturnal arc is 6ʰ 55′. The ☉'s semi-nocturnal arc is 4ʰ 42′; the oblique ascension of his ☍ 327° 1′; his primary distance from the west is 75° 56′: the ☽'s right ascension is 329° 3′; her distance from the *imum cœli* is 12° 2′. Then

As the ☽'s semi-diurnal arc	6ʰ	55′
is to her distance from the *imum cœli* .	12°	2
so is the ☉'s semi-nocturnal arc . . .	4ʰ	42
to his secondary distance from the west	8°	11

But the ☉'s primary distance from the west is 75° 56′, for the oblique ascension of the ☉'s ☍ is 327° 1′; therefore the primary distance added to the secondary, makes the arc of direction 84° 7′. Now the ☽ was besieged between ♄ and the mundane parallel of ♂, who was elevated above her from *medium cœli*, and coascended nearly with ♄, and continued in his house, terms, and triplicity, so that she was afflicted with the nature of the malefics. To the same time the ☉'s direction to the west agrees, with the addition and subtraction of the degrees formed from the interjacent stars and rays, a calculation whereof is given as an example in Canon XXXVIII. The secondary directions are made on the 14th of October, 1551, with the hours 17° 35', P. M. at which time the planets were posited thus:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of	♏	♉	♒	♌	♏	♐	♏	♏
Lon.	1.0	7. 0	15.24	2. 7	16.33	17.20	19.10	3.27
Lat.		S. 4.30	S. 1.14	N. 0.10	S. 0. 1	S. 3. 0	S. 2.35	

The progressions depend on the 19th of August, 1558, with the planets posited thus:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of	♍	♏	♉	♒	♌	♋	♌	♈
Lon.	5.13	18.0	25. 4	3.18	13.50	22.0	21.30	21.4
Lat.		S. 2.16	S. 2.23	S. 0.52	N. 0.16	S. 1.40	N. 1. 7	

He died on the 12th of March, 1639, 10 hours, P.M. under this calculation of the planets:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♓	♊	♒	♐	♉	♓	♒	♐
	22.13	25. 0	14.13	5.46	6. 8	28. 0	28.40	23.16
Lat.		S. 0.11	S. 0,51	N. 0.56	N. 0.22	S. 1.23	N. 0.10	

On the 4th of the same month there was a new ☽, near the ☍ of ♂ of the nativity, and ♂ was in ♉ 1° in ☍ to the ☉'s secondary direction: ♂, on the day he died, reached the place of the ☽'s secondary direction, and □ of the ☉'s radical place: the ☉, by the secondary direction, had gained the declination of the ☽ of the nativity, and the ☽ to the □ of the ☉, with the same declination. The ☉ by progression had nearly the same declination with the ☽ in the nativity: the ☽, by progression, was between the rays of the enemies, and under the parallel of both the unfavourable planets, to which, on the day of his death, ♄ and ☿ being conjoined by a quadrate ray, transmitted their mischievous qualities; and, which is worth observing, that the luminaries, with ♄ anareta, were, in the nativity, in fixed signs, and in them also they were constantly found in the secondary directions, in the progressions, and on the day he died, as were likewise ☿ and ♂.

In his 52d year and 10 months, the ☉ was directed to his own ⚹, the *medium cœli* to his quintile; the calculations of which are easy. The secondary directions are made on the 9th of September, with near

22h 30′, P. M. at which time the planets were as under:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♍	♒	♒	♋	♎	♏	♍	♍
	26.20	6.0	16.6	27.56	21.52	10.25	22.10	5.18

The ☉ was in ⚹ to ♃ and in ☌ with ☿, free from the enemies. The progressions were thus, and are made on the 27th of October, 1555, whilst the ☽ was in ♈ 5°.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♏	♈	♈	♏	♐	♏	♏	♊
	13.15	5.0	7.17	13.50	26.4	0.0	8.20	15.27

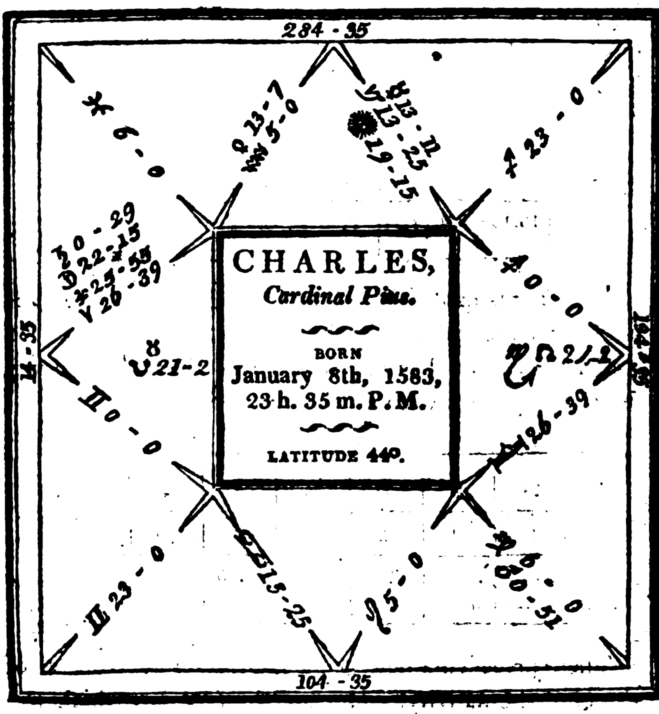
The ☉ was in ☌ with ♃ and ☿, free from the enemies, near the △ of ♃ in the nativity.

On the day of election, which was the 9th of June, 1604, the planets were as under:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♊	♏	♐	♐	♎	♋	♋	♏
	18.20	17.14	11.46	19.18	12.25	28.28	2.6	5.22

There preceded a new ☽ in 7° of ♊, under the ⚹ of the ☉ of the nativity, and parallel of ♃, in which parallel the ☉ was on the day he was elected; and the ☽ in a △ of ♃ of the nativity, and in ☌ in the progression. Hence is plainly evinced the great power the secondary directions and progressions have, together with the active and passive ingresses, to the places which the luminaries by these motions arrive at.

EXAMPLE XIV.



LATITUDES.

♄ . .	2°	1′	S.
♃ . .	1	37	S.
♂ . .	3	27	N.
♀ . .	1	16	S.
☿ . .	1	8	S.
☽ . .	2	25	N.

IN the 19th year and a half of his age he was elected a Cardinal, on the 9th of June, 1604; and in the 56th year and a half he died of the gout and consumption, June the 1st, 1641, to which time Argol directs the ascendant to a □ of ♄, though he is in the shortest ascensions, and the ☉, not the horoscope, becomes a powerful significator of life, as he is found in the supreme angle, and the rays taken in the zodiac to the angles are altogether as nothing, as we have in another place demonstrated.

The ☉, therefore, is the significator of life, and in 56 years and a half he comes, by right direction, to the mundane parallel of ♂, followed very closely by a parallel of ♄'s declination, and, by converse motion, to the parallel of ♂. The ☉'s semi-diurnal arc is 4^h 28′, his right ascension is 290° 51′, from which, subtracting the right ascension of the *medium cœli*, there remains the ☉'s distance 6° 16′. The semi-nocturnal arc of ♂ is 5^h 3′, and is taken from ♌ 21° 30′, to which the declination of ♂ 14° 25′ is reduced; whence the secondary distance of ♂ from the *imum cœli* is 7° 5′, and added to the primary, which is 49° 35′, (for the right ascension of ♂ is 154° 10′), makes the arc of direction 56° 40′, which, equated as usual, is 56 years and a half. The ☉'s polar elevation is near 5°, under which his oblique ascension is 292° 54′; to which, if we add the arc of direction 56° 40′, the sum is 349° 34′, which, in the table, is equal to ♓ 18° 10′, whose declination is 4° 42′, and that of ♄ 1° 40′; so that the ☉ applies, within 3°, to a parallel of ♄'s declination.

The ☉, by converse direction to a mundane parallel of ♂, is thus computed:

As the semi-nocturnal arc of ♂ . . .	5^h	3′
is to his distance from the *imum cœli* . .	49°	35
so is the ☉'s semi-diurnal arc	4^h	28
to his secondary distance from *medium cœli*	43°	51
which, added to his primary, makes . . .	50	7

for the arc of direction; so that it had preceded near seven years before.

Also, by converse motion, the ☉ had passed the sesqui-quadrate of ♄ in his 49th year. The semi-diurnal arc of ♄ is 5^h 54′, distance from the East 11° 46′, the ☉'s semi-diurnal arc is 4^h 28′; whence arises his secondary distance 8° 54′, which, added to the primary, makes the arc of direction of ☉ to the □ of ♄, by converse motion, 15° 10′; to which I add the ☉'s triplicate horary times, which are 11° 9′, and it makes the arc of direction of the ☉ to the sesqui-quadrate of ♄, 48° 37′.

The secondary directions are made on the 6th of March 11^h, P. M. 1585, at which time the planets are posited in the following manner:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of	♓	♉	♈	♉	♌	♈	♓	♏
Lon.	15.50	17.30	6. 1	3.35	15.7 R	21.40	24.0 R	17.59
Lat.		0. 2	S. 1.47	S. 1.10	N. 4.0		N. 3.54	

The progressions are made on the 3d of August, 1589, for then 56 and a half embolismical lunations are finished, at which time the planets were thus posited:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of	♌	♉	♊	♍	♏	♌	♍	♌
Lon.	10.37	13.22	12.0	18.9	14.17	12.20	8. 9	22.40
Lat.		S. 5. 0	S. 2. 1	N. 1. 1	S. 1. 7	N. 0.57	S. 0.50	

On the 1st of June, 1641, the day of his death, the planets were thus posited:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of	♊	♓	♓	♒	♋	♋	♉	♏
Lon.	11.5	22.48	11.46	12.1	13.14	21.1	17.32	10.27
Lat.		N. 3.53	S. 1.37	S. 0.40	N. 1.13	N. 2.21	S. 2.34	

In which it is worthy of admiration, that the ☉, on the day he died, was posited upon ♄ of the progression, and ♄ on the same day upon the ☉ of the secondary direction, the ☽ upon ☿ of the secondary direction, who had the declination of ♄, and the ☽ likewise gained the declination of ♄. In the secondary direction, the ☽ being likewise in □ of ♂, and in his declination. In the progression, the ☉ was in □, and declination of ♂, and the ☽ in the ☍ of ♂. On the day of death, ♂ transited the ☍ of the ☉ of the nativity; and there was a □ of the ☽ with the ☉ the preceding day, *viz.* the 31st of May, the ☽ continuing in ♓ 10°, and the ☉ in ♊ 10°, obnoxious places. You see, Reader, what a multiplicity both of the active and passive agreements happened; they are altogether wonderful. At 19 years and 5 months, the time of his being made a Cardinal, the ☉ was in the mundane parallel with ♀, whilst both were carried by the rapt motion of the *primum mobile;* the ☉ likewise came to the declination of ♀: the calculation of this latter is easy. The declination of ♀ is 18° 9′, equal to ♒ 9° 20′ in the ecliptic, whose oblique ascension to the ☉'s pole 5° is 313° 24′, from which, subtracting the ☉'s oblique ascension, there remains the arc of direction 20° 30′, which, for the equation, add to the ☉'s right ascension, which is 290° 51′, and it makes 311° 21′, answering to 8° 54′ of ♒, to which the ☉, from the day and hour of birth, arrives in 19 days and one-third nearly.

The Sun's direction to the mundane parallel of ♀ is as follows:

The declination of ♀ is 18° 9′, equal to ♒ 9° in the ecliptic, whose semi-diurnal arc is $4^h.47'$, the right ascension of ♀ is 315° 58′: therefore, the right difference between the ☉ and ♀ is 25° 7′. I then say,

As the sum of the ☉ and ♀'s semi-diurnal arcs	9ʰ	15′
is to the ☉'s semi-diurnal arc	4	38
so is the right difference of the ☉ and ♀	25°	7
to the ☉'s secondary distance	12	8

which, added to the primary, makes the arc of direction 18° 24′; therefore, it had preceded two years, in which the native had shewn himself deserving the honours conferred upon him. But as the ☉ continued, by right direction, in ♒ 9° 20′, he applied to the quintile of ♃ in the zodiac; at the same time the *medium cœli* had reached the quintile of ♃, whose declination is 8° 33′; ascensional difference 8° 21′: the semi-diurnal arc is 98.21; the fifth part of the same arc is 19° 40′, which should be the distance of ♃ from the horoscope when posited in the quintile to the *medium cœli*. The oblique ascension of ♃ in the horoscope is 16° 16′; from which, subtracting the horoscope's oblique ascension, there remains his primary distance under the horizon 1° 41′; this, added to the secondary 19° 40′, makes the arc of direction 21° 21′.

Lastly, the ☉ applied to a ⚹ of ♃ *in mundo*; for,

As the ☉'s semi-diurnal arc	4ʰ	28′
is to its distance from *medium cœli* . .	6°	16
so is ♃'s semi-diurnal arc	6ʰ	33
to his secondary distance from 12th house	9°	12
The oblique ascension of the 12th house is	344	35
The oblique ascension of ♃ to the pole of the 12th house 33°, is	19	1

therefore, the primary distance of ♃ from the twelfth house is 34° 26′, from which, subtracting the secondary distance, leaves the arc of direction 25° 14′, whereby it appears evident that the ☉ and *medium cœli* were, at that time, found between several aspects of the friendly planets. The secondary directions are made on the 28th of January, 1585, with 9h 35′ P. M., under the following sidereal constitution:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♒	♑	♈	♈	♌	♓	♒	♏
	8.40	18.8	2.0	27.38	28.40℞	6.13	16.0	20.0
Lat.		N. 4.14	S. 15.7	S. 1.32	N. 4. 0	S. 1.17	S. 2.0	

The progressions for 19 years and 5 months fall on the 5th of August, 1586, the ☽ being in ♈ 15°; and the rest as under:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♌	♈	♉	♋	♋	♍	♌	♎
	12.1	15.0	2.46	4.19	6.50	2.41	4.33	20.36

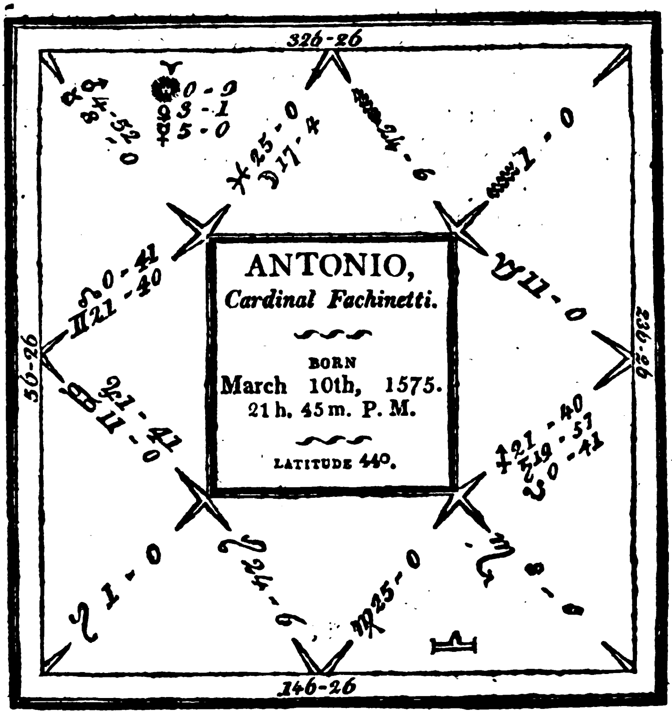
On the 9th of June, 1604, the day of election, the planets were found in this position:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♊	♏	♐	♐	♎	♋	♋	♏
	18.20	17.14	11.46	19.18	12.35	28.28	2.6	5.22

Where you see the ☉ in △ to his place of the secondary direction, and in ✱ to his progression, applying to the ✱ of ♃ of his secondary directions, and in parallel of ♃'s declination of the progression. Jupiter, on the day of his election, entered in △ to the ☉'s progression, and, also, both the malefics ♄ from the △, and ♂ from the ✱; there preceded a new ☽ in 7° of ♊ in exact △ of the ☉'s secondary direction, and ✱ to his progression.

This cannot but be convincing.

EXAMPLE XV.



LATITUDES.

♄ . .	1°	30′	N.
♃ . .	0	4	N.
♂ . .	0	4	N.
♀ . .	1	20	S.
☿ . .	3	5	N.
☽ . .	4	48	S.

WE are told, by Argol, that this Cardinal had a dangerous illness in the 7th year of his age, owing (as he says) to the direction of the horoscope to the ☍ of ♄; but we say, it was from the ☉'s direction to the ☽ by converse motion: for the ☽'s pole is 16°, to which her oblique ascension is 352° 48′; this subtracted from the ☉'s oblique ascension 0° 7′, leaves the arc of direction 7° 19′; for the ☽ was in the □ to ♄, by which means she assumed his nature. The ☉, also, by a right direction, afterwards fell upon the mundane sesqui-quadrate of ♄, whence a long sickness was the consequence, which was of the longer duration from ♄ being in the western angle; for thus we have the true causes from the real significator of life.

At the age of 16, he was elected Cardinal; from the ☉'s direction to the quintile of ♃ in the zodiac, the ☉'s duplicate horary times are 30°, his oblique ascension to the pole 18° of the eleventh house is 0° 7′, and his distance from the same house is 3° 41′; the pole of the twelfth house is 33°; the difference then of the poles of the eleventh and twelfth houses is 15°; therefore, the ☉'s pole becomes 20°, to which his oblique ascension is 8°; the quintile of ♃ falls in 19° 41′ of ♈, whose oblique ascension there is 15° 20′, from which, subtract the ☉'s oblique ascension, and there remains the arc of direction 15° 12′; which, being equated, denotes 16 years. This direction is differently calculated in Canon XIX.

He died in May, 1606, and, according to Argol, from the ☽'s direction to ♂; but it was impossible for the

☽ to be hyleg, as she was under the ☉'s rays, going to the occultation; and as the nativity was diurnal, the first place belongs to the ☉, who remained in the eleventh house, and came to the ☌ of ♂, where the sesqui-quadrate of ♄ in the zodiac exactly coincided, and, by a converse motion, the ☉ came to the mundane parallel of the ☽, whilst both were carried away by the rapt motion of the *primum mobile*. The oblique ascension of ♂ to the pole 20°, is 27° 38′, from which, subtracting that of the ☉, makes the arc of direction 27° 31′, which, added to the ☉'s right ascension, makes 27° 39′, answering to ♈ 29° 45′, at which the ☉ arrives in near 31 days; and, as ♂ was in north latitude after the ☌, it followed his parallel of declination. The calculation of the ☉'s parallel with the ☽ is thus computed: the ☉'s semi-diurnal arc is 6^h, and that of the ☽ 5^h 23′, for her declination answers in the ecliptic to near 5° 30′ of ♓. I add these semi-diurnal arcs together, and the sum is 11^h 23′; the ☽'s right ascension is 349° 48′, that of the ☉'s 0° 8′; from this of the ☉ I subtract the ☽'s, and their distance, in right ascension, is 10° 20′. Now say, as the sum of the arcs 11^h 23′ is to the semi-diurnal arc of ☉ 6^h, so is their distance, in right ascension, 10° 20′, to the ☉'s secondary distance from the *medium cœli* 5° 27′; his primary is 33° 42′; from which, taking the secondary, there remains the arc of direction 28° 15′.

The ☉ also applied very closely to the mundane □ of ♄, by converse motion.

The secondary directions for 31 years and 2 months are made on the 11th of April, 1575, with near 2 hours, P. M., the planets remaining in the following manner:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of	♉	♉	♐	♋	♉	♉	♉	♉
Lon.	1. 0	9.19	19.16	4.35	26.14	11.36	29.39	29.14
Lat.		S. 1.48	N. 1.48	0.0	N. 0.8	S. 0.30	N. 1.47	

The progressions are made on the 15th of September, 1577; whilst the ☽ was in the last decanate of ♏, and the stars were disposed in the manner following:

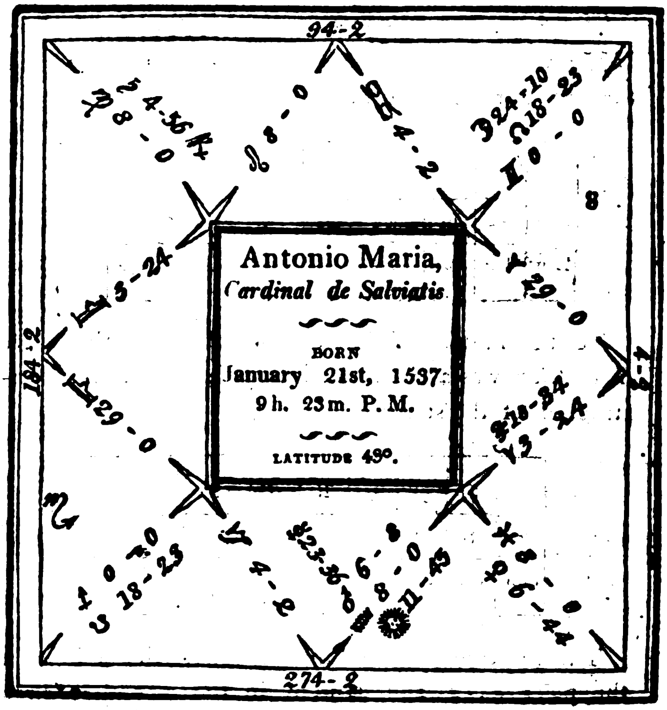
	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of	♎	♏	♑	♍	♍	♌	♍	♈
Lon.	2.10	22.0	5.30	24.40	20.40	16.40	28.0	12.8

To the middle of May, 1606, the time the native died, there was a □ of the luminaries, with this construction of the stars:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of	♉	♌	♑	♓	♐	♉	♊	♍
Lon.	24.0	24.0	7.40	0.0	8.0 R	18.20 R	12.0	28.2

The ingresses of the luminaries were the ☽ in □ to the place of ♂ and ☿ in ☌ in the secondary directions; ♄ in □ of the ☉'s progression, who was there in the □ of ♄, and the ☉, by progression, came to the ☍ of his place in the nativity, with a □ of ♄, as we have said, and was, in the return of the year, in the same □ ray to the place of the ☉ unfortunate.

EXAMPLE XVI.



	LATITUDES.			DECLINATIONS.		
♄ . .	1°	54′	N.	11°	31′	N.
♃ . .	1	20	S.	2	57	N.
♂ . .	0	3	S.	18	50	S.
☉ . .	0	0		17	20	S.
♀ . .	1	16	S.	10	15	S.
☿ . .	0	50	S.			
☽ . .	0	31	N.	23	54	N.

HE died, April 16, 1602, aged 65 years, 2 months, and 15 days. This nativity is among the seven examples which we have extracted from Maginus; and to 65 years and 3 months which the native lived, we have shewn that the ☽, by direction (who is hyleg), according to a right motion, came to the fixed star Cor Leonis, and to the parallel of declination of ♂ and the ☉; but, according to converse motion, to their □; which directions ought, doubtless, to be esteemed sufficiently powerful to infer a fatal sickness, especially in an old man. Now, after having well considered the matter, we add that the ☽, by converse motion, came to the mundane parallel of ♄, by exact calculation. Maginus takes the □ of ♄ to the horoscope in the equator, and Argol, to the same, adds the antiscion of ♂, both neglecting the ☽ being the significator, having dignity of life. The calculation of the ☽'s direction to the fixt star Regulus, and parallel declination of the ☉ and ♂; is as follows: The ☽'s declination is 23° 54′, ascensional difference 24° 26′, semi-diurnal arc 114° 26′, the third part of which is 38° 9′, the pole of the ninth house is 18°; the ☽'s right ascension is 83° 38′, her distance from the *medium cœli* 10° 24′; therefore,

	D.	M.
As the third part of the semi-diurnal arc	38	0
is to the pole of the ninth house	18	0
so is the ☽'s distance from the *medium cœli*	10	1
to her pole	4	0

To which the oblique ascension of the ☽'s ☍ is 265° 25′: the oblique ascension of the ☍ of Regulus in that place is 326° 54′; from which, subtracting the former, leaves the arc of direction 61° 31′, which, for the equation, I add to the ☉'s right ascension, which is 314° 13′, and it makes 15° 44′, answering to 17° 4′ of ♈, to which the ☉, from the day of birth, arrives in 65 days and one-third, and points out 65 years and 4 months of his life; the ☽ in that place had 4° 32′ north latitude, and, consequently, her declination was 18° 3′, the ☉'s declination was 17° 20′, and that of ♂ 18° 50′; the ☽ was therefore between the declination of the ☉ and ♂. Again, by reason of the magnitude of the ☉ and ☽'s bodies, and, also, on account of the parallax, the ☽ had already gained the ☉'s declination, and was declining from that of ♂, who, being combust, did not discover his effects; but the ☉, instead of him, according to the opinion of Cardan. The converse direction of the ☽ to the mundane parallel of ♄ is thus: The semi-diurnal arc of ♄ is 100° 58′, his right ascension 157° 30′, his distance from the *medium cœli* 63° 28′, the ☽'s semi-diurnal arc 114° 26′; whence, if 100° 58′ give 63° 28′, 114° 26′ will give 71° 56′, which is the ☽'s secondary distance from the *medium cœli*, her primary is 10° 24′; which, subtracted, gives the arc of direction 61° 32′.

The ☽'s direction to the □ of the ☉, by converse motion is thus computed: The ☉'s semi-nocturnal arc is 106° 56′, distance from the *imum cœli* 40° 11′, the ☽'s semi-diurnal arc is 114° 26′, which gives the ☽'s secondary distance from the seventh house 43°; the oblique ascension of the ☽'s ☍ is 288°; from which, subtracting the horoscope's oblique ascension, the ☽'s primary distance from the seventh house becomes 103° 58′; there remains, therefore, the arc of direction 60° 58′. The secondary directions are made on the 27th of March, 1537, 15ʰ 32′ P. M. at which time the planets were posited in the following manner:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♈	♏	♍	♈	♓	♉	♉	♊
	17.0	4. 0	1.31	25.17	28.57	26.28	6. 0	14.15
Lat.		N. 3.17	N. 1.56	S. 1. 5	S. 0. 6	N. 0.49	S. 2. 0	

The ☽ and ☿ in an exact diametrical ☍ had the declination of ♄, both there and in the nativity. The progressions to the day of his death were as follow: For 65 years they are finished on the 25th of April, 1542, the ☽ continuing in ♍ 27°; for two months and a half the ☽ is posited in ♐ 17°, May 1, 1542.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♉ 20.4	♐ 17.0	♏ 4.28R	♍ 19.13R	♏ 3.18R	♊ 15.0R	♊ 7.16R	♓ 6.22
Lat.		S. 5. 0	N. 2.35	N. 1.46	S. 0.5	N. 4.34	N. 0.29	

It is remarkable, that all the planets are here retrograde, and, also, at his death, at which time they abound with diseases; on the 16th of April, 1602, the day he died, the stars remained in the following manner:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♈ 25.45	♒ 18.40	♏ 28.17R	16.22R	♍ 3.25R	♈ 18.16R	♉ 18.54R	♐ 16.57
Lat.		S. 4.17	N. 2.56	N. 2. 4	N. 3. 0	N. 1. 0	S. 2.47	

There was a full ● on the 6th of April, the ☉ remaining upon his own place of the secondary direction. Therefore, on the day he died, ♄ entered from a □ the place of the ☽'s direction in the zodiac, and was posited in ☍ with nearly the same declination, ♄ in ☍ of the ☉'s progression; the ☉, by progression, came to ☌♄ and its own parallel; the ☽, on the day he died, was posited in a parallel near the □ of ♄ and ☌ of the progression; ♄, on the same day, was in a parallel of the ☉'s declination of the nativity, and of the place of the ☽'s direction in the zodiac.

On the 13th of December, 1583, when he was 46 years and near 11 months old, he was created a Cardinal; the ☉, by right direction, came to a parallel of ♃'s declination in ♓ 22° 35', which is the declination of ♃ 2° 57'.

Of the ☉.

The semi-nocturnal arc is	7^h	7'
Crepusculine arc	1	43
Obscure arc	5	24
Right ascension	314°	13
Distance from the *imum cœli*	40	11

Of ♓ 22° 35.

The semi-nocturnal arc is	6^h	11'
Crepusculine arc	1	39
Obscure arc	4	32
Primary distance from the *imum cœli*	79°	10
Right ascension	353	12

The secondary distance is, therefore, 33° 44', which, subtracted from the primary, leaves the arc of direction 45° 26', which, added to the ☉'s right ascension, which is 314° 13', makes the sum 359° 39', answering to 29° 30' of ♓, at which the ☉, from the day of birth, arrives in 48 days; but the effect anticipated this direction 8 months: If, however, the place of ♃ be true, as to longitude and latitude, or otherwise, because the luminaries are usually antecedent by reason of the magnitude of their bodies, in the directions to the parallels, as is seen in the other calculations, for the ☉, 3 years before, had, by converse direction, arrived at the ✱ of ♀, therefore, the difference of 8 months is but small. The horary times of ♀ are 16° 37′, her distance from the sixth house 1° 38′; for the oblique ascension of the ☍ of ♀ is 152° 24′; the ☉'s horary times are 17° 49′, whence arises his secondary distance 1° 45′ from the *imum cœli*, and, added to the primary, makes the arc of direction of the ☉, by converse motion, to the ✱ of ♀ *in mundo* 41° 56′. The secondary directions for 46 years, 10 months, and 10 days, are made on the 9th of March, 1537, with 6h 12′, P. M. under this constitution of the heavens:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♓	♓	♍	♈	♓	♉	♈	♊
	29.0	4.30	2.40	20.52	14.20	4.30	14.0	15.50

The progressions for full 47 years depend on the 10th of November, 1548, when the ☽ was in ♈ 10°.

Therefore, one sign 24°, for the one month and 20 days, must be subtracted from the aforesaid place of the ☽, who will then be in ♒ 16°, and the rest disposed in the following manner:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♏	♒	♎	♌	♑	♎	♏	♈
	24.0	16.0	22.2	28.8	10.56	17.56	5.45	5.0

On the day of election, December 13, 1583, the Stars were thus posited:

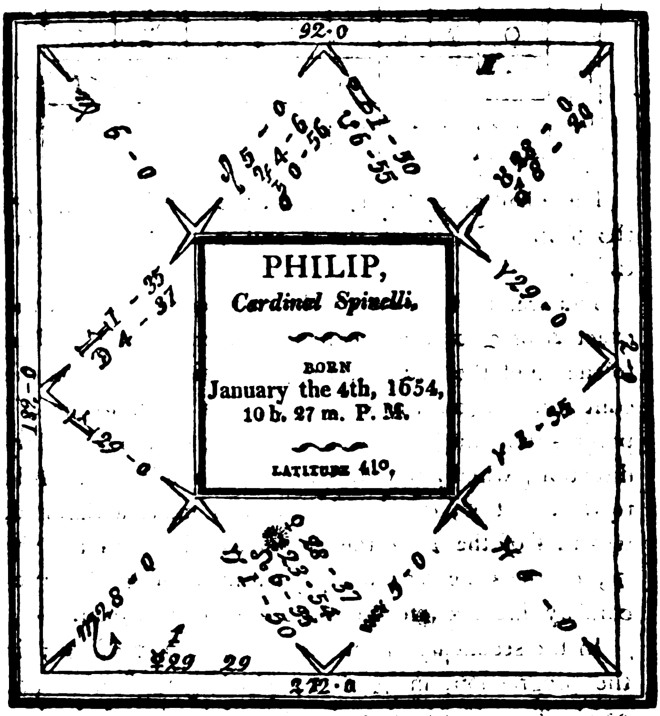
	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♐	♐	♓	♓	♐	♑	♐	♐
	20.36	13.4	17.0	20.4	25.24	7.6R	10.28R	11.46

There had preceded a full ●, the ☉ being in ♐ 7°, the ☽ in ♊ 7°, under the △ and ⚹ of ♃ of the nativity.

You see, that the ☉, on the election day, was in the exact △ of ♃ of the secondary direction, and applied to the △ of the same in the progression; and, on the contrary, ♃, on the same day, was in △ to the ☉'s progression, and applied to the same of the secondary direction, which, indeed, is worthy of admiration. Add to this, that ♀, on the day he was made a Cardinal, was in ⚹ of the ☽ in the secondary direction, and the ☽, on the same day, was posited in △ of ☿ of the secondary direction, for he was a very learned man.

In the secondary directions the ☽ is in ⚹ of ♀; in the progression, in △ of ♀; which gave famous and good offices of friends; the ☉, on the day of election, was in ⚹ of ♀ of the progressions, and in the △ of ☿ of the secondary directions.

EXAMPLE XVII.



	LATITUDES.		DECLINATIONS.	
♄ . .	0° 25′	N.	20° 26′	N.
♃ . .	0 42	N.	19 59	N.
♂ . .	1 26	N.	15 42	N.
☉ . .	0 0		21 34	S.
♀ . .	1 9	S.		
☿ . .	0 33	S.	24 4	S.
☽ . .	5 0	S.	6 25	S.

HE died, May the 26th, 1616, aged 52 years, 4 months, and 12 days, at which time the ☽, who is moderator of life, as being the conditionary luminary in the centre of the horoscope, came, by right direction, to a parallel of ♄'s declination in ♏ 15° 48', where she is in 3° 53' south latitude, the declination of which place is 20° 20'; a parallel of ♃ succeeds, but because there is, at the same time, a mundane parallel of ♂ to the ☽, and she, by a converse motion in □ to ♂, ♃ could be of no service. The ☽'s direction to the parallel of ♄ is thus calculated: The ☽'s declination is 6° 25', which, in the ecliptic, answers to ♎ 16°, whose nocturnal horary times are 15° 55', which, doubled, make 31° 50'; the ☽'s oblique ascension in the horoscope is 187° 51', from which there remains her distance from the east 5° 51'; the pole of the second house is 30°, therefore the difference of the poles of the first and second is 11°.

If therefore the double horary times of the ☽'	31°	50'
gives the polar difference of the 1st and 2d	11°	0
the ☽'s distance from the east	5	51
gives	2	0

and there remains the ☽'s pole 39, to which pole her oblique ascension is 187° 28'.

The oblique ascension of 15° 48' of ♏, with 3° 33' south latitude, is 239° 32', from which, subtracting the ☽'s oblique ascension, there remains the arc of direction 52° 4', which, for the equation, add to the ☉'s right ascension, which is 295° 47', and it makes

347° 51′, answering to 16° 45′ of ♓, to which the ☉ arrives in 52 days and a quarter, which denotes so many years.

The ☽'s right direction to the mundane parallel of ♂ is thus: The ☽'s semi-nocturnal arc is 6h 22′, its distance from the east 5° 51′; the oblique ascension of the ☍ of ♂, taken in the horoscope, is 229° 32′; from which, subtracting the oblique ascension of the horoscope, there remains the primary distance of ♂ from the west 47° 32′.

Therefore, as the ☽'s semi-nocturnal arc .	6h 22′
is to her distance from the east	5° 51
so is ♂'s semi-nocturnal arc	5h 8
to his secondary distance from the west .	4° 38

which, added to the primary, as this is under the earth, and the other above, makes the arc of direction 52° 10′. The ☽ at the same time came, by a converse motion, to the □ of ♂.

As the semi-diurnal arc of ♂	6h 57′
is to his distance from the west	47° 32
so is the ☽'s semi-diurnal arc	5h 38
to her secondary distance from *medium cœli*	38° 32

Her primary distance from *medium cœli* is 90° 16′, for her right ascension is 182° 16′; subtracting, therefore, the secondary distance from the primary, there remains the arc of direction 51° 44′. The secondary directions are made on the 25th of February, with 19h P. M., the ☽ remaining in 8° of ♍.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♓	♍	♋	♋	♊	♈	♈	♑
	17.0	8.0	28.56	28.2	4.16	4.52	2.16	4.16

The progressions for 52 years complete, fall on the 19th of March, 1568; whilst the ☽ continued in ♐ 19°; for 4 months and a third she came to ♉ 9°, on the 30th of the same month, when the planets were in the following position:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♈	♉	♍	♐	♋	♓	♈	♎
	19.50	9.0	22.46	8.18	26.32	6.34	26.35	15.9
Lat.		S. 2.2	N. 2.38	N. 1.14	N. 2.23	N. 1.30		

On the day he died, May the 26th, 1616, these were the places of the planets:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♊	♎	♉	♐	♉	♉	♉	♓
	4.58	7.45	4.27	26.9	5.58	2.54	19.1	13.57
Lat.		S. 2.2	S. 2.2	N. 1.9	S. 0.10	S. 1.24	S. 3.5	

The ☽ was in the secondary direction, in □ to ♂;

and, on the day he died, the ☉ entered the place of ♂, and in □ to the ☽. The ☉, by progression, leaving the parallel of ♄, applied to the □ of ♂, who was in ☍ of the ☉'s place of the nativity: on the same day, ♄ and ♂ entered upon the ☽'s progression; the ☽, likewise, on that day, with the declination of ♄'s progression, goes to the ☍ of the ☉ and □ of ♂'s progression; but what is most important, is, that the ☉, on the fatal day, entered upon ♂ in the secondary direction; but, from the ☉'s situation, the times of the effects are first principally defined, and then from the ☽.

In the 41st year and two months of his age, that is, in 1605, Argol says he was dangerously ill, and lays down the manner of his death, by supposing it to be from the ascendant directed to the □ of ♃; but we say, from the ☽ to an ☍ of ♂. The ☽'s oblique ascension is 187° 28′ to the pole 39°; and the oblique ascension of the ☍ of ♂ is 228° 36′; from which, subtracting the former, leaves the arc of direction 41° 8′, which, equated in our way, denotes 42 years, though the effect was very slow; if only the place of ♂ be true, for other tables place him in ♉ 9°, but the difference is but trifling; and if the direction is made to the ☍ in the zodiac it will be found to precede. The ☽ also, by a converse direction, reached the mundane parallel of ♂.

As the semi-diurnal arc of ♂	6h	57′
is to his distance from the west	47°	32
so is the semi-diurnal arc of the ☽ . .	5h	38
to her distance from the east	38°	32
which, added to her primary distance .	5	51
makes the arc of direction	44	23

But, if this figure be altered one degree, this direction agrees nearly.

The secondary directions fall on the 14th of February, 1564; the ☽ remaining in ♈ 13°, that is to say, 14ʰ 27′, P. M. At his death, ♂ was found in ♈ 18° upon this place of the ☽, she being in ☍ to ♄, and in the declination of ♂ of these motions.

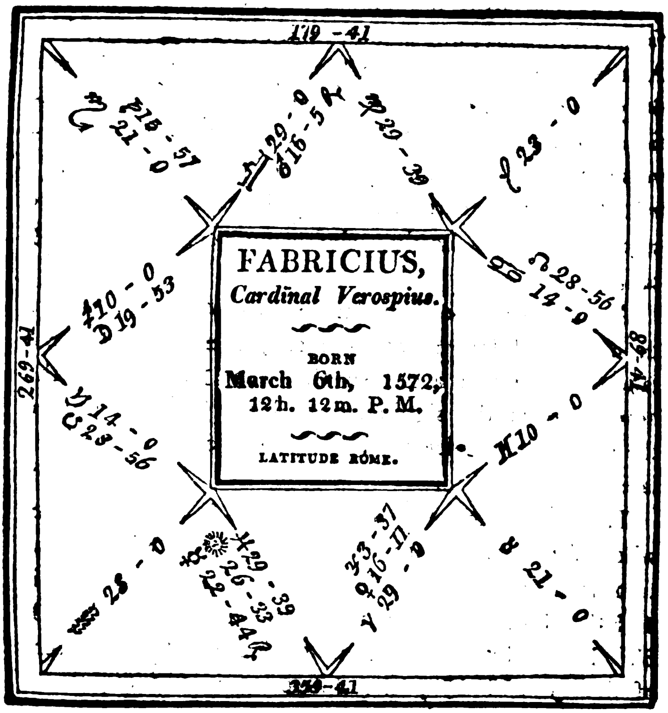
The progressions are made on the 5th of May, 1567, whilst the ☽ was in ♈ 10°, applying to ♂, he being in ♈ 15°, and in the same place at his death; the ☽, therefore, had arrived at the ☍ of her radical place. On the 5th of March, preceding his death, there was a full ● in ♍ 14° upon ♄ of the progression, and in parallel there of ♂, according to the doctrine of Ptolemy, in the last chapter of his 4th Book; and, that you may not look upon this as a dream, if you observe, in these examples, the equal progression now commonly used, you will find little or no agreement between them; so that you may perceive they are altogether false and useless.

In the 41st year, when the native was created a Cardinal, the *medium cœli*, having stopt first at a ☌ of ♃, came afterwards to the biquintile of ♃, who assumed the nature of ♃ from that biquintile ray, and partly of ♀ from the parallel of the declination. ☿ remained very strong in the centre of the *imum cœli*, when the satellites of the luminaries were very fortunate, the ☉ of ♀, the ☽ of ♃ from the ✱. The declination of ☿ is 24° 4′, ascensional difference 22° 50′, and semi-nocturnal arc 112° 50′; the fifth part of which is 22° 34′, and, doubled, are 45° 8′; the right ascension of ☿ is 270°

22′, whence his distance from the *imum cæli* becomes 1° 38′, which, subtracted from the geminated fifth part of ☿'s semi-nocturnal arc, there remains the arc of direction 43° 30′, which, equated in our way, denotes 41 years: but, if the nativity be increased 1°, as aforesaid, the time agrees exactly. Argol places ☿ in 8° of ♒: in this he must certainly be mistaken.

Moreover, the ☉ had arrived at the sesqui-quadrate of ♃ by a converse motion: the oblique ascension of ♃ to the pole of the eleventh house 16°, is 120° 43′; the oblique ascension of the ☉'s ☍ to the same pole is 109° 21′; this, subtracted from the former, leaves the ☉'s distance from the ☍ of ♃ 11° 22′. The ☉'s horary times are 18° 19′, which, triplicated, are 54° 57′; and as the distance of the sesqui-quadrate ray from the ☍ are the triplicate horary times; from this, therefore, subtracting the ☉'s distance from the ☍ of ♃, leaves the arc of direction 43° 35′. The secondary directions fall on the 14th of February, 1564, when the ☉ was in the exact biquintile of ♃, and the ☽ in △.

EXAMPLE XVIII.



LATITUDES.				DECLINATIONS.		
♄ . . .	2°	40′	N.	14°	2′	S.
♃ . . .	1	1	S.			
♂ . . .	3	28	N.			
☉ . . .	0	0				
♀ . . .	0	34	S.			
☿ . . .	2	46	N.			
☽ . . .	3	8	N.	20	0	S.

HE died, January 27, 1639. The ☽, in this nativity, possesses the horoscope, and, as she is the conditionary luminary, the signification of life belongs to her. At the time of his death, which happened when he was 66 years and ten months old, she came, by a right motion, to a parallel of ♄'s declination, and, by a converse motion, was in a mundane parallel with him; whilst both were carried away by the rapt motion of the *primum mobile*. Lastly, she came very near the ☌ of ♂.

Argol directs the ascendant to the △ of ♂, who is in a sign of long ascension; she, therefore, does not take the nature of a □; so that the ☽, and not the horoscope, is the significator of life. The direction to the mundane parallel of ♄'s rapt motion is thus calculated:

The declination of ♄ answers to ♏ 7° in the ecliptic, whereof the semi-diurnal arc is 5^h 9′; the ☽'s declination is adequate to ♏ 29°, whose semi-diurnal arc is 4^h 54′. I add these arcs together, and the sum is 10^h 3′. The right ascension of ♄ is 224° 14′, and that of the ☽ 259° 17′; the difference is 35° 3′; therefore,

As the sum of the semi-diurnal arcs . .	10^h	3′
is to the semi-diurnal arc of ♄	5	9
so is the difference of right ascension .	35°	3
to the secondary distance of ♄ from the *medium cœli*.	17	58

The primary distance of ♄ is 44° 33′, which is to be added to the 17° 58′, because ♄ moves from the ascendant to the descendant parts, and makes the arc of direction 62° 31′, which, for the equation, add to the ☉'s right ascension, which is 356° 50′, and it makes 59° 21′, answering to 1° 30′ of ♊, to which the ♀ arrives in 66 days and 20 hours, which denotes the age of 66 years and 10 months.

The ☽ to the parallel of the declination of ♄; the ☽'s oblique ascension under the pole of Rome is 278° 16′, to which I add the arc of direction 62° 31′, which makes 340° 47′; I look for this in the same table, near the end of the sign ♒, where the ☽ gains near 2° south latitude, and I find it in ♒ precisely 23° 14′, of which place, with 2° south latitude, the declination is 15° 42′, and that of ♄ 14° 2′; so that the ☽ had not yet exactly reached the declination of ♄, either because the places of ♄ and the ☽ are not yet exactly true, or that the luminaries in the directions to the parallels of declination always precede, as we have said, in producing the effects, the true time of the parallel; or, lastly, because the preceding directions and agreement of the other motions were urgent, which frequently happens.

The ☽ to the ☌ of ♂. The pole of ♂ is 9°, his oblique ascension 196° 39′; the ☽'s oblique ascension under that pole is 262° 32′; from which, subtracting the former, leaves the arc of direction 65° 53′; so that the ☽ was but 3° distant from ♂.

The secondary directions happened on the 12th of May, 1572, at 8ʰ 5′ P. M. when the stars were thus posited:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♊	♊	♏	♈	♍	♋	♊	♋
	1.40	12.0	10.44	19.46	29.6	7.0	9.0	25.30
Lat.		S. 3.25	N. 2.51	S. 1.10	N. 0.41	N. 1.44	S. 0.39	

The progressions are made the 1st of August, 1577, whilst the ☽ was in ♓ 22°.

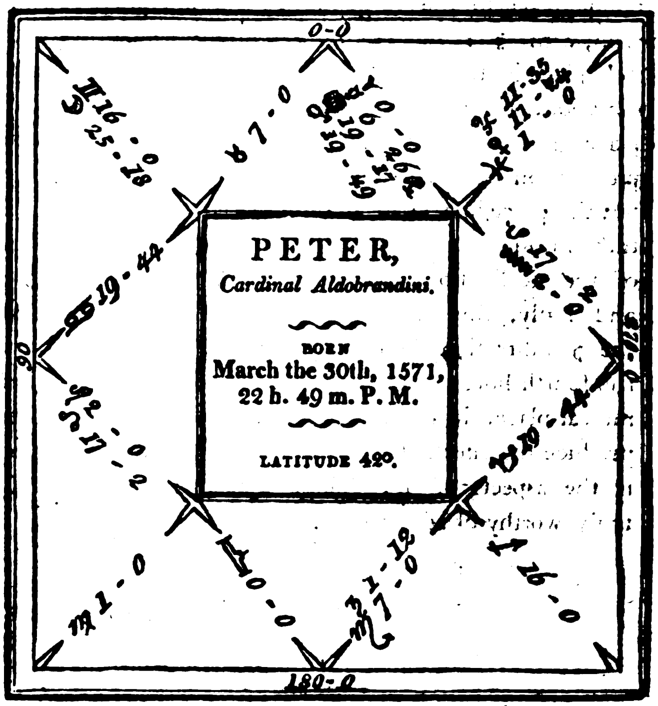
	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♌	♓	♑	♍	♌	♋	♌	♈
	18.20	22.0	5.54	15.2	21.39	26.47R	17.57R	14.31
Lat.		S. 1.54	N. 0.40	N. 1. 4	N. 0. 6	S. 4.49	S. 3.38	

January 27th, 1639, the day he died, the planets were placed in the following manner:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♒	♏	♒	♐	♈	♒	♒	♐
	7.31	22.40	9.11	1.52	4.30	2.12	26.22	26.29
Lat.		S. 2.48	S. 0.45	N. 0.53	S. 0.13	S. 1.55	N. 0. 8	

The preceding day there was a □ of the ☽, the ☉ remaining in ♒ 7°, in the □ of ♄'s secondary direction, and the ☽ in 7° of ♏ upon ♄, and with the declination of his primary directions, viz. that of ♄ of the nativity. On the day he died, the ☽ passed from ♄'s radical place to the □ of the ☉, and ♂'s progression; who, with ☿ retrograde, were conjoined in ☍ to the ☽'s place in the right direction, who, in the secondary direction, being posited in opposition to her radical place, made the year climacterical; and likewise in the progression was posited in the □ of the radical place; but the preceding □ of the luminaries, as it happened there in an hostile aspect of ♄, who was in a parallel of the declination and ☌ of the ☉ and □ of the ☽; and lastly, the enemies configurated to the place of the ☽'s direction, who is hyleg; and ♂ in ♈ 5° from the fourth house of the nativity, afflicted the ☽ in her radical place, it is very evident, to her it belonged to produce the effects denoted by the direction of the same to the aspects of ♄. These agreements are, indeed, truly worthy of admiration!

EXAMPLE XIX.



	LATITUDES.			DECLINATIONS.		
♄ . .	2°	58′	N.	9°	6′	S.
♃ . .	0	54	S.	8	5	S.
♂ . .	0	0		7	46	N.
☉ . .	0	0		7	34	N.
♀ . .	2	47	N.	4	44	S.
☿ . .	1	13	S.			
☽ . .	3	56	S.			

HE died the 10th of March, 1621, aged 49 years, 11 months; was elected a Cardinal in January, 1592, being at that time nearly 20 years and 10 months old.

Argol speaks of this nativity in the last edition of "CRITICAL DAYS," page 184. He places the ☽ in ♉ 25°, and directs the horoscope to its □ in the 50th year, rejecting the ☉, to whom belongs the signification of life; but the ☽, according to the common Tables and Ephemeris, is posited in ♊ 25°, and then that direction will not be the □, but the ✱. Now we, in imitation of Ptolemy, make the ☉ entirely aphæta, who, in 49 years and 11 months, comes to the mundane parallel of ♄, both by a right and converse motion. A calculation of the right direction is thus: The ☉'s declination is 7° 34′, ascensional difference 6° 52′, semi-diurnal arc 96° 52′, right ascension 17° 47′, distance from the *medium cœli* 17° 47′; ♄'s declination 9° 6′, ascensional difference 8° 18′, semi-nocturnal arc 98° 18′, right ascension 210° 6′, primary distance from the *imum cœli* 30° 6′; these produce ♄'s secondary distance 18° 3′; this, added to the primary, makes the arc of direction 48° 9′, which, added to the ☉'s right ascension, makes 65° 56′, answering to 7° 45′ of ♊, to which the ☉ arrives in 50 days, which gives 50 years.

The converse direction is thus:

As ♄'s semi-nocturnal arc	98°	18′
is to his distance from the *imum cœli* .	30	6
so is the ☉'s semi-diurnal arc . . .	96	52
to his secondary distance	29	40

which, with the primary, makes the arc of direction 47° 27′. But you are to observe, that the ☉, when in ☌ with ♂, applies to a parallel of the declination of ♄; wherefore as aphæta, he denotes the corrupt qualities of the body and shortness of life; especially, as from the *medium cœli* he, by a □ ray, afflicted the horoscope.

The secondary directions happen on the 19th of May, 1571, with 20ʰ 49′, P. M. under the following disposition of the stars:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♊ 8.0	♈ 29.0	♎ 28.0	♓ 20.30	♉ 26.0	♈ 23.33	♊ 6. 0	♌ 14.27
Lat.		S. 4.50	N. 2.58	S. 1.13	S. 0.2	S. 1.23	S. 0.12	

The progressions for full 50 years are made on the 15th of April, 1575; therefore, for 49 years and 10 months, those progressions are made on the 11th of April, the ☽ remaining in ♉ 6°; the other as you may see under:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♉ 0.50	♉ 6. 0	♐ 19.0	♋ 5. 2	♉ 26.37	♉ 11.18	♉ 20.21	♉ 29.5
Lat.		S. 1.57	N. 1.48	0. 0	N. 0. 8	S. 0.25	N. 1.30	

February 10, 1621, the day he died, the stars were thus placed:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♒	♎	♊	♉	♏	♑	♑	♐
	22.11	20.38	29.63	12.59	11.13	14.28	25.58	10.0
Lat.		S. 3.46	S. 0.39	S. 0.46	N. 1.40	S. 0.34	S. 1.25	

In the secondary direction the ☽ was in ☍ to ♄, as well there, as from the nativity: on the day of death ♄ was upon ☽ in the nativity, the ☉, by progression, in ☍ of ♄'s radical place; the ☉, on the day he died, in the □ of ♂ of the progression.

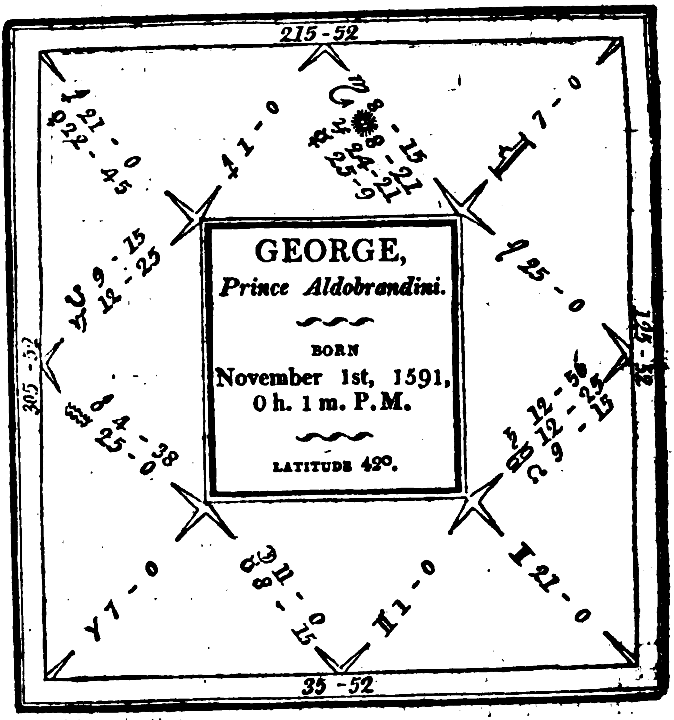
In the progression, the ☽ was in the same parallel of ♄'s declination, and nearly so on the day of his death: on the contrary, the ☽ on the same day was found upon ♄ of the secondary direction. And is this not wonderful?

Before his death there was an ☍ of the luminaries, the ☉ in ♒ 18°, and the ☽ in ♌ 18°, in □ to ♂ of the progression and secondary directions.

The nonutility of the common progression is easily perceptible.

In the 21st year, the ☉, by direction, came to the ✱ of ♃ and ♀.

EXAMPLE XX.



	LATITUDES.			DECLINATIONS.		
♄ . .	1°	28′	S.	21°	3′	N.
♃ . .	0	58	N.	17	59	S.
♂ . .	1	55	S.	21	5	S.
☉ . .	0	0		14	20	S.
♀ . .	3	36	S.			
☿ . .	3	12	S.	23	13	S.
☽ . .	4	17	S.	11	7	N.

HE died May 16, 1637, at the age of 45 years, 6 months, and 15 days.

In his nativity the ☉ becomes entirely hyleg, and not the ascendant, according to Argol; for he is on the cusp of the *medium cœli*, and at the time of death, in 45 years and a half, came, by right direction, to ♐ 24° 50′, where he is afflicted by the ☽'s sesqui-quadrate, having, for some time before, been under a parallel declination of ♄ and ♂, and likewise in a □ of ♂ *in mundo*, to which the ☉ from 0° of ♐ applied, but, from a ☌ with ♀ and the terms of the favourable planets, he was preserved: besides, it is to be observed, that both the luminaries were moved, by converse direction, to a mundane □ of ♄, who in the nativity afflicted the horoscope from the ☍ and the luminaries by a □ ray *in mundo*, and being posited on the cusp of the seventh, he denoted a short life with bad health, and had not ♀, in exact mundane ✶, assisted the ☉ in its radical place, the native would never have lived so long. Lastly, there was an application of the ☉ by converse motion to the parallel of ♂ *in mundo*, whilst both were carried away by the rapt motion of the *primum mobile*. The calculation is thus: The ☉'s semi-diurnal arc is $5^h\ 7'$, ♂'s declination answers to 4° 30′ of ♐, whose semi-diurnal arc is $4^h\ 39'$; I add these arcs together, and the sum is $9^h\ 46'$: the ☉'s right ascension is 215° 58′, and that of ♂ 307° 28′, from which I subtract the ☉'s right ascension, and the right difference between them is 91° 30′. Now say,

As the sum of both semi-diurnal arcs . . . 9^h 46′
is to the ☉'s semi-diurnal arc 5 7
so is the difference of right ascension . . 91° 30
to the ☉'s sec. distance from *medium cœli* . 47 56
which, added to the primary, makes the arc of direction 48° 2′, which for the equation add to the ☉'s right ascension, and the sum is 264°, answering to 24° 30′ of ♐, to which the ☉, from the day of birth, arrives in 45 days, which denotes so many years.

In this example, as well as others, is proved the measure of directions which we make use of; for, if we add to the ☉'s right ascension 45° 30′, according to the common method, we make the sum 261° 28′, equal to ♐ 22° 10′, where ♀'s parallel is, who doubtless would have preserved him; and as our measure of the directions brings the ☉ farther, to 24° 30′, and ♀ being in 2° 36′ south latitude, she was already separated from the ☉, and constituted in the terms of ♄.

The secondary directions fall on the 16th of December 1591, with 13^h, P. M. at which time the places of the stars were as follow:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♐	♑	♋	♐	♓	♑	♐	♋
	24.40	6.0	10.29	4.33	7.13	1.38 R	8.26	6.49
Lat.		N. 0. 4	S. 1.32	N. 0.57	S. 0.52	N. 1. 5	N. 0.40	

The progressions for 45 years and a half, exact, are made on the 7th of July, 1595, the ☽ being in 18° 59′ of ♋; to these I add 16° 30′ for the half month, and the ☽ is posited in ♌ 4°, 30′; but the rest, on the 8th of July, 1595, are as follow:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♋ 15.0	♌ 4 30	♌ 22.45	♈ 3. 6	♈ 19.20	♊ 7. 0	♋ 20.0	♈ 27.56
Lat.		N. 4.58	N. 0.38	S. 1.25	S. 2.11	S. 1.48	N. 1.22	

On the day he died, May 16, at 1h 5′, the planets remained thus:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♉ 26.0	♒ 22.0	♑ 25.18	♍ 25.24	♊ 6.52	♉ 10.46	♉ 10.15	♑ 28.3
Lat.		N. 2. 2	N. 0. 1	N. 1.29	N. 0.32	S. 1.17	S. 0.42	

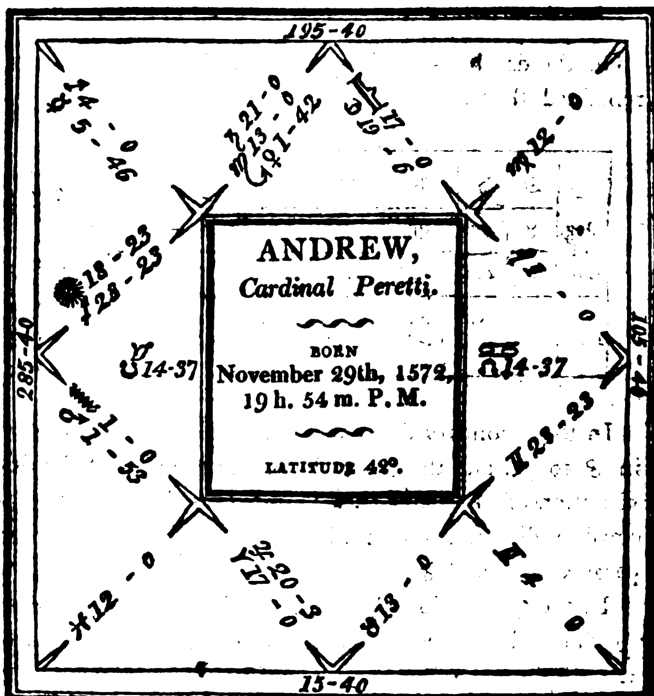
In the secondary directions the ☽ was with the ☊ in ☍ to ♄, and the ☉ nearly in the parallel of the declination of ♄; and these luminaries, by the same secondary direction on the day he died, entered a similar parallel of ♄ and ♂.

In the progression the ☉ in □ of ♂ continued upon ♄'s radical place; the ☽ in ☍ of ♂'s radical place, exactly: on the day of his death the ☉ was in □ of ♄

of the progression, and, on the contrary, ♄ in ☍ with the parallel of the ☉'s progression; ♂ had likewise the same declination with him; on the above day the ☽ was found in the exact ☍ of ♄ of the progression.

The luminaries had alternately the □ on that day, with many other attestations of the infortunes; so that the effect was not frustrated.

EXAMPLE XXI.



	LATITUDES.			DECLINATIONS.		
♄ . .	1°	59′	N.	16°	7′	S.
♃ . .	1	22	S.	6	36	N.
♂ . .	1	18	S.	21	4	S.
☉ . .	0	0		23	1	S.
♀ . .	2	49	N.	9	29	S.
☿ . .	0	53	N.	20	27	S.
☽ . .	4	59	N.	2	51	S.

IN this nativity, if the ascendant had 18° 37′ of ♐, according to the explanation of Argol, we freely confess if the ☉ were hyleg, no direction of his would agree with the time of the native's death.

For the direction's arc for 56 years 8 months, is 61° 15′, the ☉'s oblique ascension is 279° 41′; to which, if we add the direction's arc 61° 15′, the sum is 340° 56′; answering to ♒ 27° in the same table, obnoxious to none of the malefics.

Wherefore, as in this nativity the ☉ begins to be separated from the horoscope, if, to the time in the nativity, a quarter of an hour is added, which is probable and likely to be true, because of the usual difference between the solar and civil horology, the prorogatory dignity of life is taken away from the ☉, as he has now left the horoscope, and is transferred entirely to the ☽; which that it is so, is confirmed by the agreements of the ☽'s directions with the time of death, as will be presently evident.

The native died the 4th of August, 1629, aged 56 years and 8 months, at which time the ☽ came, by a right direction, to a parallel declination of ♂; the parallel of ☿ preceding near 21° 25′ of ♐ when the ☽ gains 2° North latitude, and declination 21° 18′. But because about the tropics the declination suffers very little variation; so that the ☽, for some preceding degrees, participated of the parallel of ♂; a subsequent △ of ♃ preserved him, and also from his ☌ with the ☉; but the △ of ♃ began now to cease, and the ☽ entered the terms of ♄. Lastly, there was, by converse direction, a mundane parallel of ♂ to the ☽; the effect of this parallel of ♂ to the ☽ immediately appeared; and at the same time the ☽, by a converse motion, came to the ☍ of ♂; and seeing so many agreements on the part of the ☽ concur, of consequence the signification of life belongs to her.

We have said, that the arc of direction for 56 years and 8 months is 61° 15′. Now the ☽, in 56 days and 16 hours from the nativity, arrives at ♒ 16° 8′, whose right ascension is 318° 37′, from which subtracting the ☉'s right ascension, 257° 22′, there remains the arc of direction, 61° 15′, which is due to the aforesaid years; the ☽'s right ascension is 199° 31′, to which adding 61° 15′, the sum is 260° 46′; this, in the tables of right ascension, answers to ♐ 21° 25′, under the column of latitude 2° north, which the ☽ gains there, and where she is posited in the declination of ♂.

The calculation of the converse direction to the mundane parallel of the same is thus: The ☽'s declination, 2° 51′, answers to ♒ 7° in the ecliptic, whose semi-diurnal arc is 5h 50′; the declination of ♂, 21° 4′, answers to ♑ 26°, whose semi-diurnal arc is 4^h 29′. I add these arcs together, and the sum is 10^h 20′. The right ascension of ♂ is 304° 35′: from which, subtracting the ☽'s right ascension, there remains the right difference between them, 105° 4′; therefore,

As the sum of the semi-diurnal arcs . .	10^h	29′
is to the ☽'s semi-diurnal arc	5	50
so is the right ascensional difference . .	105°	4
to the ☽'s secondary distance	58	28
which, added to the primary	3	51
makes the arc of direction	62	19

greater than that above taken by one degree; so that this direction succeeded the year, and also the ☍ of ♂, if the places of the ☽ and ♂ be true.

The converse direction to the ☍ of ♂ is thus calculated: The elevation of the pole of the second house is 31°; but as ♂ hath 1° 18′ south latitude, and is 1° distant below the cusp, the elevation of his pole is 30°, under which ♂'s oblique ascension is 315°; but the oblique ascension there of the ☽'s ☍ is 17° 59′, from which, subtracting that of ♂, leaves the arc of direction 62° 50′.

Argol says that the native was sick in the 44th year and a half of his age; at that time the ☽ came, by converse motion, to a mundane □ of ♄; which direction, if you would see, is thus: The first number is the semi-diurnal arc of ♄; the second his distance from the east by the oblique ascension of the horoscope; the third is the ☽'s semi-diurnal arc; and the fourth number will be her secondary distance from the *medium* *cœli*, which added to the primary, and the direction's arc equated, for the 44th year and a half, is 48° 47′; but the luminaries seem very frequently to precede, in their effects, the intimate application of the direction, especially in the parallel, as has been frequently mentioned.

The secondary directions happen on the 25th of January, 1573, with the hours 12, from meridian, under the following construction of the stars:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of	♒	♏	♏	♈	♓	♑	♓	♋
Lon.	16.30	12.36	26.24	25.9	17.0	4. 0	6. 0	11.50
Lat.		N. 4.17	N. 2.10	S. 1.20	S. 0.10	N. 2. 8	N. 1.53	

The progressions are made on the 30th of June, 1577, the stars in the position following:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of	♋	♑	♑	♍	♋	♌	♌	♈
Lon.	17.20	18.0	8. 4	8.50	29.58	11.49	12.24	16.22
Lat.		N. 4.17	N. 0.46	N. 1. 9	N. 1.14	S. 0.40	N. 0.15	

On the 4th of August, the day of his death, the stars were as under:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♌	♒	♎	♒	♊	♌	♍	♊
	11.57	15.38	18.41	1.10	3.40	18.1	3.14	[illegible]
Lat.		S. 3.38	N. 2.24	S. 0.44	S. 0.43	N. 1.26	S. [illegible]	

On the day he died, there was a full ● in the □ and parallel of ♄ in the radix, and in his place of the secondary directions, in which ♂ was, in □ of the ☉ and parallel of the ☽. On the same day ♄ was in □ of the ☉ and ☽ of the progression, and exactly upon the place of the ☽ in the radix; and ♂ on that day had a parallel declination in the place of the ☽'s right direction; ♀ had the ∗ to the ☽ in the nativity, but was combust. On the above day, the ☉ was in an exact parallel declination of ♄ of the secondary direction, and the ☽ entered the same parallel.

You see, Reader, how various and mutual the agreements are, both active and passive, and yet how exact. In the 24th year, the time he was made a Cardinal, the ☉ came to the quintile of ♀ in the zodiac, near 13° 42′ of ♑, which hath the same declination with the ☉ in the nativity, the direction is easy, viz. by the right ascensions; for as many days as the ☉ was arriving at 13° 42′ of ♑, so many years do they denote; the number of days is 24; besides, the ☉ applied at the same time to the quintile of ♃ *in mundo,* which is thus calculated:

I divide ♃'s nocturnal horary times 13° 58' by 5°, the quotient is 2° 48', which, added to his nocturnal horary times, make 16° 46', which are the 5th part of ♃'s semi-nocturnal arc.

I direct ♃ to the □ of the ☉ in the world thus:

If the horary times of ☉	11^d	15'
give his distance from the East . . .	5	59
What will ♃'s horary times give . . .	13	58
Answer, ♃'s secondary distance from the *imum cœli*	7	35

The right ascension of ♃ is 19°, whence his primary distance from the *imum cœli* is 3° 20'; which, added to the secondary, makes the arc of direction of the ☉ to the □ of ♃ 10° 45': to this I add a 5th part of ♃'s semi-nocturnal arc, taken as before 16° 46', and the sum is 27° 31', for the arc of direction of the ☉ to the quintile of ♃ *in mundo*, which turned into time, gives 25 years nearly.

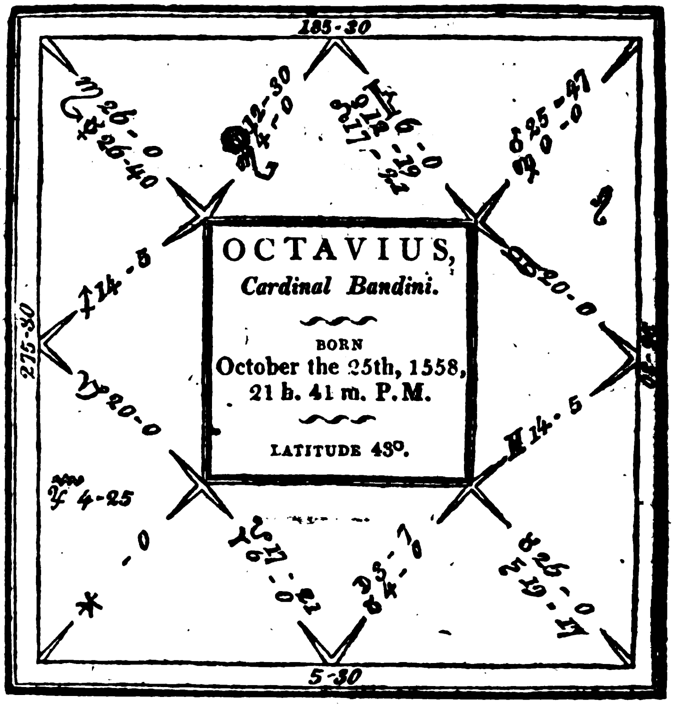
In this nativity, is to be observed a very noble Satellitum of the luminaries, particularly of the ☉, who was in the △ of ♃ and ✱ of ♀, viz. in the world to ♀; for ♀, in such a ✱, confers very great honours on the ☉. See in other examples brought by Argol in the Cardinals Lenius, Lanfranche, Borromeus; in George Prince Aldobrandine, Charles I, Gonzago Duke of Mantua, Dominic Molinus, Bernard Vamarius, and others.

The secondary directions are made on December 23, 1572, with 7^h 54′, P. M. and the progression on the 25th of October, 1574, almost in the meridian, in which the luminaries were alternately in △, and both in exact △ of ♃. On the 5th of June, when he was elected, the luminaries were posited alternately in △, and were found in △ of ♀ of the progression, the ☉ in parallel of ♃, &c.

Argol directs the *medium cœli* to the ✶ of ☿ [a] for the 24th year; but the ✶ falls in ♎ 5° 46′, which precedes, not succeeds, the *medium cœli*; and the right ascension of the ✶ of ☿, where it is taken 213° 24′, is 5° 46′ of ♏, and not ♎.

[a] Argol takes the *medium cœli* to the ✶ of ☿ in the zodiac, which cannot be admitted, as the angles cannot be directed to zodiacal aspects. And, in this instance, he has mistaken his own theory.

EXAMPLE XXII.



		LATITUDES.			DECLINATIONS.		
♄ . .	2°	28′	S.	15°	13′	N.
♃ . .	1	5	S.	20	16	S.
♂ . .	1	19	N.			
☉ . .	0	0		15	38	S.
♀ . .	1	46	N.			
☿ . .	1	45	S.			

HE died August 1, 1629, aged 70 years and 9 months; was created a Cardinal on the 5th of June, 1596, at the age of 37 years and 7 months.

In this nativity, which is explained by Argol, ♀ is to be placed in ♎ 12°, not 21°; he directs the ascendant to the □ of ♄ in the zodiac; but, as the rays to the angles in the zodiac are rejected by us for very plain reasons, and also by Ptolemy; and on the other hand, the ☉'s arc of direction corresponds very well with the proper □ *in mundo*, whereby both the prerogatory virtues, *viz.* one by a right direct motion, and the other by a converse, is injured, especially by the subsequent parallels of ♄ *in mundo*, as will appear by calculating them.

Likewise, as the significator of life belongs to the ☉, that he may obtain this dignity, the time of birth must be lengthened some few minutes; wherefore we add to the given hour 18 minutes. At the time of his death the ☉ came to its own □ *in mundo*; the calculation whereof is easy; for the ☉'s semi-diurnal arc is 74° 54', his horary times are 12° 29'. The ☉ likewise came by right motion to a mundane parallel of ♄.

As the horary times of the ☉	12°	29'
to his distance from the *medium cœli* .	34	33
so is ♄'s horary times	12	33
to his secondary distance from the *imum cœli*	34	44

The right ascension of ♄ is 47° 31'; from which, subtracting the right ascension of the *imum cœli*, leaves the primary distance of ♄ from the *imum cœli* 42° 1'; which, added to the secondary, makes the arc of direction 76° 45′; lastly, the ☉, by converse motion, came to the mundane parallel of ♄.

For as ♄'s horary times 12° 33′ is to his distance from the *imum cœli* 42° 1′, so is the ☉'s horary times 12° 29′ to his secondary distance from the *medium cœli* 41° 48′; which, added to the primary, 34° 33′, makes the arc of direction 76° 21′. For the equation add the arc of direction to the ☉'s right ascension, and it makes 296° 24′, answering to 24° 29′ of ♑, to which, from the day of birth, the ☉ arrives in 70 days and 18 hours, which denotes 70 years and nine months. The secondary directions are made on the 14th of January, 1559, with the hours from meridian, 15° 23′, in this situation of the stars.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♑	♐	♉	♒	♏	♑	♑	♈
	24.29	15.0	17.45	17.35	7.20	10.0	20.10	13.44

The progressions, for full 70 years, are made on the 23d of June, 1564, the ☽ remaining in ♑ 3°; for the other 9 months, we have the ☽ posited in ♎ 25° 30′; the rest, on the 15th of July, were as under:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♌	♎	♌	♌	♌	♍	♌	♐
	2.27	25.30	8. 7	14.36	27.30	17.0	25.19	26.51
Lat.		S. 4.23	N. 0.30	N. 0.38	N. 0.17	N. 1.31	S. 2.48	

On the day of death, which was the 1st of August, 1629, the Stars were thus posited:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♌	♑	♎	♒	♈	♌	♍	♒
	9.5	10.0	18.29	1.25	1.43	14.20	3.32	0.41

On the day he died, the ☉ entered the progression of ♄, and in □ of the secondary direction of ♂; ♄, the ☽'s progression, and the □ of the ☉'s secondary direction; ♂ a parallel of the ☉'s secondary direction.

In 1596, aged 37 years and 7 months, he was made a Cardinal; the ☉ came, by a right direction, to the ⚹ of ♃ *in mundo*; likewise, to the quintile of ♀, and parallel of the same, by a converse motion.

The direction to the ⚹ of ♃ is thus calculated:

The ☉'s oblique ascension under the pole of the eleventh house 18°, is 225° 16′, from which, subtracting the oblique ascension of that house, which is 215° 30′, leaves the ☉'s distance from the eleventh house 9° 46′; therefore, ♃'s horary times 18° 21′, will give his secondary distance from the East 14° 21′. The oblique ascension of ♃ in the horoscope is 327° 13′; from which, subtracting the horoscope's oblique ascension, leaves the primary distance of ♃ from the ascendant, 51° 43′; from this, subtracting the secondary distance, the remainder is the arc of direction, 37° 22′.

If you want the direction to the parallel of ♀, by converse motion, say, As the horary times of ♀ are to her distance from the *medium cœli*, so is the ☉'s horary times to its secondary distance; and adding the fourth number to the ☉'s primary distance, the sum will be the arc of direction.

The secondary directions fall on the 2d of December, 1558, with $11^h\ 41'$, P. M. in the following situation of the stars:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♐	♍	♉	♒	♎	♏	♏	♈
	20.43	27.0	19.4	10.30	18.21	28.0	28.0	15.30

The progressions depend on the 8th of November, 1561, the ☽ remaining in ♐ 16°; the rest as under:

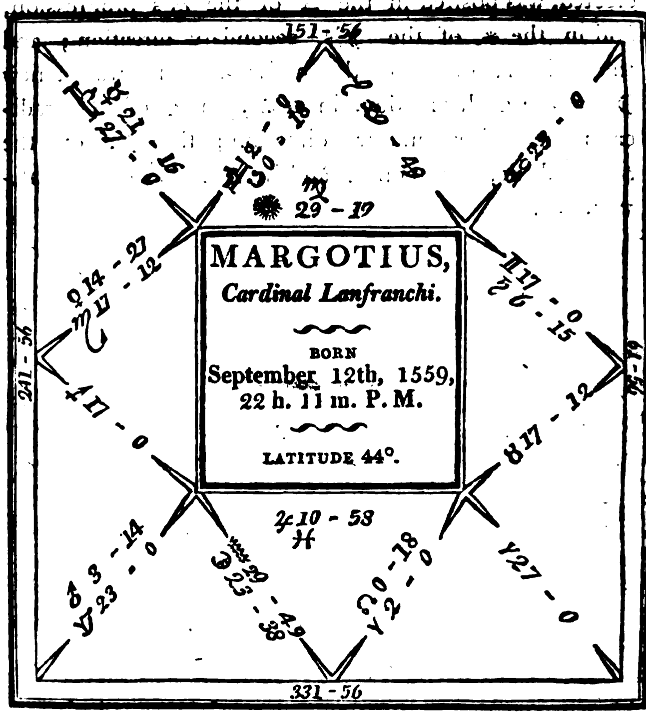
	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♏	♐	♋	♉	♓	♎	♏	♒
	26.30	16.0	6.50	26.33	12.25	13.0	23.0	18.41

On the day of election, June the 5th, 1596, the stars were posited thus:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♊	♎	♍	♉	♌	♋	♊	♈
	14.29	5.21	2.4	0.4	0.31	23.31	3.18	10.22

On the day of election the ☉ was posited in △ of ♃ of the secondary direction, and △ of ♀ of the progression. On the contrary, ♀, on the day he was elected, was posited in the △ of the ☉'s progression, and in the ✱ of the ☽'s secondary direction; and the ☉ in △ of ♀ of the nativity, there was a new ☽ on the 26th of May, in ♊ 5°, in △ of ♃'s radical place and secondary direction; the ☽, on the 5th of June, was upon ♀ and in △ of ♃, of the nativity, &c.

EXAMPLE XXIII.



	LATITUDES.	DECLINATIONS.
♄ . .	1° 54′ S.	19° 33′ N.
♃ . .	0 56 S.	
♂ . .	2 48 S.	
☉ . .	0 0	
♀ . .	2 11 S.	18 20 S.
☿ . .	1 19 S.	
☽ . .	3 2 S.	16 35 S.

HE died the 30th of November 1611, aged 52 years, 2 months, 10 days. He was sent for in 1606 from Naples by Paul V, to be secretary to his grandson, Cardinal Burghesus. He was elected Cardinal on November 24, 1608.

Argol, in this nativity, as usual, directs the ascendant for the native's death; but the ☉ is undoubtedly hyleg, who, according to our method, falls on a parallel declination of the ☽; ♀ and ♄ following immediately after; and what is very remarkable, the ☉ with that declination, 16° 35′, found the declination of Syrus, Aldebaran, Cauda, and very nearly Cor Leonis, four fixed stars of the first magnitude, of a hot and destructive nature. I have found, by observation, that this declination is possessed of a great force and virtue; so that if any significator obtains that declination, the signification is thereby greatly increased; good with the benign, and evil with the malignant. I have observed that ☿ with that declination gives acuteness to the mind and understanding; ♀, a desire for luxury and pleasure; ♂, anger, madness, boldness, temerity, &c.

The ☉ with this declination causes a warm pestilential air; he brings back the heat of summer about the beginning of November; and, when configurated with the malefics, raises storms at sea, spoils the fruits and wines, and produces on the earth vermin to destroy the seed. With the benefics, the contrary; he purifies the air, makes it productive, increases the buds, &c.; so that there seems to be great power in the declination of those stars.

But it is very evident that this right direction of the ☉ was alone sufficient; for in the nativity the ☉, who is hyleg, was surrounded by the enemies by both motions; in the zodiac, it applied very near to the □ of ♂, and *in mundo*, by converse motion, to the □ of ♄, and ♀ only, of the benefics gave any assistance by the mundane ✱, whereby she conferred great dignities; nevertheless, she being unfortunately situated in the sign ♏, her detriment, and under a parallel of ♄'s declination, who is in the western angle, where he is generally the cause of diseases: what ♀ denoted shewed it only to be corrupt, sickly, and of short duration. The ☉, directed to the △ of ♃, both ways, and ☌ of ♀, conferred very great honours on the native, and unexpected: he did not seek for honours, but was sought for to be promoted. But as the benefics were with violent fixed stars in the nativity, after the ☉ had passed through the rays of the favourable planets, and declined to the parallel of the malefics, the native died.

But I am of opinion that the secondary directions, with the other motions, contributed greatly to his death, as we shall observe.

The calculation of the ☉'s direction is thus:

The ☉'s pole is 16°, his oblique ascension there is 179° 18′; the oblique ascension of ♏ 15° 40′, in which the ☽'s declination 16° 35′ falls, is 228° 4′, from which subtracting that of the ☉, there remains the arc of direction 48° 46′, which for the equation add to the ☉'s right ascension, which is 179° 24′, and it makes 228° 10′, answering to 20° 40′ of ♏, to which the ☉, from the day of birth, arrives in 52 days, which denotes 52 years nearly.

The secondary directions are made on the 4th of November 1559, three hours P. M.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♏ 21.44	♑ 22.0	♊ 4.45	♓ 8.55	♒ 10.54	♑ 4.14	♏ 5.55	♓ 27.40
Lat.		S. 4.34	S. 2.17	S. 1.34	S. 1.20	S. 3.50	N. 1.48	

You see that the ☉ was exactly in a parallel of the declination of ♂, the ☽ in sesqui-quadrate of ♄, the ☉ likewise remaining in a parallel of ♄. The progressions fall on December the 2d, 1563.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♑ 20.1	♋ 22.0	♌ 4.53	♌ 6.59	♉ 0.7	♐ 16.18	♐ 25.27	♑ 8.49
Lat.		S. 1.8	N. 0.18	N. 0.30	N. 0.48	N. 0.37	N. 1.30	

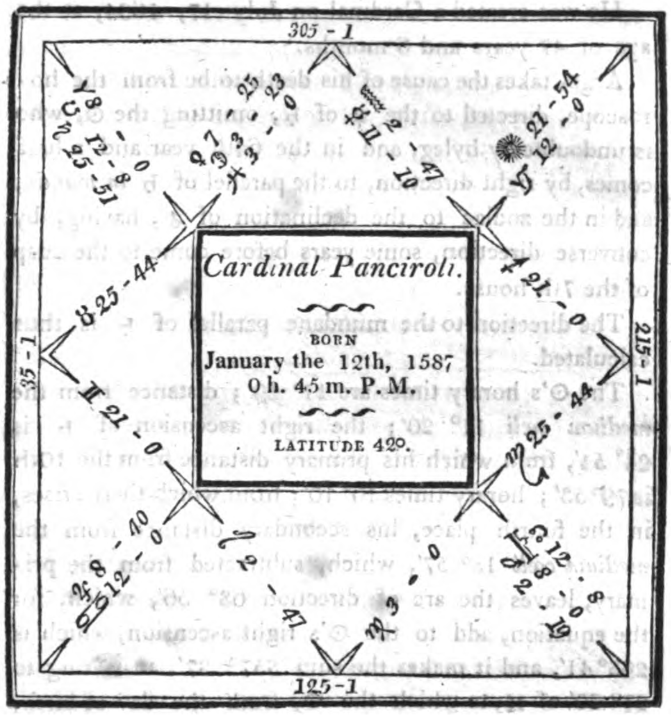
November 30, 1611, the day he died, the stars were posited in the manner following:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of	♐	♎	♒	♌	♏	♐	♏	♊
Lon.	7.28	21.55	29.38	25.33	20.35	4 36	18.56	10.45
Lat.		N. 3.46	S. 1.6	N. 0.32	N. 0. 5	N. 0.26	N. 0.18	

The ☉, on the day he died, was posited in ☍ of ♄'s radical place, and in ☍ of ♄'s secondary direction; the ☽ upon ☿, and in □ of his secondary directions and progression; ♄, on the same day, was in □ to the ☉'s secondary direction, and upon the ☽ in the radix, and ♂ upon the secondary direction of the ☉, and ☿ in ☌ with him near the place of the primary directions, and in □ of the ☽'s radical place; on the day of his illness, the ☉ was upon the place of the primary directions, and the ☽ in □ of ♂'s progression.

Thus you see a mutual permutation of the ingressions.

EXAMPLE XXIV.



	LATITUDES.	DECLINATIONS.
♄ . .	2° 35′ S.	7° 38′ N.
♃ . .	0 34 S.	
♂ . .	2 23 N.	1 21 S.
☉ . .	0 0	
♀ . .	0 18 S.	
☿ . .	1 26 S.	
☽ . .	3 9 N.	7 25 S.

HE died the 3d of September 1651, aged 64 years, 7 months, and 20 days.

He was created a Cardinal on July 17, 1634, at the age of 47 years and 6 months.

Argol takes the cause of his death to be from the horoscope, directed to the □ of ♄, omitting the ☉, who is undoubtedly hyleg, and in the 64th year and a half comes, by right direction, to the parallel of ♄ *in mundo*, and in the zodiac to the declination of ♂, having, by converse direction, some years before come to the cusp of the 7th house.

The direction to the mundane parallel of ♄ is thus calculated.

The ☉'s horary times are 11° 29′; distance from the *medium cœli* 11° 20′; the right ascension of ♄ is 24° 54′, from which his primary distance from the 10th is 79° 53′; horary times 16° 10′; from which there arises, in the fourth place, his secondary distance from the *medium cœli* 15° 57′, which, subtracted from the primary, leaves the arc of direction 63° 56′, which, for the equation, add to the ☉'s right ascension, which is 295° 41′, and it makes the sum 357° 37′, answering to 27° 20′ of ♓, to which the ☉, from the day of birth, arrives in 65 days, which denotes so many years.

The 9th house is elevated 17°; therefore

As the ☉'s double horary times . .	22°	58′
is to the elevation of the 9th . . .	17	0
so is the ☉'s distance from the *medium cœli*	11	20
to the ☉'s pole	8	0

To which, the oblique ascension of his ☋ is 110° 29′; to which I add the arc of direction 63° 56′, and the sum is 174° 25′, answering to 24° 15′ of ♍, in the tables of oblique ascension; so that the ☉ had arrived at ♓ 24° 15′, whose declination is 2° 18′, and that of ♂; 1° 21′, if his place is true by longitude and latitude; therefore, the ☉ applied to his declination within one degree, and the luminaries in the directions to the parallels, always anticipate their effects, as is seen in all these examples. The ☉, by converse motion, had departed from the west, and ♂, at the same time, was found at the centre of the *imum cœli* (i. e.) in a mundane □ ray to the ☉; with this same ray of ♂, the ☉ moved successively, and continued so; and this is worth observing, that any significator whatsoever, together with the other stars, whilst they are moved by a converse universal motion, change the aspect alternately, and, consequently, the mundane rays, as it likewise happens when they acquire parallels which we have already calculated.

But, because this happens insensibly, and such rays so acquired are generally lasting, we have not, for a long time, laid down a method to calculate them in the Canons, but any one may, from the tables of the houses, know the time of acquisition, and duration of these rays. As, in this example, the ☉, posited in the west, with ♑ 22°, in the *imum cœli*, are found ♎ 2°; and as the rays, thus acquired, are of a long continuance, they denote a certain universal disposition of the things signified, either good or bad, according to the nature of the aspecting stars, as it happened to this

Cardinal, who, some years before his death, was always sickly; and this observation is wonderful in the changes of the times and weather; for this principle Ptolemy adhered to in the *Almajest*, lib. viii, chap. 4. This doctrine he mentions in the Second Book of Judgments in the Chapter on the Nature of Events.

But, to our business; the secondary directions fall on the 17th of March, with 16h 5′ P. M.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♓ 26.30	♋ 0. 4	♉ 0.45	♋ 5.30	♍ 27.11℞	♓ 11.33℞	♓ 6.38	♎ 8.42
Lat.		S. 5. 0	S. 2.10	S. 0.18	N. 3.56	N. 5.30	S. 1.55	

The ☉ was found in ☍ of ♂ near his primary direction, under the declination of ♂ of the nativity, the ☽ in □ of ♂ of the nativity, and, therefore, the ☌ with him of ♃ availed nothing, nor the △ of ♀ and ☿, because ☿ had the declination of ♄, and being upon the ☽ of the nativity, was rather prejudicial; and as the ☽ was in 5° south latitude, she was at a great distance from ♃.

The progressions for full 64 years are finished on the 16th of March, 1592, whilst the ☽ lustrates 8° of ♉, where her vespertine distance from the ☉ is 42° nearly, the same as in the nativity; for the other 7 months I add 7 signs, and 17° 30′, and come to ♐ 25°. Lastly, for the 19 days, till the day of his death, I add 21°, and the ☽ is posited in ♑ 16°; the rest as follows:

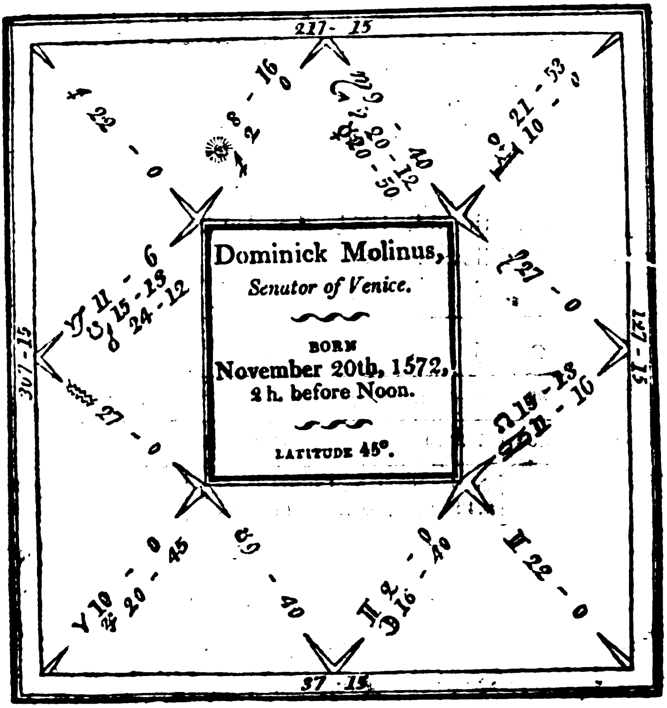
	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♈ 15. 0	♑ 16. 0	♋ 6.14	♐ 19.32	♉ 24. 0	♓ 1.40	♓ 19.0	♋ 1. 1
Lat.		S. 1.18	S. 1. 4	N. 1.18	N. 0.11	S. 0.30	S. 2. 0	

September the 3d, 1651, the day he died, the stars were in the following order:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♍ 10.36	♉ 0.13	♋ 24.41	♐ 3. 1	♏ 21.37	♌ 18.45	♍ 14.43	♈ 22.3
Lat.		N. 0.42	S. 0.14	N. 0.29	S. 1.14	N. 0.56	N. 1.16	

On the day he died the ☉ was found with the declination of ♄ of the nativity, and almost of the secondary directions, and the ☽ also upon ♄ in the secondary directions exact; ♄ in ☍ to the ☽ and in □ of the ☉'s progression. Preceding his death, there was a full ☽, the ☉ remaining in an exact parallel of declination of ♄'s radical place, and secondary directions; ♂, on the same day, obtained the declination of the ☽'s secondary directions; ♄ was posited in ☍ of the ☉ of the nativity. You see a mutual transit, active and passive, of ♄ to the ☉.

EXAMPLE XXV.



	LATITUDES.			DECLINATIONS.		
♄ . .	2°	2′	N.	15°	53′	S.
♃ . .	1	25	S.			
♂ . .	1	23	S.			
☉ . .	0	0		21	45	S.
♀ . .	2	3	N.			
☿ . .	1	49	N.	16	16	S.
☽ . .	2	23	S.	20	28	N.

HE died November the 16th, 1635, 14 hours, P.M. aged 63 years, all but 14 days.

For this effect, Argol directs the ☉ to the antiscions of ♄ and ☿; but as these planets are in 2° north latitude, their declination becomes 16°, whereby they cut the ecliptic in 16° of ♒, and Argol takes the antiscion of ☿ in 9° 10′ of ♒. But we direct the ☉ to ♒ 16°, and then we shall see whether our method corresponds; for, otherwise, in this example, we must comply with the opinion of others; *viz.* that the antiscions are not to be taken by preserving the latitude as we do, but wholly neglected according to their method.

The ☉'s direction to ♒ 16° is thus calculated:

The ☉'s horary times are 11° 6′, which, doubled, makes 22° 12′; the space of the eleventh house, lustrated by the ☉'s motion; the pole of the eleventh house is 19°, and of the twelfth house 34°, the difference between them is 15°; the oblique ascension of the eleventh house is 247° 15′; the ☉'s oblique ascension is 254° 22′, therefore his distance from the eleventh house is 7° 7′. Therefore,

As the ☉'s double diurnal horary times	22°	12′
is to the difference of the poles . . .	15	0
so is the ☉'s distance from the 11th house	7	7
to the ☉'s polar distance	5	0

which, added to the pole of the 11th, = 19, makes the ☉'s pole 24°, under which his oblique ascension is 256° 44′; the oblique ascension there of 16° of ♒ is 325° 51′, from which, subtracting that of the ☉, leaves the arc of direction 69° 7′, which, for the equation, add to the ☉'s right ascension, which is 246° 30′, and it makes 315° 37′, answering to 13° of ♒, to which the ☉, from the day of birth, arrives in 68 days, which denotes so many years. You see, therefore, gentle reader, that our method in this, as in all other examples, agrees perfectly well; therefore, the numbers of Argol's computations, in this one nativity, were merely a fortunate case that they agreed with the time of the effects.

The ☉, likewise, had arrived at its proper □ *in mundo* two years before, for the ☉'s semi-diurnal arc is 66° 36′; but when the significator does not change the hemisphere, the semi-diurnal or semi-nocturnal arc is the arc of direction of its proper □ *in mundo*, and, by his ray, both the prorogatory virtues are injured; *viz.* that in the *primum mobile* and that *in mundo*. Lastly, the ☉ arrived to the mundane parallel of the ☽, which is calculated thus: The ☉'s semi-diurnal arc is 4^h 26′, distance from the *medium cœli* 29° 15′; the ☽'s semi-nocturnal arc is 4^h 33′, from which arises her secondary distance from the *imum cœli* 30° 1′: this, added to the primary, which is 38° 31′, makes the arc of direction 68° 32′.

But, because the declination of the ☉ and ☽ is nearly the same, and the semi-diurnal arc of the ☉ and semi-nocturnal arc of the ☽ the same, the ☉, a little before, was, by converse motion, posited in the ☽'s mundane parallel: for

As the ☽'s semi-nocturnal arc	4^h 33′
is to her distance from the *imum cœli* . . .	38° 31
so is the ☉'s semi-diurnal arc	4^h 26
to his secondary distance	37° 22

which, added to the primary 29° 15′, makes the arc of direction 66° 47′. You may ask, Why he was not preserved, as the place of the parallels of ♄ and ☿ are nearly followed, by the ⚹ ray of ♃ and △ of ♀? I answer, that they are first followed by the □ ray of ♄ and ☿; when, therefore, more testimonies of the malefics than of the benefics presented themselves, the malefics prevailed.

Hence we are taught, that the testimonies of the aspects may be multiplied by one and the same planet from which the quality of the effect is augmented, though that planet only is the cause of them; and so in all kinds of things.

The secondary directions happen on January the 21st, 1557, with 21h P. M.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♒ 12.48	♍ 28.0	♏ 26.14	♈ 24.38	♓ 14.20	♐ 29.45	♓ 2.30	♋ 12.3
Lat.		N. 4.51	N. 2. 9	S. 1.22	S. 0.12	N. 2.28	N. 1.20	

The ☉ remains in an exact parallel of ♄'s declination, without any assistance from the benefics.

The progressions are made on the 24th of December, 1577.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♑ 13.20	♋ 8.0	♑ 14.20	♎ 10.56	♏ 26.55	♐ 9.40	♐ 22.0	♈ 6.50
Lat.		S. 5.0	N. 0.20	N. 1.31	N. 0.11	N. 2. 9	0. 0	

The ☉ was in ☌ there with ♄; the ☽ in their ☍.

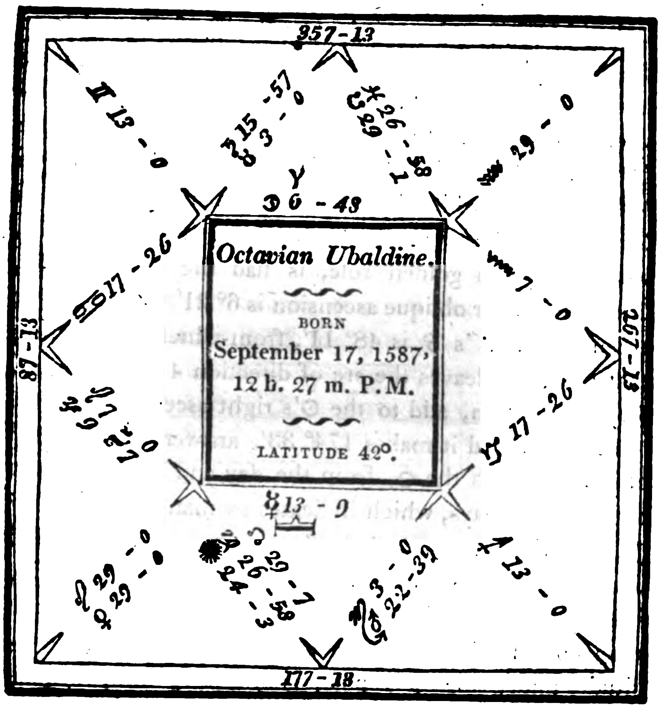
November the 16th, 1635, the day he died, the stars were posited thus:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♏ 24.0	♒ 13.0	♑ 0.40	♍ 3.28	♍ 21.12	♏ 20. 0	♐ 14.40	♒ 26.37
Lat.		S. 1.10	N. 0.40	N. 0.57	N. 1.37	N. 0.45	S. 1.36	

He fell sick when the new ☽ was upon ♄ and ☿ of the nativity, and died when she came to the place of the ☉'s direction, who, on the day he died, was found upon ♄ of the secondary directions, and upon ♂ of the progressions, and the ☽ was posited in their □.

These agreements are wonderful. The year was also climactric, because the ☽, in the secondary direction, had stopped at the proper □ of her place in the nativity.

EXAMPLE XXVI.



	LATITUDES.			DECLINATIONS.		
♄ . .	2°	30′	S.	14°	16′	N.
♃ . .	0	31	S.			
♂ . .	1	1	S.			
☉ . .	0	0				
♀ . .	1	11	N.			
☿ . .	3	37	S.			
☽ . .	0	42	S.	2	3	N.

HE died the 12th of August, 1632, aged 44 years and 11 months.

Argol directs the ascendant to the □ of ♂; whereas the ☽ is hyleg, who, according to our calculation, comes exactly to an ☍ of ♂. The ☽'s declination 2° 3′, answers to ♈ 5° in the ecliptic, whose horary times are 15° 18′, and, doubled, 30° 36′; the ☽'s right ascension is 6° 32′, from which her distance from the *medium cœli* becomes 9° 19′; the pole of the eleventh house is 17°, whence, by the golden rule, is had the ☽'s pole 5°, under which her oblique ascension is 6° 21′. The oblique ascension of ♂'s ☍ is 48° 11′, from which, subtracting that of the ☽, leaves the arc of direction 41° 50′, which, for the equation, add to the ☉'s right ascension, which is 174° 33′, and it makes 174° 33′, answering to 8° 47′ of ♏, to which the ☉, from the day and hour of birth, arrives in 45 days, which indicates so many years. The ☽, likewise, near 21° 15′ of ♉, came to the parallel declination of ♄, where, being in 4° south latitude, she gains the declination of ♄ 14° 16′, the oblique ascension of which place, according to latitude and longitude under the ☽'s pole, is 48° 38′, from which, subtracting the ☽'s oblique ascension, there remains the arc of direction 42° 17′. But, by converse motion, the ☽ applied to the mundane parallel of ♄; and if there was placed on the midheaven 2° 16′ of ♈, it answers exactly, for the right ascension of the midheaven would be 2° 5′; the declination of ♄ 14° 16′, answers to 8° of ♉ in the ecliptic, whose diurnal horary times are 17° 12′; the right ascension of ♄ is 44° 13′, from which his distance from the midheaven becomes 42° 8′; therefore,

As the horary times of ♄	17°	12′
is to his distance from the *medium cœli* .	42	8
so is the horary times of the ☽ . . .	15	18
to her secondary distance	37	27
which added to the primary, which is . .	4	27
makes the arc of direction	41	54

so that this direction had not exactly arrived, but, nevertheless, it strongly co-operated with the other two above computed.

The secondary directions remained thus, November the 1st, 1587, at 10′ P.M.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♏ 8.35	♏ 26.0	♉ 13.9	♌ 15.22	♐ 25.20	♎ 26.30	♎ 25.0	♍ 26.37
Lat.		N. 4.20	S. 3. 3	N. 0.13	S. 0.28	N. 1. 11	N. 1. 7	

Thus, you see, the ☉ is between a parallel declination, and in ☍ to ♄; the ☽ nearly also with the declination of ♄. On the day of his death, the progressions are made on May 10, the stars being as under:

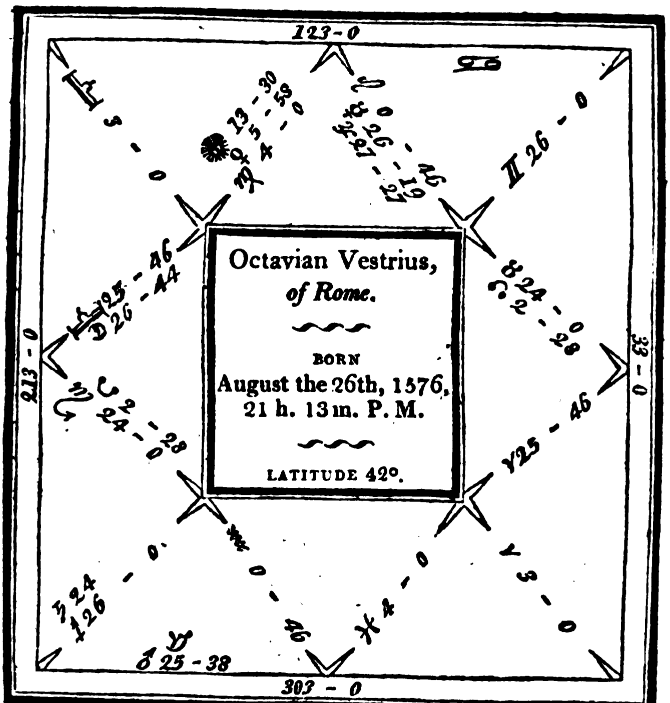
	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♉ 15. 0	♎ 28. 0	♊ 26. 0	♏ 13.13	♑ 1.43	♊ 0.12	♈ 29.20	♋ 18.45
Lat.		N. 5. 0						

On the day of his death, August 12, 1632, the stars were thus posited; viz.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of	♌	♋	♏	♉	♎	♌	♌	♉
Lon.	19.53	10.32	22.38	24.19	11.43	9.43	19.21	2.17
Lat.		N. 4. 37	N. 2. 0	S. 1. 4	N. 0. 9	N. 1.0	N. 1.22	

The ☉, on the day he died, was separated from ♃ in the secondary directions, and was posited in a parallel declination of ♄'s secondary direction; and *e contra* ♄, on the day he died, had the parallel of declination to the secondary direction, and, also, to the ☉'s progression; and ♄ was upon the ☽ of the secondary direction. In his sickness, the ☉ was found in the exact □ of ♄'s secondary direction, ♂ in ☍ of the ☽'s place in the nativity.

EXAMPLE XXVII.



LATITUDES.

♄ . .	1°	3′	N.
♃ . .	0	43	N.
♂ . .	4	16	S.
☉ . .	0	0	
♀ . .	0	50	N.
☿ . .	1	21	S.
☽ . .	0	31	N.

HE died, May the 1st, 1626, aged 49 years and 8 months.

This nativity, as explained by Argol, contains many errors, for ♃ should be posited in 27° (not 22°), ♄ in 24°, not 19°; ♂ in ♑, not ♎; the places, likewise, of ♀ and ☿ do not agree, but these we have passed over. Argol thinks, and very justly, that the ☉ is to be directed for life, for he is hyleg; but he wishes he had exceeded the ☌ of ♂, then he would have been injured by the ☌ of the ☽, which seems not agreeable to reason. Vide the geniture in his Critical Days.

According to our calculation the ☉ comes to the □ of ♂ in the zodiac, with the testimony of a ⚹ of ♄; but as the ⚹ of ♃ succeeds, it, doubtless, would not have been fatal, unless, by a converse motion, it had come to the ☍ of ♂, and, by direct, to the mundane parallel of ♂.

The calculation to the □ of ♂ is thus: The ☉'s horary times are 15° 59′, doubled 31° 58′; this, added to the right ascension of *medium cœli*, it makes 154° 58′, which, subtracted from the ☉'s right ascension, 164° 48′, leaves the ☉'s distance from the cusp of the eleventh house 9° 50′; or, if we subtract the oblique ascension of the eleventh house, 153° 0′, from the ☉'s oblique ascension there taken, which is 162° 50′, there remains the ☉'s distance 9° 50′; the pole of the eleventh house is 17°, of the twelfth house 31°, and their difference is 14°. Therefore,

As the ☉'s duplicate horary times . . .	31°	58′
is to the polar difference	14	0
so is his distance from the 11th house . .	9	50
to his polar distance from the 11th . . .	4	0

which, added to the pole of the eleventh house, 17°, the ☉'s pole becomes 21°, under which his oblique ascension is 162° 18′. The oblique ascension of the □ of ♂ in the ecliptic (upon which the ☉ is perpetually moved) is 207° 36′; from which, subtracting that of the ☉, leaves the arc of direction 45° 18′, which, for the equation, add to the ☉'s right ascension, which is 164° 48′, and it makes 210° 8′, answering to 2° 20′ of ♏, to which the ☉, from the day and hour of birth, arrives in 49 days and one-third nearly, which denotes so many years.

To the ☍ of ♂, by a converse motion, the calculation is easy.

The polar altitude of ♂ is 2°, under which his oblique ascension is 229° 26′, and that of the ☉'s ☍, there is 345° 3′, from which, subtracting the former, there remains the arc of direction 45° 37′.

To the mundane parallel of ♂ the calculation is thus:

The ☉'s horary times are 15° 59′, distance from the *medium cœli* 41° 48′, the declination of ♂ is 25° 18′, ascensional difference is 25° 12′, and, divided by 6, quotes 4° 12′, to be added to the equator's horary times, and the horary times of ♂'s are 19° 12′, from which are produced 50° 13′, which is the secondary distance of ♂ from the *imum cœli;* his primary distance therefrom is 4° 30′, for his right ascension is 298° 30′, and the right ascension of the *imum cœli* is 308° 0′; subtracting, therefore, 4° 30′ from 50° 13′, leaves the arc of direction 45° 43′.

You see, therefore now, how well all the directions agree at the same time; so that it is no wonder the native was deprived of life. For the single direction to the □ of ♂, as has been said, does not seem sufficient. The secondary directions for 49 years and 8 months are made October 15, 1576, with 13ʰ P. M. nearly, under this position of the stars:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♏ 3. 0	♌ 13.5	♐ 26.40	♍ 6.47	♒ 16.0	♏ 8.4	♏ 8.0	♈ 29 49
Lat.		N. 4.52	N. 0.51	N. 0.53	S. 3. 0	N. 0.50	S. 1. 0	

The ☽ is found in a parallel declination of ♂, and ♄ with the ☍ of ♂; the ⚹ of ♃ to the ☉ could give no assistance, because ♃ is cadent, and the ray ⚹ is very weak, especially when it is the principal ray, for which reason, Ptolemy, in the Chapter of Life, when he mentions the planets that are able to save in the occourses of the infortunes, does not name the ⚹, but the □, △, and ☍; because the ⚹ ray is feeble, particularly when it is less than 60°; neither could ♀ assist, as she was cadent from the house, and in a sign inimical to the ☉. Lastly, when the primary directions are strong for evil, the secondary rather co-operate for mischief, from the testimony of the malefics; and, on the contrary, they co-operate for good, if the primary are fortunate. The ☉ was likewise with the ☋.

The progressions were made September 2, 1580.

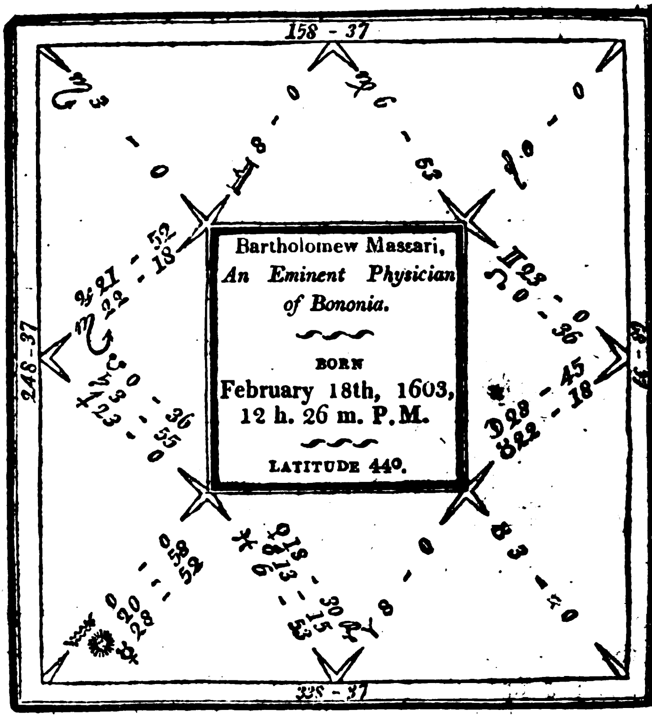
	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♍	♋	♒	♐	♊	♎	♎	♒
	19.25	2. 0	11.3	6.17	7.20	19.38	12.43	14.46
Lat.		N. 3.25	S. 1. 2	N. 0. 41	S. 1. 1	S. 4.11	S. 2.13	

On the day he died, May 1, 1626, the stars were thus situated:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♉	♋	♍	♎	♊	♉	♉	♍
	10.58	20.8	9. 5	24.2	29.1	9.43	22.44	0.51

On the day he died the ☉ was found in □ of ♂ of the secondary directions, and □ of ♄ of the progression; ♂ upon the ☽ of the progression. And it is to be observed, that for several months before, ♄ remained upon the ☉ of the nativity, and without doing any mischief, because ♃ was upon the ☉'s primary and secondary directions: but when he was separated by retrogradation, he left the ☉ in the power of an infortune, and there was a new ☽ before his death, in ♉ 6°, in the place of the ☍ to the ☉'s secondary direction, and in □ of the ☽ there, and in □ of ♄'s progression.

EXAMPLE XXVIII.



	LATITUDES.			DECLINATIONS.		
♄ . .	2°	22′	N.	18°	40′	S.
♃ . .	1	34	N.	16	47	S.
♂ . .	0	9	S.	6	43	S.
☉ . .	0	0		11	29	S.
♀ . .	5	10	N.	0	22	S.
☿ . .	1	43	S.	13	26	S.
☽ . .	0	11	N.	20	7	N.

THE ☽ with the Pleiades, Hyades, Orion's Belt, and near the great Dog-star Sirius, the ☉ with Fomahaut.

He died February 18, 1635, at the 17th civil hour. This man was a professor of physic and philosophy in the college at Bononia, and of great repute. He argued very subtilely, and supported his arguments with the strongest reason. Being sent for by the principal great men of Italy for his advice when they were sick, he always returned loaded with honours and rich presents. He had a great knowledge of the mathematics. His liberality, particularly towards his friends, extended to profusion; in other things extremely prudent and sagacious. His house was ornamented with the most beautiful and valuable pictures, precious stones, gems, &c.; and he had filled his library with volumes of the best authors in philosophy, physic, mathematics, and astrology.

To business his application was unremitting: of his promises he was a careful observer. In short, the man was rich in every kind of virtue. He was born with his feet inverted, owing to the constitution of the ☽ in the western horizon with ☋ in a mundane □ of ♂, who passed through ♓, the sign of the feet, and in ☍ of ♄ in ♐, the sign of the thighs. On account of the friendship that subsisted between us, he desired me (for he was well acquainted with the common way) to calculate the directions of his nativity, which I very gladly performed, and the calculation of past accidents appeared to a minute; but I afterwards observed to the year 52, a direction of the ☽, who is hyleg to a parallel of ♄ in the zodiac, near ♋ 14° 15′, in south latitude 3° 28′, though indeed the declination of this place is 19° 13′ and ♄'s declination is 18° 40′; but I know that the luminaries in these parallels precede by their effects the intimate application; the ☽, by a converse motion, applied to the mundane parallel of ♂, whilst both were carried away by the rapt motion of the *primum mobile* round the world. Lastly, the ☽, by a right direction, came to the sesqui-quadrate of ♂ in mundo. And, indeed, as in every direction, the rays of the friends are subsequent, it might be thought these aspects would not prove fatal, yet he died on February 18, 1655, near the 17th hour, almost suddenly, having some days before received the holy sacrament, conscious of his impending unfortunate directions, and the unfortunate revolution which happened the day he died; and I think of some inward accident which forewarned him of his death, whence he is said to have feared the 18th, because, perhaps, on that day, by calculation, a crisis or judgment of some consequence would fall, for it is said he was sick the night before; however it be, he died the day he had predicted, to the grief of the whole city of Felsina. His auditors, for the love and estimation they bore their very learned preceptor, celebrated his funeral with great pomp and solemnity.

The arc of direction for 52 years is 47° 50′; for the ☉, after the nativity, arrives in 52 days to 21° 40′ of ♈, whose right ascension is 20° 1′, from which subtracting the ☉'s right ascension, which is 332° 11′, leaves the arc of direction 47° 50′. The direction of the ☽ to a parallel of ♄'s declination is thus calculated:

The oblique ascension of the ☽'s ☍ in the horoscope is 257° 10′, from which subtracting the horoscope's oblique ascension, leaves the ☽'s distance from the west 8° 33′; the pole of the second house is 38°; therefore the difference of the poles of the 7th and 8th houses is 11°. The ☽'s diurnal horary times are 18° 27′; which doubled produce 36° 54′; for the ☽'s declination is equal to ♉ 29° 30′ in the ecliptic: Now therefore

As the ☽'s diurnal horary times	36°	54′
is to the polar difference of the 7th and 8th houses	11	0
so is the ☽'s distance from the west . .	8	33
to the ☽'s polar distance	3	0
which added to the pole of 8th	38	0

her pole then becomes 41°, under which the oblique ascension of her ☍ is 255° 0′, to which I add the arc of direction 47° 50′, and the sum is 302° 50′, answering in the same table to ♑ 14° 15′ with the north latitude, which the ☽ gains in the place of the ☍ to him, viz. 3° 28′; therefore the ☽ came to ♋ 14° 15′ in 3° 28′ south latitude, where she gains a declination of 19° 13′, that is 33′ greater than that of ♄: but as the ☽ lessened her declination, she therefore applied.

The calculation of the ☽'s converse direction to the mundane parallel of ♂, whilst both were carried away by the rapt motion of the *primum mobile*, is thus:

The ☽'s semi-nocturnal arc is 69° 17′, that of ♂

96° 33′, which added together are 165° 50′. The ☽'s right ascension is 56° 28′, that of ♂ is 344° 28′, which, subtracted from the former, leaves the ☽'s right distance from ♂ 71° 50′: the ☽'s primary distance from the *imum cœli* is 77° 51′: therefore

As the sum of the arc's	165°	50′
is to the ☽'s semi-nocturnal arc . . .	69	17
so is her right distance from ♂ . . .	71	50
to her secondary distance	30	1

which subtracted from the primary, leaves the arc of direction 47° 50′; and if you have a mind to calculate it by logarithms, the minutes of the first numbers are 9950′, where the logarithm is 3.99782; the minutes of the second are 4157′, logarithm 3.61878; and the minutes of the third are 4310′, and logarithm 3.63447. I add these two last together, and the sum is 7.25326, from which I subtract the first, and the remaining logarithm is 3.25544, which gives 1801′, or 30° 1′.

The ☽'s direction to the sesqui-quadrate of ♂ *in mundo*, by right motion, is thus calculated:

I first direct to his □ *in mundo* thus:

As the ☽'s diurnal horary times . . .	18°	27′
is to her distance from the west . . .	8	33
so is ♂'s nocturnal horary times . . .	16	5
to his distance from the *imum cœli* . .	7	27

which is to be subtracted from the primary. But as the primary distance of ♂ is less by 5° 41′, therefore ♂ precedes this □ 1° 46′. In this case I first triplicate ♂'s horary times, which must be added to the □'s ray, that we may form the sesqui-quadrate, and I have

48° 15′, from which I subtract 1° 46′, which ♂, by his □, precedes the ☽, and there remains the ☽'s arc of direction to the sesqui-quadrate of ♂ 46° 29′; therefore this ray of ♂ had preceded a year, or more, at which time, as he related to me, he suffered very great troubles of mind.

The secondary directions are made on April 11, 1603, 12 h, 26 m, P. M.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♈	♈	♐	♏	♈	♓	♈	♏
	21.37	26.0	3.45	20.57	22.47	10.22	21 R 44	27.53
Lat.		N. 2.39	N. 2.42	N. 1.53	S. 0. 3	N. 1.56	N. 2.87	

You see the ☉ is in ☌ with ♂, and separating from the sesqui-quadrate of ♄, and the ☽ under the ☉'s rays in ♈ in ☌ with ♂; and ☿ was with the luminaries retrograde; which denotes an apoplexy, so that it is very probable the native died of that disease; for the place of the ☽'s right direction concurs with the sesqui-quadrate of ☿ in the zodiac exactly by calculation, and was the more fatal, as it was also in the terms of ☿.

The progressions happen on May 3, 1607.

The planets as follow:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♉ 15.0	♌ 11.40	♑ 19R34	♓ 28.27	♎ 8. 0	♉ 29. 0	♊ 5. 0	[illegible] 9. 17
Lat.		S. 2.21	N. 1.10	S. 0.56	N. 0. 8	N. 0.16	N. 2. 4	

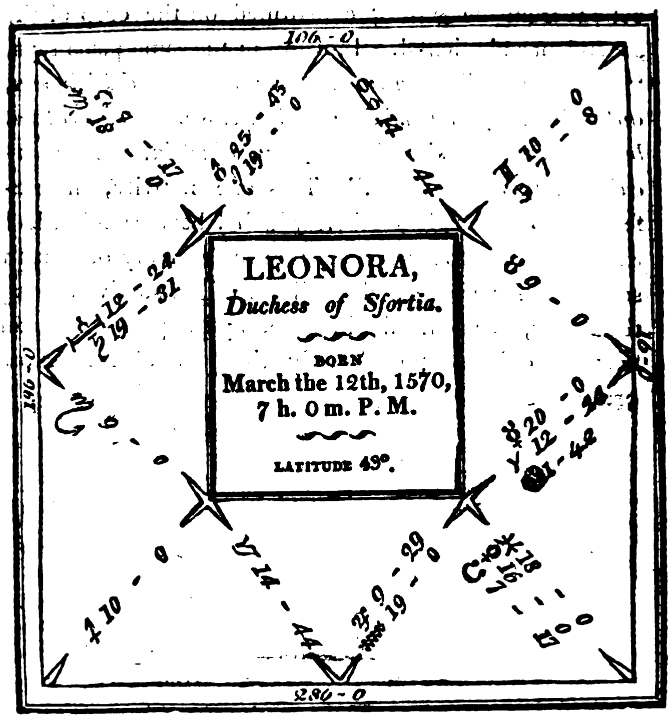
He died on February 18, 1655, the planets being found as under:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♒ 29.48	♌ 1.14	♍ 6.55	♓ 27.53	♐ 10.40	♓ 1. 5	♒ 17.7	♒ 15.6
Lat.		N. 1.18	N. 1.48	S. 1. 9	N. 0.30	S. 1.27	S. 1.30	

It is worth observing, that the native died nearly at the hour of the ☉'s revolution, in which he had the declination of ♄; and the ☽ that of ♂; and ♀ was separated from the ☉; and the ☽ was also in a parallel declination of ♂'s progression; ☿ in ☍ of the ☽, □ and parallel of the ☉'s progression, also ☽ in parallel declination of ♄'s progression, and ♂ with the ☽'s anaretic declination.

The magistracy in this nativity is denoted by ♀ oriental in ☌ with ♂ in the southern circle, both angular and in their dignities, and conciliated to the ☽ by the ray quintile; vide Ptolemy, Cap. de Opificio. "*Si* ♀ *&* ♂ *simul officiis moderandis præficiuntur, &c. medicamentarios, Medicos, &c.*" But it was the more excellent from the △ of ♃ constituted on the cusp of the ascendant and oriental. Ptolemy in the same place says, "*Nam orientalia cum sunt, aut in angulis, opificia sua, authoritate & fama minime caritura, &c. & superata à beneficis, magna significant opera, illustria, lucrosa, inculpabilia, venusta, &c.*" This one nativity, in preference to numberless others which I have calculated, I thought proper to insert here, that the memory of a man so famed for virtue and erudition might survive among the living, who in his lifetime, by his profession and friendly offices, studied only the good of his fellow creatures.

EXAMPLE XXIX.



LATITUDES.				DECLINATIONS.		
♄ . .	2°	47′	N.	5°	5′	S.
♃ . .	0	49	S.	18	44	S.
♂ . .	3	38	N.	16	25	N.
☉ . .	0	0		1	2	S.
♀ . .	1	14	S.	6	17	N.
☿ . .	1	37	N.			
☽ . .	5	0	S.	16	38	N.

SHE died December 17, 1634, aged 64 years and 9 months, nearly.

In this nativity, as explained by Argol, he places ♀ in ♒ and ☿ in ♓, but she ought to be in ♓ and he in ♈. He directs the ascendant to the ☍ of the ☽, as if she was anareta, though she rather appears to be the significator of life, and her directions agree very well; for the ☽, by right direction, in 64 years and 9 months, comes to a parallel declination of ♂, near 5° 30′ of ♌, where the ☽ is in 2° 40′ south latitude, and gains a declination 16° 22′; and that of ♂ 16° 25′.

The calculation is thus: the ☽'s declination, which is 16° 38′, answers to ♉ 16° in the ecliptic, whose horary times are 17° 42′, which doubled, make 35° 24′, the space of the ☽'s house; the oblique ascension of the third house is 256°. The oblique ascension of the ☽'s ☍ to the pole of the third house, which is 18°, is 251° 44′; therefore the ☽'s distance from the cusp of the 9th house is 4° 16′, and her polar elevation 20°, under which the oblique ascension of her ☍ is 252° 24′; the oblique ascension of ♒ 5° 30′, with 2° 40′ north latitude under the same pole is 313° 22′; from which, subtracting the former, leaves the arc of direction 60° 58′, which, for the equation, add to the ☉'s right ascension, which is 1° 34′, and it makes 62° 30′, answering to 4° 32′ of ♊, to which the ☉ arrives in 64 days and 18 hours, which denotes 64 years and 9 months.

And because the ☽'s declination in the nativity is 16° 38′, which is nearly the same that she obtains in the place of direction, the arc of direction may be likewise had by the right ascension. The right ascension of the ☽ is 66° 10'; the right ascension of ♌ 5° 30', with 2° 40' south latitude, is 127° 12'; from which, subtracting that of the ☽, there remains the arc of direction 61° 2', greater by 4' than the other, by means of some difference of the ☽'s declination and the place of the occourse.

At the same time the ☽, by a direct direction, came to the mundane parallel of ♄, for the ☽'s declination in the ecliptic answers to ♉ 16°; whose horary times are 17° 42'; her distance from the *medium cœli* is 39° 50'; ♄'s declination 5° 5', answers to ♎ 13° in the ecliptic, whose diurnal horary times are 14° 12'. From these, by the Golden Rule, are produced ♄'s secondary distance from the *medium cœli* 31° 57'; his primary distance from the 10th is 93° 4' (for ♄'s right ascension is 199° 4'), and subtracting the primary distance from the secondary, leaves the arc of direction 61° 7': this direction was succeeded by the ☽ to the mundane parallel of ☿, who was endued with the nature of ♄.

By converse direction the ☽ had arrived at the ☍ of ♄ 4 years before: ♄'s pole is 39°; under which his oblique ascension is 203° 13'; the oblique ascension of the ☽'s ☍ under ♄'s pole, is 260° 10'; which therefore being subtracted, leaves the arc of direction 56° 57'.

Retention of urine is denoted by ♀, lady of the ascendant in the 6th house, and in parallel of ♄'s declination in the horoscope, posited in the sign of the reins and kidnies; the ☽ was also in a parallel of declination with ♂, and in mundane □ with ♀ in the 6th house.

The secondary directions happen May 16, 1670, near 1 hour P. M.

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♊	♎	♎	♒	♍	♊	♉	♍
	4.40	18.30	15.54	16.45	5. 0	6. 0	16.20	4. 0
Lat.		N. 3.30	N. 2.50	S. 0.37	N. 1. 0	S. 0.20	S. 2.20	

Observe that ♀ is combust of the ☉ and in □ of ♂, and with the hyades; the ☽ is in the sesqui-quadrate of the ☉ and ♀, and parallel declination of ♄, and in the preceding ☌, ♃ assisted with his △ ray.

The progression for full 65 years falls on June 13th, 1575, the ☽ remaining in 7° of ♍, and the ☉ in 1° of ♋. But there is a deficiency of 3 months and 6 days; for the three months I subtract 3 signs 7°, and go back with the ☽, so that she is posited in ♊ 0°. Lastly, I subtract 6' for the same number of days, and the ☽ is posited in ♉ 24°; the rest of the planets as under:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♊	♉	♐	♋	♋	♋	♊	♉
	24.20	24.0	15.40	15.18	3.32	19.38	3.48	26.12
Lat.		S. 0.11	N. 1.48	N. 0. 6	N. 0. 8	N. 1.30	S. 2. 0	

The ☉ was in an exact parallel declination of ♂, ♀

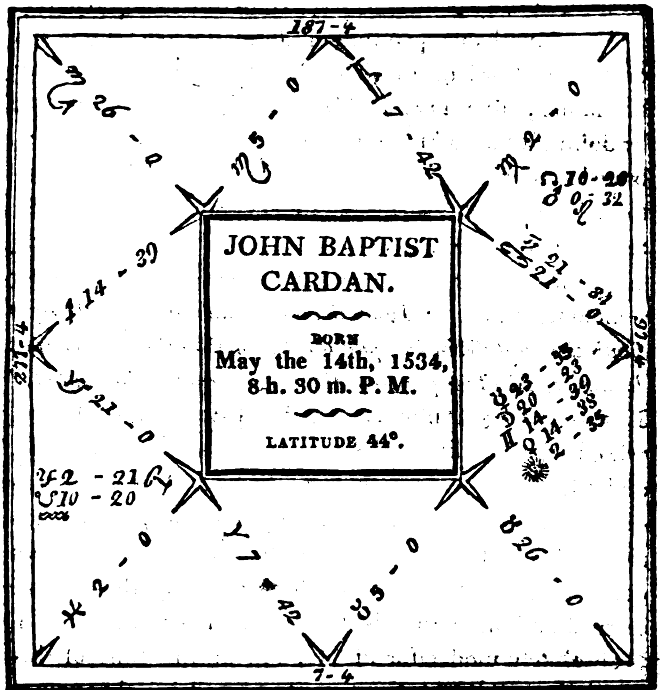
also with the declination of ♂, and the ☽ in □ of ♂ of the nativity.

December 17th, 1634, the day she died, the stars were found as under:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of Lon.	♐	♏	♐	♌	♑	♒	♑	♓
	25 39	20.0	24.10	2.54	28.4	12.51	15.31	16 52
Lat.		S. 4.27	N. 1. 2	N. 0.31	S. 1.16	S. 1.53	S. 1. 2	

The ☉ is conjoined to ♄ in the ☍ of his progression, and ♄ in ☍ exactly to the ☉'s progression; the ☽ remaining with the declination of ♄ in ☍ of his progression, and in the sesqui-quadrate of ♂, when he was separated from the △ of ♃. There was a full ● December 5th before her death, the ☉ remaining upon ♄ of the progressions. Both the luminaries were found in parallel declination of the malefics; the ☽ stopped at the □ of ♂ in the nativity on the day of death, and ♃, by retrogradation, separated from the place of the ☽'s right direction.

EXAMPLE XXX.



	LATITUDES.			DECLINATIONS.		
♄ . .	0°	26′	S.	21°	22′	N.
♃ . .	0	6	N.	19	36	S.
♂ . .	0	51	N.	20	57	N.
☉ . .	0	0		20	44	N.
♀ . .	2	17	N.	24	55	N.
☿ . .	1	52	N.	21	31	N.
☽ . .	3	50	S.	19	21	N.

MEDUSA's head on the cusp of the seventh house, with ♀ and the ☽; on April 9th, 1560, he was beheaded, at the age of 25 years, 10 months, and 26 days.

This remarkable geniture of John Baptist, eldest son of Jerome Cardan, was first calculated and published by his father; after him, by Valentine Naibod, and lastly, by John Anthony Maginus, three very learned and celebrated authors, though none of them would allow the ☽ to be hyleg. But, agreeable to Ptolemy's method, who teaches by day, first to take the ☉, then the ☽, &c.; by night, first the ☽, &c.; and at the end of the Chapter concludes thus: "*Tunc demum gubernatorem utrisque luminibus anteferimus, quando honorificentiorem occupat locum, & ad utrasque conditiones gubernandi ius habet.*" In this case ☿ is more dignified and strong than the ☽, who is the conditionary luminary in the western angle, and the first in apparition from the ☉. You may perceive, studious Reader, how my opinion of the familiarities of the stars agrees with the truth of things, by comparing what has before been done by these three learned authors with this Example. I say that the ☽ is absolutely moderator of life, and at the time of his death came, by right direction, to a parallel declination of the ☉, near 13° 50′ of ♒, where having obtained 2° south latitude, her declination is 20° 50′. Next follows the ☌ of ♄, and the parallel of ♃'s declination; but he being very unfortunate, and not agreeing with the signs of the luminaries, threatened (according to Ptolemy) the anger of the Prince, and the sentence of the judges, who in Cap. de Morte saith thus: "*Quod si & ♃ testificetur*

♂ *simul pravitatem indutus, illustri rursus mortis genere decedunt, condemnatione nimirum, & ira principium, ac regum;*" for ♃ is occidental, retrograde, peregrine, with ☋, and in ☍ of ♂, with the declination of ♄.

The ☽, too, by converse direction, came to the mundane parallel of ♄, succeeded also by that of ♂ and ♃. The arc of direction for 25 years 11 months, is 26° 32′; for the ☉, from the day of birth, in the space of 25 days 22 hours, arrives at 27° 17′ of ♊, whose right ascension is 87° 2′; from which, subtracting the right ascension of the ☉, which is 60° 30′, there remains the arc of direction 26° 32′.

The oblique ascension of the ☽'s ☍ under the pole 44° (for the ☽ is on the cusp of the seventh house) is 279° 37′; to which, adding the arc of direction 26° 32′, makes 306° 9′; which, in the same table of oblique ascension, answers to 13° 30′ of ♑, with 2° north latitude; the declination of which place is 20° 50′. Parallels about the tropics are of long duration, and their effects more fully appear, when the other motions of direction, both direct and converse, the secondary directions, progressions, ingresses, &c. agree with them. The calculation of the ☽'s converse direction to the mundane parallel of ♄ will be thus: The declination of ♄, 21° 22′, is equal to ♋ 24° in the ecliptic, whose diurnal horary times are 18° 42′; the oblique ascension of his ☍ in the horoscope is 315° 26′; from which subtracting the horoscope's oblique ascension, there remains ♄'s distance from the west 38° 32′.

The ☽'s declination, 19° 21′, is reduced to ♉ 26° in the ecliptic, whose nocturnal horary times (for the ☽ is posited below the earth) are 11° 42′; the oblique ascension of the ☽'s ☍ is 279° 37′, from which, subtracting the horoscope's oblique ascension, leaves her primary distance from the west 2° 33′; therefore

As the diurnal horary times of ♄ . . .	18ᵈ	42′
is to his distance from the west	38	22
so is the ☽'s nocturnal horary times .	11	42
to her secondary distance from the west	24	0

which added to the primary, as the ☽ in the nativity is above the earth, and by the direction posited below, makes the arc of direction 26° 33′.

The secondary directions happen on the 9th of June, 1534, 4ʰ 10′ P. M. at which time the planets were found as follows:

	☉	☽	♄	♃	♂	♀	☿	☋
Deg. of	♊	♊	♋	♒	♌	♊	♊	♌
Lon.	27.22	8.37	26.31	0R16	13.59	1R36	23R22	9. 2
Lat.		S. 4.33	N. 0.13	S. 0.21	N. 0.34	S. 1. 1	S. 4.20	

The progressions fall on June 17th, 1536; the ☽ remaining in ♊ 20°, and the rest as under:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of	♋	♊	♌	♈	♍	♊	♊	♊
Lon.	5. 0	20. 0	21.31	12.45	2.20	6.10	28.0	29.56
Lat.		S. 0.52	N. 1.12	S. 1.31	N. 0.34	S. 1.23	N. 0.50	

On the day of his death, April the 9th, 1560, the stars were thus found:

	☉	☽	♄	♃	♂	♀	☿	☊
Deg. of	♈	♎	♊	♈		♓	♈	♓
Lon.	29.29	14.54	6.51	8.17	0 37	17.27	23.46	19.21
Lat.		S. 2.9	S. 1.26	S. 1.6	N. 0.13	S. 0.20	S. 1.10	

In the secondary direction the ☽ had a declination 16° 17′, and that of ♂ was 17° 15′, and the ☽ was near Aldebaran and Medusa's head. The day he died, both the malefics were found upon this place of the ☽ in ♊ 4°. Besides, the ☉, by secondary direction, was in ☌ with ☿ retrograde, who having a declination of 19°, and communicating to ♂ from the parallel, transferred the enmity of ♂ to the ☉, who, on the day of his death, was found in the □ of ♄'s secondary direction, and in the □ of ♂ of the nativity, and in □ of ♃'s secondary direction unfortunate.

In the progression the ☽ was found upon her place of the nativity in ☌ with ☿, under the ☉'s rays near Medusa's head; and the day he died, ♂ had a parallel of declination to her. The same day she applied to the □ of ♄'s radical place, the ☉ was in △ of ♂ of the progression, and in parallel declination, exactly to minutes, viz. 11° 14′. According to Ptolemy, *Cap. de Vita*, it is observable that in this geniture nearly all the planets have the same declination, ♃ in obedience and ♀ under the ☉ beams; ♄ and ♂ are elevated above ☉, who is falling from the angle of the 7th into the 6th, but they are succedent in the 8th, the house of death, which is terrible. Whenever the malefics are found in the 8th, and afflicting the luminaries, especially the conditionary, so that nevertheless if they are well situate and powerful, their strength is of no avail when a violent death is threatened, and the more so if the places of both the malefics agree with the nature of the signs and the fixed stars, and the luminaries are found in the same horary circle with the malefics, as in this case the ☽ descends with Caput Medusæ. See Ptolemy, Chap. of Death.

He was beheaded for poisoning his wife; that being the usual mode of executing malefactors, at that time, in that country.

DIGNITIES OF THE PLANETS IN THE SIGNS.

Signs.	Houses.	Exaltation.	Triplicities.	EGYPTIAN TERMS.				
♈	♂ D.	☉	☉ ♃	6 ♃	12 ♀	20 ☿	25 ♂	30 ♄
♉	♀ N.	☽	♀ ☽	8 ♀	14 ☿	22 ♃	27 ♄	30 ♂
♊	☿ D.		♄ ☿	6 ☿	12 ♃	17 ♀	24 ♂	30 ♄
♋	☽	♃	♂ ♀ ☽	7 ♂	13 ♀	19 ☿	26 ♃	30 ♄
♌	☉		☉ ♃	6 ♃	11 ♀	18 ♄	24 ☿	30 ♂
♍	☿ N.	☿	♀ ☽	7 ☿	17 ♀	21 ♃	28 ♂	30 ♄
♎	♀ D.	♄	♄ ☿	6 ♄	14 ☿	21 ♃	28 ♀	30 ♂
♏	♂ N.		♂ ♀ ☽	7 ♂	11 ♀	19 ☿	24 ♃	30 ♄
♐	♃ D.		☉ ♃	12 ♃	17 ♀	21 ☿	26 ♄	30 ♂
♑	♄ N.	♂	♀ ☽	7 ☿	14 ♃	22 ♀	26 ♄	30 ♂
♒	♄ D.		♄ ☿	7 ☿	13 ♀	20 ♃	25 ♂	30 ♄
♓	♃ N.	♀	♂ ♀ ☽	12 ♀	16 ♃	19 ☿	28 ♂	30 ♄

Rays of the Signs.

	✶	□	△	☍		✶	□	△	☍
♈	♒ ♊	♑ ♋	♐ ♌	♎	♎	♌ ♐	♋ ♑	♊ ♒	♈
♉	♓ ♋	♒ ♌	♑ ♍	♏	♏	♍ ♑	♌ ♒	♋ ♓	♉
♊	♈ ♌	♓ ♍	♒ ♎	♐	♐	♎ ♒	♍ ♓	♌ ♈	♊
♋	♉ ♍	♈ ♎	♓ ♏	♑	♑	♏ ♓	♎ ♈	♍ ♉	♋
♌	♊ ♎	♉ ♏	♈ ♐	♒	♒	♐ ♈	♏ ♉	♎ ♊	♌
♍	♋ ♏	♊ ♐	♉ ♑	♓	♓	♑ ♉	♐ ♊	♏ ♋	♍

Rays of the Houses.

	✶	□	△	☍		✶	□	△	☍
1	3 11	4 10	5 9	7	7	9 5	10 4	11 3	1
2	4 12	5 11	6 10	8	8	10 6	11 5	12 4	2
3	5 1	6 12	7 11	9	9	11 7	12 6	1 5	3
4	6 2	7 1	8 12	10	10	12 8	1 7	2 6	4
5	7 3	8 2	9 1	11	11	1 9	2 8	3 7	5
6	8 4	9 3	10 2	12	12	2 10	3 9	4 8	6

CANON.

Of the Part of Fortune.

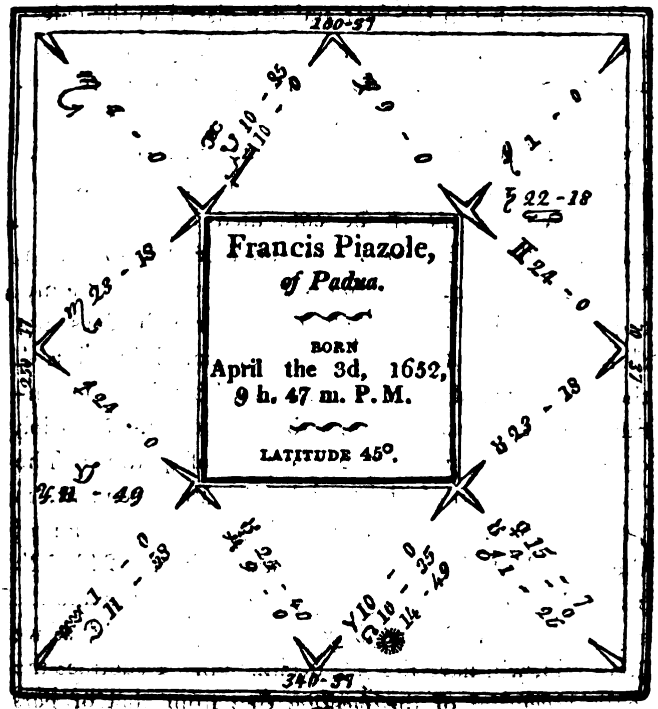
WHEN this work was finished, the very illustrious D. ADRIAN NEGUSANTIUS, of Fanum, a man, not only very well versed in Astrology, according to the true doctrine of Ptolemy, but, also, in Physics and the sublime secrets of Nature, having transmitted to me a method to calculate the ⊕ perfectly agreeable to reason and experience, I thought proper to set it down here, word for word, that every one might see a secret in this art, invented by so great a man, truly worthy the pen of the greatest Astrologers; for I willingly confess, that, with regard to the ⊕, I have laboured a long time, and have not been able hitherto to find any truth in it.

"The ⊕ (says he), if we may credit the precepts of Ptolemy, who asserts that it has the same position to the ☽ as the ☉ has to the horizon (*Quadripart.* Book III, chap. xii), ought to be described and defined in the lunar parallels; for neither, if it be constituted in the ecliptic, according to the intentions of the common Astrologers, or in the ☽'s orbit, as was the opinion of a very eminent professor, will it be found to preserve that order and similitude which the respective conversions of two luminaries, both diurnal and annual, denote." This man subscribes to the truth of every thing I lately mentioned in my Celestial Philosophy, wherein I said, that the ⊕ moves upon the orbit or way of the ☽'s latitude, and, therefore, not in the ecliptic.

But as I have shewn that the distances and rays to the angles are, by no means, made in the zodiac, but upon the parallel of every star, he argues, and, indeed, very ingeniously, that the ☉, in like manner, is elongated from the East, viz. upon his parallel; and, also, the ☽, who has not by any other method nor way different than when the ☉ is in the horizon, by her real presence, posited the place of ⊕; for no other fundamental principle is seen to constitute this part in nature, unless by such an assignation and impression of virtue, exhibited by the ☽, at ☉ rise. When this learned man adds, "For when the ☉ comes to the Cardinal Sign of the East, then it is necessary the ☽ be found in its horizon; afterwards, in an equal space of time, the ☉ digressing, he is removed from it according to his ascension;" wherefore, if we study the matter with accuracy, we shall find that, entirely in the same manner as the ☉ departs from the East, the ☽ is likewise separated from the ⊕, that is, both upon their parallels, so that as many degrees as the ☉, in his parallel circle, is elongated from the East, so many is the ☽ in her parallel, distant from the ⊕: whence it follows, that the true place of ⊕ does not always remain in the zodiac, but always under the ☽'s parallel circle, that is, with the ☽'s declination the same both in number and name, and, therefore, the ⊕ does not receive any aspects from the stars in the zodiac, but only *in mundo*. We may make a calculation of the ⊕ several ways, but it will be shorter, as well as easier, if, in the diurnal geniture, the ☉'s true distance from the East is added to the ☽'s right ascension, and, in the nocturnal, subtracted, for the number thence arising will be the place and right ascension of ⊕: and it always has the same declination with the ☽, both in number and name, wherever it is found. Again, let the ☉'s oblique ascension, taken in the ascendant, be subtracted always from the oblique ascension of the ascendant, as well in the day as in the night, and the remaining difference be added to the ☽'s right ascension, the sum will be the right ascension of ⊕, which will have the ☽'s declination. There are likewise other methods to take the place of ⊕. He, who has a mind to make its directions, will accomplish it only by the motions in the world, that is, to the aspects *in mundo*; and, indeed, it appears that the conversions of both the luminaries agitate the ⊕ by the two motions, since, if the luminaries are carried together by the motion of the *primum mobile*, then the ⊕ remaining immoveable in its horary circle of position, waiting for the coming and rays of the opposite stars, will be directed by a right motion; but, by a converse motion, if the ☉ be constituted immoveable, and the ☽ preceding as usual. ⊕ will, by the rapt motion, be devolved, to the bodies and rays of the promittors; but as it may very reasonably be doubted whether the ⊕ institutes the directions by converse motion, I will omit speaking of this till another time, and, in the interim, see what experience says. This is worth observing, that if ⊕ does not consist in the zodiac, it is, nevertheless, directed to the parallels of the stars in the *primum mobile*, together with the ☽, whose declination it is always known to follow, and which they vary continually and successively; therefore, when the ☽ comes to the declination of any star, she produces a double effect, according to the proper signification of every one portended in the geniture, because she then falls together with ⊕ on the parallel of the same star: an invention truly ingenious; for, as the ☉, by his motion in the zodiac, successively changes his parallel, and, therefore, that relative point of his rising in the horoscope, so likewise the ☽, whilst she, by a right direction, lustrates the zodiac, and varies her parallels, seems therefore of consequence to draw to her declination the point of existence of ⊕. All these things, however, I confess must be confirmed by examples and experience.

And, as the same Negusantius transmitted to me some things which he found relating to this in the Commentaries of George Valla, on the Quadripartite, which appear to the mind of this learned author, I therefore subjoin the following:

"But, that the ⊕ (says Valla) is the nocturnal and lunar horoscope, is manifest from what Ptolemy says; for the ☽ will have the same ratio of parts to the part of Fortune, and the same figuration, as the ☉ has to the horoscope:" and that every one may know that this figuration and ratio of the distance of the luminaries must be taken in the parallels of the luminaries, he adds, "It will be likewise plainer still, if we follow the same method by the Canons, as in the horoscope; for it will be found again, that the horoscope is the Part of Fortune, for, adding the part of the ☽ in the diurnal nativities, and, in the nocturnal, by taking the ascensionary times of the opposites, we multiply the hours, and compounding the produced number with the ascensions, look in their climates, where the number falls, and there we say is the lunar horoscope." The ascensionary times and hours are nothing but the times of the parallels, whereon the luminaries are moved by an universal motion, and effect their distances from the Cardinals and other Houses, and, consequently also, configurations, as I have evidently demonstrated in the Celestial Philosophy. And the climates are distinguished by parallels to the equator, as has been observed; therefore they are taken, by this author, for the parallels, which he explains in these words: "In like manner we shall find, from a measurement from the ☉ to the ☽, that whatever ratio and figuration the ☉ has to the eastern horizon, the same has the ☽ to ⊕;" for, indeed, the luminaries, and all the stars, form no other distances from the horoscope and houses, except upon every one of their parallels, and, as has been said, by the horary and ascensionary times. Ptolemy speaks expressly of this in the Chapter of Life, whence Valla reasonably infers, "the figuration of ⊕ to the ☽, taken in this manner, will be the same as the horoscope to the ☉; and, on the contrary, whatever figuration the ☉ has to the horoscope, the same will be that of the ☽ to ⊕. In like manner, for the same reason, both will be the same as the other; that is, as many parts as the ☉ was distant from the horoscope, so many was the ☽ from ⊕," viz. always upon their parallels, and by the ascensionary times in them. To prevent any one supposing this doctrine fictitious and void of experience, and that the method of calculating might not be obscured, I have subjoined one example, in preference to others, which I myself have observed, which you have in the nativity of Francis, the infant son of D. Camillius Piazole, a native of Padua.



	LATITUDES.	DECLINATIONS.
♄	0° 19′ N.	21° 59′ N.
♂	0 3 S.	11 59 N.
☽	4 14 S.	21 19 S.

	R. A.	H. T.
♄	114 9	18 57 D.
♂	29 17	12 57 N.
☽	315 40	18 51 N.
⊕	198 32	11 9 D.

HE was born in the year and day placed in the celestial constitution, and baptized immediately, as he was not expected to live. He did not live to be more than three years of age, for, on the 7th of March, 1655, at about the 20th hour, he was drowned in a small quantity of water where chickens were used to drink. In this nativity, if the ⊕ be computed in the common way, it will fall in 20° 27′ of the sign ♍; to which, without exception, according to the doctrine of Ptolemy, the signification of life belongs, and which does not there appear to suffer any violence or mortal direction in the third year; if any one finds it so, I beg he will communicate it. But, according to the ingenious invention of Negusantius, we look for the place of ⊕ thus: The oblique ascension of the ☉, taken in the ascendant, is 7° 45′, which, subtracted from the oblique ascension of the ascendant, leaves the ☉'s distance from it 242° 52′: I add this to the ☽'s right ascension, and I make the right ascension of *pars fortunæ* 198° 32′, which, as we have said, will have the ☽'s declination. I subtract the right ascension of the *medium cœli* from that of *pars* *fortunæ*, and its distance therefrom is 37° 55′; and, as its horary times are 11° 9′, it doubtless remains about the middle of the eleventh house, where ♂'s ☍ and ♄'s □ cosmical ray *in mundo* fall. But let us calculate these rays exactly:

As the horary times of *pars* ⊕	11°	9′
is to its distance from the *medium cœli* .	37	55
so is ♂'s horary times	12	57
to his secondary distance from the *imum cœli*	44	2

his primary distance is 48° 40′; from which, subtracting the secondary, leaves the arc of direction of *pars* to ♂'s ☍, 4° 38′.

Again. The semi-diurnal arc of *pars* is 66° 54′, and is taken from the horary times multiplied by 6; therefore, if from the semi-diurnal arc is subtracted its distance from the *medium cœli*, there will remain its distance from the horoscope 28° 59′. Now, I say,

As the horary times of *pars fortunæ* . . .	11°	9′
is to its distance from the horoscope . .	28	59
so is ♄'s horary times	18	57
to his secondary distance from the *medium cœli*	49	16

from which, subtracting the primary, which is 46° 28′, leaves the arc of direction of *pars fortunæ* to the cosmical □ of ♄ 2° 48′. But the ⊕ remained about the beginning of ♏, ♄ in the eighth house, the ☽ in ♒, and both the ☽ and ⊕ under a parallel of ♄'s declination, and ⊕ applied to the hostile rays of the malefics, which threatens drowning, according to the doctrine of Ptolemy, in the chapter of death.

What wonder, therefore, if this unhappy infant met with the abovementioned fate, and came into the world attended with nothing but sickness?

It is rather wonderful he survived; the reason he did, was, perhaps, owing to the cosmical parallel of ♃ concurring to that part; which, if any chooses, he may calculate, and will find it follow.

But, ♃ being so very unfortunate, and alone, against two enemies, could be of no service; and, it is worthy of observation, that, at the 20th hour of the 7th of March, in which this infant was drowned, ♂ went over the middle of the fifth house, that is, in ☍ of the mundane place of the ⊕, and ♄ was in the middle of the second, in □ of the same; so that we know there was no other place of the ⊕, except that which we have calculated: and this method, concerning it, is certainly conformable to reason, and also experience.

Receive, my very courteous reader, this secret in Astrology, as truly worthy, and not taken from the common professors of this art, but freely communicated by the truly learned Negusantius.

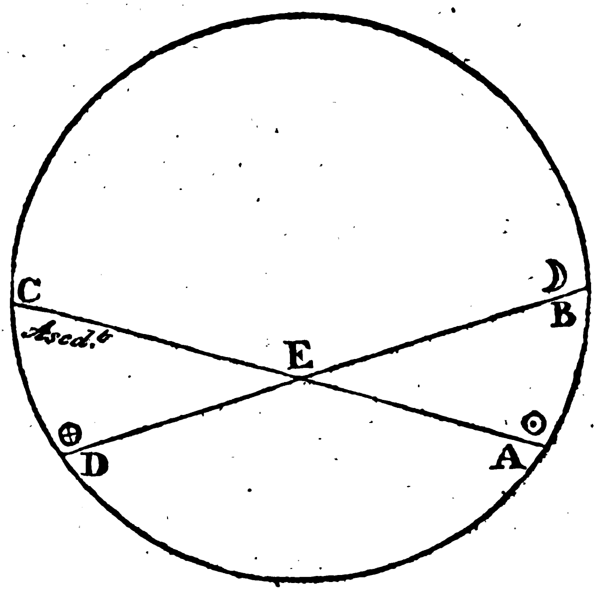
And, may the conclusion of the whole work turn to the praise of ALMIGHTY GOD.

ADIEU.

From what has been said in this Canon, and its exemplification, the following conclusions are to be drawn as to ⊕, viz. That ⊕ is the mundane place of the ☽ at ☉ rise; and, consequently, has the ☽'s declination, both in quantity and denomination. And if ⊕ remains in the same hemisphere as the ☽, it has the ☽'s arc and horary times; but, if the ☽ and ⊕ are in different hemispheres, ⊕ will have the complement of the arc and horary times of the ☽.

The ⊕ cannot be directed *in mundo* converse, because it is not affected by the rapt motion; nor can it be directed to the aspects in the zodiac, either direct or converse, except only the zodiacal parallels, and, of them, only such as the ☽ falls upon, and at the same time with the ☽. The ⊕ hath no determinate latitude, but its latitude is constantly varying, and it is rarely, by position, in the ecliptic; and whatever configuration the ☉ has to the ascendant, the same has the ☽ to the ⊕, as Ptolemy declares in Lib. III, cap. xiii, Quad. by Leo Allatius, page 184. "*Hanc itaque ⊕ vero, quæ semper die, ac nocte colligitur; ut quam habet rationem, & positum ☉ ad horoscopum, eandem habeat ☽ & ad ⊕ sit veluti lunaris horoscopus.*" And which is most elegantly and demonstrably proved by Cardan, in his Commentary upon the Quadripartite, folio edition, printed at Basil in 1578, page 359, which, for its peculiar beauty and simplicity, I will here insert, with the diagram by which its relative situation is proved by mathematical demonstration.

Cardan says, "If the ☽ is going from the ☌ to the ☍ of the ☉, "then the ☽ follows the ☉, and ⊕ is always under the earth, "from the ascendant; but if the ☽ has passed the ☍, she goes "before the ☉, and ⊕ is before the ascendant, and always above "the earth. Which is thus shewn;



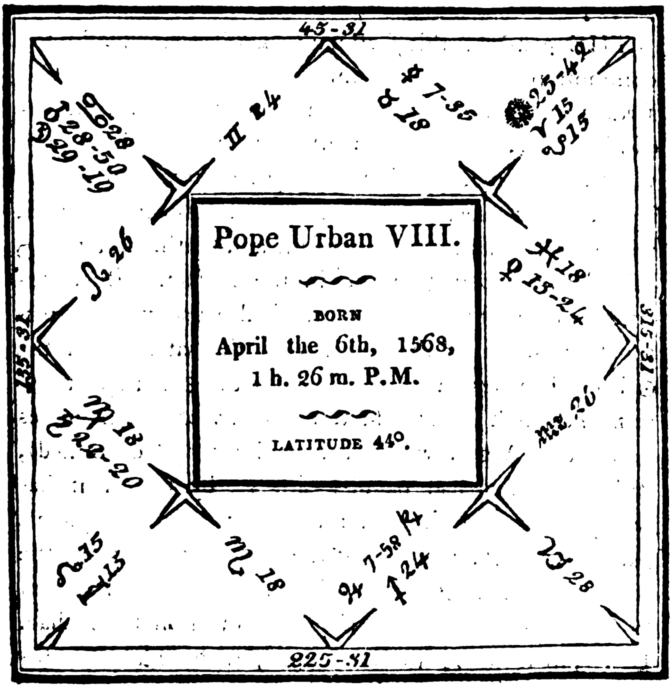
"Let the ☉ be in A, the ☽ in B, and draw the line AC, from "the ☉ to the ascendant, and, from the ☽, BD equal to AC; "then it is demonstrated in the third of the Elements of Euclid, "that the arc BD is equal to the arc AC. Subtract AD, which "is common to both, and there remains AB, equal to CD: there-"fore, the distance of the ☽ from the ☉, being added to the "ascendant, there arises the place of ⊕, which is the place where "the ☽ reflects the ☉'s rays, equal to that with which the ☉ irra-"diates the ascendant; therefore the place of ⊕ is had, by adding "the distance of the ☽ from the ☉, to the ascendant." By which it appears, that Cardan had a good general idea of ⊕, but his error, in computing its place, arose from his taking it in the ecliptic instead of taking it upon the parallel of the ☽'s declination.

Addenda.

URBAN THE EIGHTH.

(FROM THE AUTHOR'S CELESTIAL PHILOSOPHY.)

THIS curious nativity being referred to, by the Author, in Canon XXXVIII, page 108, it was deemed proper to subjoin it to the present work, as an illustration of that Canon.



P.	Latitudes.			Arcs.		Horary Times.		Rt. Ascension.	
♄	2°	37′	N.	84°	53′	14°	8′	173°	58′
♃	1	15	N.	110	24	18	23	246	23
♂	2	13	N.	112	53	18	49	121	24
☉	0	0		99	26	16	38	23	49
♀	0	3	S.	83	50	13	57	344	43
☿	0	7	N.	103	39	17	17	35	11
☽	4	50	S.	106	50	17	48	120	26

THE cause of this fortunate constitution, is, by the common professors, unanimously asserted to be, Cor Leonis in the ascendant and in △ with the ☉, from the ninth house, in the sign ♈; but neither have any weight with me, for I can affirm, of my own knowledge, to have seen many genitures of unfortunate men, with Cor Leonis in the ascendant and tenth, and the ☉ beheld, by fortunate rays, in the zodiac. But, according to my opinion, the principal cause was the fortunate position of the luminaries, the satellites of the ☉ being benefics, and angular; for the ☉ is in ⚹ to ♀ *in mundo* (as it is in the first, and many of the examples brought by Argol, which I have long ago examined), and also in zodiacal parallel with ♀, by reason it has nearly the same declination: moreover, it is in mundane parallel with ♃, namely, at the same distance from the *medium cœli* that ♃ is from the *imum cœli*, and applies to a sesqui-quadrate and biquintile of ♃ in the zodiac. Lastly, it is in △ to Cor Leonis, with which it is favourably conjoined in the zodiac, and effects, with the same, all the rest of the familiarities. The ☽ is upon the cusp of the twelfth house, with the fixed stars Canis Major and Minor, in parallel with ♃ and ☿, in the zodiac, ♀ is descending with Lucida Fidiculæ to a quintile with the *medium cœli;* to which the ☉, by converse direction, arrived in 56 years. At 76 years and 3 months, the ☉ came to the west, and it happened that ♀ was interposed, which added some small time, but ♄'s ☍ succeeding, diminished more than ♀ added; then ♃'s △ from the cusp of the third house, superadded more time than was diminished by ♄. Lastly, ♂ lustrates a greater space, by his quintile ray from the *medium cœli,* than all the rest, whence he diminishes more than all the others. ☿, who is mixed with the ✱ of ♀, and sesqui-quadrate of ♄, neither gives nor takes away by his ✱.

The calculation of the Directions by Canon XXXVIII.

	ARCS.	
♀'s ☌ to the west	23°	2′
♄'s ☍ to ditto	33	20
♃'s △ to ditto	57	38
♂'s □ to ditto	75	53
☉'s ☌ to ditto	77	44

Proportional Parts.

♀, As 167° 40′ : 13° 57′ : : 23° 2′ : 1° 54′ +.
♄, As 169 46 : 14 8 : : 33 20 : 2 37 —.
♃, As 220 48 : 18 23 : : 57 38 : 4 47 +.
♂, As 225 46 : 18 49 : : 75 53 : 6 16 —.

♃ + ♀ = 6° 41′. ♄ + ♂ = 8° 53′; their difference = 2° 12′ to be subtracted from the ☉'s arc to the west = 77° 44′, and there remains the arc of direction of the ☉ to the west, diminished by the addition and subtraction of the fortunate and unfortunate stars = 75° 32′. For the equation, I add this arc to the ☉'s right ascension, aud the sum is 99° 21′, answering to 8° 35′ of ♋, to which the ☉ arrives in 76 days and a quarter. At which place is found the □ of ♂ to the west, just before the ☉ descended, that is, nearly 2°, and is a great proof that I am right in my opinion.

Urban the Eighth was a Florentine, and succeeded Gregory the Fifteenth in the Papal Chair. At the time of his election disputes ran so extremely high, that ten cardinals lost their lives on this occasion. In the year 1626, Urban had the honour of consecrating St. Peter's church at Rome, which was performed with pomp and splendour equal to the magnificence of the structure. That the grandeur of the apostolical chair might be the more advanced, in 1631, he gave to the cardinals the title of Eminence, forbidding them to acknowledge any other appellation. There was a conspiracy against his life in 1633, but which was detected, and its authors punished. In 1634, he issued a bull, compelling the cardinals and bishops to residence. Prideaux, in his Introduction to History, says, that the cardinals had long wished for a vacancy by the death of Urban, and were afraid he would have outsat St. Peter. He was a man of great abilities, and a good poet.

TABLES

OF

Declination, Right Ascension,

ASCENSIONAL DIFFERENCE,

CREPUSCULINES,

AND

PROPORTIONAL LOGARITHMS,

FOR COMPUTING

THE ARCS OF DIRECTION.

TABLES

OF

DECLINATION.

North Latitude.

♋	0 D.	0 M.	1 D.	1 M.	2 D.	2 M.	3 D.	3 M.	4 D.	4 M.	5 D.	5 M.	6 D.	6 M.	7 D.	7 M.	8 D.	8 M.	9 D.	9 M.	
0	23	32	24	32	25	32	26	31	27	32	28	32	29	32	30	32	31	32	32	32	30
1	23	31	24	31	25	31	26	31	27	31	28	31	29	31	30	31	31	31	32	31	29
2	23	31	24	31	25	31	26	32	27	31	28	31	29	31	30	31	31	31	32	31	[illegible]
3	23	[illegible]	24	30	25	30	26	30	27	30	28	29	29	30	30	[illegible]	31	30	32	[illegible]	[illegible]
4	23	28	24	29	25	28	26	28	27	28	28	28	29	28	30	28	31	28	32	[illegible]	[illegible]
5	23	26	24	26	25	26	26	26	27	26	28	26	29	26	30	26	31	26	32	26	25
6	23	23	24	23	25	[illegible]	26	[illegible]	[illegible]	22	28	22	29	22	30	22	31	22	32	22	24
7	23	20	24	20	25	20	26	20	27	19	28	19	29	19	30	19	31	19	32	19	23
8	23	17	24	17	25	17	26	16	27	16	28	16	29	16	30	16	31	16	32	15	22
9	23	13	24	13	25	13	26	13	27	12	28	12	29	12	30	12	31	12	32	12	21
10	23	9	24	9	25	9	26	9	27	8	28	8	29	8	30	8	31	8	32	8	20
11	23	4	24	4	25	4	26	4	27	2	28	3	29	3	30	3	31	3	32	3	19
12	22	59	23	59	24	59	25	59	26	58	27	58	28	58	29	57	30	57	31	57	18
13	22	53	23	53	24	52	25	53	26	54	27	52	28	52	29	51	30	51	31	51	17
14	22	47	23	47	24	46	25	46	26	46	27	45	28	45	29	45	30	44	31	44	16
15	22	41	23	41	24	40	25	40	26	40	27	39	28	39	29	39	30	38	31	38	15
16	22	34	23	34	24	33	25	33	26	33	27	32	28	32	29	32	30	31	31	31	14
17	22	27	23	27	24	26	25	2	26	25	27	25	28	24	29	24	30	24	31	23	13
18	22	19	23	19	24	18	25	18	26	17	27	16	28	16	29	16	30	15	31	15	12
19	22	10	23	10	24	9	25	9	26	8	27	[illegible]	28	[illegible]	29	6	30	5	31	5	11
20	22	2	23	2	24	1	25	0	25	59	26	58	27	57	28	57	29	56	30	55	10
21	21	53	22	53	23	52	24	51	25	50	26	49	27	48	28	48	29	47	30	46	9
22	21	43	22	43	23	42	24	41	25	40	26	39	27	38	28	38	29	37	30	36	8
23	21	33	22	33	23	32	24	31	25	30	26	29	27	28	28	28	29	27	30	25	7
24	21	23	22	22	23	21	24	20	25	19	26	18	27	17	28	16	29	15	30	14	6
25	21	13	22	11	23	10	24	9	25	8	26	7	27	6	28	5	29	4	30	3	5
26	21	1	22	0	22	59	23	58	24	57	25	56	26	55	27	54	28	53	29	52	4
27	20	50	21	48	22	47	23	46	24	45	25	44	26	45	27	42	28	41	29	40	3
28	20	38	21	36	22	35	23	34	24	33	25	32	26	30	27	29	28	28	29	27	2
29	20	26	21	23	22	22	23	21	24	20	25	19	26	17	27	16	28	15	29	14	1
30	20	15	21	12	22	10	23	9	24	7	25	6	26	4	27	3	28	1	28	59	0
																					♊

TABLES

OF

DECLINATION.

South Latitude.

	0		1		2		3		4		5		6		7		8		9		
♋	D.	M.	D	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	
0	23	32	22	32	21	32	20	32	19	32	18	32	17	32	16	32	15	32	14	32	30
1	23	31	22	31	21	31	20	31	19	31	18	31	17	31	16	31	15	31	14	31	29
2	23	31	22	31	21	31	20	31	19	31	18	31	17	31	16	31	15	31	14	31	28
3	23	30	22	30	21	30	20	30	19	30	18	30	17	30	16	30	15	30	14	30	27
4	23	28	22	28	21	28	20	28	19	28	18	28	17	28	16	28	15	28	14	28	26
5	23	26	22	26	21	26	20	26	19	26	18	26	17	26	16	26	15	26	14	26	25
6	23	23	22	23	21	23	20	23	19	23	18	23	17	23	16	23	15	23	14	23	24
7	23	20	22	20	21	20	20	20	19	20	18	20	17	20	16	20	15	20	14	20	23
8	23	17	22	17	21	17	20	17	19	17	18	17	17	17	16	17	15	17	14	17	22
9	23	13	22	13	21	13	20	13	19	13	18	13	17	13	16	13	15	14	14	14	21
10	23	9	22	9	21	9	20	9	19	9	18	9	17	10	16	10	15	10	14	10	20
11	23	4	22	4	21	4	20	4	19	5	18	5	17	5	16	5	15	6	14	6	19
12	22	59	21	59	20	59	19	58	19	0	18	0	17	0	16	1	15	1	14	1	18
13	22	53	21	53	20	53	19	53	18	54	17	54	16	54	15	55	14	55	13	55	17
14	22	47	21	47	20	47	19	47	18	48	17	48	16	48	15	49	14	49	13	49	16
15	22	41	21	41	20	41	19	41	18	42	17	42	16	42	15	43	14	43	13	43	15
16	22	34	21	35	20	35	19	35	18	36	17	36	16	36	15	37	14	37	13	37	14
17	22	27	21	28	20	28	19	28	18	29	17	29	16	29	15	30	14	30	13	30	13
18	22	19	21	20	20	20	19	21	18	21	17	21	16	21	15	22	14	23	13	23	12
19	22	10	21	11	20	11	19	12	18	13	17	13	16	13	15	14	14	15	13	15	11
20	22	2	21	3	20	4	19	4	18	5	17	5	16	5	15	6	14	7	13	7	10
21	21	53	20	54	19	56	18	56	17	57	16	57	15	58	14	58	13	59	12	59	9
22	21	43	20	44	19	45	18	46	17	47	16	47	15	48	14	48	13	49	12	49	8
23	21	33	20	34	19	35	18	36	17	37	16	37	15	38	14	39	13	40	12	40	7
24	21	23	20	24	19	25	18	26	17	27	16	28	15	28	14	29	13	30	12	31	6
25	21	13	20	14	19	15	18	16	17	17	16	18	15	19	14	20	13	21	12	22	5
26	21	1	20	2	19	3	18	4	17	5	16	7	15	8	14	9	13	10	12	11	4
27	20	50	19	51	18	52	17	53	16	54	15	56	14	57	13	58	12	59	12	0	3
28	20	36	19	39	18	40	17	41	16	42	15	44	14	45	13	46	12	47	11	48	2
29	20	24	19	27	18	28	17	29	16	30	15	32	14	33	13	34	12	35	11	37	1
30	20	13	19	14	18	15	17	17	16	18	15	19	14	20	13	21	12	23	11	24	0
																					♊

TABLES

OF

DECLINATION.

North Latitude.

	0		1		2		3		4		5		6		7		8		9		
♌	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M	D.	M.	D.	M.	
0	20	13	21	12	22	10	23	9	24	7	25	6	26	4	27	3	28	1	28	59	30
1	20	0	20	59	21	57	22	56	23	54	24	53	25	51	26	49	27	47	28	46	29
2	19	47	20	45	21	44	22	42	23	40	24	39	25	37	26	35	27	33	28	31	28
3	19	33	20	31	21	30	22	28	23	26	24	25	25	23	26	21	27	19	28	17	27
4	19	19	20	17	21	16	22	14	23	12	24	11	25	9	26	7	27	5	28	3	26
5	19	5	20	3	21	2	22	0	22	58	23	56	24	54	25	52	26	50	27	48	25
6	18	50	19	49	20	47	21	45	22	43	23	41	24	39	25	37	26	35	27	[illegible]	24
7	18	35	19	34	20	32	21	29	22	27	23	25	24	23	25	21	26	19	27	17	23
8	18	20	19	18	20	16	21	13	22	11	23	9	24	7	25	5	26	3	27	1	22
9	18	4	19	2	20	0	20	57	21	55	22	53	23	51	24	48	25	46	26	44	21
10	17	48	18	46	19	44	20	41	21	39	22	37	23	34	24	31	25	29	26	27	20
11	17	32	18	29	19	27	20	25	21	22	22	20	23	17	24	14	25	12	26	10	19
12	17	15	18	12	19	10	20	8	21	5	22	3	23	0	23	57	24	55	25	52	18
13	16	58	17	55	18	53	19	51	20	48	21	46	22	43	23	40	24	37	25	34	17
14	16	41	17	38	18	36	19	33	20	30	21	28	22	25	23	22	24	19	25	16	16
15	16	24	17	21	18	18	19	13	20	12	21	10	22	7	23	4	24	1	24	58	15
16	16	6	17	3	18	0	18	57	19	54	20	52	21	49	22	46	23	43	24	40	14
17	15	48	16	45	17	42	18	39	19	36	20	33	21	30	22	27	23	24	24	21	13
18	15	29	16	26	17	23	18	20	19	17	20	14	21	11	22	8	23	5	24	2	12
19	15	11	16	8	17	4	18	1	18	58	19	55	20	52	21	49	22	46	23	43	11
20	14	52	15	49	16	45	17	42	18	39	19	36	20	33	21	30	22	26	23	23	10
21	14	33	15	30	16	26	17	23	18	20	19	17	20	13	21	10	22	6	23	3	9
22	14	14	15	11	16	7	17	4	18	0	18	57	19	53	20	50	21	46	22	43	8
23	13	54	14	51	15	47	16	44	17	40	18	37	19	33	20	30	21	26	22	22	7
24	13	34	14	31	15	27	16	24	17	20	18	17	19	13	20	10	21	6	22	2	6
25	13	14	14	11	15	7	16	4	17	0	17	57	18	53	19	49	20	45	21	41	5
26	12	54	13	51	14	47	15	43	16	39	17	36	18	32	19	28	20	24	21	20	4
27	12	33	13	30	14	26	15	22	16	18	17	15	18	11	19	7	20	3	20	59	3
28	12	13	13	9	14	5	15	1	15	57	16	54	17	50	18	46	19	43	20	38	2
29	11	52	12	48	13	44	14	40	15	36	16	33	17	29	18	25	19	21	20	17	1
30	11	31	12	27	13	23	14	19	15	15	16	11	17	7	18	3	18	59	19	55	0
																					♉

TABLES

OF

DECLINATION.

South Latitude.

	0		1		2		3		4		5		6		7		8		9		
♌	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M	
0	20	13	19	14	18	16	17	17	16	18	15	20	14	21	13	22	12	24	11	25	30
1	20	0	19	1	18	3	17	4	16	5	15	7	14	8	13	10	12	12	11	14	29
2	19	47	18	48	17	50	16	51	15	52	14	54	13	55	12	57	11	59	11	1	28
3	19	33	18	35	17	36	16	38	15	39	14	41	13	42	12	44	11	46	10	48	27
4	19	19	18	21	17	22	16	24	15	26	14	27	13	29	12	31	11	32	10	35	26
5	19	5	18	7	17	8	16	10	15	12	14	13	13	15	12	17	11	19	10	21	25
6	18	50	17	52	16	54	15	56	14	58	13	59	13	1	12	3	11	5	10	7	24
7	18	35	17	38	16	39	15	41	14	43	13	44	12	46	11	48	10	50	9	52	23
8	18	20	17	22	16	24	15	26	14	28	13	29	12	31	11	35	10	35	9	37	22
9	18	4	17	6	16	8	15	10	14	12	13	14	12	16	11	18	10	20	9	22	21
10	17	48	16	50	15	52	14	54	13	56	12	58	12	1	11	3	10	5	9	7	20
11	17	32	16	34	15	36	14	38	13	40	12	42	11	45	10	48	9	49	8	51	19
12	17	15	16	17	15	20	14	22	13	24	12	26	11	29	10	31	9	33	8	35	18
13	16	56	16	0	15	3	14	5	13	8	12	10	11	13	10	15	9	17	8	20	17
14	16	41	15	43	14	46	13	48	12	51	11	53	10	56	9	58	9	1	8	3	16
15	16	24	15	26	14	28	13	31	12	34	11	36	10	39	9	41	8	44	7	46	15
16	16	6	15	8	14	11	13	14	12	17	11	19	10	22	9	24	8	27	7	30	14
17	15	48	14	50	13	53	12	56	11	59	11	1	10	4	9	7	8	10	7	14	13
18	15	29	14	32	13	35	12	38	11	41	10	43	9	46	8	49	7	52	6	56	12
19	15	11	14	14	13	17	12	20	11	23	10	25	9	28	8	31	7	34	6	37	11
20	14	52	13	55	12	58	12	1	11	4	10	7	9	10	8	13	7	16	6	19	10
21	14	33	13	36	12	39	11	42	10	45	9	48	8	51	7	54	6	57	6	0	9
22	14	14	13	17	12	20	11	23	10	26	9	29	8	32	7	35	6	38	5	41	8
23	13	54	12	58	12	1	11	4	10	7	9	10	8	13	7	16	6	19	5	22	7
24	13	34	12	38	11	41	10	44	9	48	8	51	7	54	6	57	6	0	5	3	6
25	13	14	12	18	11	21	10	24	9	28	8	31	7	35	6	38	5	41	4	44	5
26	12	54	11	59	11	1	10	4	9	8	8	11	7	15	6	18	5	22	4	35	4
27	12	33	11	36	10	39	9	43	8	47	7	50	6	54	5	57	5	1	4	25	3
28	12	13	11	17	10	20	9	24	8	28	7	31	6	35	5	37	4	42	3	46	2
29	11	52	10	56	10	0	9	4	8	7	7	11	6	15	5	17	4	22	3	26	1
30	11	31	10	35	9	39	8	43	7	46	6	50	5	54	4	57	4	1	3	5	0
																					♉

TABLES

OF

DECLINATION.

North Latitude.

	0		1		2		3		4		5		6		7		8		9		
♍	D.	M.	D.	M.	D	M.	D.	M.	D.	M	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	
0	11	31	12	27	13	23	14	19	15	15	16	11	17	7	18	3	18	59	19	55	30
1	11	9	12	5	13	1	13	57	14	53	15	46	16	45	17	41	18	37	19	33	29
2	10	48	11	45	12	41	13	36	14	32	15	28	16	24	17	20	18	16	19	21	28
3	10	26	11	23	12	19	13	14	14	10	15	6	16	2	16	58	17	54	18	49	27
4	10	5	11	1	11	57	12	52	13	48	14	44	15	40	16	36	17	31	18	27	26
5	9	43	10	39	11	35	12	30	13	26	14	22	15	18	16	14	17	9	18	4	25
6	9	21	10	17	11	13	12	8	13	4	14	0	14	55	15	51	16	46	17	41	24
7	8	58	9	55	10	51	11	46	12	42	13	37	14	33	15	28	16	23	17	18	23
8	8	36	9	32	10	28	11	23	12	19	13	14	14	10	15	5	16	0	16	55	22
9	8	13	9	10	10	6	11	1	11	56	12	52	13	47	14	42	15	37	16	32	21
10	7	51	8	47	9	42	10	38	11	33	12	29	13	24	14	19	15	14	16	[illegible]	20
11	7	28	8	23	9	18	10	14	11	9	12	5	13	0	13	55	14	50	15	45	19
12	7	5	8	0	8	55	9	51	10	46	11	42	12	37	13	32	14	27	15	22	18
13	6	42	7	37	8	32	9	28	10	23	11	19	12	14	13	9	14	4	14	59	17
14	6	19	7	14	8	9	9	5	10	0	10	56	11	51	12	46	13	41	14	36	16
15	5	56	6	52	7	47	8	42	9	57	10	33	11	28	12	23	13	18	14	13	15
16	5	33	6	29	7	24	8	19	9	14	10	10	11	5	12	0	12	54	13	49	[illegible]
17	5	9	6	5	7	0	7	55	8	50	9	46	10	41	11	36	12	31	13	[illegible]	[illegible]
18	4	46	5	42	6	37	7	32	8	27	9	22	10	17	11	12	12	7	13	2	12
19	4	22	5	18	6	13	7	8	8	3	8	58	9	53	10	48	11	43	12	38	11
20	3	58	4	54	5	49	6	44	7	39	8	34	9	29	10	2[illegible]	11	19	12	14	10
21	3	35	4	30	5	25	6	20	7	1[illegible]	8	10	9	5	10	0	10	55	11	50	9
22	3	11	4	7	5	2	5	57	7	2	7	47	8	42	9	36	10	32	11	27	8
23	2	47	3	43	4	38	5	33	6	23	7	23	8	18	9	13	10	8	11	3	7
24	2	24	3	19	4	14	5	9	6	4	6	59	7	54	8	49	9	44	10	39	6
25	2	0	2	55	3	50	4	45	5	50	6	35	7	30	8	24	9	19	10	14	5
26	1	36	2	31	3	26	4	21	5	16	6	11	7	6	8	0	8	55	9	50	4
27	1	12	2	7	3	2	3	57	4	52	5	47	6	42	7	35	8	31	9	26	[illegible]
28	0	48	1	48	2	38	3	33	4	28	5	23	6	18	7	13	8	8	9	[illegible]	[illegible]
29	0	24	1	19	2	14	3	9	4	4	4	59	5	54	6	49	7	44	8	38	[illegible]
30	0	0	0	55	1	50	2	45	3	40	4	35	5	30	6	2[illegible]	7	20	8	15	0

TABLES

OF

DECLINATION.

South Latitude.

	0		1		2		3		4		5		6		7		8		9		
♍	D.	M.	D.	M.	D.	M	D.	M	D.	M	D.	M	D.	M.	D.	M	D.	M.	D.	M.	
0	11	31	10	35	9	39	8	43	7	46	6	50	5	54	4	57	4	1	3	5	30
1	11	9	10	14	9	18	8	22	7	25	6	29	5	33	4	36	3	40	2	44	29
2	10	48	9	53	8	57	8	1	7	4	6	8	5	13	4	16	3	20	2	24	28
3	10	26	9	31	8	35	7	39	6	43	5	47	4	51	3	55	2	59	2	3	27
4	10	5	9	9	8	14	7	18	6	22	5	26	4	30	3	34	2	38	1	42	26
5	9	43	8	47	7	52	6	56	6	0	5	4	4	8	3	12	2	17	1	21	25 N.
6	9	21	8	25	7	30	6	34	5	38	4	42	3	46	2	50	1	55	0	59	24
7	8	58	8	3	7	7	6	11	5	15	4	19	3	23	2	27	1	32	0	37	23
8	8	36	7	40	6	44	5	49	4	53	3	57	3	1	2	5	1	10	0	15	22
9	8	13	7	17	6	21	5	26	4	30	3	41	2	39	1	43	0	47	0	8	21
10	7	51	6	55	5	59	5	4	4	8	3	12	2	17	1	21	0	2[illegible]	0	31	20
11	7	28	6	32	5	37	4	51	3	46	2	50	1	55	0	59	0	[illegible]	0	53	19
12	7	5	6	9	5	14	4	18	3	2[illegible]	2	2[illegible]	1	32	0	36	0	19	1	15	18 S.
13	6	42	5	46	4	51	3	55	3	0	2	4	1	9	0	14	0	42	1	37	17
14	6	19	5	23	4	28	3	32	2	37	1	41	0	46	0	9	1	5	2	0	16
15	5	56	5	1	4	6	3	10	2	15	1	19	0	24	0	33	1	29	2	23	15
16	5	33	4	38	3	41	2	57	1	52	0	5[illegible]	0	0	0	50	1	52	2	47	14
17	5	9	4	14	3	19	2	24	1	29	0	3[illegible]	0	24	1	19	2	15	3	10	13
18	4	46	3	51	2	56	2	1	1	5	0	10	0	47	1	42	2	38	3	33	12
19	4	22	3	27	2	32	1	37	0	41	0	1[illegible]	1	9	2	5	3	0	3	56	11
20	3	58	3	[illegible]	2	8	1	13	0	18	0	36	1	33	2	28	3	23	4	19	10
21	3	35	2	29	1	44	0	49	0	6	1	[illegible]	1	57	2	52	3	47	4	42	9
22	3	11	2	16	1	21	0	26	0	29	1	2[illegible]	2	20	3	15	4	10	5	5	8
23	2	47	1	52	0	57	0	2	0	53	1	48	2	43	3	38	4	33	5	28	7
24	2	24	1	28	0	33	0	22	1	17	2	12	3	27	4	2	4	57	5	52	6
25	2	0	1	5	0	9	0	46	1	42	2	36	3	31	4	26	5	21	6	16	5
26	1	36	0	41	0	15	1	10	2	5	3	[illegible]	3	55	4	50	5	45	6	40	4
27	1	12	0	17	0	39	1	34	2	29	3	24	4	19	5	14	6	9	7	4	3
28	0	48	0	7	1	3	1	57	2	52	3	47	4	42	5	37	6	32	7	27	2
29	0	24	0	31	1	27	2	21	3	16	4	11	5	6	6	1	6	56	7	51	1
30	0	0	0	56	1	50	2	45	3	40	4	35	5	30	6	25	7	20	8	15	0
																					♈

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TABLES

OF

DECLINATION.

North Latitude.

	0		1		2		[illegible]		4		5		6		7		8		9		
	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.		M.	
0	0	0	0	55	1	50	2	45	3	40	4	[illegible]	5	30	6	25	7	20	8	15	30
1	0	22	0	31	1	27	2	21	3	16	4	11	5	6	6	1	[illegible]	56	7	51	29
2	0	48	0	7	1	3	1	57	2	52	3	47	4	42	5	31	[illegible]	32	[illegible]	27	28
3	1	12	0	17	0	39	1	34	2	29	3	21	4	19	5	10	[illegible]	9	7	[illegible]	27
4	1	36	0	41	0	15	1	10	2	5	3	0	3	55	4	50	[illegible]	[illegible]	[illegible]	40	26
5	2	0	1	5	0	9	0	46	1	41	2	[illegible]	3	31	4	26	5	21	6	16	25
6	2	24	1	29	0	34	0	22	1	17	2	12	3	7	4	2	4	57	5	52	24
7	2	47	1	52	0	57	0	2	0	5	1	48	2	43	3	38	4	33	5	28	23
8	3	11	2	16	1	21	0	26	0	29	1	25	2	20	3	15	4	10	5	5	22
9	3	35	2	30	1	44	0	49	0	6	1	2	1	57	2	52	3	46	4	42	21
10	3	58	3	3	2	8	1	13	0	18	0	38	1	33	2	20	3	23	4	18	20
11	4	22	3	27	2	32	1	37	0	41	0	14	1	9	2	4	3	0	3	55	19
12	4	46	3	51	2	55	2	0	1	4	0	9	0	46	1	41	2	[illegible]	3	32	18
13	5	9	4	14	3	19	2	24	1	28	0	32	0	23	1	19	2	15	3	9	17
14	5	33	4	38	3	43	2	47	1	52	0	56	0	0	0	56	1	52	2	46	16
15	5	56	5	1	4	6	3	11	2	15	1	19	0	24	0	32	1	28	2	23	15 N.
16	6	19	5	24	4	29	3	33	2	38	1	42	0	47	0	9	1	44	1	59	14
17	6	42	5	46	4	50	3	55	3	0	2	4	1	9	0	14	0	42	1	36	13
18	7	5	6	9	5	14	4	18	3	23	2	27	1	32	0	38	0	14	1	14	12
19	7	28	6	32	5	37	4	41	3	46	2	50	1	55	0	59	[illegible]	5	0	52	11
20	7	51	6	56	6	0	5	5	4	9	3	13	2	18	1	22	0	26	0	29	10
21	8	13	7	18	6	22	5	27	4	31	3	35	2	40	1	4	0	44	0	7	9
22	8	36	7	41	6	45	5	50	4	54	3	58	3	2	2	[illegible]	1	1	0	16	8
23	8	58	8	3	7	7	6	12	5	16	4	20	3	24	2	[illegible]	1	38	0	38	7
24	9	21	8	25	7	30	6	34	5	38	4	42	3	46	2	50	1	55	1	9	6
25	9	43	8	47	7	52	6	56	6	0	5	4	4	8	3	12	2	17	1	21	5 S.
26	10	5	9	9	8	14	7	18	6	22	5	26	4	30	3	34	2	38	1	49	4
27	10	26	9	31	8	36	7	40	6	43	5	47	4	51	3	55	2	52	2	9	3
28	10	48	9	53	8	57	8	1	7	4	6	8	5	12	4	16	3	20	2	24	2
29	11	9	10	14	9	18	8	22	7	25	6	29	5	33	4	37	3	41	2	45	1
30	11	31	10	35	9	39	8	43	7	46	6	50	5	54	4	57	4	1	3	5	0

TABLES

OF

DECLINATION.

South Latitude.

	0		1		2		3		4		5		6		7		8		9		
	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	
0	0	0	0	55	1	50	2	45	3	40	4	35	5	30	6	25	7	20	8	15	30
1	0	24	1	19	2	14	3	9	4	4	4	59	5	54	6	49	7	44	8	39	29
2	0	48	1	43	2	38	3	33	4	28	5	23	6	18	7	13	8	8	9	3	28
3	1	12	2	7	3	2	3	57	4	52	5	47	6	42	7	37	8	31	9	26	27
4	1	36	2	31	3	26	4	21	5	16	6	11	7	6	8	0	8	55	9	50	26
5	2	0	2	55	3	50	4	45	5	40	6	35	7	30	8	24	9	19	10	14	25
6	2	24	3	19	4	14	5	9	6	4	6	59	7	54	8	48	9	43	10	38	24
7	2	47	3	42	4	37	5	32	6	27	7	22	8	17	9	12	10	7	11	2	23
8	3	11	4	6	5	1	5	56	6	51	7	46	8	41	9	36	10	31	11	26	22
9	3	35	4	29	5	24	6	19	7	15	8	10	9	5	10	0	10	55	11	50	21
10	3	58	4	53	5	48	6	43	7	39	8	34	9	29	10	24	11	19	12	14	20
11	4	22	5	17	6	12	7	7	8	3	8	58	9	53	10	48	11	43	12	30	19
12	4	46	5	41	6	36	7	31	8	26	9	21	10	16	11	11	12	6	13	1	18
13	5	9	6	5	7	0	7	55	8	50	9	45	10	40	11	35	12	39	13	25	17
14	5	33	6	29	7	24	8	19	9	14	10	9	11	4	11	59	12	54	13	49	16
15	5	56	6	52	7	47	8	42	9	37	10	33	11	28	12	23	13	18	14	13	15
16	6	19	7	14	8	0	9	5	10	0	10	56	11	51	12	46	13	41	14	36	14
17	6	41	7	37	8	32	9	28	10	23	11	19	12	14	13	9	14	4	15	0	13
18	7	5	8	0	8	55	9	51	10	46	11	42	12	37	13	32	14	27	15	23	12
19	7	28	8	23	9	18	10	14	11	9	12	5	13	0	13	55	14	50	15	46	11
20	7	51	8	47	9	42	10	37	11	32	12	28	13	23	14	18	15	13	16	9	10
21	8	13	9	9	10	5	11	0	11	55	12	51	13	46	14	41	15	37	16	32	9
22	8	36	9	32	10	28	11	23	12	19	13	14	14	10	15	5	16	0	16	56	8
23	8	58	9	54	10	50	11	46	12	42	13	37	14	33	15	28	16	23	17	18	7
24	9	21	10	17	11	12	12	8	13	4	14	0	14	55	15	51	16	4[illegible]	17	40	6
25	9	43	10	39	11	3[illegible]	12	30	13	26	14	22	15	18	16	14	17	9	18	3	5
26	10	5	11	1	11	57	12	52	13	48	14	44	15	40	16	36	17	31	18	26	4
27	10	26	11	23	12	19	13	14	14	10	15	6	16	2	16	58	17	53	18	48	3
28	10	48	11	45	12	41	13	36	14	32	15	28	16	24	17	20	18	15	19	10	2
29	11	9	12	6	13	2	13	58	14	54	15	50	16	46	17	42	18	37	19	32	1
30	11	31	12	2	13	23	14	19	15	15	16	11	17	7	18	3	18	59	19	54	0

TABLES

OF

DECLINATION.

North Latitude.

	0		1		2		3		4		5		6		7		8		9		
♏	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	
0	11	31	10	35	9	39	8	43	7	46	6	50	4	54	4	57	4	1	3	5	30
1	11	52	10	56	10	0	9	4	8	7	7	11	5	15	5	18	4	22	3	26	29
2	12	13	11	17	10	20	9	24	8	28	7	31	6	35	5	38	4	42	3	46	28
3	12	33	11	37	10	40	9	44	8	48	7	51	6	55	5	58	5	2	4	[illegible]	27
4	12	54	11	58	11	1	10	4	9	8	8	11	7	15	6	19	5	22	4	[illegible]	26
5	13	14	12	18	11	21	10	24	9	28	8	31	7	35	6	38	5	42	4	46	25
6	13	34	12	38	11	41	10	44	9	48	8	51	7	54	6	57	6	1	5	5	24
7	13	54	12	58	12	1	11	4	10	7	9	10	8	13	7	16	6	20	5	24	23
8	14	14	13	17	12	20	11	23	10	26	9	29	8	32	7	35	6	39	5	42	22
9	14	33	13	36	12	39	11	42	10	45	9	48	8	51	7	54	6	57	6	0	21
10	14	52	13	55	12	58	12	1	11	4	10	7	9	10	8	13	7	16	6	19	20
11	15	11	14	14	13	17	12	20	11	23	10	25	9	28	8	31	7	34	6	37	19
12	15	29	14	32	13	35	12	38	11	41	10	43	9	46	8	49	7	52	6	55	18
13	15	48	14	50	13	53	12	56	11	59	11	1	10	4	9	7	8	10	7	12	17
14	16	6	15	8	14	11	13	14	12	17	11	19	10	22	9	24	8	27	7	30	16
15	16	24	15	26	14	29	13	31	12	34	11	36	10	39	9	41	8	44	7	47	15
16	16	41	15	43	14	46	13	48	12	51	11	53	10	56	9	58	9	1	8	4	14
17	16	58	16	0	15	3	14	5	13	8	12	10	11	13	10	15	9	17	8	20	13
18	17	15	16	17	15	20	14	22	13	24	12	26	11	29	10	31	9	33	8	35	12
19	17	32	16	34	15	36	14	38	13	40	12	42	11	45	10	47	9	49	8	51	11
20	17	48	16	50	15	52	14	54	13	56	12	58	12	1	11	3	10	5	9	7	10
21	18	4	17	6	16	8	15	10	14	12	13	14	12	16	11	18	10	20	9	22	9
22	18	20	17	22	16	24	15	26	14	28	13	29	12	31	11	33	10	35	9	37	8
23	18	35	17	37	16	39	15	41	14	43	13	44	12	46	11	46	10	50	9	52	7
24	18	50	17	52	16	54	15	56	14	58	13	59	13	1	12	3	11	5	10	7	6
25	19	5	18	7	17	8	16	10	15	12	14	13	13	15	12	17	11	19	10	21	5
26	19	19	18	21	17	23	16	25	15	26	14	27	13	29	12	31	11	33	10	35	4
27	19	33	18	35	17	36	16	38	15	39	14	41	13	42	12	44	11	46	10	48	3
28	19	47	18	48	17	50	16	51	15	52	14	51	13	55	12	57	11	59	11	1	2
29	20	0	19	1	18	3	17	4	16	5	15	7	14	8	13	10	12	12	11	14	1
30	20	13	19	14	18	16	17	17	16	18	15	20	14	21	13	22	12	24	11	26	0

TABLES OF DECLINATION.

North Latitude.

m	0 D.	0 M.	1 D.	1 M.	2 D.	2 M.	3 D.	3 M.	4 D.	4 M.	5 D.	5 M.	6 D.	6 M.	7 D.	7 M.	8 D.	8 M.	9 D.	9 M.	
0	11	31	12	27	13	23	14	19	15	15	16	11	17	7	18	3	18	59	19	54	30
1	11	52	12	48	13	41	14	40	15	36	16	33	17	29	18	25	19	21	20	16	29
2	12	13	13	9	14	5	15	1	15	57	16	51	17	50	18	46	19	42	20	37	28
3	12	33	13	29	14	25	15	21	16	18	17	14	18	10	19	6	20	2	20	58	27
4	12	54	13	50	14	46	15	42	16	39	17	35	18	31	19	27	20	24	21	19	26
5	13	14	14	11	15	7	16	3	17	0	17	56	18	52	19	49	20	45	21	40	25
6	13	34	14	31	15	27	16	24	17	20	18	17	19	13	20	10	21	6	22	1	24
7	13	54	14	51	15	47	16	44	17	40	18	37	19	33	20	30	21	26	22	21	23
8	14	14	15	11	16	7	17	4	18	0	18	57	19	53	20	50	21	46	22	42	22
9	14	33	15	30	16	26	17	23	18	20	19	17	20	13	21	10	22	6	23	2	21
10	14	52	15	49	16	45	17	42	18	39	19	36	20	33	21	30	22	26	23	22	20
11	15	11	16	8	17	4	18	1	18	58	19	55	20	52	21	49	22	45	23	42	19
12	15	29	16	26	17	23	18	20	19	17	20	14	21	11	22	8	23	5	24	2	18
13	15	48	16	45	17	42	18	39	19	36	20	33	21	30	22	27	23	24	24	21	17
14	16	6	17	3	18	0	18	57	19	54	20	52	21	49	22	46	23	43	24	40	16
15	16	24	17	21	18	18	19	15	20	12	21	10	22	7	23	4	24	1	24	58	15
16	16	41	17	38	18	36	19	33	20	30	21	48	22	25	23	22	24	19	25	16	14
17	16	58	17	55	18	53	19	51	20	48	21	46	22	43	23	40	24	37	25	34	13
18	17	15	18	12	19	10	20	8	21	5	22	3	23	0	23	57	24	55	25	52	12
19	17	32	18	29	19	27	20	25	21	23	22	20	23	17	24	14	25	12	26	10	11
20	17	[illegible]	18	46	19	44	20	41	21	39	22	37	23	34	24	31	25	29	26	24	10
21	18	4	19	2	20	0	20	57	21	55	22	53	23	51	24	48	25	46	26	44	9
22	18	20	19	18	20	16	21	13	22	11	23	9	24	7	25	5	26	3	27	1	8
23	18	35	19	34	20	32	21	29	22	27	23	25	24	23	25	21	26	19	27	17	7
24	18	50	19	49	20	47	21	45	22	43	23	41	24	39	25	37	26	35	27	33	6
25	19	5	20	3	21	2	22	0	22	58	23	56	24	54	25	52	26	50	27	48	5
26	19	19	20	17	21	16	22	14	23	12	24	11	25	9	26	7	27	5	28	3	4
27	19	33	20	31	21	30	22	28	23	26	24	25	25	23	26	21	27	19	28	17	3
28	19	47	20	45	21	44	22	42	23	40	24	39	25	37	26	35	27	33	28	31	2
29	20	0	20	59	21	47	22	56	23	54	24	53	25	51	26	49	27	47	28	45	1
30	20	13	21	12	22	10	23	9	24	7	25	6	26	4	27	3	28	1	29	0	0

TABLES

OF

DECLINATION.

North Latitude.

	0		1		2		3		4		5		6		7		8		9		
♌	D.	M.	D	M	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M	D.	M	
0	20	13	19	14	18	16	17	17	16	18	15	20	14	21	13	22	12	24	11	26	30
1	20	26	19	27	18	28	17	29	16	30	15	32	14	33	13	35	12	36	11	37	29
2	20	38	19	39	18	40	17	41	16	42	15	44	14	45	13	46	12	48	11	49	28
3	20	50	19	51	18	52	17	53	16	54	15	55	14	57	13	58	12	49	12	0	27
4	21	1	20	2	19	3	18	4	17	5	16	7	15	8	14	9	13	10	12	11	26
5	21	13	20	13	19	15	18	16	17	17	16	18	15	19	14	19	13	20	12	21	25
6	21	23	20	24	19	25	18	26	17	27	16	28	15	28	14	29	13	30	12	31	24
7	21	33	20	34	19	35	18	36	17	37	16	38	15	38	14	39	13	40	12	41	23
8	21	43	20	44	19	45	18	46	17	47	16	47	15	48	14	49	13	50	12	50	22
9	21	53	20	54	19	55	18	56	17	56	16	57	15	58	14	58	13	59	13	0	21
10	22	2	21	3	20	4	19	5	18	5	17	6	16	6	15	7	14	7	13	8	20
11	22	10	21	11	20	12	19	13	18	13	17	14	16	14	15	15	14	15	13	16	19
12	22	19	21	19	20	20	19	21	18	21	17	22	16	22	15	23	14	23	13	24	18
13	22	27	21	28	20	28	19	28	18	29	17	29	16	29	15	30	14	20	13	31	17
14	22	34	21	35	20	35	19	35	18	36	17	36	16	36	15	37	14	37	13	37	16
15	22	41	21	41	20	41	19	41	18	42	17	42	16	42	15	43	14	43	13	43	15
16	22	47	21	47	20	47	19	47	18	48	17	48	16	48	15	49	14	49	13	49	14
17	22	53	21	53	20	53	19	53	18	54	17	54	16	54	15	55	14	55	13	55	13
18	22	59	21	59	20	59	19	59	19	0	18	0	17	0	16	1	15	1	14	1	12
19	23	4	22	4	21	4	20	4	19	5	18	5	17	5	16	6	15	6	14	6	11
20	23	9	22	9	21	9	20	9	19	10	18	10	17	10	16	10	15	10	14	10	10
21	23	13	22	13	21	12	20	13	19	14	18	14	17	14	16	14	15	14	14	14	9
22	23	17	22	17	21	17	20	17	19	17	18	17	17	17	16	17	15	17	14	17	8
23	23	20	22	20	21	20	20	20	19	20	18	20	17	20	16	20	15	20	14	20	7
24	23	23	22	23	21	23	20	23	19	23	18	23	17	23	16	23	15	23	14	23	6
25	23	26	22	26	21	26	20	26	19	26	18	26	17	26	16	26	15	26	14	26	5
26	23	28	22	28	21	28	20	28	19	28	18	28	17	28	16	28	15	28	14	28	4
27	23	30	22	30	21	30	20	30	19	30	18	30	17	30	16	30	15	30	14	30	3
28	23	31	22	31	21	31	20	31	19	31	18	31	17	31	16	31	15	31	14	31	2
29	23	31	22	31	21	31	20	31	19	31	18	31	17	31	16	31	15	31	14	31	1
30	23	32	22	32	21	32	20	32	19	31	18	32	17	32	16	32	15	32	14	32	0
																					♉

TABLES

OF

DECLINATION.

South Latitude.

	0		1		2		3		4		5		6		7		8		9		
♐	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	
0	20	13	21	12	22	10	23	9	24	7	25	6	26	4	27	3	28	1	28	59	30
1	20	26	21	25	22	23	23	2	24	20	25	19	26	17	27	16	28	14	29	12	29
2	20	36	21	37	22	36	23	35	24	33	25	32	26	30	27	29	28	27	29	25	28
3	20	50	21	49	22	48	23	47	24	45	25	44	26	43	27	42	28	40	29	38	27
4	21	1	22	0	22	59	23	58	24	57	25	55	26	53	27	51	28	52	29	50	26
5	21	13	22	11	23	10	24	9	25	8	26	7	27	6	28	5	29	4	30	2	25
6	21	23	22	22	23	21	24	20	25	19	26	18	27	17	28	16	29	15	30	14	24
7	21	33	22	32	23	31	24	31	25	30	26	29	27	28	28	27	29	26	30	25	23
8	21	43	22	42	23	41	24	41	25	40	26	39	27	38	28	37	29	37	30	36	22
9	21	53	22	52	23	51	24	51	25	50	26	49	27	48	28	47	29	47	30	46	21
10	22	2	23	1	24	0	25	0	25	59	26	58	27	57	28	57	29	56	30	55	20
11	22	10	23	10	24	9	25	9	26	8	27	7	28	6	29	6	30	5	31	4	19
12	22	19	23	19	24	18	25	18	26	17	27	16	28	15	29	15	30	14	31	13	18
13	22	27	23	27	24	26	25	2	26	25	27	24	28	24	29	23	30	23	31	22	17
14	22	36	23	34	24	33	25	33	26	32	27	31	28	31	29	30	30	30	31	29	16
15	22	41	23	41	24	40	25	39	26	39	27	38	28	38	29	37	30	37	31	36	15
16	22	47	23	47	24	46	25	45	26	45	27	45	28	44	29	44	30	44	31	43	14
17	22	53	23	53	24	52	25	52	26	52	27	52	28	51	29	51	30	51	31	50	13
18	22	59	23	59	24	59	25	58	26	58	27	58	28	57	29	57	30	57	31	56	12
19	23	4	24	4	25	4	26	3	27	3	28	2	29	2	30	2	31	2	32	2	11
20	23	9	24	9	25	9	26	8	27	8	28	8	29	7	30	7	31	7	32	7	10
21	23	13	24	13	25	13	26	13	27	13	28	12	29	12	30	12	31	12	32	12	9
22	23	17	24	17	25	17	26	17	27	16	28	16	29	16	30	16	31	16	32	16	8
23	23	20	24	20	25	20	26	20	27	19	28	19	29	19	30	19	31	19	32	19	7
24	23	23	24	23	25	23	26	23	27	22	28	22	29	22	30	22	31	22	32	22	6
25	23	26	24	26	25	26	26	26	27	25	28	25	29	25	30	25	31	25	32	25	5
26	23	28	24	28	25	28	26	28	27	28	28	28	29	28	30	28	31	28	32	28	4
27	23	30	24	30	25	30	26	30	27	30	28	30	29	30	30	30	31	30	32	30	3
28	23	31	24	31	25	31	26	31	27	31	28	31	29	31	30	31	31	31	32	31	2
29	23	31	24	31	25	31	26	31	27	31	28	31	29	31	30	31	31	31	32	31	1
30	23	32	24	32	25	32	26	32	27	32	28	32	29	32	30	32	31	32	32	32	0
																					♑

TABLES

OF

RIGHT ASCENSION.

North Latitude.

	0		1		2		3		4		5		6		7		8		9	
♈	D.	M.	D.	M	D.	M.	D.	M	D.	M	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
0	0	0	359	37	359	15	358	49	358	25	358	1	367	37	357	13	356	48	356	23
1	0	55	0	6	0	8	359	44	359	20	358	56	358	32	358	8	357	45	357	18
2	1	50	1	27	1	3	0	39	0	15	359	51	359	27	359	3	358	38	358	13
3	2	45	2	22	1	58	1	34	1	10	0	46	0	22	359	58	359	34	359	9
4	3	40	3	17	2	53	2	29	2	5	1	41	1	17	0	53	0	29	0	4
5	4	35	4	12	3	48	3	21	3	0	2	36	2	12	1	48	1	24	0	59
6	5	30	5	7	4	43	4	19	3	55	3	31	3	7	2	43	2	19	1	54
7	6	25	6	2	5	38	5	14	4	50	4	26	4	2	3	38	3	14	2	49
8	7	21	6	57	6	33	6	9	5	45	5	21	4	57	4	33	4	9	3	44
9	8	16	7	52	7	28	7	4	6	40	6	16	5	52	5	28	5	4	4	39
10	9	11	8	47	8	23	7	59	7	35	7	11	6	47	6	23	5	59	5	34
11	10	6	9	42	9	18	8	55	8	31	8	7	7	43	7	19	6	55	6	30
12	11	2	10	38	10	14	9	51	9	27	9	3	8	39	8	15	7	51	7	26
13	11	57	11	33	11	9	10	46	10	22	9	58	9	34	9	10	8	46	8	22
14	12	53	12	29	12	5	11	42	11	18	10	54	10	30	10	6	9	42	9	18
15	13	48	13	25	13	1	12	38	12	14	11	50	11	26	11	2	10	38	10	14
16	14	44	14	20	13	57	13	34	13	10	12	46	12	22	11	58	11	34	11	10
17	15	40	15	16	14	53	14	30	14	6	13	42	13	18	12	54	12	30	12	6
18	16	31	16	12	15	49	15	26	15	2	14	39	14	15	13	51	13	27	13	3
19	17	35	17	8	16	45	16	22	15	58	15	35	15	11	14	47	14	23	13	59
20	18	27	18	4	17	41	17	18	16	54	16	31	16	[illegible]	15	44	15	20	14	56
21	19	23	19	0	18	37	18	14	17	51	17	28	17	4	16	41	16	17	15	53
22	20	20	19	56	19	33	19	11	18	45	18	23	18	1	17	38	17	14	16	50
23	21	16	20	53	20	30	20	8	19	45	19	22	18	58	18	35	18	11	17	47
24	22	12	21	50	21	27	21	5	20	42	20	19	19	55	19	32	19	8	18	44
25	23	[illegible]	22	47	22	24	22	2	21	39	21	16	20	52	20	29	20	5	19	41
26	24	[illegible]	23	44	23	21	22	59	22	36	22	1	21	50	21	27	21	3	20	39
27	25	2	24	41	24	19	23	57	23	34	23	11	22	48	22	25	22	1	21	37
28	25	59	25	36	25	16	24	54	24	31	24	9	23	46	23	23	22	59	22	36
29	26	57	26	35	26	13	25	51	25	29	25	7	24	44	24	21	23	57	23	34
30	27	51	27	34	27	11	26	49	26	27	26	5	25	42	25	19	24	56	24	52

TABLES

OF

RIGHT ASCENSION.

South Latitude.

	0		1		2		3		4		5		6		7		8		9	
♈	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
0	0	0	0	23	0	47	1	11	1	35	1	59	2	23	2	47	3	12	3	36
1	0	55	1	18	1	42	2	6	2	30	2	54	3	18	3	42	4	6	4	30
2	1	50	2	13	2	37	3	1	3	25	3	49	4	13	4	37	5	1	5	25
3	2	45	3	8	3	32	3	56	4	20	4	44	5	8	5	32	5	56	6	20
4	3	40	4	3	4	27	4	51	5	15	5	39	6	3	6	27	6	51	7	15
5	4	35	4	58	5	22	5	46	6	10	6	34	6	58	7	22	7	46	8	9
6	5	30	5	54	6	18	6	42	7	6	7	30	7	53	8	17	8	41	9	4
7	6	25	6	49	7	13	7	37	8	1	8	25	8	48	9	12	9	36	9	59
8	7	21	7	44	8	8	8	32	8	56	9	20	9	43	10	7	10	30	10	53
9	8	16	8	40	9	4	9	28	9	51	10	15	10	38	11	2	11	25	11	48
10	9	11	9	35	9	59	10	23	10	46	11	10	11	33	11	57	12	19	12	42
11	10	6	10	30	10	54	11	18	11	41	12	5	12	28	12	52	13	14	13	37
12	11	2	11	25	11	49	12	13	12	36	13	0	13	23	13	47	14	9	14	32
13	11	57	12	20	12	44	13	8	13	31	13	55	14	18	14	41	15	4	15	27
14	12	53	13	16	13	39	14	3	14	26	14	50	15	13	15	36	15	59	16	21
15	13	48	14	12	14	35	14	58	15	21	15	45	16	8	16	31	16	54	17	16
16	14	44	15	7	15	30	15	53	16	16	16	40	17	3	17	26	17	49	18	11
17	15	40	16	2	16	25	16	48	17	11	17	3	17	58	18	21	18	44	19	6
18	16	35	16	58	17	21	17	44	18	7	18	30	18	53	19	16	19	39	20	1
19	17	31	17	54	18	17	18	40	19	2	19	25	19	48	20	11	20	34	20	56
20	19	27	18	50	19	13	19	36	19	58	20	21	20	43	21	6	21	29	21	51
21	19	23	19	46	20	9	20	23	20	54	21	17	21	39	22	2	22	24	22	46
22	20	20	20	42	21	5	21	28	21	50	22	12	22	34	22	57	23	19	23	41
23	21	16	21	38	22	1	22	24	22	46	23	8	23	30	23	52	24	14	24	36
24	22	12	22	35	22	57	23	20	23	42	24	4	24	26	24	48	25	10	25	32
25	23	9	23	31	23	53	24	16	24	38	25	0	25	21	25	43	26	5	26	27
26	24	6	24	28	24	50	25	12	25	34	25	55	26	17	26	39	27	0	27	22
27	25	2	25	25	25	47	26	9	26	30	26	52	27	18	27	35	27	56	28	17
28	25	59	26	22	26	43	27	5	27	26	27	48	28	9	28	30	28	51	29	12
29	26	5	27	19	27	40	28	1	28	22	28	44	29	5	29	26	29	47	30	8
30	27	54	28	16	28	37	28	58	29	19	29	40	30	1	30	22	30	43	31	4

TABLES

OF

RIGHT ASCENSION.

North Latitude.

	0		1		2		3		4		5		6		7		8		9	
♉	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
0	27	54	27	33	27	11	26	49	26	27	26	5	25	42	25	19	24	56	24	33
1	28	51	28	30	28	8	27	47	27	25	27	3	26	40	26	17	25	54	25	31
2	29	49	29	27	29	6	28	45	28	23	28	1	27	38	27	16	26	53	26	30
3	30	46	30	25	30	4	29	43	29	21	28	59	28	37	28	15	27	52	27	29
4	31	44	31	23	31	2	30	41	30	19	29	58	29	36	29	14	28	51	28	28
5	32	42	32	21	32	0	31	39	31	18	30	57	30	35	30	13	29	50	29	27
6	33	40	33	20	32	59	32	38	32	17	31	56	31	34	31	12	30	[illegible]	[illegible]	[illegible]
7	34	38	34	18	33	58	33	37	33	16	32	55	32	33	32	12	31	5	31	27
8	35	37	35	17	34	57	34	36	34	25	33	54	33	33	33	12	32	50	32	27
9	36	36	36	16	35	56	35	36	35	15	34	54	34	33	34	12	33	51	33	27
10	37	34	37	15	36	55	36	35	36	15	35	54	35	33	35	12	34	51	34	28
11	38	33	38	14	37	54	37	35	37	15	36	54	36	33	36	13	35	52	35	29
12	39	33	39	14	38	54	38	35	38	15	37	55	37	34	37	14	36	53	36	30
13	40	32	40	13	39	54	39	35	39	15	38	56	38	35	38	15	37	54	37	32
14	41	31	41	13	40	54	40	35	40	16	39	57	39	36	39	16	38	[illegible]	[illegible]	[illegible]
15	42	31	42	13	41	54	41	36	41	17	40	58	40	38	40	18	39	58	39	[illegible]
16	43	31	43	13	42	54	42	36	42	18	41	59	41	39	41	19	41	0	40	38
17	44	31	44	13	43	55	43	37	43	19	43	0	42	40	42	21	42	2	41	40
18	45	31	45	14	44	56	44	38	44	20	44	1	43	42	43	23	43	4	42	43
19	46	32	46	14	45	57	45	39	45	21	45	3	44	44	44	25	44	7	43	46
20	47	32	47	15	46	58	46	40	46	23	46	7	45	46	45	28	45	10	44	50
21	48	33	48	16	47	59	47	42	47	25	47	5	46	49	46	31	46	13	45	54
22	49	34	49	17	49	0	48	44	48	27	48	9	47	52	47	34	47	16	46	58
23	50	35	50	18	50	2	49	46	49	29	49	12	48	55	48	37	48	20	48	[illegible]
24	51	36	51	20	51	4	50	48	50	32	50	15	49	58	49	41	49	[illegible]	49	[illegible]
25	52	38	52	22	52	6	51	51	51	35	51	18	51	2	50	45	50	28	50	12
26	53	40	53	24	53	9	52	54	52	38	52	22	52	6	51	49	51	33	51	17
27	54	42	54	27	54	12	53	57	53	42	53	26	53	10	52	54	52	38	52	22
28	55	44	55	29	55	15	55	0	54	45	54	30	54	14	53	58	53	43	53	27
29	56	46	56	32	56	18	56	3	55	46	55	34	55	18	55	3	54	48	54	32
30	57	48	57	35	57	21	57	7	56	53	56	38	56	23	56	8	55	53	55	37

TABLES

OF

RIGHT ASCENSION.

South Latitude.

	0		1		2		3		4		5		6		7		8		9	
♉	D.	M.	D.	M.	D.	M.	D.	M.	D.	M	D.	M.	D.	M.	D.	M	D.	M.	D.	M.
0	27	54	28	16	28	37	28	58	29	19	29	40	30	1	30	22	30	43	31	4
1	28	51	29	13	29	34	29	55	30	16	30	37	30	57	31	18	31	39	31	59
2	29	4[illegible]	30	10	30	31	30	52	31	13	31	34	31	54	32	14	32	35	32	55
3	30	46	31	7	31	28	31	49	32	10	32	31	32	51	33	11	33	31	33	51
4	31	44	32	5	32	2[illegible]	32	46	33	7	33	27	33	47	34	7	34	27	34	46
5	32	42	33	3	33	23	33	43	34	4	34	24	34	44	35	4	35	23	35	42
6	33	40	34	1	34	25	34	41	35	1	35	21	35	41	36	1	36	20	36	38
7	34	38	34	59	35	19	35	39	35	58	36	18	36	38	36	57	37	16	37	34
8	35	37	35	57	36	17	36	37	36	56	37	15	37	35	37	54	38	13	38	31
9	36	36	36	56	37	15	37	35	37	54	38	13	38	32	38	51	39	10	39	28
10	37	34	37	54	38	13	38	33	38	52	39	11	39	29	39	48	40	7	40	25
11	38	33	38	53	39	12	39	31	39	50	40	9	40	27	40	45	41	4	41	22
12	39	33	39	52	40	11	40	30	40	48	41	7	41	25	41	43	42	1	42	18
13	40	32	40	51	41	10	41	28	41	46	42	5	42	23	42	41	42	58	43	15
14	41	31	41	50	42	9	42	27	42	45	43	3	43	21	43	39	43	56	44	12
15	42	32	42	50	43	8	43	26	43	44	44	2	44	19	44	38	44	54	45	10
16	43	31	43	49	44	7	44	25	44	43	45	0	45	17	45	35	45	51	46	7
17	44	31	44	49	45	6	45	24	45	42	45	59	46	15	46	33	46	49	47	4
18	45	31	45	49	46	6	46	23	46	41	46	58	47	14	47	31	47	47	48	2
19	46	32	46	49	47	6	47	23	47	40	47	57	48	13	48	29	48	45	48	59
20	47	32	47	49	48	6	48	23	48	39	48	56	49	12	49	28	49	43	49	57
21	48	33	48	50	49	6	49	23	49	39	49	55	50	11	50	27	50	41	50	55
22	49	34	49	50	50	6	50	23	50	38	50	54	51	10	51	25	51	40	51	53
23	50	35	50	51	51	6	51	23	51	38	51	53	52	9	52	24	52	38	52	51
24	51	36	51	52	52	7	52	23	52	38	52	53	53	8	53	23	53	37	53	49
25	52	38	52	53	53	8	53	24	53	38	53	53	54	8	54	22	54	36	54	48
26	53	40	53	55	54	9	54	24	54	38	54	53	55	7	55	21	55	35	55	47
27	54	42	54	56	55	11	55	25	55	39	55	53	56	7	56	21	56	34	56	46
28	55	44	55	58	56	12	56	26	56	40	56	54	57	7	57	20	57	33	57	45
29	56	46	57	0	57	13	57	27	57	41	57	54	58	7	58	20	58	32	58	44
30	57	48	58	2	58	15	58	29	58	42	58	55	59	7	59	20	59	32	59	43

TABLES OF RIGHT ASCENSION.

North Latitude.

	0		1		2		3		4		5		6		7		8		9	
D	D.	M.	D.	M.	D.	M.	D.	M.	D.	M	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
0	57	48	57	35	57	21	57	7	56	53	56	38	56	23	56	8	55	53	55	38
1	58	51	58	38	58	24	58	10	57	57	57	42	57	28	57	13	56	59	56	44
2	59	53	59	41	59	27	59	14	59	1	58	47	58	33	58	19	58	5	57	50
3	60	56	60	44	60	31	60	18	60	5	59	52	59	38	59	25	59	11	58	57
4	61	59	61	47	61	35	61	22	61	10	60	57	60	44	60	31	60	17	60	4
5	63	3	62	51	62	39	62	27	62	15	62	2	61	50	61	37	61	24	61	11
6	64	6	63	55	63	43	63	32	63	20	63	8	62	56	62	44	62	31	62	18
7	65	9	64	59	64	47	64	37	64	25	64	13	64	2	63	50	63	38	63	25
8	66	13	66	3	65	52	65	42	65	30	65	19	65	8	64	56	64	45	64	33
9	67	17	67	7	66	57	66	47	66	36	66	25	66	14	66	3	65	52	65	41
10	68	21	68	11	68	2	67	52	67	42	67	31	67	21	67	10	67	0	66	49
11	69	25	69	1	69	7	68	57	68	48	68	38	68	28	68	18	68	8	67	57
12	70	29	70	21	70	12	70	3	69	54	69	45	69	35	69	26	69	16	69	5
13	71	34	71	26	71	17	71	9	71	0	70	51	70	42	70	33	70	24	70	14
14	72	38	72	31	72	22	72	15	72	6	71	58	71	49	71	41	71	32	71	23
15	73	43	73	36	73	28	73	21	73	13	73	5	72	57	72	49	72	41	72	32
16	74	47	74	41	74	35	74	27	74	19	74	12	74	4	73	57	73	49	73	41
17	75	52	75	46	75	39	75	33	75	26	75	19	75	12	75	5	74	58	74	50
18	76	57	76	51	76	45	76	39	76	33	76	27	76	20	76	14	76	7	75	59
19	78	2	77	56	77	51	77	45	77	40	77	34	77	28	77	22	77	16	77	9
20	79	7	79	2	78	57	78	52	78	47	78	41	78	36	78	30	78	25	78	18
21	80	12	80	8	80	3	79	59	79	54	79	49	79	44	79	39	79	34	79	28
22	81	17	81	13	81	9	81	5	81	1	80	56	80	52	80	48	80	43	80	37
23	82	22	82	18	82	15	82	11	82	8	82	4	82	0	81	57	81	52	81	47
24	83	28	83	24	83	21	83	18	83	15	83	11	83	9	83	6	83	2	82	57
25	84	33	84	30	84	27	84	25	84	22	84	20	84	17	84	15	84	17	84	7
26	85	38	85	36	85	33	85	32	85	29	85	28	85	25	85	24	85	21	85	18
27	86	44	86	42	86	40	86	39	86	37	86	36	86	34	86	33	86	31	86	28
28	87	49	87	48	87	46	87	46	87	44	87	44	87	42	87	42	87	40	87	39
29	88	55	88	54	88	53	88	53	88	52	88	52	88	51	88	51	88	50	88	49
30	90	0	90	0	90	0	90	0	90	0	90	0	90	0	90	0	90	0	90	0

TABLES

OF

RIGHT ASCENSION.

South Latitude.

	0		1		2		3		4		5		6		7		8		9	
♊	D.	M.	D.	M.	D.	M.	D.	M	D.	M	D.	M	D.	M.	D.	M	D.	M.	D.	M.
0	57	48	58	2	58	15	58	29	58	42	58	5.	59	7	59	20	59	32	59	45
1	58	51	59	4	59	17	59	30	59	43	59	55	60	7	60	20	60	32	60	42
2	59	53	60	6	60	19	60	31	60	44	60	56	61	8	61	20	61	32	61	42
3	60	56	61	8	61	21	61	33	61	46	61	57	62	9	62	21	62	32	62	41
4	61	59	62	11	62	23	62	35	62	48	62	58	63	9	63	21	63	32	63	41
5	63	3	63	14	63	25	63	37	63	50	63	59	64	10	64	21	64	32	64	41
6	64	6	64	17	64	28	64	39	64	52	65	1	65	11	65	22	65	32	65	40
7	65	9	65	20	65	31	65	41	65	54	66	2	66	12	66	22	66	32	66	40
8	66	13	66	23	66	34	66	44	66	56	67	4	67	13	67	23	67	33	67	40
9	67	17	67	27	67	37	67	46	67	5.	68	6	68	15	68	24	68	33	68	40
10	68	21	68	30	68	40	68	49	68	59	69	7	69	16	69	25	69	33	69	40
11	69	25	69	34	69	43	69	52	70	1	70	9	70	17	70	26	70	34	70	40
12	70	29	70	8	70	46	70	55	71	3	71	11	71	19	71	27	71	35	71	41
13	71	34	71	42	71	49	71	56	72	5	72	12	72	21	72	28	72	36	72	41
14	72	38	72	46	72	53	73	1	73	8	73	1.	73	23	73	30	73	37	73	42
15	73	43	73	50	73	57	74	4	74	11	74	18	74	25	74	32	74	38	74	43
16	74	47	74	54	75	1	75	7	75	14	75	20	[illegible]	27	75	33	75	39	75	44
17	75	52	75	58	76	5	76	11	76	17	76	2	76	29	76	35	76	40	76	45
18	76	57	77	3	77	9	77	1.	77	20	77	2	77	31	77	37	77	42	77	46
19	78	2	78	7	78	13	78	18	78	2	78	28	78	33	78	38	78	43	78	47
20	79	7	79	12	79	17	79	21	79	2.	79	31	79	35	79	40	79	44	79	48
21	80	12	80	17	80	21	80	25	80	29	80	34	80	38	80	42	80	46	80	49
22	81	17	81	21	81	25	81	28	81	32	81	36	1	40	81	44	81	47	81	50
23	82	22	82	25	82	29	82	32	82	35	82	39	82	42	82	46	82	48	82	51
24	83	28	83	30	83	33	83	36	83	39	83	42	83	45	83	48	83	50	83	52
25	84	33	84	35	84	37	84	40	84	42	84	45	84	47	84	50	84	51	84	53
26	85	38	85	40	85	45	85	44	85	45	85	48	85	49	85	52	85	53	85	54
27	86	44	86	45	86	46	86	48	86	49	86	51	86	52	86	54	86	55	86	55
28	87	49	87	50	87	50	87	52	87	52	87	54	87	54	87	56	87	56	87	57
29	88	55	88	55	88	55	88	56	88	56	88	57	88	57	88	58	88	58	88	58
30	90	0	90	0	90	0	90	0	90	0	89	0	90	0	90	0	89	0	90	0

TABLES

OF

RIGHT ASCENSION.

North Latitude.

	0	1	2	3	4	5	6	7	8	9
♋	D. M	D. M	D. M.	D. M.	D. M	D. M.	D. M.	D. M.	D. M.	D. M.
0	90 0	90 0	90 0	90 0	90 0	90 0	90 0	90 0	90 0	90 0
1	91 5	91 6	91 7	91 7	91 7	91 8	91 9	91 9	91 10	91 11
2	92 11	92 12	92 14	92 14	92 15	92 16	92 18	92 18	92 20	92 22
3	93 16	93 1[illegible]	93 20	93 21	93 23	93 24	93 26	93 27	93 29	93 32
4	94 22	94 24	94 27	94 28	94 30	94 32	94 35	94 36	94 39	94 42
5	95 27	95 30	95 33	95 35	95 38	95 40	95 43	95 45	95 49	95 52
6	96 32	96 36	96 39	96 42	96 45	96 48	96 51	96 54	96 58	97 2
7	97 38	97 42	97 45	97 49	97 52	97 56	98 0	98 3	98 8	98 12
8	98 43	98 47	98 51	98 55	99 0	99 4	99 8	99 12	99 17	99 21
9	99 48	99 52	99 57	100 1	100 7	100 12	100 16	100 21	100 26	100 31
10	100 53	100 58	101 3	101 8	101 14	101 19	101 24	101 30	101 35	101 40
11	101 58	102 4	102 9	102 15	102 21	102 26	102 32	102 38	102 44	102 50
12	103 3	103 9	103 15	103 21	103 27	103 33	103 40	103 46	103 53	103 59
13	104 8	104 14	104 21	104 27	104 34	104 41	104 48	104 55	105 2	105 9
14	105 13	105 19	105 27	105 3[illegible]	105 41	105 48	105 56	106 3	106 11	106 18
15	106 17	106 24	106 33	106 39	106 47	106 55	107 3	107 11	107 19	107 27
16	107 22	107 29	107 38	107 45	107 53	108 2	108 11	108 19	108 28	108 36
17	108 26	108 34	108 43	108 53	108 59	109 9	109 18	109 27	109 36	109 45
18	109 31	109 39	109 48	109 57	110 5	110 15	110 25	110 34	110 44	110 54
19	110 35	110 34	110 53	111 3	111 12	111 22	111 32	111 42	112 52	112 2
20	111 3[illegible]	111 49	111 58	112 8	112 18	112 29	112 35	112 50	113 0	113 11
21	112 43	112 53	113 3	113 13	113 24	113 35	113 46	113 57	114 8	114 19
22	113 47	113 57	114 8	114 18	114 30	114 41	114 52	115 4	115 15	115 27
23	114 51	115 1	115 13	115 23	115 35	115 47	115 58	116 10	116 22	116 35
24	115 54	116 5	116 17	116 28	116 41	116 52	117 4	117 17	117 29	117 42
25	116 57	117 9	117 21	117 33	117 46	117 58	118 10	118 23	118 36	118 49
26	118 1	118 13	118 25	118 38	118 51	119 3	119 16	119 29	119 43	119 56
27	119 4	119 16	119 29	119 42	119 55	120 8	120 22	120 35	120 49	121 3
28	120 7	120 19	120 33	120 46	120 59	121 13	121 27	121 41	121 55	122 10
29	121 9	121 22	121 36	121 50	122 3	122 18	122 32	122 47	123 1	123 16
30	122 12	122 25	122 39	122 5[illegible]	123 7	123 22	123 37	123 52	124 7	124 22

TABLES

OF

RIGHT ASCENSION.

South Latitude.

	0		1		2		3		4		5		6		7		8		9	
	D.	M.	D.	M.	D.	M.	D.	M	D.	M.	D.	M.	D.	M	D.	M.	D.	M	D.	M.
0	90	0	90	0	90	0	90	0	90	0	90	0	90	0	90	0	90	0	90	0
1	91	5	91	5	91	5	91	4	91	4	91	3	91	3	91	2	91	2	91	2
2	92	11	92	10	92	10	92	8	92	8	92	6	92	6	92	4	92	4	92	3
3	93	16	93	15	93	14	93	12	93	11	93	9	93	8	93	6	93	5	93	5
4	94	22	94	20	94	19	94	16	94	15	94	12	94	11	94	8	94	7	94	6
5	95	27	95	25	95	23	95	20	95	18	95	15	95	13	95	10	95	9	95	7
6	96	32	96	30	96	27	96	24	96	21	96	18	96	15	96	12	96	10	96	8
7	97	38	97	35	97	31	97	28	97	25	97	21	97	18	97	14	97	12	97	9
8	98	43	98	39	98	35	98	32	98	28	98	24	98	20	98	16	98	13	98	10
9	99	48	99	43	99	39	99	35	99	31	99	26	99	22	99	18	99	14	99	11
10	100	53	100	48	100	43	100	39	100	34	100	29	100	25	100	20	100	16	100	12
11	101	58	101	53	101	47	101	42	101	37	101	32	101	27	101	22	101	17	101	12
12	103	5	102	57	102	51	102	46	102	40	102	34	102	29	102	23	102	18	102	12
13	104	8	104	2	103	55	103	49	103	43	103	37	103	31	103	25	103	20	103	14
14	105	13	105	6	104	59	104	52	104	46	104	40	104	33	104	27	104	21	104	15
15	106	17	106	10	106	3	105	56	105	49	105	42	105	35	105	28	105	22	105	15
16	107	22	107	14	107	7	106	59	106	52	106	45	106	37	106	30	106	23	106	15
17	108	26	108	18	108	11	108	2	107	55	107	47	107	39	107	32	107	24	107	15
18	109	31	109	22	109	11	109	5	108	57	108	49	108	41	108	33	108	25	108	16
19	110	35	110	26	110	17	110	8	110	0	109	51	109	43	109	34	109	26	109	16
20	111	39	111	30	111	20	111	11	111	2	110	53	110	44	110	35	110	27	110	16
21	112	43	112	33	112	23	112	13	112	4	111	54	111	45	111	36	111	27	111	16
22	113	47	113	37	113	26	113	16	113	6	112	56	112	47	112	37	112	27	112	17
23	114	51	114	40	114	29	114	19	114	8	113	58	113	48	113	38	113	28	113	17
24	115	54	115	45	115	32	115	21	115	10	114	59	114	49	114	38	114	28	114	17
25	116	57	116	46	116	35	116	23	116	12	116	1	115	50	115	39	115	28	115	17
26	118	1	117	49	117	37	117	25	117	14	117	2	116	51	116	39	116	28	116	17
27	119	4	118	51	118	39	118	27	118	1[illegible]	118	3	117	52	117	39	117	28	117	16
28	120	7	119	54	119	41	119	29	119	16	119	4	118	52	118	40	118	28	118	16
29	121	9	120	56	120	43	120	30	120	17	120	5	119	53	119	40	119	28	119	15
30	122	12	121	58	121	45	121	31	121	18	121	5	120	53	120	40	120	28	120	15

TABLES

OF

RIGHT ASCENSION.

North Latitude.

	0		1		2		3		4		5		6		7		8		9	
♌	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
0	122	12	122	25	122	39	122	53	123	7	123	22	123	37	123	52	124	7	124	22
1	123	14	123	28	123	42	123	57	124	11	124	26	124	42	124	57	125	12	125	28
2	124	16	124	31	124	45	125	0	125	15	125	30	125	46	126	2	126	17	126	33
3	125	18	125	33	125	48	126	3	126	18	126	34	126	50	127	6	127	22	127	[illegible]
4	126	20	126	36	126	51	127	6	127	22	127	38	127	54	128	11	128	27	128	[illegible]
5	127	22	127	38	127	54	128	9	128	25	128	42	128	58	129	15	129	32	129	[illegible]
6	128	24	128	40	128	56	129	12	129	28	129	45	130	2	130	19	130	36	130	[illegible]
7	129	25	129	42	129	58	130	14	130	31	130	48	131	5	131	23	131	40	131	[illegible]
8	130	26	130	43	131	0	131	16	131	33	131	51	132	8	132	26	132	44	[illegible]	[illegible]
9	131	27	131	44	132	1	132	18	132	35	132	53	133	11	133	29	133	47	134	[illegible]
10	132	28	132	45	133	2	133	20	133	37	133	55	134	14	134	32	134	50	135	[illegible]
11	133	28	133	46	134	3	134	21	134	39	134	57	135	16	135	35	135	53	136	12
12	134	29	134	47	135	4	135	22	135	40	135	59	136	18	136	37	136	56	137	15
13	135	29	135	47	136	5	136	23	136	41	137	0	137	20	137	39	137	58	138	17
14	136	29	136	47	137	6	137	24	137	42	138	1	138	21	138	41	139	0	139	20
15	137	29	137	47	138	6	138	24	138	43	139	2	139	22	139	42	140	2	140	22
16	138	29	138	47	139	6	139	25	139	44	140	3	140	24	140	44	141	4	141	24
17	139	28	139	47	140	6	140	25	140	45	141	4	141	25	141	45	142	6	142	26
18	140	28	140	46	141	6	141	25	141	45	142	5	142	26	142	46	143	7	143	27
19	141	27	141	46	142	6	142	25	142	45	143	6	143	27	143	47	144	8	144	28
20	142	26	142	45	143	5	143	25	143	45	144	6	144	27	144	48	145	9	145	29
21	143	25	143	44	144	4	144	24	144	45	145	6	145	27	143	48	146	9	146	30
22	144	23	144	43	145	3	145	24	145	45	146	6	146	27	146	48	147	10	147	31
23	145	22	145	42	146	2	146	23	146	44	147	5	147	27	147	48	148	10	148	31
24	146	20	146	40	147	0	147	22	147	43	148	4	148	26	148	48	149	10	149	[illegible]
25	147	18	147	39	148	1	148	21	148	42	149	3	149	25	149	47	150	10	150	32
26	148	16	148	37	148	58	149	19	149	41	150	2	150	24	150	46	151	9	151	31
27	149	14	149	35	149	56	150	17	150	39	151	1	151	23	151	45	152	8	152	31
28	150	11	150	33	150	54	151	15	151	37	151	59	152	22	152	44	153	7	153	29
29	151	9	151	30	151	52	152	13	152	35	152	57	153	20	153	43	154	6	154	28
30	152	6	152	27	152	49	153	11	153	33	153	55	154	18	154	41	155	4	155	27

TABLES

OF

RIGHT ASCENSION.

South Latitude.

	0		1		2		3		4		5		6		7		8		9	
♌	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
0	122	12	121	58	121	45	121	31	121	18	121	5	120	53	120	40	120	28	120	15
1	123	14	123	0	122	47	122	33	122	19	122	6	121	53	121	40	121	29	121	15
2	124	16	124	2	123	48	123	34	123	20	123	6	122	53	122	40	122	27	122	14
3	125	19	125	5	124	49	124	35	124	21	124	7	123	53	123	39	123	26	123	13
4	126	20	126	5	125	51	125	36	125	22	125	7	124	53	124	39	124	26	124	12
5	127	22	127	7	126	52	126	36	126	22	126	7	125	52	125	38	125	24	125	11
6	128	24	128	8	127	53	127	37	127	22	127	7	126	52	126	37	126	23	126	9
7	129	25	129	9	128	54	128	37	128	22	128	7	127	51	127	36	127	22	127	7
8	130	26	130	10	129	54	129	37	129	22	129	6	128	50	128	35	128	20	128	3
9	131	27	131	10	130	54	130	37	130	21	130	5	129	49	129	33	129	18	129	5
10	132	28	132	11	131	54	131	37	131	21	131	4	130	48	130	32	130	17	130	1
11	133	28	133	11	132	54	132	37	132	20	132	3	131	47	131	31	131	15	130	58
12	134	29	134	11	133	54	133	37	133	19	133	2	132	46	132	29	132	13	131	56
13	135	29	135	11	134	54	134	36	134	18	134	1	133	45	133	27	133	11	132	54
14	136	29	136	11	135	53	135	35	135	17	135	0	134	43	134	25	134	9	133	51
15	137	29	137	10	136	52	136	34	136	16	135	58	135	41	135	23	135	6	134	48
16	138	29	138	10	137	51	137	33	137	15	136	57	136	39	136	21	136	4	135	45
17	139	28	139	9	138	50	138	32	138	14	137	55	137	37	137	19	137	2	136	42
18	140	27	140	8	139	49	139	30	139	13	138	53	138	35	138	17	137	59	137	39
19	141	27	141	7	140	48	140	29	140	10	139	51	139	33	139	15	138	56	138	36
20	142	26	142	6	141	47	141	27	141	8	140	49	140	31	140	12	139	53	139	33
21	143	24	143	4	142	45	142	25	142	6	141	47	141	28	141	9	140	50	140	30
22	144	23	144	3	143	33	143	23	143	4	142	45	142	25	142	6	141	47	141	27
23	145	22	145	1	144	41	144	21	144	2	143	42	143	22	143	3	142	44	142	24
24	146	20	145	59	145	39	145	19	144	59	144	39	144	19	143	59	143	40	143	20
25	147	18	146	57	146	37	146	17	145	56	145	36	145	16	144	56	144	37	144	16
26	148	16	147	55	147	35	147	14	146	53	146	33	146	13	145	53	145	33	145	12
27	149	14	148	53	148	32	148	11	147	50	147	29	147	9	146	49	146	29	146	8
28	150	11	149	50	149	29	149	8	148	47	148	26	148	6	147	46	147	25	147	4
29	151	9	150	47	150	26	150	5	149	44	149	23	149	3	148	42	148	21	148	0
30	152	6	151	44	151	23	151	2	150	41	150	20	149	59	149	38	149	17	148	56

TABLES

OF

RIGHT ASCENSION.

North Latitude.

	0		1		2		3		4		5		6		7		8		9	
♍	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
0	152	6	152	27	152	49	153	11	153	33	153	55	154	18	154	41	155	4	155	27
1	153	4	153	25	153	47	154	9	154	31	154	53	155	16	155	39	156	3	156	26
2	154	1	154	22	154	44	155	6	155	29	155	51	156	14	156	37	157	1	157	25
3	154	58	155	19	155	41	156	3	156	26	156	49	157	12	157	35	157	59	158	23
4	155	54	156	16	156	39	157	1	157	24	157	47	158	10	158	33	158	57	159	21
5	156	51	157	13	157	36	157	58	158	21	158	44	159	8	159	31	159	55	160	19
6	157	48	158	10	158	33	158	55	159	18	159	41	160	5	160	28	160	52	161	16
7	158	44	159	7	159	30	159	51	160	15	160	38	161	2	161	25	161	49	162	13
8	159	40	160	4	160	27	160	49	161	12	161	35	161	59	162	22	162	46	163	10
9	160	37	161	0	161	23	161	46	162	9	162	32	162	56	163	19	163	43	164	7
10	161	33	161	56	162	19	162	42	163	6	163	29	163	53	164	16	164	40	165	4
11	162	29	162	52	163	15	163	38	164	2	164	25	164	49	165	13	165	37	166	1
12	163	25	163	50	164	11	164	34	164	58	165	21	165	45	166	9	166	33	166	58
13	164	20	164	44	165	7	165	30	165	54	166	18	166	42	167	6	167	30	167	54
14	165	16	165	40	166	3	166	26	166	50	167	14	167	38	168	2	168	26	168	50
15	166	12	166	35	166	59	167	22	167	46	168	10	168	34	168	58	169	22	169	46
16	167	7	167	31	167	55	168	18	168	42	169	6	169	30	169	54	170	18	170	42
17	168	3	168	27	168	51	169	14	169	38	170	2	170	26	170	50	171	14	171	38
18	168	58	169	23	169	46	170	9	170	33	170	57	171	21	171	45	172	9	172	34
19	169	54	170	18	170	42	171	5	171	29	171	53	172	17	172	41	173	5	173	30
20	170	49	171	13	171	37	172	1	172	25	172	49	173	13	173	37	174	1	174	25
21	171	44	172	8	172	32	172	56	173	20	173	44	174	8	174	32	174	56	175	21
22	172	39	173	3	173	27	173	51	174	15	174	39	175	3	175	27	175	51	176	16
23	173	35	173	58	174	22	174	46	175	10	175	34	175	58	176	22	176	46	177	12
24	174	30	174	53	175	17	175	41	176	5	176	29	176	53	177	17	177	41	178	7
25	175	25	175	48	176	12	176	36	177	0	177	24	177	48	178	12	178	36	179	2
26	176	20	176	43	177	7	177	31	177	56	178	19	178	43	179	7	179	31	179	57
27	177	15	177	38	178	2	178	26	178	50	179	14	179	38	180	2	180	26	180	52
28	178	10	178	33	178	57	179	21	179	45	180	9	180	33	180	57	181	22	181	47
29	179	5	179	28	179	52	180	16	180	40	181	4	181	28	181	52	182	17	182	42
30	180	0	180	23	180	47	181	11	181	35	181	59	182	23	182	47	183	12	183	37

TABLES
OF
RIGHT ASCENSION.

South Latitude.

	0		1		2		3		4		5		6		7		8		9	
	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
0	152	6	151	44	151	23	151	2	150	41	150	20	149	59	149	38	149	17	148	56
1	153	4	152	41	152	20	151	59	151	38	151	16	150	55	150	34	150	13	149	52
2	154	1	153	38	153	17	152	55	152	34	152	12	151	51	151	30	151	9	150	48
3	154	58	154	35	154	13	153	51	153	30	153	8	152	47	152	25	152	4	151	43
4	155	54	155	32	155	10	154	48	154	26	154	4	153	43	153	21	153	0	152	38
5	156	51	156	29	156	7	155	44	155	22	155	0	154	39	154	17	153	55	153	33
6	157	48	157	25	157	3	156	40	156	18	155	56	155	34	155	12	154	50	154	28
7	158	44	158	22	157	59	157	36	157	14	156	52	156	30	156	8	155	46	155	23
8	159	40	159	18	158	55	158	32	158	10	157	48	157	26	157	3	156	41	156	18
9	160	37	160	14	159	51	159	28	159	6	158	43	158	21	157	58	157	36	157	13
10	161	33	161	10	160	47	160	24	160	2	159	39	159	17	158	54	158	31	158	8
11	162	29	162	6	161	43	161	20	160	58	160	35	160	12	159	49	159	26	159	3
12	163	25	163	2	162	39	162	16	161	53	161	30	161	7	160	44	160	21	159	58
13	164	20	163	58	163	35	163	12	162	49	162	25	162	2	161	39	161	16	160	53
14	165	16	164	53	164	30	164	7	163	44	163	20	162	57	162	34	162	11	161	48
15	166	12	145	48	165	25	165	2	164	39	164	15	163	52	163	29	163	6	162	43
16	167	7	166	44	166	21	165	57	165	34	165	10	164	47	164	24	164	1	163	38
17	168	3	167	40	167	17	166	52	166	29	166	5	165	42	165	19	164	56	164	33
18	168	58	168	35	168	12	167	47	167	24	167	0	166	37	166	13	165	51	165	28
19	169	54	169	31	169	7	168	43	168	19	167	55	167	32	167	8	166	46	166	23
20	170	49	170	26	170	2	169	38	169	14	168	50	168	27	168	3	167	41	167	17
21	171	44	171	21	170	57	170	33	170	9	169	45	169	22	168	58	168	3	168	12
22	172	39	172	16	171	52	171	28	171	4	170	40	170	17	169	53	169	30	169	7
23	173	35	173	11	172	47	172	23	171	59	171	35	171	12	170	48	170	25	170	1
24	174	30	174	6	173	42	173	18	172	54	172	30	172	7	171	43	171	20	170	56
25	175	25	175	2	174	38	174	14	173	50	173	26	173	2	172	38	172	15	171	51
26	176	20	175	57	175	33	175	9	174	45	174	21	173	57	173	33	173	10	172	45
27	177	15	176	52	176	28	176	4	175	40	175	16	174	52	174	28	174	4	173	40
28	178	10	177	47	177	23	176	59	176	35	176	11	175	47	175	23	174	59	174	34
29	179	5	178	42	178	18	177	54	177	30	177	6	176	42	176	18	175	54	175	29
30	180	0	179	37	179	13	178	49	178	25	178	1	177	37	177	13	176	48	176	24

TABLES

OF

RIGHT ASCENSION.

North Latitude.

	0		1		2		3		4		5		6		7		8		9	
♎	D.	M.	D.	M.	D.	M.	D	M	D.	M.	D.	M	D.	M.	D.	M.	D.	M.	D.	M.
0	180	0	180	23	180	47	181	11	181	35	181	59	182	23	182	47	183	12	183	37
1	180	55	181	18	181	42	182	6	182	30	182	54	183	18	183	42	184	6	184	31
2	181	50	182	13	182	37	183	1	183	25	183	49	184	13	184	37	185	1	185	25
3	182	45	183	8	183	32	183	56	184	20	184	44	185	8	185	32	185	56	186	20
4	183	40	184	3	184	27	184	51	185	15	185	39	186	3	186	27	186	50	187	14
5	184	25	184	58	185	22	185	46	186	10	186	34	186	58	187	22	187	45	188	8
6	185	30	185	54	186	18	186	42	187	6	187	30	187	53	188	17	188	40	189	3
7	186	25	186	49	187	13	187	37	188	1	188	25	188	48	189	12	189	35	189	57
8	187	21	187	44	188	8	188	32	188	56	189	20	189	43	190	7	190	30	190	52
9	188	16	188	39	189	3	189	27	189	51	190	15	190	38	191	2	191	25	191	46
10	189	11	189	34	189	58	190	22	190	46	191	10	191	33	191	57	192	19	192	41
11	190	6	190	29	190	53	191	17	191	41	192	5	192	28	192	52	193	14	193	36
12	191	2	191	25	191	48	192	13	192	36	193	0	193	23	193	47	194	9	194	31
13	191	57	192	20	192	43	193	8	193	31	193	55	194	18	194	41	195	4	195	26
14	192	53	193	16	193	39	194	3	194	26	194	50	195	13	195	36	195	59	196	21
15	193	48	194	12	194	35	194	58	195	21	195	45	196	8	196	31	196	54	197	16
16	194	44	195	7	195	30	195	53	196	16	196	40	197	3	197	26	197	49	198	11
17	195	40	196	2	196	25	196	48	197	11	197	35	197	58	198	21	198	44	199	6
18	196	35	196	58	197	21	197	44	198	7	198	30	198	53	199	16	199	39	200	1
19	197	31	197	54	198	17	198	40	199	2	199	25	199	48	200	11	200	34	200	56
20	198	27	198	50	199	13	199	36	199	58	200	21	200	43	201	7	201	29	201	51
21	199	23	199	46	200	9	200	32	200	54	201	16	201	39	202	2	202	21	202	46
22	200	20	200	42	201	5	201	28	201	50	202	12	202	34	201	57	203	19	203	41
23	201	16	201	38	202	1	202	24	202	46	203	8	203	30	203	52	204	14	204	36
24	202	12	202	35	202	57	203	20	203	42	204	4	204	26	204	48	205	10	205	31
25	203	9	203	31	203	53	204	16	204	38	205	0	205	21	205	43	206	5	206	26
26	204	6	204	29	204	50	205	22	205	54	205	56	206	17	206	39	207	0	207	22
27	205	2	205	25	205	47	206	9	206	30	206	52	207	13	207	35	207	56	208	17
28	205	59	206	22	206	43	207	5	207	26	207	48	208	9	208	30	208	51	209	12
29	206	57	207	19	207	40	208	1	208	22	208	44	209	5	209	26	209	47	210	8
30	207	54	208	16	208	37	208	58	209	19	209	40	210	1	210	22	210	43	211	4

TABLES

OF

RIGHT ASCENSION.

South Latitude.

	0		1		2		3		4		5		6		7		8		9	
≏	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
0	180	0	179	37	179	13	178	49	178	25	178	1	177	37	177	13	176	48	176	24
1	180	55	180	32	180	8	179	44	179	20	178	56	178	32	178	8	177	43	177	19
2	181	50	181	27	181	3	180	39	180	15	179	51	179	27	179	3	178	38	178	14
3	182	45	182	22	181	58	181	34	181	20	180	46	180	22	179	58	179	34	179	9
4	183	40	183	17	182	53	182	29	182	5	181	41	181	17	180	53	180	29	180	5
5	184	35	184	11	183	48	183	24	183	0	182	36	182	12	181	48	181	24	181	0
6	185	30	185	7	184	43	184	19	183	55	183	31	183	7	182	43	182	19	181	55
7	186	25	186	2	185	38	185	14	184	50	184	26	184	2	183	38	183	14	182	50
8	187	21	186	57	186	33	186	9	185	45	185	21	184	57	184	33	184	9	183	45
9	188	16	187	52	187	28	187	4	186	40	186	16	185	52	185	28	185	4	184	41
10	189	11	188	47	188	23	187	59	187	35	187	11	186	47	186	23	185	59	185	36
11	190	6	189	42	189	18	188	55	188	31	188	7	187	43	187	18	186	55	186	32
12	191	2	190	38	190	14	189	51	189	27	189	3	188	39	188	14	187	51	187	27
13	191	57	191	33	191	9	190	46	190	22	189	58	189	34	189	10	188	46	188	23
14	192	53	192	29	192	5	191	42	191	18	190	54	190	30	190	6	189	42	189	18
15	193	48	193	25	193	1	192	38	192	14	191	50	191	26	191	2	190	38	190	14
16	194	44	194	20	193	57	193	34	193	10	192	46	192	22	191	58	191	34	191	10
17	195	40	195	16	194	53	194	30	194	6	193	42	193	18	192	54	192	30	192	6
18	196	35	196	12	195	49	195	26	195	2	194	39	194	15	193	51	193	27	193	2
19	197	31	197	8	196	45	196	22	195	58	195	35	195	11	194	47	194	23	193	58
20	198	27	198	4	197	41	197	18	196	54	196	31	196	7	195	44	195	20	194	55
21	199	23	199	0	198	37	198	14	197	51	197	28	197	4	196	41	196	17	195	52
22	200	20	199	56	199	33	199	11	198	48	198	25	198	1	197	38	197	14	196	44
23	201	16	200	53	200	30	200	8	199	45	199	22	198	58	198	35	198	11	197	46
24	202	12	201	50	201	27	201	5	200	42	200	19	199	55	199	32	199	8	198	44
25	203	9	202	47	202	24	202	2	201	39	201	16	200	52	200	29	200	5	199	41
26	204	6	203	44	203	21	202	59	202	36	202	13	201	50	201	27	201	3	200	39
27	205	2	204	41	204	19	203	57	203	34	203	11	202	48	202	25	202	1	201	37
28	205	59	205	38	205	16	204	54	204	31	204	9	203	46	203	23	202	59	202	36
29	206	57	206	35	206	13	205	51	205	29	205	7	204	44	204	21	203	57	203	34
30	207	54	207	33	207	11	206	49	206	27	206	5	205	42	205	19	204	56	204	33

TABLES
OF
RIGHT ASCENSION.

North Latitude.

	0		1		2		3		4		5		6		7		8		9	
♏	D.	M.	D.	M.	D.	M.	D.	M.	D.	M	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
0	207	54	208	16	208	37	208	58	209	19	209	40	210	1	210	22	210	43	211	4
1	208	51	209	13	209	34	209	55	210	16	210	37	210	57	211	18	211	39	211	59
2	209	49	210	10	210	31	210	52	211	13	211	34	211	54	212	14	212	35	212	55
3	210	46	211	17	211	28	211	49	212	10	212	31	212	51	213	11	213	31	213	41
4	211	44	212	5	212	25	212	46	213	7	213	27	213	47	214	7	214	27	214	47
5	212	42	213	3	213	23	213	43	214	4	214	24	214	44	215	4	215	23	215	43
6	213	40	214	1	214	21	214	41	215	1	215	21	215	41	216	1	216	20	216	39
7	214	38	214	59	215	19	215	39	215	58	216	18	216	38	216	57	217	16	217	35
8	215	37	215	57	216	17	216	37	216	56	217	15	217	35	217	54	218	13	218	32
9	216	36	216	56	217	15	217	35	217	54	218	13	218	32	218	51	219	10	219	29
10	217	34	217	54	218	13	218	33	218	52	219	11	219	29	219	48	220	7	220	26
11	218	33	218	53	219	12	219	31	219	50	220	9	220	27	220	45	221	4	221	23
12	219	33	219	52	220	11	220	30	220	48	221	7	221	25	221	43	222	1	222	20
13	220	32	220	51	221	10	221	28	221	46	222	5	222	23	222	41	222	58	223	17
14	221	31	221	50	222	9	222	27	222	45	223	3	223	21	223	39	223	56	224	14
15	222	31	222	50	223	8	223	26	223	44	224	2	224	19	224	37	224	54	225	11
16	223	31	223	49	224	7	224	25	224	43	225	0	225	17	225	35	225	51	226	8
17	224	31	224	49	225	6	225	24	225	42	225	59	226	15	226	33	226	49	227	5
18	225	31	225	49	226	6	226	23	226	41	226	58	227	14	227	31	227	47	228	3
19	226	32	226	49	227	6	227	23	227	40	227	57	228	13	228	29	228	45	229	1
20	227	32	227	49	228	6	228	23	228	39	228	56	229	12	229	28	229	43	229	59
21	228	33	228	50	229	6	229	23	229	39	229	55	230	11	230	27	230	41	230	57
22	229	34	229	50	230	6	230	23	230	38	230	54	231	10	231	25	231	40	231	55
23	230	35	230	51	231	6	231	23	231	38	231	53	232	9	232	24	232	38	232	53
24	231	36	231	52	232	7	232	23	232	38	232	53	233	8	233	23	233	37	233	51
25	232	38	232	53	233	8	233	24	233	38	233	55	234	8	234	22	234	36	234	40
26	233	40	233	55	234	9	234	24	234	38	234	53	235	7	235	21	235	35	235	49
27	234	41	234	57	235	11	235	25	235	39	235	53	236	7	236	21	236	34	236	47
28	235	43	235	58	236	12	236	26	236	40	236	54	237	7	237	20	237	33	237	46
29	236	46	237	0	237	14	237	27	237	41	237	54	238	7	238	20	238	32	238	46
30	237	48	238	2	238	15	238	29	238	42	238	55	239	7	239	20	239	32	239	44

TABLES

OF

RIGHT ASCENSION.

South Latitude.

	0		1		2		3		4		5		6		7		8		9	
♏	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
0	207	54	207	33	207	11	206	49	206	27	206	5	205	42	205	19	204	56	204	33
1	208	51	208	30	208	8	207	47	207	25	207	3	206	40	206	17	205	54	205	31
2	209	49	209	27	209	6	208	45	208	23	208	1	207	38	207	16	206	53	206	30
3	210	46	210	25	210	4	209	43	209	21	208	59	208	37	208	15	207	52	207	29
4	211	44	211	23	211	2	210	41	210	18	209	58	209	36	209	14	208	51	208	28
5	212	42	212	21	212	0	211	39	211	19	210	57	210	35	210	13	209	50	209	28
6	213	30	213	20	212	59	212	38	212	17	211	56	211	31	211	12	210	50	210	26
7	214	38	214	18	213	58	213	37	213	16	212	55	212	33	212	12	211	50	211	26
8	215	37	215	17	214	57	214	36	214	15	213	54	213	33	213	12	212	50	212	28
9	216	36	216	16	215	56	215	36	215	15	214	54	214	33	214	12	213	51	213	29
10	217	34	217	15	216	55	216	35	216	15	215	54	215	33	215	12	214	51	214	30
11	218	33	218	14	217	55	217	35	217	15	216	54	216	33	216	13	215	52	215	31
12	219	33	219	14	218	54	218	35	218	15	217	55	217	34	217	14	216	53	216	32
13	220	32	220	13	219	54	219	35	219	15	218	56	218	35	218	15	217	54	217	34
14	221	31	221	13	220	54	220	35	220	16	219	57	219	36	219	16	218	56	218	36
15	222	31	222	13	221	54	221	36	221	17	220	58	220	38	220	18	219	58	219	38
16	223	31	223	13	222	54	222	36	222	18	221	59	221	39	221	19	221	0	220	40
17	224	31	224	13	223	55	223	37	223	19	223	0	222	40	222	21	222	2	221	43
18	225	31	225	14	224	56	224	38	224	20	224	1	223	42	223	23	223	4	222	46
19	226	32	226	14	225	57	225	39	225	21	225	3	224	44	224	25	224	7	223	46
20	227	32	227	15	226	58	226	40	226	22	226	5	225	46	225	28	225	10	224	52
21	228	33	228	16	227	59	227	42	227	25	227	7	226	49	226	31	226	13	225	55
22	229	34	229	17	229	0	228	44	228	27	228	9	227	52	227	34	227	16	226	59
23	230	35	230	18	230	2	229	46	229	29	229	12	228	55	228	37	228	20	228	3
24	231	36	231	20	231	4	230	48	230	32	230	15	229	58	229	41	229	24	229	7
25	232	38	232	22	232	6	231	51	231	35	231	18	231	2	230	45	230	28	230	12
26	233	40	233	24	233	9	232	54	232	38	232	22	232	6	231	49	251	33	231	17
27	234	41	234	27	234	12	233	57	233	42	233	26	233	10	232	54	232	38	232	22
28	235	43	235	29	235	15	235	0	234	45	234	30	234	14	233	58	233	43	233	27
29	236	46	236	32	236	18	236	3	235	49	235	34	235	18	235	3	234	48	234	32
30	237	48	237	36	237	21	237	7	236	53	236	38	236	23	236	8	235	55	235	38

TABLES OF RIGHT ASCENSION.

North Latitude.

	0		1		2		3		4		5		6		7		8		9	
‡	D.	M.	D.	M	D.	M	D.	M.	D.	M	D.	M.	D.	M.	D.	M.	D.	M.	D	M.
0	237	48	238	2	238	15	238	29	238	42	238	55	239	7	239	20	239	[illegible]	[illegible]	44
1	238	51	239	4	239	17	239	30	239	43	239	55	240	7	240	20	240	32	240	44
2	239	53	240	6	240	19	240	31	240	44	240	56	241	8	241	20	241	32	241	[illegible]
3	240	56	241	9	241	21	241	33	241	45	241	57	242	9	242	21	242	32	242	[illegible]
4	241	59	242	11	242	23	242	35	242	46	242	58	243	9	243	21	243	32	[illegible]	[illegible]
5	243	3	243	[illegible]	243	25	243	37	243	48	243	59	244	10	244	21	244	32	[illegible]	[illegible]
6	244	6	244	17	244	28	244	39	244	50	245	1	245	11	245	22	245	32	[illegible]	[illegible]
7	245	9	245	20	245	31	245	41	245	52	246	9	246	12	246	[illegible]	246	32	246	[illegible]
8	246	13	246	23	246	34	246	44	246	54	247	4	247	13	247	23	247	33	247	[illegible]
9	247	17	247	27	247	37	247	47	247	56	248	6	248	15	248	24	248	33	248	[illegible]
10	248	21	248	30	248	40	248	49	248	58	249	7	249	16	249	25	249	33	249	[illegible]
11	249	25	249	34	249	43	249	52	250	0	250	9	250	17	250	26	250	34	250	[illegible]
12	250	20	250	38	250	46	250	55	251	3	251	11	251	19	251	27	251	35	251	[illegible]
13	751	34	251	42	251	49	251	58	252	[illegible]	252	13	252	21	252	28	252	36	[illegible]	[illegible]
14	252	38	252	46	252	53	253	1	253	8	253	15	253	23	253	30	253	37	[illegible]	[illegible]
15	253	43	253	50	253	57	254	4	254	11	254	18	254	25	254	32	254	38	254	[illegible]
16	254	47	254	54	255	1	255	7	255	14	255	20	255	27	255	33	255	39	255	46
17	255	52	255	58	256	5	256	11	256	17	256	22	256	29	256	35	256	40	256	47
18	256	57	257	3	257	9	257	15	257	20	257	25	257	31	257	37	257	42	257	48
19	258	2	258	7	258	13	258	18	254	23	258	28	258	33	258	38	258	43	258	49
20	259	7	259	12	259	17	259	21	259	26	259	31	259	35	259	40	259	44	259	50
21	260	12	260	17	260	21	260	25	260	29	260	34	260	38	260	42	260	46	260	51
22	261	17	261	21	261	25	261	28	261	32	261	36	261	40	261	44	261	47	261	52
23	262	22	262	25	262	29	262	32	262	35	262	39	262	42	262	46	262	48	262	54
24	263	28	263	30	263	33	263	36	263	39	263	42	263	45	263	48	263	50	263	54
25	264	33	264	35	264	37	264	40	264	42	264	45	264	47	264	50	264	51	264	55
26	265	38	265	40	265	41	265	41	265	45	265	48	265	49	265	52	265	53	265	56
27	266	44	266	45	266	46	266	48	266	49	266	51	266	52	266	54	266	55	266	57
28	267	49	267	50	267	50	267	52	267	52	267	54	267	54	267	56	267	56	267	58
29	268	55	268	55	268	55	268	56	268	56	268	57	268	57	268	58	268	58	268	59
30	270	0	270	0	270	0	270	0	270	0	270	0	270	0	270	0	270	0	270	0

TABLES

OF

RIGHT ASCENSION.

South Latitude.

♈	0	1	2	3	4	5	6	7	8	9
	D. M.	D. M.	D. M.	D. M.	D. M.	D. M.	D. M.	D. M.	D. M.	D. M.
0	237 48	237 35	237 21	237 7	236 53	236 38	236 23	236 8	235 53	235 38
1	238 51	238 38	238 24	238 10	237 57	237 42	237 28	237 13	236 59	236 45
2	239 55	239 41	239 28	239 14	239 1	238 47	238 33	238 19	238 5	237 51
3	240 56	240 44	240 31	240 18	240 5	239 52	239 38	239 25	239 11	238 58
4	241 59	241 47	241 35	241 22	241 10	240 [illegible]	240 44	240 31	240 17	240 5
5	243 3	242 51	242 39	242 27	242 15	242 2	241 50	241 37	241 24	241 12
6	244 6	243 55	243 43	243 32	243 20	243 8	242 56	242 [illegible]	242 31	242 19
7	245 9	244 59	244 47	244 37	244 25	244 13	244 2	243 50	243 38	243 26
8	246 1	246 3	245 52	245 42	245 30	245 19	245 8	244 [illegible]	244 45	244 34
9	247 17	247 7	246 57	246 4[illegible]	246 36	246 2[illegible]	246 14	246 [illegible]	245 52	245 41
10	248 21	248 11	248 2	247 52	247 42	247 31	247 2[illegible]	247 10	247 [illegible]	246 49
11	249 25	249 16	249 7	248 57	248 4[illegible]	248 38	248 2[illegible]	248 1[illegible]	248 8	247 57
12	250 29	250 21	250 12	250 [illegible]	249 54	249 4	249 35	249 2[illegible]	249 16	249 6
13	251 34	251 26	251 17	251 9	251 0	250 51	250 42	250 33	250 21	250 14
14	252 38	252 31	252 22	252 15	252 6	251 5[illegible]	251 49	251 41	251 32	251 23
15	253 43	253 36	253 28	253 21	253 13	253 5	252 57	252 [illegible]	252 41	252 32
16	254 47	254 41	254 33	254 27	254 19	254 12	254 4	253 57	253 49	253 41
17	255 52	255 46	255 39	255 33	255 26	255 19	255 1[illegible]	255 [illegible]	254 58	254 51
18	256 57	256 51	256 45	256 39	256 33	256 27	256 2	256 1[illegible]	256 7	256 0
19	258 2	257 56	257 51	257 45	257 40	257 34	257 28	257 22	257 16	257 10
20	259 7	259 2	258 57	258 52	258 47	258 41	258 36	258 30	258 25	258 20
21	260 12	260 8	260 3	259 59	259 54	259 49	259 44	259 3[illegible]	259 3[illegible]	259 30
22	261 17	261 13	261 9	261 5	261 1	260 5[illegible]	260 52	260 48	260 43	260 40
23	262 22	262 18	262 15	262 11	262 8	262 4	262 0	261 57	261 52	261 50
24	263 28	263 24	263 21	263 18	263 15	263 12	263 9	263 [illegible]	263 2	263 0
25	264 33	264 30	264 2[illegible]	264 25	264 22	264 20	264 17	264 1[illegible]	264 1[illegible]	264 1[illegible]
26	265 38	265 36	265 33	265 32	265 29	265 25	265 2[illegible]	265 2[illegible]	265 21	265 20
27	266 44	266 42	266 40	266 39	266 37	266 3[illegible]	266 34	266 3[illegible]	266 [illegible]	266 30
28	267 49	267 48	267 46	267 46	267 44	267 44	267 [illegible]	267 42	267 4[illegible]	267 [illegible]
29	268 55	268 54	268 53	268 53	268 52	268 52	268 52	268 51	268 5[illegible]	268 50
30	270 0	270 0	270 0	270 0	270 0	270 0	270 0	270 0	270 [illegible]	270 0

TABLES

OF

RIGHT ASCENSION.

North Latitude.

♑	0		1		2		3		4		5		6		7		8		9	
	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
0	270	0	270	0	270	0	270	0	270	0	270	0	270	0	270	0	270	0	270	0
1	271	5	271	5	271	5	271	4	271	4	271	3	271	3	271	2	271	2	271	1
2	272	11	272	10	272	10	272	8	272	8	272	6	272	6	272	4	272	4	272	[illegible]
3	273	16	273	15	273	14	273	12	273	11	273	9	273	8	273	6	273	5	273	4
4	274	22	274	20	274	19	274	16	274	15	274	12	274	11	274	8	274	7	274	[illegible]
5	275	27	275	25	275	23	275	20	275	18	275	15	275	13	275	10	275	9	275	7
6	276	32	276	30	276	27	276	24	276	21	276	18	276	15	276	12	276	10	276	8
7	277	38	277	35	277	31	277	28	277	25	277	21	277	18	277	14	277	12	277	10
8	278	43	278	39	278	35	278	32	278	28	278	24	278	20	278	16	278	13	278	11
9	279	48	279	43	279	39	279	35	279	31	279	26	279	22	279	18	279	14	279	12
10	280	53	280	48	280	43	280	39	280	34	280	29	280	25	280	20	280	16	280	13
11	281	58	281	53	281	47	281	42	281	37	281	32	281	27	281	22	281	17	281	14
12	283	3	282	57	282	51	282	45	282	40	282	34	282	29	282	23	282	19	282	15
13	284	8	284	2	283	55	283	49	283	43	283	37	283	31	283	25	283	20	283	15
14	285	13	285	6	284	59	284	53	284	46	284	40	284	33	284	27	284	21	284	16
15	285	17	286	10	286	3	285	56	285	49	285	42	285	35	285	28	285	22	285	16
16	287	22	287	14	287	7	286	59	286	52	286	45	286	37	286	30	286	[illegible]	286	16
17	288	26	288	18	288	11	288	2	287	55	287	47	287	39	287	32	287	24	287	17
18	289	31	289	22	289	14	289	5	288	57	288	49	288	41	288	33	288	25	288	17
19	290	35	290	26	290	17	290	8	290	0	289	51	289	43	289	34	289	26	289	17
20	291	39	291	30	291	20	291	11	291	2	290	53	290	44	290	35	290	27	290	17
21	292	43	292	33	292	23	292	13	292	1	291	55	291	45	291	36	291	28	291	17
22	293	47	293	37	293	26	293	15	293	6	292	56	292	47	292	37	292	28	292	17
23	294	51	294	40	294	29	294	19	294	8	293	58	293	48	293	38	293	28	293	17
24	295	54	295	43	295	32	295	21	295	10	294	59	294	49	294	38	294	28	294	17
25	296	57	296	46	296	35	296	23	295	12	296	1	295	50	295	39	295	28	295	17
26	298	1	297	49	297	37	297	25	297	14	297	2	296	51	296	39	296	28	296	17
27	299	4	298	51	298	39	298	27	298	15	298	3	297	51	297	39	297	28	297	16
28	300	7	299	54	299	41	299	29	299	16	299	4	298	52	298	40	298	28	298	16
29	301	9	300	56	300	43	300	30	300	17	300	5	299	53	299	40	299	28	299	16
30	302	12	301	58	301	45	301	31	301	18	301	5	300	53	300	40	300	28	300	16

TABLES
OF
RIGHT ASCENSION.

South Latitude.

	0		1		2		3		4		5		6		7		8		9	
	D.	M.	D.	M.	D.	M.	D.	M.	D.	M	D.	M	D.	M.	D.	M.	D.	M.	D.	M.
0	270	5	270	0	270	0	270	0	270	0	270	0	270	0	270	0	270	0	270	0
1	271	5	271	6	271	7	271	7	271	8	271	8	271	9	271	9	271	10	271	10
2	272	11	272	12	272	14	272	15	272	16	272	16	272	18	272	18	272	20	272	20
3	273	16	273	18	273	20	273	23	273	23	273	24	273	[illegible]	273	27	273	29	273	30
4	274	22	274	24	274	26	274	31	274	31	274	32	274	34	274	36	274	39	274	40
5	275	27	275	30	275	33	275	38	275	38	275	40	275	43	275	46	275	48	275	50
6	276	32	276	36	276	39	276	45	276	45	276	48	276	51	276	54	276	58	277	0
7	277	38	277	41	277	45	277	52	277	52	277	56	278	0	278	3	278	7	278	10
8	278	43	278	47	278	51	278	59	278	59	279	4	279	8	279	12	279	17	279	20
9	279	46	279	52	279	57	280	6	280	6	280	11	280	16	280	21	280	26	280	30
10	280	53	280	58	281	3	281	13	281	13	281	19	281	24	281	30	281	35	281	40
11	281	58	282	4	282	9	282	20	282	20	282	26	282	32	282	38	282	44	282	50
12	283	3	283	9	283	15	283	27	283	27	283	33	283	40	283	46	283	53	283	59
13	284	8	284	14	284	21	284	34	284	34	284	41	284	48	284	55	285	2	285	9
14	285	13	285	19	285	27	266	41	285	41	285	48	285	56	286	3	286	11	286	19
15	286	17	286	24	286	32	286	47	286	47	286	55	287	3	287	11	287	19	287	28
16	287	22	287	29	287	38	287	54	287	54	288	2	288	11	288	19	288	28	288	37
17	288	26	288	34	288	43	289	0	289	0	289	9	289	18	289	27	289	36	289	45
18	289	31	289	39	289	48	290	6	290	6	290	15	290	25	290	34	290	44	290	54
19	290	35	290	44	290	53	291	12	291	12	291	22	291	32	291	42	291	52	292	2
20	291	39	291	49	291	58	292	18	292	18	292	29	292	39	292	50	293	0	293	11
21	292	43	292	53	293	3	293	24	293	24	293	35	293	46	293	57	294	8	294	19
22	293	47	293	57	294	8	294	30	294	30	294	41	294	52	295	4	295	15	295	27
23	294	51	295	1	295	13	295	35	295	35	295	47	295	58	296	10	296	22	296	35
24	295	54	296	5	296	17	296	40	296	40	296	53	297	4	297	16	297	29	297	42
25	296	57	297	9	297	21	297	45	297	45	297	58	298	10	298	23	298	36	298	50
26	298	1	298	13	298	25	298	50	298	50	299	3	299	16	299	29	299	43	299	57
27	299	4	299	16	299	29	299	55	299	55	300	8	300	22	300	35	300	49	301	4
28	300	7	300	19	300	33	300	59	300	59	301	1	301	27	301	41	301	55	302	10
29	301	9	301	22	301	36	301	3	302	3	302	18	302	32	302	47	303	1	303	16
30	302	12	302	25	302	39	302	7	303	7	303	22	303	37	303	52	304	7	304	22

TABLES

OF

RIGHT ASCENSION.

North Latitude.

	0		1		2		3		4		5		6		7		8		9	
♒	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
0	302	12	301	58	301	45	301	31	301	16	301	5	300	53	300	40	300	28	300	16
1	303	14	303	0	302	47	302	33	302	19	302	[illegible]	301	53	301	40	301	28	301	15
2	304	16	304	2	303	48	303	34	303	20	303	[illegible]	302	53	302	40	302	27	302	14
3	305	18	305	3	304	50	304	35	304	21	304	7	303	53	303	39	303	26	303	13
4	306	20	306	5	305	51	305	36	305	22	305	7	304	53	304	39	304	25	304	12
5	307	22	307	7	306	[illegible]	306	36	306	[illegible]	306	7	305	52	305	38	305	24	305	10
6	308	24	308	8	307	53	307	37	307	22	307	[illegible]	306	52	306	37	306	23	306	9
7	309	26	309	9	308	54	308	37	308	22	308	7	307	51	307	36	307	22	307	7
8	310	[illegible]	310	[illegible]	309	[illegible]	309	37	309	22	309	6	308	50	308	35	308	20	308	5
9	311	27	311	10	310	54	310	37	310	21	310	5	309	49	309	33	309	18	309	3
10	312	[illegible]	312	11	311	[illegible]	311	37	311	21	311	4	310	48	310	32	310	17	310	1
11	313	28	313	11	312	54	312	37	312	20	312	3	311	47	311	31	311	15	310	58
12	314	29	314	11	313	54	313	37	313	19	313	2	312	46	312	29	312	13	311	57
13	315	29	315	11	314	54	314	[illegible]	314	18	314	1	313	45	313	27	313	11	312	54
14	316	29	316	11	315	53	315	[illegible]	315	[illegible]	315	0	314	45	314	25	314	9	313	52
15	317	29	317	10	316	52	316	[illegible]	316	16	315	[illegible]	315	41	315	[illegible]	315	6	314	50
16	318	29	318	10	317	51	317	33	317	[illegible]	316	[illegible]	316	39	316	21	316	4	315	47
17	319	28	319	9	318	50	318	32	318	[illegible]	317	[illegible]	317	37	317	19	317	2	316	44
18	320	27	320	8	319	49	319	[illegible]	[illegible]	[illegible]	318	55	318	35	318	17	317	59	317	41
19	321	27	321	7	320	48	320	[illegible]	320	10	319	51	319	33	319	15	318	56	318	38
20	322	26	322	6	321	47	321	[illegible]	321	8	320	49	320	31	320	[illegible]	319	53	319	35
21	323	25	323	4	322	45	322	25	322	[illegible]	321	47	321	28	321	9	320	50	320	31
22	324	23	324	[illegible]	323	43	323	23	323	4	322	45	322	25	322	6	321	47	321	28
23	325	22	325	1	324	41	324	21	324	1	323	42	323	22	323	3	322	44	322	24
24	326	20	325	59	325	39	325	19	324	59	324	39	324	19	323	59	323	[illegible]	323	21
25	327	18	326	57	326	37	326	17	325	56	325	36	325	16	324	56	324	37	324	17
26	328	16	327	55	327	35	327	14	326	53	326	33	326	[illegible]	325	53	325	33	325	13
27	329	14	328	53	328	32	328	11	327	50	327	30	327	10	326	49	326	29	326	9
28	330	11	329	50	329	29	329	8	328	47	328	27	328	[illegible]	327	4	327	25	327	5
29	331	9	330	47	330	26	330	5	329	44	329	25	329	[illegible]	328	42	328	21	328	1
30	332	[illegible]	331	44	331	23	331	2	330	41	330	20	329	59	329	38	329	17	328	56

TABLES OF RIGHT ASCENSION.

South Latitude.

	0		1		2		3		4		5		6		7		8		9	
♒	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
0	302	12	302	25	302	39	302	53	303	7	303	22	303	37	303	52	304	7	304	22
1	303	14	303	28	303	42	303	57	304	11	304	26	304	42	304	57	305	12	305	28
2	304	16	304	31	304	45	305	3	305	1[illegible]	305	30	305	46	306	2	306	17	306	33
3	305	18	305	33	305	48	306	3	306	18	306	34	306	50	307	7	307	22	307	38
4	306	20	306	36	306	51	307	6	307	22	307	38	307	54	308	11	308	27	308	43
5	307	22	307	38	307	54	308	9	308	25	308	42	308	58	309	15	309	32	309	48
6	308	24	308	40	308	56	309	12	309	28	309	45	310	2	310	19	310	36	310	53
7	309	25	309	42	309	58	310	14	310	31	310	48	311	5	311	23	311	40	311	57
8	310	2[illegible]	310	43	311	0	311	16	311	33	311	51	312	8	312	26	312	44	313	1
9	311	27	311	44	312	1	312	18	312	35	312	53	313	11	313	29	313	47	314	5
10	312	28	312	45	313	2	313	20	313	37	313	55	314	14	314	32	314	50	315	8
11	313	28	313	46	314	3	314	21	314	39	314	57	315	16	315	35	315	53	316	11
12	314	29	314	46	315	4	315	22	315	40	315	59	316	18	316	37	316	56	317	14
13	315	2[illegible]	15	47	316	5	316	23	316	41	317	0	317	20	317	39	317	58	318	17
14	316	29	316	47	317	6	317	24	317	42	318	1	318	21	318	41	319	0	319	19
15	317	29	317	47	318	6	318	24	318	43	319	2	319	22	319	42	320	2	320	22
16	318	29	318	47	319	6	319	25	319	44	320	3	320	24	320	41	321	4	321	24
17	319	28	319	47	320	6	320	25	320	45	321	4	321	25	321	45	322	6	322	26
18	320	27	320	46	321	6	321	25	321	45	322	5	322	26	322	46	323	7	323	28
19	321	27	321	46	322	6	322	25	322	45	323	6	323	27	323	47	324	8	324	29
20	322	26	322	45	323	4	323	25	323	45	324	6	324	27	324	48	325	9	325	30
21	323	25	323	44	324	5	324	24	324	45	325	6	325	27	325	48	326	9	326	31
22	324	23	324	43	325	3	325	24	325	45	326	6	326	27	326	48	327	10	327	31
23	325	22	325	42	326	2	326	23	326	44	327	5	327	27	327	48	328	10	328	31
24	326	20	326	40	327	0	327	22	327	43	328	4	328	26	328	48	329	10	329	31
25	327	18	327	39	328	1	328	21	328	42	329	3	329	25	329	47	330	10	330	31
26	328	16	328	37	328	58	329	19	329	41	330	2	330	24	330	46	331	9	331	30
27	329	14	329	35	329	56	330	17	330	39	331	1	331	23	331	45	332	8	332	30
28	330	11	330	33	330	54	331	15	331	37	331	59	332	22	332	44	333	7	333	29
29	331	9	331	30	331	52	332	13	332	35	332	57	333	20	333	43	334	6	334	29
30	332	6	332	27	332	49	333	11	333	33	333	55	334	18	334	41	335	4	335	27

TABLES

OF

RIGHT ASCENSION.

North Latitude.

	0		1		2		3		4		5		6		7		8		9	
♓	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
0	332	6	331	44	331	23	331	2	330	41	330	20	329	59	329	38	329	17	328	56
1	333	4	332	41	332	20	331	59	331	38	331	16	330	55	330	34	330	13	329	52
2	334	11	333	38	333	17	332	55	332	34	332	12	331	51	331	30	331	9	330	47
3	334	58	334	35	334	13	333	51	333	30	333	8	332	47	332	25	332	4	331	42
4	335	55	335	32	335	10	334	48	334	26	334	4	333	43	333	21	333	0	332	37
5	336	51	336	29	336	7	335	44	335	22	335	0	334	39	334	17	333	55	333	32
6	337	48	337	25	337	3	336	40	336	18	335	56	335	34	335	12	334	50	334	27
7	338	44	338	22	337	59	337	36	337	14	336	52	336	30	336	8	335	46	335	22
8	339	40	339	18	338	55	338	32	338	10	337	48	337	26	337	3	336	41	336	17
9	340	37	340	14	339	51	339	28	339	6	338	43	338	21	337	58	337	36	337	12
10	341	33	341	10	340	47	340	24	340	2	339	39	339	17	338	54	338	31	338	7
11	342	29	342	6	341	43	341	20	340	58	340	35	340	12	339	49	339	26	339	2
12	343	25	343	2	342	39	342	16	341	53	341	30	341	7	340	44	340	21	339	57
13	344	20	343	58	343	35	343	12	342	49	342	25	342	2	341	39	341	16	340	52
14	345	16	344	53	344	30	344	7	343	44	343	20	342	57	342	34	342	11	341	48
15	346	12	345	48	345	25	345	2	344	39	344	15	343	52	343	29	343	6	342	43
16	347	7	346	44	346	21	345	57	345	34	345	10	344	47	344	24	344	1	343	38
17	348	3	347	40	347	17	346	52	346	29	346	5	345	42	345	19	344	56	344	33
18	348	58	348	35	348	12	347	47	347	24	347	0	346	37	346	13	345	51	345	28
19	349	54	349	31	349	7	348	43	348	19	347	55	347	32	347	8	346	46	346	23
20	350	49	350	26	350	3	349	38	349	14	348	50	348	27	348	3	347	41	347	19
21	351	44	351	21	350	57	350	33	350	9	349	45	349	22	348	58	348	36	348	14
22	352	39	352	16	351	52	351	28	351	4	350	40	350	17	349	53	349	30	349	9
23	353	35	353	11	352	47	352	23	351	59	351	35	351	12	350	48	350	25	350	4
24	354	30	354	6	353	42	353	18	352	54	352	30	352	7	351	43	351	20	350	59
25	355	25	355	1	354	38	354	14	353	50	353	26	353	2	352	38	352	15	351	53
26	356	20	355	57	355	33	355	9	354	45	354	21	353	57	353	33	353	10	352	49
27	357	15	356	52	356	28	356	4	355	4[illegible]	355	16	354	52	354	28	354	4	353	42
28	358	10	357	47	357	23	356	59	356	35	356	11	355	47	355	23	354	59	354	36
29	359	5	358	42	358	18	357	54	357	30	357	6	356	42	356	18	355	54	355	30
30	360	0	359	37	359	13	358	49	358	25	358	1	357	37	357	13	356	58	356	24

TABLES
OF
RIGHT ASCENSION.

South Latitude.

	0		1		2		3		4		5		6		7		8		9	
♓	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M	D.	M.	D.	M.	D.	M.	D.	M.
0	332	6	332	28	332	49	333	11	333	33	333	55	334	18	334	41	335	4	335	27
1	333	4	333	2	333	47	334	9	334	31	334	53	335	16	335	39	336	3	336	26
2	334	1	334	22	334	44	335	6	335	29	335	51	336	14	336	37	337	1	337	25
3	334	58	335	19	335	41	336	3	336	26	336	49	337	12	337	35	337	59	338	23
4	335	55	336	16	336	39	337	1	337	24	337	47	338	10	338	33	338	57	339	21
5	336	51	337	13	337	36	337	58	338	21	338	44	339	8	339	31	339	55	340	18
6	337	48	338	10	338	33	338	55	339	18	339	41	340	5	340	28	340	52	341	16
7	338	44	339	7	339	30	339	52	340	15	340	38	341	2	341	25	341	49	342	13
8	339	40	340	4	340	27	340	49	341	12	341	35	341	59	342	22	342	46	343	10
9	340	37	341	0	341	23	341	46	342	9	342	32	342	56	343	19	343	43	344	7
10	341	33	341	56	342	19	342	42	343	6	343	29	343	53	344	16	344	40	345	4
11	342	29	342	52	343	15	343	38	344	2	344	25	344	49	345	13	345	37	346	1
12	343	25	343	48	344	11	344	34	344	58	345	21	345	45	346	9	346	33	346	58
13	344	20	344	44	345	7	345	30	345	54	346	18	346	42	347	6	347	30	347	54
14	345	16	345	40	346	3	346	26	346	50	347	14	347	38	348	2	348	26	348	50
15	346	12	346	35	346	59	347	22	347	46	348	10	348	34	348	58	349	22	349	46
16	347	7	347	31	347	55	348	18	348	42	349	[illegible]	349	30	349	54	350	18	350	42
17	348	3	348	27	348	51	349	14	349	38	350	2	350	26	350	50	351	14	351	38
18	348	58	349	22	349	46	350	9	350	33	350	57	351	21	351	45	352	9	352	33
19	349	54	350	18	350	42	351	5	351	29	351	53	352	17	352	41	353	5	353	29
20	350	49	351	13	351	37	352	1	352	25	352	49	353	13	353	37	354	1	354	24
21	351	44	352	8	352	32	352	56	353	20	353	44	354	8	354	32	354	56	355	20
22	352	39	353	3	353	27	353	51	354	15	354	39	355	3	355	27	355	51	356	15
23	353	35	353	58	354	22	354	46	355	10	355	34	355	58	356	22	356	46	357	10
24	354	30	354	53	355	17	355	41	356	5	356	29	356	53	357	17	357	41	358	6
25	355	25	355	48	356	12	356	36	357	0	357	24	357	48	358	12	358	36	359	1
26	356	20	356	43	357	7	357	31	357	55	358	19	358	43	359	7	359	31	359	56
27	357	15	357	38	358	2	358	26	358	50	359	14	359	38	360	2	360	26	359	52
28	358	10	358	33	358	57	359	21	359	45	360	9	360	33	3 0	57	361	22	361	47
29	359	5	359	28	359	52	360	16	360	40	361	4	361	28	361	52	362	17	362	42
30	360	0	360	23	360	47	361	11	361	35	361	59	362	23	362	47	363	12	363	37

TABLES
OF
ASCENSIONAL DIFFERENCE

For finding the Oblique Ascension or Descension, Semidiurnal or Nocturnal Arcs or Horary Times, for any Degree of Latitude.

Stars Declinations.

Ele. Pol.	1	2	3	4	5	6	7	8	9	10
D.	D. M.	D. M.	D. M.	D. M.	D. M.	D. M.	D. M.	D. M.	D. M.	D. M.
1	0 1	0 2	0 3	0 4	0 5	0 6	0 7	0 8	0 9	0 11
2	0 2	0 4	0 6	0 8	0 10	0 13	0 15	0 7	0 19	0 21
3	0 3	0 6	0 9	0 13	0 16	0 19	0 22	0 25	0 29	0 32
4	0 4	0 8	0 13	0 17	0 21	0 25	0 30	0 34	0 38	0 42
5	0 5	0 10	0 16	0 21	0 26	0 32	0 37	0 42	0 48	0 53
6	0 6	0 13	0 19	0 25	0 32	0 38	0 44	0 51	0 57	1 4
7	0 7	0 15	0 22	0 30	0 37	0 44	0 52	0 59	1 7	1 14
8	0 8	0 17	0 25	0 34	0 42	0 51	0 59	1 8	1 16	1 25
9	0 9	0 19	0 29	0 38	0 48	0 57	1 7	1 16	1 26	1 36
10	0 11	0 21	0 32	0 42	0 53	1 4	1 14	1 25	1 36	1 47
11	0 12	0 23	0 35	0 47	0 58	1 10	1 22	1 34	1 46	1 58
12	0 13	0 25	0 38	0 51	1 4	1 17	1 30	1 43	1 56	2 9
13	0 14	0 28	0 42	0 56	1 9	1 23	1 37	1 52	2 6	2 20
14	0 15	0 30	0 45	1 0	1 15	1 30	1 45	2 1	2 16	2 31
15	0 16	0 32	0 48	1 4	1 21	1 37	1 53	2 10	2 26	2 42
16	0 17	0 34	0 52	1 9	1 26	1 44	2 1	2 19	2 36	2 54
17	0 18	0 37	0 55	1 14	1 32	1 50	2 9	2 28	2 47	3 5
18	0 19	0 39	0 59	1 18	1 38	1 57	2 17	2 37	2 57	3 17
19	0 21	0 41	1 2	1 23	1 44	2 4	2 25	2 46	3 8	3 29
20	0 22	0 44	1 6	1 27	1 49	2 12	2 34	2 56	3 18	3 41
21	0 23	0 46	1 9	1 32	1 55	2 19	2 41	3 6	3 29	3 53
22	0 24	0 49	1 13	1 37	2 2	2 26	2 50	3 15	3 40	4 5
23	0 25	0 51	1 17	1 42	2 8	2 33	2 59	3 25	3 51	4 18
24	0 27	0 53	1 20	1 47	2 14	2 41	3 9	3 35	4 3	4 30
25	0 28	0 56	1 24	1 52	2 20	2 49	3 17	3 45	4 14	4 43
26	0 29	0 59	1 28	1 57	2 27	2 56	3 26	3 56	4 26	4 56
27	0 31	1 1	1 32	2 3	2 33	3 4	3 35	4 6	4 38	5 9
28	0 32	1 4	1 36	2 8	2 40	3 12	3 45	4 17	4 50	5 23
29	0 33	1 7	1 40	2 13	2 17	3 20	3 54	4 28	5 2	5 37
30	0 35	1 9	1 44	2 19	2 54	3 29	4 4	4 39	5 15	5 51
31	0 36	1 12	1 48	2 24	3 1	3 37	4 14	4 51	5 28	6 5
32	0 37	1 15	1 53	2 30	3 8	3 46	4 24	5 2	5 41	6 20

TABLES
OF
ASCENSIONAL DIFFERENCE

For finding the Oblique Ascension or Descension, Semidiurnal or Nocturnal Arcs or Horary Times, for any Degree of Latitude.

Ele. Pol.	1	2	3	4	5	6	7	8	9	10
D.	D. M.	D. M.	D. M.	D. M.	D. M.	D. M.	D. M.	D. M.	D. M.	D. M.
33	0 39	1 18	1 57	2 36	3 15	3 55	4 34	5 14	5 54	6 35
34	0 40	1 21	2 2	2 42	3 23	4 4	4 45	5 26	6 8	6 50
35	0 42	1 24	2 6	2 48	3 31	4 13	4 56	5 39	6 22	7 6
36	0 44	1 27	2 11	2 55	3 39	4 23	5 7	5 52	6 36	7 22
37	0 45	1 30	2 16	3 2	3 47	4 33	5 11	6 5	6 51	7 38
38	0 47	1 34	2 21	3 8	3 55	4 45	5 30	6 18	7 6	7 55
39	0 49	1 37	2 26	3 15	4 4	4 53	5 42	6 32	7 22	8 13
40	0 50	1 41	2 31	3 22	4 13	5 4	5 55	6 46	7 38	8 31
41	0 52	1 44	2 37	3 29	4 22	5 15	6 8	7 1	7 55	8 49
42	0 54	1 48	2 42	3 37	4 31	5 26	6 21	7 16	8 12	9 8
43	0 56	1 52	2 48	3 44	4 41	5 38	6 34	7 32	8 30	9 28
44	0 58	1 56	2 54	3 52	4 51	5 50	6 49	7 48	8 48	9 48
45	1 0	2 0	3 0	4 1	5 1	6 2	7 3	8 5	9 7	10 9
46	1 2	2 4	3 7	4 9	5 12	6 15	7 18	8 22	9 29	10 31
47	1 4	2 9	3 13	4 18	5 23	6 28	7 34	8 40	9 47	10 54
48	1 7	2 13	3 20	4 27	5 35	6 42	7 50	8 59	10 8	11 18
49	1 9	2 18	3 27	4 37	5 47	6 57	8 7	9 19	10 30	11 42
50	1 12	2 23	3 35	4 47	5 59	7 11	8 25	9 39	10 53	12 8
51	1 14	2 28	3 43	4 57	6 12	7 27	8 43	10 0	11 17	12 35
52	1 17	2 34	3 51	5 8	6 26	7 44	9 3	10 22	11 42	13 3
53	1 20	2 39	3 59	5 19	6 40	8 1	9 23	10 45	12 8	13 32
54	1 23	2 45	4 8	5 31	6 55	8 19	9 44	11 9	12 35	14 3
55	1 26	2 52	4 18	5 44	7 11	8 38	10 6	11 35	13 4	14 35
56	1 29	2 58	4 27	5 57	7 27	8 58	10 29	12 2	13 35	15 9
57	1 32	3 5	4 38	6 11	7 44	9 19	10 54	12 30	14 7	15 45
58	1 36	3 12	4 49	6 26	8 2	9 41	11 20	13 0	14 41	16 23
59	1 40	3 20	5 0	6 41	8 22	10 4	11 48	13 32	15 17	17 4
60	1 44	3 28	5 12	6 57	8 43	10 29	12 17	14 5	15 55	17 47
61	1 48	3 37	5 25	7 15	9 5	10 56	12 48	14 45	16 36	18 33
62	1 53	3 46	5 39	7 33	9 28	11 24	13 21	15 20	17 20	19 22
63	1 58	3 56	5 54	7 53	9 53	11 54	13 57	16 1	18 7	20 15
64	2 3	4 6	6 10	8 15	10 20	12 27	14 55	16 45	18 57	21 21

Stars Declinations.

TABLES
OF
ASCENSIONAL DIFFERENCE

For finding the Oblique Ascension or Descension, Semidiurnal or Nocturnal Arcs or Horary Times, for any Degree of Latitude.

Ele. Pol.	1	2	3	4	5	6	7	8	9	10
D.	D. M.	D. M	D. M	D. M.	D. M.	D. M.	D. M.	D. M.	D. M.	D. M.
64	2 9	4 18	6 27	8 37	10 49	13 2	15 16	17 32	19 51	22 13
65	2 15	4 30	6 46	9 2	11 20	13 39	16 1	18 24	20 50	23 20
67	2 21	4 33	7 6	9 29	11 55	14 20	16 49	19 20	21 55	24 33
68	2 29	4 57	7 27	9 58	12 30	15 5	17 42	20 21	23 5	25 53
69	2 36	5 13	7 51	10 30	13 10	15 53	18 39	21 29	24 23	27 21
70	2 45	5 30	8 17	11 5	13 55	16 47	19 43	22 43	25 48	28 59
71	2 54	5 49	8 45	11 43	14 43	17 46	20 53	24 5	27 13	30 48
72	3 5	6 10	9 17	12 26	15 37	18 52	22 12	25 38	29 10	32 52
73	3 16	6 34	9 52	13 13	16 38	20 6	23 41	27 22	31 12	35 13
74	3 29	7 0	10 32	14 7	17 46	21 30	25 21	29 21	33 32	37 56
75	3 44	7 29	11 17	15 8	19 3	23 6	27 10	31 38	36 14	41 9
76	4 1	8 3	12 8	16 17	20 33	24 56	29 38	34 19	39 26	45 1
77	4 20	8 42	13 7	17 38	22 16	27 5	32 8	37 30	43 19	49 48
78	4 43	9 27	14 16	19 12	24 18	29 38	35 17	41 23	48 10	56 3
79	5 9	10 21	15 38	21 4	26 45	32 44	39 10	46 18	54 34	65 7
80	5 41	11 25	17 17	23 22	29 45	36 35	44 8	52 51	63 55	90 0
81	6 19	12 44	19 19	26 12	33 32	41 35	50 50	62 33	90 0	
82	7 8	14 23	21 54	29 50	38 30	48 24	60 33	90 0		
83	8 10	16 31	25 16	34 43	45 27	58 52	90 0			
84	9 34	19 24	29 55	41 42	56 21	90 0				
85	11 31	23 31	36 49	53 0	90 0					
86	14 27	30 58	48 23	90 0						
87	19 27	41 47	90 0							
88	36 51	90 0								
89	90 0									
90										

Stars Declinations.

TABLES
OF
ASCENSIONAL DIFFERENCE

For finding the Oblique Ascension or Descension, Semidiurnal or Nocturnal Arcs or Horary Times, for any Degree of Latitude.

Stars Declinations.

Ele. Pol.	11		12		13		14		15		16		17		18		19		20	
D	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
1	0	12	0	13	0	14	0	15	0	16	0	17	0	18	0	19	0	21	0	22
2	0	23	0	25	0	28	0	30	0	32	0	34	0	37	0	39	0	42	0	44
3	0	35	0	38	0	42	0	45	0	48	0	52	0	54	0	59	1	2	1	6
4	0	47	0	51	0	56	1	0	1	4	1	9	1	14	1	18	1	23	1	27
5	0	58	1	4	1	9	1	15	1	21	1	26	1	32	1	38	1	44	1	49
6	1	10	1	17	1	23	1	30	1	37	1	44	1	50	1	57	2	4	2	12
7	1	22	1	30	1	37	1	45	1	53	2	1	2	9	2	17	2	25	2	34
8	1	35	1	43	1	52	2	0	2	9	2	19	2	28	2	37	2	46	2	56
9	1	46	1	56	2	6	2	16	2	26	2	36	2	47	2	57	3	8	3	18
10	1	58	2	9	2	20	2	31	2	42	2	54	3	5	3	17	3	20	3	41
11	2	10	2	22	2	34	2	47	2	59	3	12	3	24	3	37	3	50	4	3
12	2	22	2	35	2	49	3	2	3	16	3	30	3	44	3	58	4	12	4	26
13	2	34	2	49	3	3	3	18	3	33	3	48	4	3	4	18	4	34	4	49
14	2	47	3	2	3	18	3	34	3	50	4	6	4	22	4	39	4	56	5	12
15	2	59	3	16	3	33	3	50	4	7	4	24	4	42	5	0	5	18	5	36
16	3	12	3	30	3	48	4	6	4	24	4	43	5	2	5	21	5	40	5	59
17	3	24	3	44	4	3	4	22	4	42	5	2	5	22	5	42	6	22	6	23
18	3	37	3	58	4	18	4	39	5	0	5	21	5	42	6	4	6	25	6	47
19	3	50	4	12	4	34	4	55	5	18	5	40	6	3	6	26	6	49	7	12
20	4	3	4	26	4	49	5	12	5	36	5	59	6	24	6	48	7	12	7	37
21	4	17	4	41	5	5	5	30	5	54	6	19	6	45	7	10	7	36	8	2
22	4	30	4	56	5	21	5	47	6	13	6	39	7	6	7	33	8	0	8	27
23	4	44	5	11	5	37	6	5	6	32	6	59	7	27	7	56	8	24	8	53
24	4	58	5	26	5	54	6	23	6	51	7	20	7	49	8	19	8	49	9	19
25	5	12	5	41	6	11	6	41	7	11	7	41	8	12	8	43	9	14	9	46
26	5	26	5	57	6	28	6	59	7	31	8	2	8	35	9	7	9	40	10	14
27	5	41	6	13	6	45	7	18	7	51	8	24	8	58	9	32	10	6	10	41
28	5	56	6	29	7	3	7	37	8	11	8	46	9	21	9	57	10	33	11	9
29	6	11	6	46	7	21	7	57	8	32	9	9	9	45	10	23	11	0	11	38
30	6	27	7	3	7	40	8	17	8	54	9	32	10	10	10	49	11	28	12	8
31	6	42	7	20	7	59	8	37	9	16	9	55	10	35	11	16	11	56	12	38
32	6	59	7	38	8	18	8	58	9	38	10	19	11	1	11	43	12	25	13	9

TABLES
OF
ASCENSIONAL DIFFERENCE

For finding the Oblique Ascension or Descension, Semidiurnal or Nocturnal Arcs or Horary Times, for any Degree of Latitude.

Stars Declinations.

Ele. Pol.	11		12		13		14		15		16		17		18		19		20	
D.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M	D.	M.	D.	M.
33	7	15	7	56	8	37	9	19	10	1	10	44	11	27	12	11	12	55	13	40
34	7	32	8	15	8	57	9	41	10	25	11	9	11	54	12	40	13	26	14	13
35	7	49	8	34	9	18	10	3	10	49	11	35	12	22	13	9	13	57	14	46
36	8	7	8	53	9	39	10	26	11	13	12	1	12	50	13	39	14	29	15	20
37	8	25	9	13	10	1	10	50	11	39	12	29	13	10	14	10	15	2	15	55
38	8	44	9	34	10	23	11	14	12	5	12	57	13	49	14	42	15	36	16	31
39	9	3	9	55	10	46	11	39	12	32	13	26	14	20	15	15	16	11	17	8
40	9	23	10	16	11	10	12	5	13	0	13	55	14	51	15	49	16	48	17	47
41	9	44	10	39	11	35	12	31	13	28	14	26	15	25	16	24	17	25	18	27
42	10	5	11	2	12	0	12	58	13	58	14	58	15	59	17	1	18	4	19	8
43	10	27	11	26	12	26	13	27	14	28	15	31	16	34	17	38	18	44	19	50
44	10	49	11	51	12	53	13	56	15	0	16	5	17	10	18	17	19	25	20	35
45	11	13	12	16	13	21	14	28	15	33	16	40	17	48	18	58	20	8	21	21
46	11	37	12	43	13	50	14	58	16	7	17	10	18	27	19	40	20	53	22	9
47	12	2	13	11	14	20	15	30	16	42	17	54	19	8	20	23	21	40	22	58
48	12	28	13	39	14	51	16	5	17	19	18	34	19	51	21	9	22	29	23	51
49	12	55	14	9	15	24	16	40	17	57	19	16	20	36	21	57	23	20	24	45
50	13	24	14	40	15	58	17	17	18	37	19	59	21	22	22	47	24	15	25	42
51	13	53	15	13	16	34	17	56	19	19	20	44	22	11	23	39	25	10	26	43
52	14	24	15	47	17	11	18	37	20	3	21	32	23	2	24	34	26	9	27	46
53	14	57	16	23	17	50	19	19	20	50	22	26	23	56	25	35	27	11	28	53
54	15	31	17	1	18	32	20	4	21	38	23	15	24	53	26	34	28	17	30	4
55	16	7	17	40	19	15	20	52	22	30	24	10	25	53	27	39	29	27	31	19
56	16	45	18	22	20	1	21	42	23	24	25	9	26	57	28	40	30	42	32	39
57	17	25	19	6	20	49	22	35	24	22	26	12	28	5	30	1	32	1	34	5
58	18	7	19	52	21	41	23	31	25	23	27	19	29	18	31	20	33	26	35	37
59	18	52	20	43	22	36	24	31	26	29	28	30	30	35	32	44	34	58	37	17
60	19	40	21	36	23	34	25	35	27	39	29	47	31	58	34	15	36	37	39	5
61	20	32	22	23	24	37	26	44	28	54	31	9	33	28	35	53	38	24	41	3
62	21	27	23	34	25	44	27	58	30	16	32	38	35	6	37	40	40	22	43	12
63	22	26	24	39	26	57	29	18	31	44	34	15	36	52	39	37	42	34	45	35
64	23	29	25	50	28	15	30	45	33	19	36	1	38	49	41	46	44	54	48	16

TABLES
OF
ASCENSIONAL DIFFERENCE

For finding the Oblique Ascension or Descension, Semidiurnal or Nocturnal Arcs or Horary Times, for any Degree of Latitude.

Stars Declinations.

Ele. Pol.	11		12		13		14		15		16		17		18		19		20	
D.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
65	24	38	27	7	29	41	32	10	35	4	37	56	40	58	44	10	47	36	51	19
66	25	53	28	31	31	14	34	3	37	0	40	6	43	22	46	52	50	39	54	50
67	27	15	30	3	32	57	35	58	39	8	42	30	46	4	49	56	54	13	59	2
68	28	45	31	45	34	51	38	6	41	33	45	13	49	10	53	52	58	7	64	16
69	30	25	33	37	36	58	40	30	44	16	48	20	52	48	57	50	63	47	71	28
70	32	13	35	44	39	22	43	14	47	24	51	59	57	8	63	13	73	5	90	0
71	34	22	38	7	42	6	46	23	51	6	56	23	62	37	70	40	90	0		
72	36	45	40	51	45	17	50	7	55	33	61	57	70	12	90	0				
73	39	29	44	3	49	2	54	38	61	13	69	42	90	0						
74	42	41	47	50	53	37	60	17	69	8	90	0								
75	46	30	52	30	59	30	68	31	90	0										
76	51	14	58	29	67	49	90	0												
77	57	21	67	2	90	0														
78	66	8	90	0																
79	90	0																		
80																				
81																				
82																				
83																				
84																				
85																				
86																				
87																				
88																				
89																				
90																				

TABLES
OF
ASCENSIONAL DIFFERENCE

For finding the Oblique Ascension or Descension, Semidiurnal or Nocturnal Arcs or Horary Times, for any Degree of Latitude.

Ele. Pol.	21		22		23		24		25		26		27		28		29		30	
D	D.	M	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
1	0	23	0	24	0	25	0	27	0	28	0	29	0	31	0	32	0	33	0	35
2	0	46	0	49	0	51	0	53	0	56	0	59	1	1	1	4	1	7	1	9
3	1	9	1	13	1	17	1	20	1	24	1	28	1	32	1	36	1	40	1	44
4	1	32	1	37	1	42	1	47	1	52	1	57	2	3	2	8	2	13	2	19
5	1	55	2	2	2	8	2	14	2	20	2	27	2	33	2	40	2	47	2	54
6	2	19	2	26	2	33	2	41	2	49	2	56	3	4	3	12	3	20	3	29
7	2	42	2	51	2	59	3	8	3	17	3	26	3	35	3	45	3	54	4	4
8	3	6	3	15	3	25	3	35	3	45	3	56	4	6	4	17	4	28	4	39
9	3	29	3	40	3	51	4	3	4	14	4	26	4	38	4	50	5	2	5	15
10	3	53	4	5	4	18	4	30	4	53	4	56	5	9	5	23	5	38	5	51
11	4	17	4	30	4	44	4	58	5	12	5	26	5	41	5	56	6	11	6	27
12	4	41	4	56	5	11	5	26	5	41	5	57	6	13	6	29	6	46	7	3
13	5	5	5	21	5	38	5	54	6	11	6	28	6	45	7	3	7	21	7	40
14	5	30	5	47	6	5	6	22	6	41	6	59	7	18	7	37	7	56	8	17
15	5	54	6	13	6	32	6	51	7	11	7	31	7	51	8	11	8	32	8	54
16	6	19	6	39	6	59	7	20	7	41	8	3	8	24	8	46	9	8	9	32
17	6	44	7	6	7	27	7	49	8	12	8	35	8	58	9	21	9	45	10	10
18	7	10	7	33	7	56	8	19	8	43	9	7	9	32	9	56	10	23	10	49
19	7	36	8	0	8	24	8	49	9	14	9	40	10	6	10	33	11	0	11	28
20	8	2	8	27	8	53	9	19	9	46	10	14	10	41	11	9	11	38	12	8
21	8	28	8	55	9	23	9	50	10	19	10	47	11	17	11	46	12	17	12	48
22	8	55	9	24	9	53	10	22	10	52	11	22	11	53	12	24	12	56	13	29
23	9	22	9	53	10	23	10	54	11	25	11	57	12	29	13	3	13	37	14	11
24	9	50	10	22	10	54	11	26	11	59	12	33	13	7	13	42	14	17	14	54
25	10	19	10	52	11	25	11	59	12	34	13	9	13	45	14	21	14	59	15	37
26	10	47	11	22	11	57	12	33	13	9	13	46	14	24	15	2	15	41	16	21
27	11	17	11	53	12	29	13	7	13	45	14	23	15	3	15	43	16	24	17	6
28	11	47	12	24	13	3	13	42	14	21	15	2	15	43	16	25	17	8	17	53
29	12	17	12	56	13	37	14	18	14	59	15	41	16	24	17	3	17	54	18	40
30	12	48	13	29	14	11	14	54	15	37	16	21	17	6	17	53	18	40	19	28
31	13	20	14	3	14	47	15	31	16	16	17	2	17	50	18	38	19	27	20	18
32	13	53	14	37	15	23	16	9	16	56	17	45	18	34	19	24	20	16	21	9

Stars Declinations.

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Stars Declinations.

Ele. Po.	21		22		23		24		25		26		27		28		29		30	
D.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
33	14	26	15	13	16	0	16	48	17	38	18	27	19	20	20	12	21	26	22	1
34	15	0	15	49	16	38	17	29	18	20	19	12	20	6	21	1	21	57	22	55
35	15	36	16	26	17	17	18	10	19	3	19	58	20	54	21	51	22	50	23	51
36	16	12	17	4	17	58	18	53	19	48	20	45	21	44	22	44	23	45	24	48
37	16	49	17	41	18	39	19	36	20	34	21	34	22	25	23	37	24	41	25	47
38	17	27	18	24	19	22	20	21	21	22	22	21	23	28	24	33	25	40	26	49
39	18	6	19	6	20	6	21	8	22	11	23	16	24	22	25	30	26	40	27	52
40	18	47	19	49	20	52	21	56	23	2	24	9	25	19	26	30	27	43	28	59
41	19	30	20	34	21	39	22	46	23	55	25	5	26	17	27	32	28	48	30	7
42	20	13	21	20	22	28	23	38	24	50	26	3	27	18	28	36	29	56	31	19
43	20	59	22	8	23	19	24	32	25	46	27	3	28	22	29	43	31	7	32	34
44	21	45	22	58	24	12	25	20	26	45	28	6	29	28	30	54	32	22	33	53
45	22	34	23	50	25	7	26	26	27	48	29	11	30	38	32	7	33	40	35	16
46	23	26	24	44	26	5	27	27	28	52	30	20	31	51	33	24	35	2	36	44
47	24	18	25	41	27	5	28	31	30	0	31	32	33	7	34	46	36	28	38	15
48	25	14	26	40	28	8	29	38	31	11	32	47	34	28	36	11	38	0	39	53
49	26	12	27	42	29	14	30	49	32	26	34	8	35	53	37	53	39	39	41	37
50	27	15	28	47	30	23	32	3	33	46	35	33	37	23	39	19	41	21	43	29
51	28	17	29	56	31	37	33	21	35	9	37	2	38	59	41	1	44	11	45	29
52	29	26	31	8	32	54	34	44	36	39	38	38	40	42	42	53	45	12	47	39
53	30	37	32	25	34	17	36	13	38	14	40	20	42	33	44	53	47	21	50	1
54	31	54	33	47	35	45	37	48	39	46	42	10	44	32	47	2	49	43	52	37
55	33	14	35	14	37	19	39	29	41	45	44	0	46	41	49	35	52	20	55	33
56	34	41	36	48	38	59	41	18	43	44	46	19	49	4	52	2	55	16	58	52
57	36	14	38	28	40	49	43	17	45	53	48	40	51	41	54	58	58	36	62	45
58	37	54	40	17	42	47	45	27	47	16	51	19	54	37	58	19	62	30	67	31
59	39	40	42	16	44	57	47	49	50	54	54	16	58	0	62	14	67	18	73	33
60	41	50	44	25	47	19	50	27	53	52	57	39	61	57	67	24	73	46	90	0
61	43	50	46	48	49	59	53	26	57	36	61	38	66	49	73	35	90	0		
62	46	12	49	27	52	58	56	52	61	17	66	32	73	23	90	0				
63	48	53	52	28	56	25	60	54	66	14	73	11	90	0						
64	51	55	55	55	60	29	65	54	72	57	90	0								

TABLES

OF

ASCENSIONAL DIFFERENCE

For finding the Oblique Ascension or Descension, Semidiurnal or Nocturnal Arcs or Horary Times, for any Degree of Latitude.

Ele. Pol.	21		22		23		24		25		26		27		28		29		30	
Stars Declinations. D.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
65	55	29	60	3	65	21	72	42	90	0										
66	59	34	65	9	72	26	90	0												
67	64	44	72	8	90	0														
68	71	49	90	0																
69	90	0																		
70																				
71																				
72																				
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TABLES
OF
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For finding the Oblique Ascension or Descension, Semidiurnal or Nocturnal Arcs or Horary Times, for any Degree of Latitude.

Stars Declinations.

Ele. Pol.	31		32		33		34		35		36		37		38		39		40	
D.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
1	0	36	0	37	0	39	0	40	0	42	0	44	0	45	0	47	0	49	0	50
2	1	12	1	15	1	18	1	21	1	24	1	27	1	31	1	34	1	37	1	41
3	1	48	1	53	1	57	2	2	2	6	2	11	2	16	2	21	2	26	2	31
4	2	24	2	30	2	36	2	42	2	48	2	55	3	1	3	8	3	15	3	22
5	3	1	3	8	3	15	3	23	3	31	3	39	3	47	3	55	4	4	4	13
6	3	37	3	46	3	55	4	3	4	13	4	23	4	33	4	43	4	53	5	4
7	4	14	4	24	4	34	4	45	4	56	5	7	5	19	5	30	5	42	5	55
8	4	51	5	2	5	14	5	26	5	39	5	52	6	5	6	18	6	32	6	46
9	5	28	5	41	5	54	6	8	6	22	6	37	6	51	7	6	7	22	7	38
10	6	5	6	20	6	35	6	50	7	9	7	22	7	38	7	55	8	13	8	30
11	6	42	6	59	7	15	7	32	7	49	8	7	8	25	8	44	9	3	9	23
12	7	20	7	38	7	56	8	15	8	34	8	53	9	13	9	34	9	55	10	16
13	7	58	8	18	8	37	8	58	9	18	9	39	10	1	10	24	10	46	11	10
14	8	37	8	58	9	19	9	41	10	3	10	26	10	50	11	14	11	39	12	4
15	9	16	9	38	10	1	10	25	10	49	11	14	11	39	12	5	12	32	13	0
16	9	55	10	19	10	44	11	9	11	35	12	2	12	29	12	57	13	26	13	55
17	10	35	11	1	11	27	11	54	12	22	12	54	13	19	13	49	14	20	14	52
18	11	16	11	43	12	11	12	40	13	9	13	39	14	10	14	42	15	15	15	49
19	11	56	12	26	12	55	13	26	13	57	14	29	15	2	15	36	16	11	16	48
20	12	38	13	9	13	40	14	13	14	46	15	20	15	55	16	31	17	8	17	47
21	13	20	13	53	14	26	15	0	15	36	16	12	16	49	17	27	18	7	18	47
22	14	3	14	37	15	13	15	49	16	27	17	5	17	44	18	24	19	6	19	49
23	14	47	15	23	16	0	16	38	17	17	17	58	18	39	19	22	20	6	20	52
24	15	51	16	9	16	48	17	29	18	10	18	52	19	36	20	21	21	8	21	56
25	16	16	16	56	17	38	18	20	19	3	19	48	20	34	21	21	22	11	23	1
26	17	2	17	45	18	28	19	12	19	58	20	45	21	34	22	24	23	16	24	10
27	17	50	18	34	19	19	20	6	20	54	21	44	22	35	23	28	24	22	25	19
28	18	38	19	24	20	12	21	1	21	51	22	44	23	37	24	33	25	30	26	30
29	19	27	20	16	21	6	21	57	22	50	23	45	24	41	25	40	26	40	27	43
30	20	18	21	9	22	1	22	55	23	51	24	48	25	47	26	49	27	52	28	59
31	21	10	22	3	22	58	23	55	24	53	25	53	26	55	28	0	29	7	30	17
32	22	3	22	59	23	56	24	56	25	57	27	0	28	5	29	13	30	24	31	37

TABLES
OF
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For finding the Oblique Ascension or Descension, Semidiurnal or Nocturnal Arcs or Horary Times, for any Degree of Latitude.

Ele. Pol.	31		32		33		34		35		36		37		38		39		40	
D.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
33	22	58	23	56	24	57	25	59	27	3	28	9	29	18	30	29	31	44	33	
34	23	55	24	56	25	59	27	4	28	11	29	21	30	32	31	48	33	6	34	28
35	24	53	25	57	27	3	28	11	29	22	30	35	31	50	33	10	34	33	35	59
36	25	53	27	0	28	9	29	21	30	35	31	52	33	12	34	36	36	2	37	33
37	26	55	28	5	29	18	30	32	31	50	33	12	34	52	36	4	37	36	39	13
38	28	0	29	13	30	29	31	48	33	10	34	36	36	4	37	37	39	15	40	58
39	29	7	30	23	31	44	33	6	34	33	36	2	37	36	39	15	40	59	42	49
40	30	17	31	37	33	1	34	28	35	59	37	33	39	13	40	58	42	49	44	45
41	31	29	32	54	34	22	35	53	37	30	39	10	40	55	42	47	44	45	46	50
42	32	45	34	15	35	47	37	23	39	5	40	52	42	44	44	42	46	49	49	4
43	34	5	35	38	37	16	38	59	40	46	42	39	44	39	46	46	49	2	51	20
44	35	28	37	7	38	50	40	39	42	33	44	33	46	42	48	59	51	27	54	8
45	36	56	38	40	40	30	42	25	44	26	46	36	48	54	51	22	54	4	57	3
46	38	29	40	19	42	16	44	18	46	29	48	48	51	17	54	0	56	57	60	20
47	40	7	42	4	44	8	46	20	48	40	51	11	53	55	56	48	60	16	64	8
48	41	52	43	57	46	9	48	31	51	3	53	48	56	49	60	11	64	4	68	44
49	43	44	45	47	48	20	50	53	53	40	56	42	60	6	64	0	68	41	74	52
50	45	43	48	8	50	43	53	30	56	34	59	59	63	46	68	36	74	49	90	0
51	47	54	50	30	53	19	56	24	59	51	63	48	68	31	74	45	90	0		
52	50	16	53	7	56	13	59	42	63	40	68	25	74	42	90	0				
53	52	53	56	1	59	31	63	31	68	19	74	37	90	0						
54	55	48	59	19	63	21	68	11	74	32	90	0								
55	59	6	63	10	68	2	74	26	90	0										
56	62	59	67	53	74	19	90	0												
57	67	42	74	12	90	0														
58	74	4	90	0																
59	90	0																		
60																				
61																				
62																				
63																				
64																				

Stars Declinations.

TABLES OF ASCENSIONAL DIFFERENCE

For finding the Oblique Ascension or Descension, Semidiurnal or Nocturnal Arcs or Horary Times, for any Degree of Latitude.

Stars Declinations.

Ele. Pol.	41		42		43		44		45		46		47		48		49		50	
D.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M	D.	M.	D.	M.	D.	M.	D.	M	D.	M.
1	0	52	0	54	0	56	0	58	1	0	1	2	1	4	1	7	1	9	1	12
2	1	44	1	48	1	52	1	56	2	0	2	4	2	9	2	13	2	18	2	23
3	2	37	2	42	2	48	2	54	3	0	3	7	3	13	3	20	3	27	3	35
4	3	29	3	37	3	44	3	52	4	1	4	9	4	18	4	27	4	37	4	47
5	4	22	4	31	4	41	4	51	5	1	5	12	5	23	5	35	5	47	5	59
6	5	15	5	26	5	37	5	50	6	2	6	15	6	28	6	42	6	57	7	12
7	6	8	6	21	6	34	6	49	7	5	7	18	7	34	7	50	8	7	8	25
8	7	1	7	16	7	32	7	48	8	5	8	22	8	40	8	59	9	18	9	38
9	7	55	8	12	8	30	8	48	9	7	9	26	9	47	10	8	10	30	10	53
10	8	49	9	8	9	28	9	48	10	9	10	31	10	54	11	18	11	42	12	8
11	9	44	10	5	10	27	10	49	11	12	11	57	12	1	12	28	12	55	13	24
12	10	39	11	2	11	26	11	51	12	16	12	43	13	11	13	39	14	9	14	40
13	11	35	12	0	12	26	12	53	13	21	13	50	14	20	14	51	15	24	15	58
14	12	31	12	58	13	27	13	56	14	26	14	58	15	30	16	5	16	40	17	17
15	13	28	13	58	14	28	14	0	15	32	16	7	16	42	17	19	17	57	18	37
16	14	26	14	58	15	31	16	5	16	40	17	16	17	54	18	34	19	16	19	59
17	15	25	15	59	16	34	17	10	17	48	18	27	19	8	19	51	20	36	21	22
18	16	24	17	1	17	38	18	17	18	58	19	40	20	23	21	9	21	57	22	47
19	17	25	18	4	18	44	19	25	20	9	20	53	21	40	22	29	23	18	24	14
20	18	27	19	8	19	51	20	35	21	21	22	8	22	58	23	51	24	45	25	42
21	19	30	20	13	20	59	21	46	22	34	23	25	24	10	25	14	26	12	27	14
22	20	34	21	20	22	8	22	58	23	50	24	44	25	40	26	40	27	42	28	47
23	21	39	22	28	23	19	24	12	25	7	26	5	27	5	28	8	29	14	30	23
24	22	46	23	38	24	32	25	28	26	26	27	27	28	31	29	38	30	48	32	3
25	23	55	24	50	25	47	26	46	27	48	28	52	30	0	31	12	32	26	33	46
26	25	5	26	3	27	3	28	6	29	11	30	20	31	32	32	48	34	8	35	32
27	26	17	27	18	28	22	29	29	30	38	31	51	33	7	34	28	35	53	37	23
28	27	31	28	36	29	44	30	54	32	7	33	25	34	46	36	12	37	43	39	19
29	28	48	29	56	31	8	32	22	33	40	35	2	36	28	38	0	39	37	41	21
30	30	7	31	19	32	35	33	53	35	16	36	43	38	15	39	53	41	37	43	29
31	31	29	32	45	34	5	35	28	36	56	38	29	40	7	41	52	43	44	45	44
32	32	54	34	14	35	38	37	7	38	40	40	19	42	4	43	57	44	57	48	8

TABLES
OF
ASCENSIONAL DIFFERENCE

For finding the Oblique Ascension or Descension, Semidiurnal or Nocturnal Arcs or Horary Times, for any Degree of Latitude.

Ele. Pol. / Stars Declinations.	41		42		43		44		45		46		47		48		49		50	
D.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M	D.	M.	D.	M.	D.	M.	D.	M.
33	34	22	35	47	37	16	38	50	40	30	42	16	44	8	46	9	48	20	50	43
34	35	53	37	23	38	59	40	39	42	25	44	18	46	20	48	31	50	53	53	40
35	37	30	39	5	40	46	42	33	44	26	46	29	48	40	51	3	53	40	56	34
36	39	10	40	52	42	39	44	33	46	36	48	48	51	11	53	43	56	42	59	59
37	40	55	42	44	44	39	46	42	48	54	51	17	53	55	56	49	60	6	63	46
38	42	47	44	42	46	46	48	59	51	22	54	0	56	48	60	11	64	0	68	36
39	44	45	46	49	49	2	51	27	54	3	56	57	60	16	64	4	68	41	74	49
40	46	50	49	4	51	29	54	8	57	4	60	20	64	8	68	44	74	52	90	0
41	49	5	51	31	54	9	57	5	60	23	64	10	68	47	74	54	90	0		
42	51	31	54	10	57	6	60	24	64	13	68	49	74	55	90	0				
43	54	9	57	6	60	24	64	14	68	49	74	56	90	0						
44	57	5	60	24	64	14	68	50	74	57	90	0								
45	60	23	64	13	68	49	74	57	90	0										
46	64	10	68	39	74	56	90	0												
47	68	47	74	55	90	0														
48	74	54	90	0																
49	90	0																		
50																				
51																				
52																				
53																				
54																				
55																				
56																				
57																				
58																				
59																				
60																				
61																				
62																				
63																				
64																				

TABLES
OF
ASCENSIONAL DIFFERENCE

For finding the Oblique Ascension or Descension, Semidiurnal or Nocturnal Arcs or Horary Times, for any Degree of Latitude.

Ele. Pol.	51		52		53		54		55		56		57		58		59		60	
Stars Declinations. D.	D.	M	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.	D.	M.
1	1	14	1	17	1	20	1	23	1	26	1	29	1	32	1	36	1	40	1	44
2	2	28	2	34	2	39	2	45	2	52	2	58	3	5	3	12	3	20	3	28
3	3	43	3	51	3	59	4	8	4	18	4	27	4	48	4	40	5	0	5	13
4	4	57	5	8	5	19	5	31	5	44	5	57	6	11	6	25	6	41	6	57
5	6	12	6	26	6	40	6	55	7	11	7	27	7	44	8	3	8	22	8	42
6	7	27	7	44	8	1	8	19	8	38	8	58	9	19	9	4	10	4	10	28
7	8	43	9	2	9	23	9	44	10	6	10	29	10	54	11	20	11	47	12	17
8	10	0	10	22	10	45	11	9	11	35	12	2	12	30	13	0	13	31	14	5
9	11	17	11	42	12	8	12	35	13	4	13	35	14	7	14	41	15	17	15	55
10	12	35	13	2	13	32	14	3	14	35	15	9	15	45	16	23	17	4	17	47
11	13	53	14	24	14	57	15	31	16	7	16	45	17	25	18	8	18	53	19	41
12	15	13	15	49	16	23	17	0	17	40	18	22	19	6	19	53	20	43	21	36
13	16	34	17	11	17	50	18	32	15	15	20	1	20	50	21	41	22	36	23	34
14	17	56	18	37	19	19	20	4	20	52	21	42	22	35	23	3	24	31	25	35
15	19	19	20	4	20	50	21	38	22	30	23	24	24	22	25	23	26	29	27	39
16	20	44	21	32	22	22	23	15	24	10	25	9	26	12	27	19	29	30	29	47
17	22	11	23	2	23	56	24	53	25	53	26	57	28	5	29	18	30	35	31	59
18	23	39	24	34	25	35	26	34	27	39	28	48	30	1	31	10	32	44	34	19
19	25	10	26	9	27	11	28	17	29	27	30	41	32	1	33	26	34	58	36	37
20	26	43	27	46	28	53	30	4	31	19	32	36	34	5	35	37	37	17	39	5
21	28	18	29	26	30	37	31	54	33	15	34	41	36	14	37	54	39	42	41	40
22	29	56	31	8	32	25	33	47	35	14	36	48	38	28	40	17	42	15	44	25
23	31	43	32	54	34	17	35	45	37	19	39	0	40	49	42	47	44	57	47	20
24	33	32	34	44	36	13	37	48	39	29	41	18	43	17	45	26	47	49	50	27
25	35	21	36	39	38	14	39	59	41	45	43	48	45	54	48	16	50	54	53	52
26	37	10	38	38	40	20	42	10	44	9	46	18	48	41	51	19	54	16	57	39
27	39	0	40	42	42	33	44	32	46	41	49	4	51	41	54	38	58	1	61	57
28	41	2	42	53	44	53	47	2	49	24	52	1	54	58	59	19	62	14	67	4
29	43	12	45	12	47	21	49	44	52	20	55	16	58	36	63	31	67	18	73	45
30	45	29	47	39	50	1	52	37	55	32	58	52	62	45	67	31	73	55	90	0
31	47	54	50	16	52	53	55	48	59	6	62	58	67	42	74	4	90	0		
32	50	30	53	7	56	1	59	19	63	10	67	53	71	12	90	0				

TABLES
OF
ASCENSIONAL DIFFERENCE

For finding the Oblique Ascension or Descension, Semidiurnal or Nocturnal Arcs or Horary Times, for any Degree of Latitude.

Ele. Pol.	51		52		53		54		55		56		57		58		59		60	
D.	D.	M.	D.	M.	D.	M	D.	M.	D.	M.	D.	M.	D.	M.	D.	M	D.	M.	D.	M.
33	52	19	56	13	59	31	63	21	68	2	74	19	90	0						
34	56	24	59	42	63	31	68	11	74	26	90	0								
35	59	51	63	40	68	19	74	22	90	0										
36	63	48	69	5	74	37	90	0												
37	68	31	74	42	90	0														
38	74	45	90	0																
39	90	0																		
40																				
41																				
42																				
43																				
44																				
45																				
46																				
47																				
48																				
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56																				
57																				
58																				
59																				
60																				
61																				
62																				
63																				
64																				

Stars Declinations.

TABLE

OF

THE POLES OF THE HOUSES,

According to PTOLEMY.

Latitude.	11th and 3d Poles.		12th and 2d Poles.	
D.	D.	M.	D.	M.
1	0	20	0	40
2	0	40	1	19
3	1	0	1	59
4	1	19	2	40
5	1	38	3	20
6	1	57	4	0
7	2	19	4	41
8	2	39	5	22
9	2	59	6	3
10	3	21	6	43
11	3	42	7	24
12	4	4	8	5
13	4	24	8	45
14	4	44	9	26
15	5	5	10	8
16	5	27	10	49
17	5	49	11	31.
18	6	11	12	13
19	6	33	12	56
20	6	55	13	39
21	7	17	14	22
22	7	41	15	5
23	8	55	15	49
24	8	29	16	34
25	8	53	17	19
26	9	11	18	4
27	9	43	18	50
28	10	8	19	35
29	10	34	20	22
30	11	0	21	9
31	11	25	21	58
32	11	52	22	47
33	12	19	23	35
34	12	48	24	24
35	13	17	25	13
36	13	46	26	4
37	14	17	26	55
38	14	49	27	46
39	15	20	28	38
40	15	52	29	33
41	16	25	30	25
42	16	59	31	22
43	17	36	32	16
44	18	13	33	13
45	18	50	34	11
46	19	28	35	9
47	20	7	36	8
48	20	49	37	8
49	21	33	38	10
50	22	17	39	11
51	23	4	40	16
52	23	51	41	20
53	24	40	42	26
54	25	34	43	32
55	26	29	44	41
56	27	25	45	51
57	28	24	47	0
58	29	26	48	13
59	30	30	49	26
60	31	39	50	42
	9 & 5		8 & 6	

A

TABLE OF TWILIGHT,

Shewing the Crepusculine Circles for the Latitude of 44 Degrees.

D.	0		♋ 10		20		0		♌ 10		20		0		♍ 10		20		30	
3	5	9	5	6	4	59	4	50	4	41	4	30	4	22	4	16	4	13	4	10
4	6	55	6	52	6	42	6	30	6	16	6	3	5	59	5	48	5	38	5	34
5	8	42	8	39	8	26	8	11	7	52	7	34	7	19	7	9	7	2	6	58
6	10	32	10	26	10	11	9	52	9	30	9	8	8	49	8	36	8	27	8	21
7	12	24	12	17	11	59	11	36	11	9	10	43	10	20	10	4	8	52	9	45
8	14	19	14	12	13	51	13	22	12	50	12	19	11	52	11	32	11	18	11	9
9	16	17	16	9	15	44	15	11	14	32	13	55	13	24	13	0	12	44	12	33
10	18	18	18	7	17	38	16	58	16	14	15	33	14	56	14	29	14	10	13	58
11	20	25	20	9	19	35	18	53	17	59	17	12	16	30	15	59	15	37	15	23
12	22	31	22	17	21	38	20	45	19	47	18	53	18	6	17	30	17	4	16	48
13	24	45	24	28	23	45	22	46	21	37	20	35	19	42	19	1	18	32	17	13
14	27	5	26	44	25	14	24	44	23	30	22	19	21	19	20	33	20	1	19	39
15	29	32	29	10	28	10	26	49	25	24	24	6	22	59	22	6	21	30	21	4
16	32	7	31	45	30	32	28	59	27	23	25	54	24	38	23	41	22	59	22	52
17	34	46	34	27	33	2	31	16	29	25	27	45	26	20	25	19	24	30	23	59
18	37	32	37	16	35	40	33	38	31	30	20	38	28	0	26	55	26	3	25	26
	30		♊ 20		10		0		♉ 20		10		0		♈ 20		10		0	

D.	0		♎ 10		20		0		♏ 10		20		0		♐ 10		20		30	
3	4	10	4	12	4	13	4	19	4	26	4	35	4	41	4	48	4	53	4	55
4	5	34	5	35	5	37	5	44	5	53	6	5	6	13	6	22	6	28	6	30
5	6	58	6	58	7	1	7	9	7	20	7	34	7	44	7	56	8	3	8	5
6	8	21	8	21	8	25	8	34	8	47	9	3	9	15	9	28	9	37	9	40
7	9	46	9	44	9	48	9	56	10	13	10	31	10	45	11	0	11	10	11	13
8	11	9	11	7	11	13	11	21	11	39	11	59	12	14	12	31	12	42	12	45
9	12	33	12	31	12	36	12	46	13	4	13	25	13	42	14	1	14	13	14	16
10	13	58	13	55	13	59	14	12	14	29	14	52	15	11	15	30	15	44	15	48
11	15	23	15	19	15	23	15	36	15	51	16	17	16	49	16	59	17	14	17	18
12	16	48	16	43	16	47	16	59	16	19	18	42	18	6	18	28	18	43	18	47
13	18	13	18	7	18	10	18	22	18	45	19	9	19	32	19	56	20	12	20	17
14	19	39	19	31	19	33	19	46	20	12	20	36	20	59	21	24	21	41	21	46
15	21	4	20	55	20	55	21	8	21	34	22	1	22	25	22	51	23	9	23	13
16	22	32	22	19	22	20	22	33	22	55	23	26	23	51	24	17	24	36	24	42
17	23	59	23	44	23	44	23	57	24	19	24	51	25	17	25	44	26	3	26	7
18	25	26	25	9	25	8	25	20	25	43	26	15	26	42	27	10	27	30	27	37
	30		♓ 20		10		0		♒ 20		10		0		♑ 20		10		0	

A

TABLE OF TWILIGHT,

Shewing the Crepusculine Circles for the Latitude of 47 Degrees.

	0	♋ 10	20	0	♌ 10	20	0	♍ 10	20	0
3	5 33	5 31	5 23	5 10	5 0	4 49	4 38	4 33	4 26	4 21
4	7 30	7 26	7 16	6 58	6 43	6 27	6 13	6 5	5 56	5 59
5	9 29	9 24	9 10	8 47	8 27	8 6	7 48	7 35	7 25	7 21
6	11 29	11 24	11 6	10 40	10 10	9 46	9 23	9 7	8 55	8 49
7	13 34	13 28	13 5	12 34	12 0	11 28	11 0	10 39	10 25	10 18
8	15 44	15 35	15 7	14 30	13 50	13 11	12 38	12 10	11 56	11 46
9	17 58	17 46	17 13	16 49	15 41	14 56	14 17	13 45	13 27	13 16
10	20 15	20 3	19 20	18 31	17 34	16 40	15 57	15 19	14 59	14 45
11	22 40	22 26	21 37	20 36	19 30	18 30	17 38	16 54	16 21	16 15
12	25 10	24 54	24 0	22 46	21 30	20 20	19 20	18 29	18 4	17 45
13	20 53	27 30	26 28	25 1	23 33	22 13	21 4	20 7	19 36	19 16
14	30 45	30 18	29 3	27 20	25 39	24 8	22 51	21 50	21 10	20 47
15	33 50	33 19	31 46	29 47	27 50	26 6	24 39	23 36	22 36	22 18
16	37 20	36 37	34 43	32 20	30 6	28 6	26 26	25 18	24 17	23 50
17	41 17	40 20	37 58	35 9	32 28	30 10	28 20	27 0	25 57	25 23
18	46 6	44 46	41 37	38 5	34 57	32 21	30 31	29 3	27 39	26 50
	30	♊ 20	10	0	♉ 20	10	0	♈ 20	10	0

	0	♎ 10	20	0	♏ 10	20	0	♐ 10	20	30
3	4 24	4 25	4 28	4 34	4 41	4 50	4 49	5 9	5 16	5 18
4	5 53	5 54	5 57	6 4	6 13	6 26	6 38	6 49	6 57	6 59
5	7 21	7 21	7 25	7 34	7 45	8 0	8 15	8 29	8 39	8 41
6	8 49	8 49	8 50	9 4	9 17	9 34	9 51	10 8	10 20	10 23
7	10 18	10 17	10 20	10 34	10 48	11 7	11 27	11 45	11 58	12 1
8	11 46	11 44	11 50	12 3	12 19	12 50	13 2	13 20	13 36	13 39
9	13 16	13 13	13 19	13 30	13 40	14 10	14 36	14 58	15 13	15 17
10	14 43	14 41	14 46	15 0	15 19	15 43	16 9	16 33	16 50	16 54
11	16 15	16 9	16 14	16 28	16 9	17 14	17 40	18 7	18 25	18 29
12	17 45	17 37	17 42	17 57	18 18	18 45	19 14	19 41	20 0	20 5
13	19 16	19 7	19 11	19 25	19 47	20 15	20 45	21 14	21 33	21 40
14	20 47	20 35	20 38	20 53	21 16	21 45	22 16	22 47	23 7	23 13
15	22 18	22 4	22 5	22 21	22 44	23 15	23 47	24 19	24 30	24 37
16	23 50	23 34	23 34	23 49	24 10	24 44	25 18	25 50	26 10	26 19
17	25 23	25 4	25 0	25 17	25 41	26 13	26 48	27 21	27 24	27 50
18	26 57	26 36	26 30	26 45	27 40	27 40	28 18	28 50	29 16	29 21
	30	♓ 20	10	0	♒ 20	10	0	♑ 20	10	0

A TABLE OF TWILIGHT,

Shewing the Crepusculine Circles for the Latitude of 50 Degrees.

Pa.	0		♋ 10		20		0		♌ 10		20		0		♍ 10		20		30	
3	6	9	6	5	5	54	5	40	5	25	5	13	4	59	4	50	4	40	4	[illegible]
4	8	18	8	15	8	1	7	38	7	18	6	58	6	39	6	25	6	18	6	[illegible]
5	10	33	10	27	10	9	9	39	9	10	8	46	8	21	8	0	7	43	7	[illegible]
6	12	51	12	45	12	18	11	40	11	7	10	31	10	4	9	40	9	28	9	[illegible]
7	15	15	15	5	14	33	13	49	13	5	12	20	11	49	11	20	11	3	10	[illegible]
8	17	46	17	33	16	54	16	0	15	6	14	15	13	35	13	0	12	39	12	[illegible]
9	20	44	20	8	19	20	18	15	17	11	16	10	15	20	14	43	13	16	14	[illegible]
10	23	10	22	49	21	50	20	34	19	17	18	6	17	10	16	25	15	54	15	[illegible]
11	26	6	25	41	24	30	22	59	21	27	20	6	19	1	18	8	17	33	17	[illegible]
12	29	20	28	50	27	24	25	33	23	40	22	10	20	55	19	51	19	14	18	[illegible]
13	32	18	32	18	30	28	28	16	26	5	24	17	22	49	21	37	20	[illegible]	[illegible]	[illegible]
14	37	5	36	9	33	51	31	9	28	34	26	26	24	46	23	26	22	[illegible]	[illegible]	[illegible]
15	42	5	40	45	37	38	34	13	31	10	28	43	26	46	25	18	24	20	23	[illegible]
16	49	17	46	40	43	50	37	37	33	55	31	3	28	50	27	10	26	8	25	[illegible]
17					47	58	41	28	36	50	33	30	30	57	29	3	27	52	27	[illegible]
18							46	0	40	5	36	4	33	7	31	1	29	36	[illegible]	[illegible]
	30		♊ 20		10		0		♉ 20		10		0		♈ 20		20		0	

	0		♎ 10		20		0		♏ 10		20		0		♐ 10		20		30	
3	4	40	4	41	4	44	4	51	5	4	5	13	5	25	5	36	5	44	5	46
4	6	14	6	15	6	18	6	27	6	41	6	54	7	10	7	24	7	34	7	37
5	7	48	7	48	7	50	8	3	8	19	8	35	8	54	9	11	9	23	9	27
6	9	20	9	20	9	26	9	38	9	57	10	38	10	38	10	58	11	10	11	17
7	10	56	10	58	11	0	11	13	11	34	11	55	12	20	12	40	12	58	13	4
8	12	30	12	28	12	30	12	48	13	10	13	34	14	1	14	26	14	44	14	51
9	14	5	14	0	14	6	14	20	14	46	15	10	15	41	16	8	16	27	16	35
10	15	40	15	36	15	40	15	56	16	21	16	49	17	21	17	50	18	10	18	18
11	17	16	17	10	17	14	17	30	17	56	18	26	18	59	19	30	19	50	20	1
12	18	52	18	44	18	47	19	3	19	31	20	0	20	38	21	10	21	33	21	40
13	20	29	20	18	20	16	20	37	21	5	21	38	22	15	22	49	23	13	23	23
14	22	7	21	53	21	54	22	10	22	39	23	13	23	50	24	27	24	53	25	3
15	23	45	23	28	23	28	23	44	24	13	24	48	25	28	25	5	26	31	26	41
16	25	24	25	4	25	0	25	17	25	47	26	23	27	4	27	40	28	9	28	20
17	27	3	26	40	26	36	26	51	27	21	27	57	28	40	29	19	29	46	29	57
18	28	44	28	17	28	10	28	24	28	54	29	31	30	15	30	28	31	23	31	34
	30		♓ 20		10		0		♒ 20		10		0		♑ 20		10		0	

A

TABLE OF TWILIGHT,

Shewing the Crepusculine Circles for the Latitude of 51 Degrees.

	0		♋ 10		20		0		♌ 10		20		0		♍ 10		20		30	
3	6	20	6	19	6	7	5	51	5	35	5	19	5	6	4	56	4	48	4	46
4	8	40	8	33	8	16	7	53	7	30	7	8	6	49	6	35	6	26	6	20
5	11	0	10	51	10	29	9	58	9	28	8	59	8	34	8	15	8	4	7	58
6	13	26	13	14	12	46	12	6	11	28	10	51	10	20	9	57	9	40	9	34
7	15	59	15	44	15	8	14	19	13	31	12	45	12	8	11	40	11	21	11	10
8	18	39	18	21	17	36	16	37	15	37	14	41	13	57	13	21	12	59	12	47
9	21	18	21	6	20	11	18	59	17	46	16	40	15	47	15	7	14	39	14	24
10	24	28	24	1	22	53	21	25	19	59	18	41	17	39	16	50	16	19	16	1
11	27	44	27	0	25	46	23	59	22	17	20	45	19	35	18	38	18	1	17	39
12	31	23	30	39	28	54	26	43	24	41	22	54	21	30	20	27	19	44	19	18
13	35	30	34	35	32	20	29	38	27	11	25	6	23	29	22	16	21	27	20	57
14	40	36	39	13	36	8	32	45	29	48	27	20	25	31	24	8	23	11	22	37
15	47	58	45	23	40	38	36	10	32	30	29	44	27	36	26	0	24	57	24	17
16					46	28	40	4	36	35	32	10	29	45	27	57	26	44	25	59
17					50	0	43	44	38	51	34	48	31	58	29	55	28	35	27	41
18							50	55	42	28	37	34	44	16	31	57	30	23	29	25
	30		♊ 20		10		0		♉ 20		10		0		♈ 10		10		0	

	0		♎ 10		20		0		♏ 10		20		0		♐ 10		20		30	
3	4	46	4	47	4	51	4	58	5	8	5	20	5	33	5	47	5	56	5	58
4	6	20	6	20	6	26	6	36	6	48	7	5	7	20	7	39	7	50	7	53
5	7	58	7	58	8	3	8	14	8	29	8	48	9	9	9	29	9	40	9	45
6	9	34	9	33	9	39	9	51	10	10	10	35	10	56	11	18	11	13	11	37
7	11	10	11	8	11	14	11	28	11	48	12	10	12	41	13	5	13	20	13	26
8	12	47	12	44	12	50	13	5	13	26	13	53	14	25	14	51	15	10	15	15
9	14	24	14	20	14	26	14	41	15	4	15	33	16	7	16	36	16	56	17	1
10	16	1	15	55	16	1	16	17	16	40	17	13	17	49	18	20	18	40	18	48
11	17	39	17	31	17	36	17	53	18	20	18	50	19	30	20	3	20	26	20	30
12	19	18	19	8	19	10	19	28	19	57	20	31	21	10	21	45	22	10	22	17
13	20	57	20	44	20	47	21	4	21	33	22	9	22	50	23	26	23	50	23	59
14	22	37	22	21	22	23	23	39	23	9	23	46	24	29	25	7	25	34	25	40
15	24	17	23	59	23	59	24	15	24	45	25	23	26	7	26	47	27	15	27	23
16	25	59	25	36	25	34	25	50	26	20	26	59	27	45	28	26	28	55	29	4
17	27	41	27	15	27	11	27	26	27	56	28	36	29	23	30	5	30	35	30	44
18	29	25	28	54	28	47	29	1	29	31	30	20	31	0	31	43	32	14	32	24
	30		♓ 20		10		0		♒ 10		10		0		♑ 10		10		0	

A

TABLE OF TWILIGHT,

Shewing the Crepusculine Circles for the Latitude of 52 Degrees.

Pa.	0		♋ 10		20		0		♌ 10		20		0		♍ 10		20		30	
3	6	40	6	36	6	22	6	5	5	45	6	27	5	16	5	2	4	56	4	55
4	9	1	8	56	8	36	8	10	7	44	7	19	7	0	6	44	6	35	6	39
5	11	29	11	21	10	54	10	20	9	45	9	13	8	48	8	27	8	15	8	8
6	14	4	13	52	13	18	12	35	11	50	11	9	10	36	10	11	9	55	9	46
7	16	46	16	31	15	48	14	53	13	57	13	7	12	27	11	56	11	36	11	25
8	19	37	19	19	18	25	17	17	16	9	15	8	14	20	13	42	13	17	13	5
9	22	41	22	18	21	10	19	47	18	25	17	10	16	14	15	29	14	49	14	45
10	26	0	25	28	24	6	22	23	20	44	19	17	18	9	17	17	16	43	16	25
11	29	41	28	59	27	16	25	8	23	9	21	27	20	7	19	7	18	28	18	5
12	33	54	32	59	30	43	28	5	25	40	23	40	22	9	21	0	20	13	19	45
13	39	2	37	40	34	35	31	16	28	21	26	1	24	13	22	54	21	59	21	26
14	46	30	43	54	39	0	34	45	31	11	28	24	26	19	24	48	23	46	23	8
15			46	50	45	4	38	40	34	13	30	55	28	30	26	45	25	35	24	50
16							43	23	37	31	33	30	30	45	28	45	27	25	26	36
17							49	40	41	11	36	21	33	5	30	47	29	18	28	21
18									45	26	39	20	35	30	32	55	31	20	30	8
	38		♊ 20		10		9		♉ 20		10		0		♈ 20		10		0	

Pa.	0		♎ 10		20		0		♏ 10		20		0		♐ 10		20		0	
3	4	53	4	54	4	58	5	5	5	17	5	29	5	45	5	58	6	7	6	10
4	6	30	6	31	6	36	6	45	7	0	7	16	7	36	7	53	8	5	8	9
5	8	8	8	8	8	13	8	34	8	43	9	2	9	26	9	46	10	0	10	6
6	9	49	9	46	9	50	10	5	10	25	10	47	11	25	11	38	11	55	12	0
7	11	25	11	24	11	30	11	44	12	7	12	31	13	0	13	28	13	46	13	55
8	13	4	13	0	13	8	13	23	13	48	14	15	14	49	15	18	15	37	15	46
9	14	43	14	39	14	45	15	0	15	28	15	57	16	34	17	5	17	26	17	35
10	16	23	16	17	16	23	16	49	17	7	17	39	18	18	18	50	19	15	19	25
11	18	5	17	55	18	0	18	18	18	46	19	20	20	0	20	36	21	2	21	10
12	19	44	19	34	19	37	19	55	20	25	20	1	21	44	22	19	22	48	22	59
13	21	25	21	31	21	15	21	33	22	4	22	41	23	26	24	5	24	30	24	45
14	23	28	22	50	22	53	23	40	23	40	24	21	25	7	25	48	26	16	26	28
15	24	50	24	30	24	31	24	49	25	20	26	0	26	48	27	30	27	50	28	10
16	26	36	26	10	26	9	26	25	26	57	27	39	28	28	29	13	28	40	29	55
17	28	21	27	54	27	49	28	0	28	35	29	17	30	8	30	53	31	25	31	37
18	30	0	29	35	29	27	29	41	30	13	30	55	31	48	32	30	33	5	33	20
	30		♓ 20		10		0		♒ 20		10		0		♑ 20		10		0	

A

TABLE OF TWILIGHT,

Shewing the Crepusculine Circles for the Latitude of 53 Degrees.

Pa.	0		♋ 10		20		0		♌ 10		20		0		♍ 10		20		30	
3	7	6	6	53	6	38	6	17	5	55	5	36	5	20	5	9	5	3	4	59
4	9	35	9	29	8	58	8	29	7	58	7	31	7	11	6	54	6	46	6	39
5	12	11	11	50	11	23	10	45	10	4	9	28	9	0	8	40	8	28	8	20
6	14	55	14	34	13	56	13	6	12	13	11	29	10	54	10	26	10	10	10	0
7	17	49	17	24	16	35	15	30	14	26	13	20	12	48	12	14	11	52	11	41
8	20	56	20	24	19	24	18	4	16	44	15	38	14	45	14	4	13	38	13	20
9	24	18	23	39	22	23	20	43	19	6	17	46	16	43	15	54	15	22	15	4
10	28	0	27	13	25	38	23	30	21	23	19	57	18	40	17	45	17	9	16	46
11	32	17	31	15	29	10	26	27	24	7	22	13	20	45	19	35	18	56	18	29
12	37	30	36	1	32	39	29	40	26	49	24	34	22	51	21	34	20	44	20	13
13	45	3	42	18	37	36	33	13	29	41	27	0	25	0	23	34	22	32	21	57
14					43	37	37	14	32	46	29	33	27	10	25	34	24	24	23	43
15					57	31	42	0	36	7	32	15	29	29	27	34	26	17	25	28
16							48	23	39	51	35	4	31	50	29	38	28	11	27	16
17									44	10	38	6	34	21	31	46	30	7	29	4
18									49	37	41	25	36	56	33	58	32	6	30	54
	30		♊ 20		10		0		♉ 20		10		0		♈ 20		10		0	

	0		♎ 10		20		0		♏ 10		20		0		♐ 10		20		30	
3	4	59	4	59	5	5	5	13	5	26	5	41	5	55	6	10	6	21	6	26
4	6	39	6	39	6	46	6	55	7	10	7	31	7	50	8	8	8	20	8	28
5	8	20	8	19	8	26	8	37	8	57	9	20	9	43	10	4	10	21	10	28
6	10	0	9	59	10	7	10	20	10	40	11	8	11	30	12	0	12	19	12	27
7	11	41	11	39	11	47	12	0	12	26	12	55	13	25	13	54	14	15	14	24
8	13	20	13	18	13	26	13	43	14	9	14	41	15	15	15	46	16	9	16	19
9	15	4	14	58	15	6	15	24	15	51	16	26	17	0	17	36	18	0	18	11
10	16	46	16	38	16	46	17	4	17	34	18	10	18	49	19	25	19	50	20	3
11	18	29	18	19	18	26	18	44	19	15	19	54	20	35	21	14	21	40	21	54
12	20	13	20	0	20	6	20	24	20	56	21	37	22	20	23	1	23	31	23	43
13	21	57	21	41	21	45	22	4	22	37	23	19	24	4	24	47	25	18	25	31
14	23	40	23	23	23	26	23	44	24	17	25	1	25	48	26	34	27	5	27	18
15	25	28	25	5	25	6	25	24	25	57	26	40	27	31	28	17	28	54	29	5
16	27	16	26	48	26	48	27	4	27	37	28	23	29	13	30	1	30	36	30	50
17	29	4	28	30	28	28	28	44	29	17	30	4	30	55	31	44	32	20	32	35
18	30	54	30	16	30	9	30	20	30	57	31	44	32	37	33	27	34	3	34	18
	30		♓ 20		10		0		♒ 20		10		0		♑ 20		10		0	

A

TABLE OF TWILIGHT,

Shewing the Crepusculine Circles for the Latitude of 54 Degrees.

Pa.	0		♋ 10		20		0		♌ 10		20		0		♍ 10		20		0	
3	7	17	7	13	6	55	6	30	6	10	5	49	5	31	5	18	5	10	5	7
4	9	56	9	48	9	23	8	50	8	17	7	48	7	22	7	5	6	54	6	49
5	12	40	12	31	11	57	11	13	10	28	9	50	9	17	8	54	8	39	8	30
6	15	39	15	24	14	38	13	40	12	44	11	55	11	14	10	44	10	25	10	[illegible]
7	18	48	18	26	17	28	16	14	15	2	14	5	13	10	12	35	12	11	11	58
8	22	10	21	44	20	29	18	56	17	27	16	15	15	10	14	27	13	58	13	40
9	25	59	25	20	23	44	21	46	19	57	18	27	17	15	16	31	15	46	15	26
10	30	18	29	25	27	16	24	47	22	34	20	44	19	19	18	16	17	34	17	11
11	35	35	34	16	31	16	28	0	25	17	22	7	21	27	20	14	19	24	18	57
12	47	20	40	39	35	58	31	38	28	10	25	35	23	37	22	14	21	17	20	44
13					42	0	35	41	31	20	28	10	25	50	24	15	23	10	22	30
14					56	9	40	31	34	44	30	54	28	11	26	19	25	4	24	18
15							46	59	38	31	33	46	30	36	28	26	26	49	26	8
16									42	54	36	50	33	6	30	36	28	57	27	58
17									48	27	40	15	35	44	32	51	30	58	29	50
18									57	34	44	0	38	30	35	9	33	0	31	[illegible]
	30		♊ 20		10		0		♉ 20		10		0		♈ 20		10		0	

	0		♎ 10		20		0		♏ 10		20		0		♐ 10		20		30	
3	5	7	5	7	5	10	5	21	5	34	5	50	6	8	6	20	6	36	6	[illegible]
4	6	49	6	48	6	54	7	5	7	20	7	44	8	6	8	26	8	40	8	49
5	8	30	8	31	8	38	8	51	9	19	9	36	10	4	10	26	10	45	10	54
6	10	15	10	14	10	21	10	36	10	58	11	27	11	58	12	25	12	46	12	56
7	11	58	11	55	12	4	12	20	12	44	13	17	13	50	14	20	14	45	14	55
8	13	40	13	37	13	45	14	4	14	30	15	6	15	44	16	18	16	44	16	54
9	15	26	15	19	15	26	15	47	16	15	16	54	17	34	18	11	18	39	18	50
10	17	11	17	0	17	9	17	29	17	59	18	40	19	24	20	4	20	34	20	45
11	18	57	18	46	18	50	19	10	19	44	20	26	21	10	21	54	22	25	22	[illegible]
12	20	44	20	29	20	34	20	54	21	27	22	10	23	0	23	45	24	17	24	31
13	22	30	22	14	22	16	22	36	23	10	23	57	24	47	25	34	26	7	26	21
14	24	18	23	58	23	59	24	18	24	54	25	41	26	34	27	20	27	47	28	10
15	26	8	25	44	25	41	26	0	26	36	27	25	28	18	29	9	29	45	30	[illegible]
16	27	58	27	28	27	25	27	40	28	18	29	8	30	3	30	55	31	30	31	48
17	29	50	29	15	29	8	29	25	30	0	30	51	32	47	32	41	33	19	33	36
18	31	44	31	0	30	50	31	7	31	40	32	34	33	31	34	26	35	5	35	20
	30		♓ 20		10		0		♒ 20		10		0		♑ 20		10		0	

A

TABLE OF TWILIGHT,

Shewing the Crepusculine Circles for the Latitude of 55 Degrees.

Pa.	0	♋ 20	10	0	♌ 20	10	0	♍ 10	20	30
3	7 40	7 34	7 16	6 48	6 20	5 59	5 40	5 26	5 18	5 14
4	10 31	10 18	9 51	9 12	8 36	8 0	7 36	7 16	7 5	6 59
5	13 20	13 10	12 35	11 42	10 50	10 8	9 30	9 8	8 54	8 44
6	16 41	16 19	15 28	14 20	13 14	12 18	11 34	11 1	10 41	10 29
7	20 9	19 40	18 30	17 4	15 14	14 31	13 37	12 56	12 29	12 16
8	23 59	23 20	21 49	19 56	18 12	16 46	15 40	14 52	14 20	14 0
9	28 20	27 26	25 24	23 0	20 50	19 6	17 45	16 49	16 11	15 58
10	33 44	32 21	29 27	26 18	23 38	21 31	19 56	18 48	18 5	17 37
11	41 30	38 50	34 14	29 57	26 34	24 0	22 10	20 49	19 57	19 26
12			40 24	34 5	29 46	26 40	24 27	22 52	21 52	21 15
13				38 56	33 10	29 26	26 48	25 0	23 47	23 5
14				43 30	37 3	32 21	29 15	27 9	25 46	24 57
15					41 31	35 29	31 48	29 21	27 44	26 49
16					47 6	38 54	34 28	31 38	29 49	28 44
17					56 25	42 44	37 18	33 59	31 52	30 40
18						47 10	40 18	36 26	33 55	32 36
	30	♊ 20	10	0	♉ 20	10	0	♈ 20	10	0

	0	♎ 10	20	0	♏ 10	20	0	♐ 10	20	30
3	4 14	5 4	5 21	5 30	5 44	6 2	6 20	6 38	6 52	6 58
4	6 49	6 58	7 6	7 8	7 56	7 59	8 24	8 46	9 3	9 10
5	8 44	8 42	8 52	9 6	9 6	9 54	10 24	10 51	11 11	11 19
6	10 30	10 28	10 37	10 53	11 18	11 40	12 22	12 55	13 16	13 25
7	12 16	12 14	12 22	12 40	12 57	13 41	14 20	14 55	15 19	15 29
8	14 4	13 58	14 7	14 26	14 56	15 34	16 14	16 52	17 20	17 31
9	15 50	15 44	15 51	16 11	16 34	17 25	18 7	18 49	19 19	19 31
10	17 14	17 28	17 36	17 56	18 30	19 14	20 0	20 44	21 17	21 30
11	19 26	19 15	19 22	19 41	20 7	21 2	21 51	22 38	23 13	23 26
12	21 15	21 0	21 6	21 26	22 5	22 50	23 42	24 31	25 8	25 22
13	23 5	22 46	22 50	23 11	23 39	24 37	25 32	26 23	27 1	27 15
14	24 57	24 34	24 36	24 56	25 34	26 24	27 21	28 14	28 53	29 8
15	26 49	26 22	26 21	26 41	27 9	28 11	29 9	30 4	30 44	30 59
16	28 44	28 11	28 8	28 25	29 4	29 51	30 57	31 53	32 35	32 51
17	30 40	30 1	29 55	30 10	30 49	31 44	32 44	33 41	34 24	34 40
18	32 3[illegible]	31 51	31 41	31 55	32 33	33 28	34 30	35 29	36 13	36 36
	30	♓ 20	10	0	♒ 20	10	0	♑ 20	10	0

A

TABLE OF TWILIGHT,

Shewing the Crepusculine Circles for the Latitude of 56 Degrees.

D.	0		♋ 10		20		0		♌ 10		20		0		♍ 10		20		30	
3	8	9	8	1	7	32	7	8	6	37	6	12	5	50	5	37	5	26	5	20
4	11	10	10	56	10	24	9	40	8	56	8	20	7	50	7	36	7	16	7	10
5	14	24	14	5	13	10	12	10	11	19	10	31	9	52	9	25	9	7	8	58
6	17	53	17	30	16	26	15	6	13	48	12	46	11	57	11	22	10	58	10	46
7	21	49	21	14	19	42	18	2	16	24	15	4	14	4	13	20	12	50	12	35
8	26	17	25	25	23	26	21	9	19	5	17	27	16	14	15	20	14	44	14	25
9	31	41	30	24	27	35	24	31	22	54	19	55	18	42	17	21	16	39	16	15
10	39	34	36	58	32	25	28	11	24	54	22	28	20	39	19	24	18	35	18	6
11							32	22	28	5	25	8	22	58	21	30	20	31	19	57
12							37	21	31	32	26	56	25	24	23	35	22	30	21	50
13							44	0	35	31	30	54	27	9	25	51	24	31	23	44
14									40	4	34	5	30	27	28	5	26	34	25	38
15									45	45	37	32	33	9	30	21	28	38	27	34
16									55	5	41	27	36	2	32	38	30	45	29	30
17											45	58	39	7	35	6	32	55	31	31
18											51	40	42	25	37	54	35	9	33	34
	30		♊ 20		10		0		♉ 20		10		0		♈ 20		10		0	

	0		♎ 10		20		0		♏ 10		20		0		♐ 10		20		30	
3	5	22	5	24	5	28	5	40	5	51	6	14	6	35	6	55	7	11	7	18
4	7	10	7	10	7	16	7	30	7	49	8	15	8	41	9	7	9	27	9	35
5	8	58	8	58	9	5	9	21	9	44	10	14	10	45	11	16	11	40	11	49
6	10	46	10	45	10	54	11	12	11	27	12	11	12	47	13	22	13	50	14	0
7	12	35	12	32	12	40	13	1	13	29	14	8	14	47	15	28	15	58	16	9
8	14	25	14	20	14	28	14	50	15	21	16	4	16	47	17	29	18	5	18	15
9	16	15	16	8	16	15	16	38	17	11	17	56	18	42	19	29	20	6	20	19
10	18	6	17	56	18	4	18	26	19	1	19	49	20	39	21	28	22	7	22	21
11	19	57	19	44	19	50	20	14	20	50	21	41	22	34	23	27	24	7	24	21
12	21	50	21	34	21	38	22	1	22	39	23	32	24	28	25	24	26	5	26	20
13	23	43	23	24	23	25	23	49	24	26	25	22	26	20	27	18	28	1	28	17
14	25	38	25	14	25	14	25	36	26	16	27	12	28	12	29	10	29	57	30	14
15	27	34	27	4	27	1	27	24	28	4	29	1	30	2	31	5	31	50	32	7
16	29	32	28	56	28	50	29	11	29	51	30	49	31	52	32	57	33	45	34	2
17	31	31	30	49	30	39	30	59	31	39	32	39	33	42	34	50	35	36	35	52
18	33	34	32	44	32	29	32	46	33	26	34	26	35	38	36	28	37	28	37	46
	30		♓ 20		10		0		♒ 20		10		0		♑ 20		10		0	

A

TABLE

OF

Proportional Logarithms;

TO BE USED WITH

The Astronomical and Nautical

EPHEMERIS.

A

TABLE

OF

PROPORTIONAL LOGARITHMS.

′	0°	1°	2°	3°	4°	5°	6°
0		2.2553	1.9542	1.7782	1.6532	1.5563	1.4771
1	4.0334	2.2481	1.9506	1.7757	1.6514	1.5548	1.4759
2	3.7324	2.2410	1.9470	1.7733	1.6496	1.5534	1.4747
3	3.5563	2.2341	1.9435	1.7710	1.6478	1.5520	1.4735
4	3.4313	2.2272	1.9400	1.7686	1.6460	1.5505	1.4723
5	3.3344	2.2205	1.9365	1.7662	1.6442	1.5491	1.4711
6	3.2553	2.2139	1.9331	1.7639	1.6425	1.5477	1.4699
7	3.1883	2.2073	1.9296	1.7616	1.6407	1.5463	1.4687
8	3.1303	2.2009	1.9262	1.7592	1.6390	1.5449	1.4676
9	3.0792	2.1946	1.9228	1.7570	1.6372	1.5435	1.4664
10	3.0334	2.1883	1.9195	1.7546	1.6355	1.5420	1.4652
11	2.9920	2.1821	1.9161	1.7524	1.6337	1.5406	1.4640
12	2.9542	2.1761	1.9128	1.7501	1.6320	1.5393	1.4629
13	2.9195	2.1701	1.9096	1.7478	1.6303	1.5379	1.4617
14	2.8873	2.1642	1.9063	1.7456	1.6286	1.5365	1.4605
15	2.8573	2.1584	1.9031	1.7434	1.6269	1.5351	1.4594
16	2.8293	2.1526	1.8999	1.7411	1.6252	1.5337	1.4582
17	2.8030	2.1469	1.8967	1.7389	1.6235	1.5323	1.4571
18	2.7782	2.1413	1.8935	1.7368	1.6218	1.5310	1.4559
19	2.7546	2.1358	1.8904	1.7345	1.6201	1.5296	1.4548
20	2.7324	2.1303	1.8873	1.7324	1.6184	1.5283	1.4536
21	2.7112	2.1249	1.8842	1.7302	1.6168	1.5269	1.4525
22	2.6910	2.1196	1.8811	1.7281	1.6151	1.5255	1.4513
23	2.6717	2.1143	1.8781	1.7259	1.6134	1.5242	1.4502
24	2.6532	2.1091	1.8751	1.7238	1.6118	1.5229	1.4491
25	2.6355	2.1040	1.8720	1.7216	1.6102	1.5215	1.4479
26	2.6184	2.0989	1.8690	1.7195	1.6085	1.5202	1.4468
27	2.6021	2.0939	1.8661	1.7175	1.6069	1.5189	1.4457
28	2.5862	2.0889	1.8631	1.7153	1.6053	1.5175	1.4446
29	2.5710	2.0840	1.8602	1.7133	1.6037	1.5162	1.4435
30	2.5563	2.0792	1.8573	1.7112	1.6021	1.5149	1.4424

A TABLE OF PROPORTIONAL LOGARITHMS.

′	0°	1°	2°	3°	4°	5°	6°
31	2.5420	2.0744	1.8544	1.7091	1.6004	1.5136	1.4412
32	2.5283	2.0696	1.8516	1.7071	1.5988	1.5123	1.4401
33	2.5149	2.0649	1.8487	1.7050	1.5973	1.5110	1.4390
34	2.5019	2.0603	1.8459	1.7030	1.5957	1.5097	1.4379
35	2.4893	2.0557	1.8431	1.7010	1.5941	1.5084	1.4368
36	2.4771	2.0512	1.8403	1.6990	1.5925	1.5071	1.4357
37	2.4652	2.0466	1.8375	1.6969	1.5909	1.5058	1.4346
38	2.4536	2.0422	1.8347	1.6949	1.5894	1.5045	1.4335
39	2.4424	2.0378	1.8320	1.6930	1.5878	1.5032	1.4325
40	2.4313	2.0334	1.8293	1.6910	1.5862	1.5019	1.4313
41	2.4206	2.0291	1.8266	1.6890	1.5847	1.5006	1.4303
42	2.4102	2.0248	1.8239	1.6871	1.5832	1.4994	1.4292
43	2.3999	2.0206	1.8212	1.6851	1.5816	1.4981	1.4281
44	2.3899	2.0164	1.8186	1.6832	1.5801	1.4968	1.4270
45	2.3802	2.0122	1.8159	1.6812	1.5786	1.4956	1.4260
46	2.3706	2.0081	1.8133	1.6793	1.5770	1.4943	1.4249
47	2.3613	2.0040	1.8107	1.6774	1.5755	1.4931	1.4238
48	2.3522	2.0000	1.8081	1.6755	1.5740	1.4918	1.4228
49	2.3432	1.9960	1.8055	1.6736	1.5725	1.4906	1.4217
50	2.3344	1.9920	1.8030	1.6717	1.5710	1.4893	1.4206
51	2.3259	1.9881	1.8004	1.6698	1.5695	1.4881	1.4196
52	2.3174	1.9842	1.7979	1.6679	1.5680	1.4869	1.4185
53	2.3091	1.9803	1.7954	1.6660	1.5665	1.4856	1.4175
54	2.3010	1.9765	1.7929	1.6642	1.5651	1.4844	1.4165
55	2.2930	1.9727	1.7904	1.6623	1.5636	1.4832	1.4154
56	2.2852	1.9689	1.7879	1.6605	1.5621	1.4820	1.4143
57	2.2775	1.9652	1.7855	1.6587	1.5607	1.4808	1.4133
58	2.2700	1.9615	1.7830	1.6568	1.5592	1.4795	1.4122
59	2.2626	1.9579	1.7805	1.6550	1.5577	1.4783	1.4112
60	2.2553	1.9542	1.7782	1.6532	1.5563	1.4771	1.4102

A TABLE OF PROPORTIONAL LOGARITHMS.

′	7°	8°	9°	10°	11°	12°	13°
0	1.4102	1.3522	1.3010	1.2553	1.2139	1.1761	1.1413
1	1.4091	1.3513	1.3002	1.2545	1.2132	1.1755	1.1408
2	1.4081	1.3504	1.2994	1.2538	1.2125	1.1749	1.1402
3	1.4071	1.3495	1.2986	1.2531	1.2119	1.1743	1.1397
4	1.4060	1.3486	1.2978	1.2524	1.2112	1.1737	1.1391
5	1.4050	1.3477	1.2970	1.2517	1.2106	1.1731	1.1385
6	1.4040	1.3468	1.2962	1.2510	1.2099	1.1725	1.1380
7	1.4030	1.3459	1.2954	1.2503	1.2093	1.1719	1.1374
8	1.4020	1.3450	1.2946	1.2495	1.2086	1.1713	1.1369
9	1.4010	1.3441	1.2939	1.2488	1.2080	1.1707	1.1363
10	1.3999	1.3432	1.2931	1.2481	1.2073	1.1701	1.1358
11	1.3989	1.3423	1.2923	1.2474	1.2067	1.1695	1.1352
12	1.3979	1.3415	1.2915	1.2467	1.2061	1.1689	1.1347
13	1.3969	1.3406	1.2907	1.2459	1.2054	1.1683	1.1341
14	1.3959	1.3397	1.2899	1.2452	1.2047	1.1677	1.1336
15	1.3949	1.3388	1.2891	1.2445	1.2041	1.1671	1.1331
16	1.3939	1.3379	1.2883	1.2438	1.2035	1.1665	1.1325
17	1.3929	1.3370	1.2875	1.2431	1.2028	1.1659	1.1319
18	1.3919	1.3362	1.2868	1.2424	1.2022	1.1654	1.1314
19	1.3909	1.3353	1.2860	1.2417	1.2015	1.1648	1.1309
20	1.3899	1.3344	1.2852	1.2410	1.2009	1.1642	1.1303
21	1.3890	1.3336	1.2845	1.2403	1.2003	1.1636	1.1298
22	1.3880	1.3327	1.2837	1.2396	1.1996	1.1630	1.1292
23	1.3870	1.3318	1.2829	1.2389	1.1990	1.1624	1.1287
24	1.3860	1.3310	1.2821	1.2382	1.1984	1.1619	1.1282
25	1.3850	1.3301	1.2814	1.2375	1.1977	1.1613	1.1276
26	1.3841	1.3293	1.2806	1.2368	1.1971	1.1607	1.1271
27	1.3831	1.3284	1.2798	1.2362	1.1965	1.1601	1.1266
28	1.3821	1.3275	1.2791	1.2355	1.1958	1.1595	1.1260
29	1.3812	1.3267	1.2783	1.2348	1.1952	1.1589	1.1255
30	1.3802	1.3259	1.2775	1.2341	1.1946	1.1584	1.1249

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TABLE

OF

PROPORTIONAL LOGARITHMS.

′	7°	8°	9°	10°	11°	12°	13°
31	1.3792	1.3250	1.2768	1.2334	1.1939	1.1578	1.1244
32	1.3783	1.3241	1.2760	1.2327	1.1933	1.1572	1.1238
33	1.3773	1.3233	1.2753	1.2320	1.1927	1.1566	1.1233
34	1.3763	1.3224	1.2746	1.2313	1.1920	1.1560	1.1228
35	1.3754	1.3216	1.2737	1.2306	1.1914	1.1555	1.1222
36	1.3745	1.3208	1.2730	1.2300	1.1908	1.1549	1.1217
37	1.3735	1.3199	1.2722	1.2293	1.1902	1.1543	1.1212
38	1.3725	1.3191	1.2715	1.2286	1.1895	1.1537	1.1206
39	1.3716	1.3183	1.2707	1.2279	1.1889	1.1532	1.1201
40	1.3706	1.3174	1.2700	1.2272	1.1883	1.1526	1.1196
41	1.3697	1.3166	1.2692	1.2265	1.1877	1.1520	1.1191
42	1.3688	1.3158	1.2685	1.2259	1.1871	1.1515	1.1186
43	1.3678	1.3149	1.2677	1.2252	1.1864	1.1509	1.1180
44	1.3669	1.3141	1.2670	1.2245	1.1858	1.1503	1.1175
45	1.3660	1.3133	1.2663	1.2239	1.1852	1.1498	1.1170
46	1.3650	1.3124	1.2655	1.2232	1.1846	1.1492	1.1164
47	1.3641	1.3116	1.2648	1.2225	1.1840	1.1486	1.1159
48	1.3632	1.3108	1.2640	1.2218	1.1834	1.1481	1.1154
49	1.3622	1.3099	1.2633	1.2212	1.1828	1.1475	1.1148
50	1.3613	1.3091	1.2626	1.2205	1.1822	1.1469	1.1143
51	1.3604	1.3083	1.2618	1.2198	1.1816	1.1464	1.1138
52	1.3595	1.3075	1.2611	1.2192	1.1809	1.1458	1.1133
53	1.3585	1.3067	1.2603	1.2185	1.1803	1.1452	1.1128
54	1.3576	1.3059	1.2596	1.2178	1.1797	1.1447	1.1123
55	1.3567	1.3050	1.2589	1.2172	1.1791	1.1441	1.1117
56	1.3558	1.3042	1.2582	1.2165	1.1785	1.1435	1.1112
57	1.3549	1.3034	1.2574	1.2159	1.1779	1.1430	1.1107
58	1.3540	1.3026	1.2567	1.2152	1.1773	1.1424	1.1102
59	1.3531	1.3018	1.2560	1.2145	1.1767	1.1419	1.1096
60	1.3522	1.3010	1.2553	1.2139	1.1761	1.1413	1.1091

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TABLE

OF

PROPORTIONAL LOGARITHMS.

′	14°	15°	16°	17°	18°	19°	20°	21°
0	1.1091	1.0792	1.0512	1.0248	0000	9765	9542	9331
1	1.1086	1.0787	1.0507	1.0244	9996	9761	9539	9327
2	1.1081	1.0782	1.0502	1.0240	9992	9757	9535	9323
3	1.1076	1.0777	1.0498	1.0235	9988	9754	9532	9320
4	1.1071	1.0772	1.0493	1.0231	9984	9750	9528	9317
5	1.1066	1.0768	1.0489	1.0227	9980	9746	9524	9313
6	1.1061	1.0763	1.0484	1.0223	9976	9742	9521	9310
7	1.1055	1.0758	1.0480	1.0218	9972	9738	9517	9306
8	1.1050	1.0753	1.0475	1.0214	9968	9735	9513	9303
9	1.1045	1.0749	1.0471	1.0210	9964	9731	9510	9300
10	1.1040	1.0744	1.0466	1.0206	9960	9727	9506	9296
11	1.1035	1.0739	1.0462	1.0201	9956	9723	9503	9293
12	1.1030	1.0734	1.0458	1.0197	9952	9720	9499	9289
13	1.1025	1.0729	1.0453	1.0193	9948	9716	9495	9286
14	1.1020	1.0725	1.0448	1.0189	9944	9712	9492	9282
15	1.1015	1.0720	1.0444	1.0185	9940	9708	9488	9279
16	1.1009	1.0715	1.0440	1.0180	9936	9704	9485	9276
17	1.1004	1.0710	1.0435	1.0176	9932	9701	9481	9272
18	1.0999	1.0706	1.0431	1.0172	9928	9697	9478	9269
19	1.0994	1.0701	1.0426	1.0168	9924	9693	9474	9265
20	1.0989	1.0696	1.0422	1.0164	9920	9689	9470	9262
21	1.0984	1.0692	1.0418	1.0160	9916	9686	9467	9259
22	1.0979	1.0687	1.0413	1.0155	9912	9682	9463	9255
23	1.0974	1.0682	1.0409	1.0151	9908	9678	9460	9252
24	1.0969	1.0678	1.0404	1.0147	9905	9675	9456	9249
25	1.0964	1.0673	1.0400	1.0143	9901	9671	9453	9245
26	1.0959	1.0668	1.0395	1.0139	9897	9667	9449	9242
27	1.0954	1.0663	1.0391	1.0135	9893	9664	9446	9238
28	1.0949	1.0659	1.0386	1.0130	9889	9660	9442	9235
29	1.0944	1.0654	1.0382	1.0126	9885	9656	9439	9231
30	1.0939	1.0649	1.0378	1.0122	9881	9652	9435	9228

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TABLE

OF

PROPORTIONAL LOGARITHMS.

′	14°	15°	16°	17°	18°	19°	20°	21°
31	1.0934	1.0645	1.0373	1.0118	9877	9648	9431	9225
32	1.0929	1.0640	1.0369	1.0114	9873	9645	9428	9221
33	1.0924	1.0635	1.0365	1.0110	9869	9641	9425	9218
34	1.0919	1.0631	1.0360	1.0106	9865	9637	9421	9215
35	1.0914	1.0626	1.0356	1.0102	9861	9634	9417	9211
36	1.0909	1.0621	1.0352	1.0098	9858	9630	9414	9208
37	1.0904	1.0617	1.0347	1.0093	9854	9626	9410	9205
38	1.0899	1.0612	1.0343	1.0089	9850	9623	9407	9201
39	1.0894	1.0608	1.0339	1.0085	9846	9619	9404	9198
40	1.0889	1.0603	1.0334	1.0081	9842	9615	9400	9195
41	1.0884	1.0598	1.0330	1.0077	9838	9612	9396	9191
42	1.0880	1.0594	1.0326	1.0073	9834	9608	9393	9188
43	1.0875	1.0589	1.0321	1.0069	9830	9604	9389	9185
44	1.0870	1.0584	1.0317	1.0065	9826	9601	9386	9181
45	1.0865	1.0580	1.0313	1.0061	9823	9597	9383	9178
46	1.0860	1.0575	1.0308	1.0057	9819	9593	9379	9175
47	1.0855	1.0571	1.0304	1.0053	9815	9590	9375	9171
48	1.0850	1.0566	1.0300	1.0049	9811	9586	9372	9168
49	1.0845	1.0561	1.0295	1.0044	9807	9582	9368	9165
50	1.0840	1.0557	1.0291	1.0040	9803	9579	9365	9161
51	1.0835	1.0552	1.0287	1.0036	9800	9575	9362	9158
52	1.0830	1.0548	1.0282	1.0032	9796	9571	9358	9155
53	1.0826	1.0543	1.0278	1.0028	9792	9568	9355	9151
54	1.0821	1.0539	1.0274	1.0024	9788	9564	9351	9148
55	1.0316	1.0534	1.0269	1.0020	9784	9560	9348	9145
56	1.0811	1.0529	1.0265	1.0016	9780	9557	9344	9141
57	1.0806	1.0525	1.0261	1.0012	9777	9553	9343	9138
58	1.0801	1.0520	1.0257	1.0008	9773	9549	9311	9135
59	1.0796	1.0516	1.0252	1.0004	9769	9546	9337	9132
60	1.0792	1.0512	1.0248	1.0000	9765	9542	9334	9128

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TABLE

OF

PROPORTIONAL LOGARITHMS.

′	22°	23°	24°	25°	26°	27°	28°	29°	30°	31°
0	9128	8935	8751	8573	8403	8239	8081	7929	7782	7639
1	9125	8932	8748	8570	8400	8236	8078	7926	7779	7637
2	9122	8929	8745	8567	8397	8234	8076	7924	7776	7634
3	9119	8926	8742	8565	8395	8231	8073	7921	7774	7632
4	9115	8923	8739	8562	8392	8228	8071	7919	7772	7630
5	9112	8920	8736	8559	8389	8225	8068	7916	7769	7627
6	9109	8917	8733	8556	8386	8223	8066	7914	7767	7625
7	9105	8913	8730	8553	8383	8220	8063	7911	7764	7623
8	9102	8910	8727	8550	8381	8217	8060	7909	7762	7620
9	9099	8907	8724	8547	8378	8215	8058	7906	7760	7618
10	9096	8904	8721	8544	8375	8212	8055	7904	7757	7616
11	9092	8901	8718	8541	8372	8209	8053	7901	7755	7613
12	9089	8898	8715	8539	6370	8207	8050	7899	7753	7611
13	9086	8895	8712	8536	8367	8204	8047	7896	7750	7609
14	9082	8891	8709	8533	8364	8202	8045	7894	7748	7606
15	9079	8888	8706	8530	8361	8199	8043	7891	7745	7604
16	9076	8885	8703	8527	8358	8196	8040	7889	7743	7602
17	9073	8882	8700	8524	8356	8194	8037	7886	7740	7599
18	9070	8879	8697	8522	8353	8191	8035	7884	7738	7597
19	9066	8876	8694	8519	8350	8188	8032	7881	7736	7595
20	9063	8873	8691	8516	8347	8186	8030	7879	7733	7592
21	9060	8870	8688	8513	8345	8183	8027	7877	7731	7590
22	9056	8867	8685	8510	8342	8180	8024	7874	7729	7588
23	9053	8864	8682	8507	8339	8178	8022	7872	7726	7586
24	9050	8861	8679	8504	8337	8175	8020	7869	7724	7583
25	9047	8857	8676	8501	8334	8172	8017	7867	7721	7581
26	9044	8854	8673	8498	8331	8170	8014	7864	7719	7579
27	9041	8851	8670	8496	8328	8167	8012	7862	7717	7577
28	9037	8848	8667	8493	8326	8164	8009	7859	7714	7574
29	9034	8845	8664	8490	8323	8162	8007	7857	7712	7572
30	9031	8842	8661	8487	8320	8159	8004	7855	7710	7570

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TABLE

OF

PROPORTIONAL LOGARITHMS.

′	22°	23°	24°	25°	26°	27°	28°	29°	30°	31°
31	9027	8839	8658	8484	8317	8157	8002	7852	7707	7567
32	9024	8836	8655	8481	8315	8154	7999	7849	7705	7565
33	9021	8833	8652	8479	8312	8152	7997	7847	7703	7563
34	9018	8830	8649	8476	8309	8149	7994	7844	7700	7560
35	9015	8827	8646	8473	8306	8146	7991	7842	7698	7558
36	9012	8824	8643	8470	8304	8144	7989	7840	7696	7556
37	9008	8820	8640	8467	8301	8141	7986	7837	7693	7553
38	9005	8817	8637	8464	8298	8138	7984	7835	7691	7551
39	9002	8814	8635	8462	8296	8136	7981	7832	7688	7559
40	8999	8811	8632	8459	8293	8133	7979	7830	7686	7546
41	8995	8808	8629	8456	8290	8130	7976	7827	7683	7544
42	8992	8805	8626	8453	8288	8128	7974	7825	7681	7542
43	8989	8802	8623	8450	8285	8125	7971	7823	7679	7540
44	8986	8799	8620	8448	8282	8122	7969	7820	7676	7537
45	8983	8796	8617	8445	8279	8120	7966	7818	7674	7535
46	8980	8793	8614	8442	8277	8117	7964	7815	7672	7533
47	8976	8790	8611	8439	8274	8115	7961	7813	7669	7538
48	8973	8787	8608	8437	8271	8112	7959	7811	7667	7528
49	8970	8784	8605	8434	8268	8109	7956	7808	7665	7526
50	8967	8781	8602	8431	8266	8107	7954	7805	7662	7524
51	8964	8778	8599	8428	8263	8104	7951	7803	7660	7522
52	8960	8775	8596	8425	8260	8102	7949	7801	7658	7519
53	8957	8772	8593	8422	8258	8099	7946	7798	7655	7517
54	8954	8769	8591	8420	8255	8097	7944	7797	7653	7515
55	8951	8766	8588	8417	8252	8094	7941	7793	7651	7512
56	8948	8763	8585	8414	8250	8091	7939	7791	7648	7510
57	8945	8760	8582	8411	8247	8089	7936	7789	7646	7508
58	8942	8757	8579	8408	8244	8086	7934	7786	7644	7506
59	8938	8754	8576	8406	8242	8084	7931	7784	7641	7503
60	8935	8751	8573	8403	8239	8081	7929	7782	7639	7501

A
TABLE
OF
PROPORTIONAL LOGARITHMS.

′	32°	33°	34°	35°	36°	37°	38°	39°	40°	41°
0	7501	7368	7238	7112	6990	6871	6755	6642	6532	6425
1	7499	7365	7236	7110	6988	6869	6753	6640	6530	6423
2	7496	7363	7234	7108	6986	6867	6751	6638	6528	6421
3	7494	7361	7232	7106	6984	6865	6749	6637	6527	6420
4	7492	7359	7229	7104	6982	6863	6747	6635	6525	6418
5	7490	7356	7227	7102	6980	6861	6745	6633	6523	6416
6	7488	7354	7225	7100	6978	6859	6743	6631	6521	6414
7	7485	7352	7223	7097	6976	6857	6741	6629	6519	6412
8	7483	7350	7221	7095	6974	6855	6739	6627	6517	6411
9	7481	7348	7219	7093	6972	6853	6738	6625	6516	6409
10	7478	7345	7216	7091	6970	6851	6736	6623	6514	6407
11	7476	7343	7214	7089	6968	6849	6734	6621	6512	6405
12	7474	7341	7212	7087	6966	6847	6732	6620	6510	6404
13	7472	7339	7210	7085	6964	6845	6730	6618	6508	6402
14	7469	7337	7208	7083	6962	6843	6728	6616	6507	6400
15	7467	7335	7206	7081	6960	6841	6726	6614	6505	6398
16	7465	7332	7204	7079	6958	6839	6744	6612	6503	6397
17	7463	7330	7202	7077	6956	6837	6722	6610	6501	6395
18	7461	7338	7200	7075	6954	6836	6721	6609	6500	6393
19	7458	7326	7197	7073	6952	6834	6719	6607	6498	6391
20	7456	7324	7195	7071	6950	6832	6717	6605	6496	6390
21	7454	7322	7193	7069	6948	6830	6715	6603	6494	6388
22	7452	7319	7191	7067	6946	6828	6713	6601	6492	6386
23	7449	7317	7189	7065	6944	6826	6711	6599	6490	6384
24	7447	7315	7187	7063	6942	6824	6709	6598	6489	6383
25	7445	7313	7185	7061	6940	6822	6707	6596	6487	6381
26	7443	7311	7183	7059	6938	6820	6705	6594	6485	6379
27	7441	7309	7181	7057	6936	6818	6704	6592	6484	6377
28	7438	7306	7179	7054	6934	6816	6702	6590	6482	6376
29	7436	7304	7177	7052	6932	6814	6700	6588	6480	6374
30	7434	7302	7175	7050	6930	6812	6698	6587	6478	6372

A TABLE OF PROPORTIONAL LOGARITHMS.

′	32°	33°	34°	35°	36°	37°	38°	39°	40°	41°
31	7431	7300	7172	7048	6928	6810	6696	6585	6476	6370
32	7429	7298	7170	7046	6926	6808	6694	6583	6474	6369
33	7427	7296	7168	7044	6924	6807	6692	6581	6473	6367
34	7425	7293	7166	7042	6922	6805	6690	6579	6471	6365
35	7423	7291	7164	7040	6920	6803	6689	6577	6469	6363
36	7421	7289	7162	7038	6918	6801	6687	6576	6467	6362
37	7418	7287	7160	7036	6916	6799	6685	6574	6465	6360
38	7416	7285	7158	7034	6914	6797	6683	6572	6464	6358
39	7414	7283	7156	7032	6912	6795	6681	6570	6462	6357
40	7411	7281	7153	7030	6910	6793	6679	6568	6460	6355
41	7409	7278	7151	7028	6908	6791	6677	6566	6458	6353
42	7407	7276	7149	7026	6906	6789	6676	6565	6457	6351
43	7405	7274	7147	7024	6904	6787	6674	6563	6455	6349
44	7403	7272	7145	7022	6902	6785	6672	6561	6453	6348
45	7401	7270	7143	7020	6900	6784	6670	6559	6451	6346
46	7398	7268	7141	7018	6898	6782	6668	6557	6449	6344
47	7396	7266	7139	7016	6896	6780	6666	6556	6448	6342
48	7394	7264	7137	7014	6894	6778	6664	6554	6446	6341
49	7392	7261	7135	7012	6892	6776	6662	6552	6444	6339
50	7389	7259	7133	7010	6890	6774	6660	6550	6442	6337
51	7387	7257	7131	7008	6888	6772	6659	6548	6441	6336
52	7385	7255	7128	7006	6886	6770	6657	6546	6439	6334
53	7383	7253	7126	7004	6884	6768	6655	6545	6437	6332
54	7381	7251	7124	7002	6882	6766	6653	6543	6435	6331
55	7378	7248	7122	7000	6880	6764	6651	6541	6434	6329
56	7376	7246	7120	6998	6878	6762	6649	6539	6432	6327
57	7374	7244	7118	6996	6877	6761	6648	6538	6430	6325
58	7372	7242	7116	6994	6875	6759	6646	6536	6428	6323
59	7370	7240	7114	6992	6873	6757	6644	6534	6426	6322
60	7368	7238	7112	6990	6871	6755	6642	6532	6425	6320

A

TABLE

OF

PROPORTIONAL LOGARITHMS.

'	42°	43°	44°	45°	46°	47°	48°	49°	50°	51°
0	6320	6218	6118	6021	5925	5832	5740	5651	5563	5477
1	6318	6216	6116	6019	5923	5830	5739	5649	5561	5475
2	6317	6214	6115	6017	5922	5828	5737	5648	5560	5474
3	6315	6213	6113	6016	5920	5827	5736	5646	5559	5473
4	6313	6211	6111	6014	5919	5825	5734	5645	5557	5471
5	6311	6209	6110	6012	5917	5824	5733	5643	5556	5470
6	6310	6208	6108	6011	5916	5823	5731	5642	5554	5469
7	6308	6206	6106	6009	5914	5821	5730	5640	5553	5467
8	6306	6204	6105	6008	5912	5819	5728	5639	5551	5465
9	6305	6203	6103	6006	5911	5818	5727	5637	5550	5464
10	6303	6201	6102	6004	5909	5816	5725	5636	5548	5463
11	6301	6199	6100	6003	5908	5815	5724	5634	5547	5461
12	6300	6198	6099	6001	5906	5813	5722	5633	5546	5460
13	6298	6196	6097	6000	5905	5812	5721	5631	5544	5458
14	6296	6194	6095	5998	5903	5810	5719	5630	5543	5457
15	6294	6193	6094	5997	5902	5809	5718	5629	5541	5456
16	6293	6191	6092	5995	5900	5807	5716	5627	5540	5454
17	6291	6189	6090	5993	5898	5805	5715	5626	5538	5453
18	6289	6188	6089	5992	5897	5804	5713	5624	5537	5452
19	6287	6186	6087	5990	5895	5802	5712	5623	5535	5450
20	6286	6184	6085	5988	5894	5801	5710	5621	5534	5449
21	6284	6183	6084	5987	5892	5800	5709	5620	5533	5447
22	6282	6181	6082	5985	5890	5798	5707	5618	5531	5446
23	6281	6179	6080	5984	5889	5796	5706	5617	5530	5444
24	6279	6178	6079	5982	5888	5795	5704	5615	5528	5443
25	6277	5176	6077	5980	5886	5793	5703	5614	5527	5441
26	6275	6174	6075	5979	5884	5792	5701	5612	5525	5440
27	6274	6173	6074	5977	5883	5790	5700	5611	5524	5439
28	6272	6171	6072	5976	5881	5789	5698	5609	5522	5437
29	6270	6169	6071	5974	5880	5787	5697	5608	5521	5436
30	6269	6168	6069	5973	5878	5786	5695	5607	5520	5435

A TABLE OF PROPORTIONAL LOGARITHMS.

′	42°	43°	44°	45°	46°	47°	48°	49°	50°	51°
31	6267	6166	6067	5971	5876	5784	5694	5605	5518	5423
32	6265	6164	6066	5969	5875	5783	5693	5604	5517	5422
33	6264	6163	6064	5968	5874	5781	5691	5602	5516	5420
34	6262	6161	6062	5966	5872	5779	5689	5601	5514	5429
35	6260	6159	6061	5964	5870	5778	5688	5599	5512	5427
36	6259	6158	6059	5963	5869	5777	5686	5598	5511	5426
37	6257	6156	6058	5961	5867	5775	5685	5596	5510	5425
38	6255	6154	6056	5960	5966	5773	5683	5595	5508	5423
39	6254	6153	6055	5958	5864	5772	5682	5594	5507	5422
40	6252	6151	6053	5957	5862	5770	5680	5592	5505	5420
41	6250	6149	6051	5955	5861	5769	5679	5590	5504	5419
42	6248	6148	6050	5954	5860	5768	5677	5589	5503	5418
43	6247	6146	6048	5952	5858	5766	5676	5587	5501	5416
44	6245	6144	6046	5950	5856	5764	5674	5586	5500	5415
45	6243	6143	6045	5949	5855	5763	5673	5585	5498	5414
46	6241	6141	6043	5947	5853	5761	5671	5583	5497	5412
47	6240	6139	6041	5945	5852	5760	5670	5582	5495	5411
48	6238	6138	6040	5944	5850	5758	5669	5580	5494	5409
49	6236	6136	6038	5942	5849	5757	5667	5579	5492	5408
50	6235	6134	6037	5941	5847	5755	5665	5577	5491	5406
51	6233	6133	6035	5939	5846	5754	5664	5576	5490	5405
52	6231	6131	6033	5938	5844	5752	5662	5574	5488	5404
53	6230	6130	6032	5936	5842	5751	5661	5573	5487	5402
54	6228	6128	6030	5935	5841	5749	5660	5572	5486	5401
55	6226	6126	6028	5933	5839	5748	5658	5570	5484	5399
56	6225	6125	6027	5931	5838	5746	5656	5569	5482	5398
57	6223	6123	6025	5930	5836	5745	5655	5567	5481	5397
58	6221	6121	6024	5928	5835	5743	5654	5566	5480	5395
59	6220	6120	6022	5927	5833	5742	5652	5564	5478	5394
60	6218	6118	6021	5925	5832	5740	5651	5563	5477	5393

A

TABLE

OF

PROPORTIONAL LOGARITHMS.

′	52°	53°	54°	55°	56°	57°	58°	59°	60°	61°
0	5393	5310	5229	5149	5071	4994	4918	4844	4771	4699
1	5391	5308	5227	5148	5069	4992	4917	4843	4770	4698
2	5390	5307	5226	5146	5068	4991	4916	4842	4769	4697
3	5389	5306	5225	5145	5067	4990	4915	4841	4768	4696
4	5387	5304	5223	5144	5065	4989	4913	4839	4766	4694
5	5386	5303	5222	5142	5064	4987	4912	4838	4765	4693
6	5384	5302	5221	5141	5063	4986	4911	4837	4764	4692
7	5383	5300	5219	5140	5062	4985	4910	4835	4763	4691
8	5381	5299	5218	5138	5060	4984	4908	4834	4761	4690
9	5380	5298	5217	5137	5059	4983	4907	4833	4760	4689
10	5379	5296	5215	5136	5058	4981	4906	4832	4759	4687
11	5377	5295	5214	5134	5056	4980	4905	4831	4758	4686
12	5376	5294	5213	5133	5055	4979	4903	4830	4757	4685
13	5374	5292	5211	5132	5054	4977	4902	4828	4755	4684
14	5373	5291	5210	5130	5053	4976	4901	4827	4754	4683
15	5372	5290	5209	5129	5051	4975	4900	4826	4753	4682
16	5370	5288	5207	5128	5050	4973	4898	4824	4752	4680
17	5369	5287	5206	5127	5049	4972	4897	4823	4751	4679
18	5368	5285	5205	5125	5048	4971	4896	4822	4750	4678
19	5366	5284	5203	5124	5046	4970	4895	4821	4748	4677
20	5365	5283	5202	5123	5045	4968	4893	4820	4747	4676
21	5364	5281	5201	5122	5044	4967	4892	4819	4746	4675
22	5362	5280	5199	5120	5042	4966	4891	4817	4745	4673
23	5361	5278	5198	5119	5041	4965	4890	4816	4743	4672
24	5359	5277	5197	5118	5040	4964	4889	4815	4742	4671
25	5358	5276	5195	5116	5038	4962	4887	4813	4741	4670
26	5356	5274	5194	5115	5037	4961	4886	4812	4740	4669
27	5355	5273	5193	5114	5036	4960	4885	4811	4739	4668
28	5354	5272	5191	5112	5035	4958	4883	4810	4737	4666
29	5352	5270	5190	5111	5033	4957	4882	4809	4736	4665
30	5351	5269	5189	5110	5032	4956	4881	4808	4735	4664

A

TABLE

OF

PROPORTIONAL LOGARITHMS.

′	52°	53°	54°	55°	56°	57°	58°	59°	60°	61°
31	5350	5268	5187	5108	5031	4955	4880	4806	4734	4663
32	5348	5266	5186	5107	5029	4953	4878	4805	4733	4661
33	5347	5265	5185	5106	5028	4952	4877	4804	4732	4660
34	5345	5264	5183	5104	5027	4951	4876	4802	4730	4659
35	5344	5262	5182	5103	5026	4950	4875	4801	4729	4658
36	5343	5261	5181	5102	5025	4949	4874	4800	4728	4657
37	5341	5260	5179	5100	5023	4947	4872	4799	4727	4656
38	5340	5258	5178	5099	5022	4946	4871	4798	4725	4654
39	5339	5257	5177	5098	5021	4945	4870	4797	4724	4653
40	5337	5255	5175	5097	5019	4943	4869	4795	4723	4652
41	5336	5254	5174	5095	5018	4942	4867	4794	4722	4651
42	5335	5253	5173	5094	5017	4941	4866	4793	4721	4650
43	5333	5251	5171	5093	5015	4940	4865	4792	4719	4648
44	5332	5250	5170	5091	5014	4938	4864	4790	4718	4647
45	5331	5249	5169	5090	5013	4937	4863	4789	4717	4646
46	5329	5247	5167	5089	5012	4936	4861	4788	4716	4645
47	5328	5246	5166	5087	5010	4934	4860	4787	4715	4644
48	5326	5245	5165	5086	5009	4933	4859	4786	4714	4643
49	5325	5243	5163	5085	5008	4932	4858	4784	4712	4641
50	5323	5242	5162	5084	5006	4931	4856	4783	4711	4640
51	5322	5241	5161	5082	5005	4930	4855	4782	4710	4639
52	5321	5239	5159	5081	5004	4928	4854	4781	4709	4638
53	5319	5238	5158	5080	5003	4927	4853	4779	4708	4637
54	5318	5237	5157	5079	5002	4926	4852	4778	4707	4636
55	5317	5235	5155	5077	5000	4924	4850	4777	4705	4634
56	5315	5234	5154	5076	4999	4923	4849	4776	4704	4633
57	5314	5233	5153	5075	4998	4922	4848	4775	4703	4632
58	5312	5231	5152	5073	4996	4921	4846	4773	4702	4631
59	5311	5230	5150	5072	4995	4919	4845	4772	4700	4630
60	5310	5229	5149	5071	4994	4918	4844	4771	4699	4629

A TABLE OF PROPORTIONAL LOGARITHMS.

′	62°	63°	64°	65°	66°	67°	68°	69°	70°	71°
0	4629	4559	4491	4424	4357	4292	4228	4164	4102	4040
1	4627	4558	4490	4422	4356	4291	4226	4163	4101	4039
2	4626	4557	4489	4421	4355	4290	4225	4162	4100	4038
3	4625	4556	4488	4420	4354	4289	4224	4161	4099	4037
4	4624	4555	4486	4419	4353	4287	4223	4160	4098	4036
5	4623	4553	4485	4418	4352	4286	4222	4159	4097	4035
6	4622	4552	4484	4417	4351	4285	4221	4158	4096	4034
7	4620	4551	4483	4416	4349	4284	4220	4157	4094	4033
8	4619	4550	4482	4415	4348	4283	4219	4156	4093	4032
9	4618	4549	4481	4414	4347	4282	4218	4155	4092	4031
10	4617	4548	4479	4412	4346	4281	4217	4154	4091	4030
11	4616	4547	4478	4411	4345	4280	4216	4153	4090	4029
12	4615	4546	4477	4410	4344	4279	4215	4152	4089	4028
13	4613	4544	4476	4409	4343	4278	4214	4151	4088	4027
14	4612	4543	4475	4408	4342	4277	4213	4150	4037	4026
15	4611	4542	4474	4407	4341	4276	4212	4149	4086	4025
16	4610	4541	4473	4406	4340	4275	4211	4147	4085	4024
17	4609	4540	4472	4405	4339	4274	4210	4146	4084	4023
18	4608	4539	4471	4404	4338	4273	4209	4145	4083	4022
19	4606	4537	4469	4402	4336	4271	4207	4144	4082	4021
20	4605	4536	4468	4401	4335	4270	4206	4143	4081	4020
21	4604	4535	4467	4400	4334	4269	4205	4142	4080	4019
22	4603	4534	4466	4399	4333	4268	4204	4141	4079	4018
23	4602	4533	4465	4398	4332	4267	4203	4140	4078	4017
24	4601	4532	4464	4397	4331	4266	4202	4139	4077	4016
25	4600	4530	4463	4396	4330	4265	4201	4138	4076	4015
26	4598	4529	4461	4395	4329	4264	4200	4137	4075	4014
27	4597	4528	4460	4394	4328	4263	4199	4136	4074	4013
28	4596	4527	4459	4392	4327	4262	4198	4135	4073	4012
29	4595	4526	4458	4391	4326	4261	4197	4134	4072	4011
30	4594	4525	4457	4390	4325	4260	4196	4133	4071	4010

A

TABLE

OF

PROPORTIONAL LOGARITHMS.

′	62°	63°	64°	65°	66°	67°	68°	69°	70°	71°
31	4593	4524	4456	4389	4323	4258	4195	4132	4070	4009
32	4591	4523	4455	4388	4322	4257	4194	4131	4069	4008
33	4590	4522	4454	4387	4321	4256	4193	4130	4068	4007
34	4589	4520	4452	4386	4320	4255	4191	4129	4067	4006
35	4588	4519	4451	4385	4319	4254	4190	4128	4066	4005
36	4587	4518	4450	4384	4318	4253	4189	4127	4065	4004
37	4586	4517	4449	4382	4317	4252	4188	4126	4064	4003
38	4585	4516	4448	4381	4316	4251	4187	4125	4063	4002
39	4584	4515	4447	4380	4315	4250	4186	4124	4062	4001
40	4582	4513	4446	4379	4313	4249	4185	4122	4061	4000
41	4581	4512	4445	4378	4312	4248	4184	4121	4060	3999
42	4580	4511	4444	4377	4311	4247	4183	4120	4059	3998
43	4579	4510	4442	4376	4310	4246	4182	4119	4057	3997
44	4578	4509	4441	4375	4309	4245	4181	4118	4056	3996
45	4577	4508	4440	4374	4308	4244	4180	4117	4055	3995
46	4575	4507	4439	4372	4307	4242	4179	4116	4054	3993
47	4574	4506	4438	4371	4306	4241	4178	4115	4053	3992
48	4573	4505	4437	4370	4305	4240	4177	4114	4052	3991
49	4572	4503	4436	4369	4304	4239	4176	4113	4051	3990
50	4571	4502	4435	4368	4303	4238	4175	4112	4050	3989
51	4570	4501	4434	4367	4302	4237	4174	4111	4049	3988
52	4568	4500	4432	4366	4300	4236	4173	4110	4048	3987
53	4567	4499	4431	4365	4299	4235	4172	4109	4047	3986
54	4566	4498	4430	4364	4298	4234	4171	4108	4046	3985
55	4565	4496	4429	4363	4297	4233	4169	4107	4045	3984
56	4564	4495	4428	4362	4296	4232	4168	4106	4044	3983
57	4563	4494	4427	4361	4295	4231	4167	4105	4043	3982
58	4561	4493	4426	4359	4294	4230	4166	4104	4042	3981
59	4560	4492	4425	4358	4293	4229	4165	4103	4041	3980
60	4559	4491	4424	4357	4292	4228	4164	4102	4040	3979

A

TABLE

OF

PROPORTIONAL LOGARITHMS.

′	72°	73°	74°	75°	76°	77°	78°	79°	80°	81°
0	3979	3919	3860	3802	3745	3688	3632	3576	3522	3468
1	3978	3918	3859	3801	3744	3687	3631	3575	3521	3467
2	3977	3917	3858	3800	3743	3686	3630	3574	3520	3466
3	3976	3917	3857	3799	3742	3685	3629	3574	3519	3465
4	3975	3916	3856	3798	3741	3684	3628	3573	3518	3464
5	3974	3915	3855	3797	3740	3683	3627	3572	3517	3463
6	3973	3914	3855	3796	3739	3682	3626	3571	3516	3463
7	3972	3913	3854	3795	3738	3681	3625	3570	3515	3462
8	3971	3912	3853	3794	3737	3680	3624	3569	3514	3461
9	3970	3911	3852	3793	3736	3679	3623	3568	3514	3460
10	3969	3910	3851	3792	3735	3678	3622	3567	3513	3459
11	3968	3909	3850	3791	3734	3677	3621	3566	3512	3458
12	3967	3908	3849	3791	3733	3677	3621	3565	3511	3457
13	3966	3907	3848	3790	3732	3676	3620	3564	3510	3456
14	3965	3906	3847	3789	3731	3675	3619	3563	3509	3455
15	3964	3905	3846	3788	3730	3674	3618	3563	3508	3454
16	3963	3904	3845	3787	3729	3673	3617	3562	3507	3454
17	3962	3903	3844	3786	3728	3672	3616	3561	3506	3453
18	3961	3902	3843	3785	3727	3671	3615	3560	3506	3452
19	3960	3901	3842	3784	3726	3670	3614	3559	3505	3451
20	3959	3900	3841	3783	3725	3669	3613	3558	3504	3430
21	3958	3899	3840	3782	3725	3668	3612	3557	3503	3449
22	3957	3898	3839	3781	3724	3667	3611	3556	3502	3448
23	3956	3897	3838	3780	3723	3666	3610	3555	3501	3447
24	3955	3896	3837	3779	3722	3665	3610	3555	3500	3446
25	3954	3895	3836	3778	3721	3664	3609	3554	3499	3445
26	3953	3894	3835	3777	3720	3663	3608	3553	3498	3445
27	3952	3893	3834	3776	3719	3663	3607	3552	3497	3444
28	3951	3892	3833	3775	3718	3662	3606	3551	3496	3443
29	3950	3891	3832	3774	3717	3661	3605	3550	3496	3442
30	3949	3890	3831	3773	3716	3660	3604	3549	3495	3441

A TABLE OF PROPORTIONAL LOGARITHMS.

′	72°	73°	74°	75°	76°	77°	78°	79°	80°	81°
31	3948	3889	3830	3772	3715	3659	3603	3548	3494	3440
32	3947	3888	3829	3771	3714	3658	3602	3547	3493	3439
33	3946	3887	3828	3770	3713	3657	3601	3546	3492	3438
34	3945	3886	3827	3769	3712	3656	3600	3545	3491	3438
35	3944	3885	3826	3768	3711	3655	3599	3544	3490	3437
36	3943	3884	3825	3768	3710	3654	3598	3544	3489	3436
37	3942	3883	3824	3767	3709	3653	3597	3543	3488	3435
38	3941	3882	3823	3766	3708	3652	3596	3542	3487	3434
39	3940	3881	3822	3765	3708	3651	3596	3541	3487	3433
40	3939	3880	3821	3764	3707	3650	3595	3540	3486	3432
41	3938	3879	3820	3763	3706	3649	3594	3539	3485	3431
42	3937	3878	3820	3762	3705	3649	3593	3538	3484	3431
43	3936	3877	3819	3761	3704	3648	3592	3537	3483	3430
44	3935	3876	3818	3760	3703	3647	3591	3536	3482	3429
45	3934	3875	3817	3759	3702	3646	3590	3535	3481	3428
46	3933	3874	3816	3758	3701	3645	3589	3534	3480	3427
47	3932	3873	3815	3757	3700	3644	3588	3533	3479	3426
48	3931	3872	3814	3756	3699	3643	3587	3533	3479	3425
49	3930	3871	3813	3755	3698	3642	3586	3532	3478	3424
50	3929	3870	3812	3754	3697	3641	3585	3531	3477	3423
51	3928	3869	3811	3753	3696	3640	3585	3530	3476	3423
52	3927	3868	3810	3752	3695	3639	3584	3529	3475	3422
53	3926	3867	3809	3751	3694	3638	3583	3528	3474	3421
54	3925	3866	3808	3750	3693	3637	3582	3527	3473	3420
55	3924	3865	3807	3749	3692	3636	3581	3526	3472	3419
56	3923	3864	3806	3748	3691	3636	3580	3525	3471	3418
57	3922	3863	3805	3747	3691	3635	3579	3525	3471	3417
58	3921	3862	3804	3746	3690	3634	3578	3524	3470	3416
59	3920	3861	3803	3745	3689	3633	3577	3523	3469	3415
60	3919	3860	3802	3745	3688	3632	3576	3522	3468	3415

A

TABLE

OF

PROPORTIONAL LOGARITHMS.

′	82°	83°	84°	85°	86°	87°	88°	89°	90°	91°
0	3415	3362	3310	3259	3208	3158	3108	3059	3010	2962
1	3414	3361	3309	3258	3207	3157	3107	3058	3009	2961
2	3413	3360	3308	3257	3206	3156	3106	3057	3009	2961
3	3412	3359	3307	3256	3205	3155	3105	3056	3008	2960
4	3411	3358	3306	3255	3204	3154	3105	3056	3007	2959
5	3410	3358	3306	3254	3203	3153	3104	3055	3006	2958
6	3409	3357	3305	3253	3203	3153	3103	3054	3005	2958
7	3408	3356	3304	3253	3202	3152	3102	3053	3005	2957
8	3407	3355	3303	3252	3201	3151	3101	3052	3004	2956
9	3407	3354	3302	3251	3200	3150	3101	3052	3003	2955
10	3406	3353	3301	3250	3199	3149	3100	3051	3002	2954
11	3405	3352	3300	3249	3198	3148	3099	3050	3001	2954
12	3404	3351	3300	3248	3198	3148	3098	3049	3001	2953
13	3403	3351	3299	3247	3197	3147	3097	3048	3000	2952
14	3402	3350	3298	3247	3196	3146	3096	3047	2999	2951
15	3401	3349	3297	3246	3195	3145	3096	3047	2998	2950
16	3400	3348	3296	3245	3194	3144	3095	3046	2997	2950
17	3400	3347	3295	3244	3193	3143	3094	3045	2997	2949
18	3399	3346	3294	3243	3193	3143	3093	3044	2996	2948
19	3398	3345	3294	3242	3192	3142	3092	3043	2995	2947
20	3397	3344	3293	3241	3191	3141	3091	3043	2994	2946
21	3396	3344	3292	3241	3190	3140	3091	3042	2993	2946
22	3395	3343	3291	3240	3189	3139	3090	3041	2992	2945
23	3394	3342	3290	3239	3188	3138	3089	3040	2992	2944
24	3393	3341	3289	3238	3188	3138	3088	3039	2991	2943
25	3393	3340	3288	3237	3187	3137	3087	3038	2990	2942
26	3392	3339	3287	3236	3186	3136	3086	3038	2989	2942
27	3391	3338	3287	3236	3185	3135	3086	3037	2989	2941
28	3390	3338	3286	3235	3184	3134	3085	3036	2988	2940
29	3389	3337	3285	3234	3183	3133	3084	3035	2987	2939
30	3388	3336	3284	3233	3183	3133	3083	3034	2986	2939

A

TABLE

OF

PROPORTIONAL LOGARITHMS.

′	82°	83°	84°	85°	86°	87°	88°	89°	90°	91°
31	3387	3335	3283	3232	3182	3132	3082	3034	2985	2938
32	3386	3334	3282	3231	3181	3131	3082	3033	2985	2937
33	3386	3333	3282	3231	3180	3130	3081	3032	2984	2936
34	3385	3332	3281	3230	3179	3129	3080	3031	2983	2935
35	3384	3331	3280	3229	3178	3128	3079	3030	2982	2934
36	3383	3331	3279	3228	3178	3128	3078	3030	2981	2934
37	3382	3330	3278	3227	3177	3127	3078	3029	2981	2933
38	3381	3329	3277	3226	3176	3126	3077	3028	2980	2932
39	3380	3328	3276	3225	3175	3125	3076	3027	2979	2931
40	3379	3327	3276	3225	3174	3124	3075	3026	2978	2931
41	3378	3326	3275	3224	3173	3123	3074	3026	2977	2930
42	3378	3325	3274	3223	3173	3123	3073	3025	2977	2929
43	3377	3325	3273	3222	3172	3122	3073	3024	2976	2928
44	3376	3324	3272	3221	3171	3121	3072	3023	2975	2927
45	3375	3323	3271	3220	3170	3120	3071	3022	2974	2927
46	3374	3322	3270	3219	3169	3119	3070	3022	2973	2926
47	3373	3321	3270	3219	3168	3119	3069	3021	2973	2925
48	3372	3320	3269	3218	3168	3118	3069	3020	2972	2924
49	3371	3319	3268	3217	3167	3117	3068	3019	2971	2923
50	3371	3318	3267	3216	3166	3116	3067	3018	2970	2923
51	3370	3318	3266	3215	3165	3115	3066	3018	2969	2922
52	3369	3317	3265	3214	3164	3114	3065	3017	2969	2921
53	3368	3316	3264	3214	3163	3114	3064	3016	2968	2920
54	3367	3315	3264	3213	3163	3113	3064	3015	2967	2920
55	3366	3314	3263	3212	3162	3112	3063	3014	2966	2919
56	3365	3313	3262	3211	3161	3111	3062	3013	2965	2918
57	3365	3313	3261	3210	3160	3110	3061	3013	2965	2917
58	3364	3312	3260	3209	3159	3109	3060	3012	2964	2916
59	3363	3311	3259	3209	3158	3109	3060	3011	2963	2916
60	3362	3310	3259	3208	3158	3108	3059	3010	2962	2915

A TABLE OF PROPORTIONAL LOGARITHMS.

'	92°	93°	94°	95°	96°	97°	98°	99°	100°	101°
0	2915	2868	2821	2775	2730	2685	2640	2596	2553	2510
1	2914	2867	2821	2775	2729	2684	2640	2596	2552	2509
2	2913	2866	2820	2774	2728	2683	2639	2595	2551	2508
3	2912	2866	2819	2773	2728	2683	2638	2594	2551	2507
4	2912	2865	2818	2772	2727	2682	2637	2593	2550	2507
5	2911	2864	2818	2772	2726	2681	2637	2593	2549	2506
6	2910	2863	2817	2771	2725	2681	2636	2592	2548	2505
7	2909	2862	2816	2770	2725	2680	2635	2591	2548	2504
8	2908	2862	2815	2769	2724	2679	2634	2590	2547	2504
9	2908	2861	2815	2769	2723	2678	2634	2590	2546	2503
10	2907	2860	2814	2768	2722	2678	2633	2589	2545	2502
11	2906	2859	2813	2767	2722	2677	2632	2588	2545	2502
12	2905	2859	2812	2766	2721	2676	2632	2588	2544	2501
13	2905	2858	2811	2766	2720	2675	2631	2587	2543	2500
14	2904	2857	2811	2765	2719	2675	2630	2586	2543	2499
15	2903	2856	2810	2764	2719	2674	2629	2585	2542	2499
16	2902	2855	2809	2763	2718	2673	2629	2585	2541	2498
17	2901	2855	2808	2762	2717	2672	2628	2584	2540	2497
18	2901	2854	2808	2762	2716	2672	2627	2583	2540	2497
19	2900	2853	2807	2761	2716	2671	2626	2582	2539	2496
20	2899	2852	2806	2760	2715	2670	2626	2582	2538	2495
21	2898	2852	2805	2760	2714	2669	2625	2581	2538	2494
22	2898	2851	2804	2759	2713	2669	2624	2580	2537	2494
23	2897	2850	2804	2758	2713	2668	2623	2580	2536	2493
24	2896	2849	2803	2757	2712	2667	2623	2579	2535	2492
25	2895	2848	2802	2756	2711	2666	2622	2578	2535	2492
26	2894	2848	2801	2756	2710	2666	2621	2577	2534	2491
27	2894	2847	2801	2755	2710	2665	2621	2577	2533	2490
28	2893	2846	2800	2754	2709	2664	2620	2576	2532	2489
29	2892	2845	2799	2753	2708	2663	2619	2575	2532	2489
30	2891	2845	2798	2753	2707	2663	2618	2574	2531	2468

A
TABLE
OF
PROPORTIONAL LOGARITHMS.

′	92°	93°	94°	95°	96°	97°	98°	99°	100°	101°
31	2890	2844	2798	2752	2707	2662	2618	2574	2530	2487
32	2890	2843	2797	2751	2706	2661	2617	2573	2530	2487
33	2889	2842	2796	2750	2705	2660	2616	2572	2529	2486
34	2888	2841	2795	2750	2704	2660	2615	2572	2528	2485
35	2887	2841	2795	2749	2704	2659	2615	2571	2527	2484
36	2887	2840	2794	2748	2703	2658	2614	2570	2527	2484
37	2886	2839	2793	2747	2702	2657	2613	2569	2526	2483
38	2885	2838	2792	2747	2701	2657	2612	2569	2525	2482
39	2884	2838	2792	2746	2701	2656	2612	2568	2525	2482
40	2883	2837	2791	2745	2700	2655	2611	2567	2524	2481
41	2883	2836	2790	2744	2699	2654	2610	2566	2523	2480
42	2882	2835	2789	2744	2698	2654	2610	2566	2522	2480
43	2881	2834	2788	2743	2698	2653	2609	2565	2522	2479
44	2880	2834	2788	2742	2697	2652	2608	2564	2521	2478
45	2880	2833	2787	2741	2696	2652	2607	2564	2520	2477
46	2879	2832	2786	2741	2695	2651	2607	2563	2520	2477
47	2878	2831	2785	2740	2695	2650	2606	2562	2519	2476
48	2877	2831	2785	2739	2694	2649	2605	2561	2518	2175
49	2876	2830	2784	2738	2693	2649	2604	2561	2517	2474
50	2876	2829	2783	2737	2692	2648	2604	2560	2517	2474
51	2875	2828	2782	2737	2692	2647	2603	2559	2516	2473
52	2874	2828	2782	2736	2691	2646	2602	2558	2515	2472
53	2873	2827	2781	2735	2690	2646	2601	2558	2514	2472
54	2873	2826	2780	2735	2689	2645	2601	2557	2514	2471
55	2872	2825	2779	2734	2689	2644	2600	2556	2513	2470
56	2871	2824	2778	2733	2688	2643	2599	2556	2512	2470
57	2870	2824	2778	2732	2687	2643	2599	2555	2512	2469
58	2869	2823	2777	2731	2686	2642	2598	2554	2511	2468
59	2869	2822	277[illegible]	2731	2686	2641	2597	2553	2510	2467
60	2868	2821	2775	2730	2685	2640	2596	2553	2510	2467

A

TABLE

OF

PROPORTIONAL LOGARITHMS.

′	102°	103°	104°	105°	106°	107°	108°	109°	110°	111°
0	2467	2424	2382	2341	2300	2259	2218	2178	2139	2099
1	2466	2424	2382	2340	2299	2258	2218	2178	2138	2099
2	2465	2423	2381	2339	2298	2257	2217	2177	2137	2098
3	2465	2422	2380	2339	2298	2257	2216	2176	2137	2098
4	2464	2421	2380	2338	2297	2256	2216	2176	2136	2097
5	2463	2421	2379	2337	2296	2255	2215	2175	2135	2096
6	2462	2420	2378	2337	2296	2255	2214	2174	2135	2096
7	2462	2419	2378	2336	2295	2254	2214	2174	2134	2095
8	2461	2419	2377	2335	2294	2253	2213	2173	2133	2094
9	2460	2418	2376	2335	2294	2253	2212	2172	2133	2094
10	2460	2417	2375	2334	2293	2252	2212	2172	2132	2093
11	2459	2417	2375	2333	2292	2251	2211	2171	2132	2092
12	2458	2416	2374	2333	2291	2251	2210	2170	2131	2092
13	2457	2415	2373	2332	2291	2250	2210	2170	2130	2091
14	2457	2414	2373	2331	2290	2249	2209	2169	2130	2090
15	2456	2414	2372	2331	2289	2249	2208	2169	2129	2090
16	2455	2413	2371	2330	2289	2248	2208	2168	2128	2089
17	2455	2412	2371	2329	2288	2247	2207	2167	2128	2088
18	2454	2412	2370	2328	2287	2247	2206	2167	2127	2088
19	2453	2411	2369	2328	2287	2246	2206	2166	2126	2087
20	2452	2410	2368	2327	2286	2245	2205	2165	2126	2086
21	2452	2410	2368	2326	2285	2245	2204	2165	2125	2086
22	2451	2409	2367	2326	2285	2244	2204	2164	2124	2085
23	2450	2408	2366	2325	2284	2243	2203	2163	2124	2084
24	2450	2408	2366	2324	2283	2243	2202	2163	2123	2084
25	2449	2407	2365	2324	2283	2242	2202	2162	2122	2083
26	2448	2406	2364	2323	2282	2241	2201	2161	2122	2083
27	2448	2405	2364	2322	2281	2241	2200	2161	2121	2082
28	2447	2405	2363	2322	2281	2240	2200	2160	2120	2081
29	2446	2404	2362	2321	2280	2239	2199	2159	2120	2081
30	2445	2403	2362	2320	2279	2239	2198	2159	2119	2080

A TABLE OF PROPORTIONAL LOGARITHMS.

′	102°	103°	104°	105°	106°	107°	108°	109°	110°	111°
31	2445	2403	2361	2319	2279	2238	2198	2158	2118	2079
32	2444	2402	2360	2319	2278	2237	2197	2157	2118	2079
33	2443	2401	2359	2318	2277	2237	2196	2157	2117	2078
34	2443	2400	2359	2317	2276	2236	2196	2156	2116	2077
35	2442	2400	2358	2317	2276	2235	2195	2155	2116	2077
36	2441	2399	2357	2316	2275	2235	2194	2155	2115	2076
37	2440	2398	2357	2315	2274	2234	2194	2154	2114	2075
38	2440	2398	2356	2315	2274	2233	2193	2153	2114	2075
39	2439	2397	2355	2314	2273	2233	2192	2153	2113	2074
40	2438	2396	2355	2313	2272	2232	2192	2152	2113	2073
41	2438	2396	2354	2313	2272	2231	2191	2151	2112	2073
42	2437	2395	2353	2312	2271	2231	2190	2151	2111	2072
43	2436	2394	2353	2311	2270	2230	2190	2150	2111	2071
44	2436	2394	2352	2311	2270	2229	2189	2149	2110	2071
45	2435	2393	2351	2310	2269	2229	2188	2149	2109	2070
46	2434	2392	2350	2309	2268	2228	2188	2148	2109	2070
47	2433	2391	2350	2308	2268	2227	2187	2147	2108	2069
48	2433	2391	2349	2308	2267	2227	2186	2147	2107	2068
49	2432	2390	2348	2307	2266	2226	2186	2146	2107	2068
50	2431	2389	2348	2306	2266	2225	2185	2145	2106	2067
51	2431	2389	2347	2306	2265	2225	2184	2145	2105	2066
52	2430	2388	2346	2305	2264	2224	2184	2144	2105	2066
53	2429	2387	2346	2304	2264	2223	2183	2143	2104	2065
54	2429	2387	2345	2304	2263	2223	2182	2143	2103	2064
55	2428	2386	2344	2303	2262	2222	2182	2142	2103	2064
56	2427	2385	2344	2302	2262	2221	2181	2141	2102	2063
57	2426	2384	2343	2302	2261	2220	2180	2141	2101	2062
58	2426	2384	2342	2301	2260	2220	2180	2140	2101	2062
59	2425	2383	2341	2300	2260	2219	2179	2139	2100	2061
60	2424	2382	2341	2300	2259	2218	2178	2139	2099	2061

A

TABLE

OF

PROPORTIONAL LOGARITHMS.

′	112°	113°	114°	115°	116°	117°	118°	119°	120°	121°
0	2061	2022	1984	1946	1908	1871	1834	1797	1761	1725
1	2060	2021	1983	1945	1907	1870	1833	1797	1760	1724
2	2059	2021	1982	1944	1907	1870	1833	1796	1760	1724
3	2059	2020	1982	1944	1906	1869	1832	1795	1759	1723
4	2058	2019	1981	1943	1906	1868	1831	1795	1758	1722
5	2057	2019	1980	1943	1905	1868	1831	1794	1758	1722
6	2057	2018	1980	1942	1904	1867	1830	1794	1757	1721
7	2056	2017	1979	1941	1904	1867	1830	1793	1757	1721
8	2055	2017	1979	1941	1903	1866	1829	1792	1756	1720
9	2055	2016	1978	1940	1903	1865	1828	1792	1755	1719
10	2054	2016	1977	1939	1902	1865	1828	1791	1755	1719
11	2053	2015	1977	1939	1901	1864	1827	1791	1754	1718
12	2053	2014	1976	1938	1901	1863	1827	1790	1754	1718
13	2052	2014	1975	1938	1900	1863	1826	1789	1753	1717
14	2051	2013	1975	1937	1899	1862	1825	1789	1752	1716
15	2051	2012	1974	1936	1899	1862	1825	1788	1752	1716
16	2050	2012	1973	1936	1898	1861	1824	1787	1751	1715
17	2050	2011	1973	1935	1898	1860	1823	1787	1751	1715
18	2049	2010	1972	1934	1897	1860	1823	1786	1750	1714
19	2048	2010	1972	1934	1896	1859	1822	1786	1749	1713
20	2048	2009	1971	1933	1896	1858	1822	1785	1749	1713
21	2047	2009	1970	1933	1895	1858	1821	1785	1748	1712
22	2046	2008	1970	1932	1894	1857	1820	1784	1748	1712
23	2046	2007	1969	1931	1894	1857	1820	1783	1747	1711
24	2045	2007	1968	1931	1893	1856	1819	1783	1746	1711
25	2044	2006	1968	1930	1893	1855	1819	1782	1746	1710
26	2044	2005	1967	1929	1892	1855	1818	1781	1745	1709
27	2043	2005	1967	1929	1891	1854	1817	1781	1745	1709
28	2042	2004	1966	1928	1891	1854	1817	1780	1744	1708
29	2042	2004	1965	1927	1890	1853	1816	1780	1743	1708
30	2041	2003	1965	1927	1889	1852	1816	1779	1743	1707

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TABLE

OF

PROPORTIONAL LOGARITHMS.

′	112°	113°	114°	115°	116°	117°	118°	119°	120°	121°
31	2041	2002	1964	1926	1889	1852	1815	1778	1742	1706
32	2040	2001	1963	1926	1888	1851	1814	1778	1742	1706
33	2039	2001	1963	1925	1888	1850	1814	1777	1741	1705
34	2039	2000	1962	1924	1887	1850	1813	1777	1740	1705
35	2038	2000	1961	1924	1886	1849	1812	1776	1740	1704
36	2037	1999	1961	1923	1886	1849	1812	1775	1739	1703
37	2037	1998	1960	1922	1885	1848	1811	1775	1739	1703
38	2036	1998	1960	1922	1884	1847	1811	1774	1738	1702
39	2035	1997	1959	1921	1884	1847	1810	1774	1737	1702
40	2035	1996	1958	1921	1883	1846	1809	1773	1737	1701
41	2034	1996	1958	1920	1883	1846	1809	1772	1736	1700
42	2033	1995	1957	1919	1882	1845	1808	1772	1736	1700
43	2033	1994	1956	1919	1881	1844	1808	1771	1735	1699
44	2032	1994	1956	1918	1881	1844	1807	1771	1734	1699
45	2032	1993	1955	1918	1880	1843	1806	1770	1734	1698
46	2031	1993	1955	1917	1879	1842	1806	1769	1733	1697
47	2030	1992	1954	1916	1879	1842	1805	1769	1733	1697
48	2030	1991	1953	1916	1878	1841	1805	1768	1732	1696
49	2029	1991	1953	1915	1878	1841	1804	1768	1731	1696
50	2028	1990	1952	1914	1877	1840	1803	1767	1731	1695
51	2028	1989	1951	1914	1876	1839	1803	1766	1730	1694
52	2027	1989	1951	1913	1876	1839	1802	1766	1730	1694
53	2026	1988	1950	1912	1875	1838	1801	1765	1729	1693
54	2026	1987	1950	1912	1875	1838	1801	1765	1728	1693
55	2025	1987	1949	1911	1874	1837	1800	1764	1728	1692
56	2024	1986	1948	1911	1873	1836	1800	1763	1727	1691
57	2024	1986	1948	1910	1873	1836	1799	1763	1727	1691
58	2023	1985	1947	1909	1872	1835	1798	1762	1726	1690
59	2023	1984	1946	1909	1871	1834	1798	1761	1725	1690
60	2022	1984	1946	1908	1871	1834	1797	1761	1725	1689

A
TABLE
OF
PROPORTIONAL LOGARITHMS.

′	122°	123°	124°	125°	126°	127°	128°	129°	130°	131°
0	1689	1654	1619	1684	1519	1515	1481	1447	1413	1380
1	1688	1653	1618	1583	1548	1514	1480	1446	1413	1379
2	1688	1652	1617	1582	1548	1514	1479	1446	1412	1379
3	1687	1652	1617	1582	1547	1513	1479	1445	1412	1378
4	1687	1651	1616	1581	1547	1512	1478	1445	1411	1378
5	1686	1651	1616	1581	1546	1512	1478	1444	1410	1377
6	1686	1650	1615	1580	1546	1511	1477	1443	1410	1377
7	1685	1650	1614	1580	1545	1511	1477	1443	1409	1376
8	1684	1649	1614	1679	1544	1510	1476	1442	1409	1376
9	1684	1648	1613	1678	1544	1510	1476	1442	1408	1375
10	1683	1648	1613	1678	1543	1509	1475	1441	1408	1374
11	1683	1647	1612	1677	1543	1508	1474	1441	1407	1374
12	1682	1647	1612	1577	1542	1508	1474	1440	1407	1373
13	1681	1646	1611	1576	1542	1507	1473	1440	1406	1373
14	1681	1645	1610	1575	1541	1507	1473	1439	1405	1372
15	1680	1645	1610	1575	1540	1506	1472	1438	1405	1372
16	1680	1644	1609	1574	1540	1506	1472	1438	1404	1371
17	1679	1644	1609	1574	1539	1505	1471	1437	1404	1371
18	1678	1643	1608	1573	1539	1504	1470	1437	1403	1370
19	1678	1642	1607	1573	1538	1504	1470	1436	1403	1369
20	1677	1642	1607	1572	1538	1503	1469	1436	1402	1369
21	1677	1641	1606	1571	1537	1503	1469	1435	1402	1368
22	1676	1641	1606	1571	1536	1502	1468	1434	1401	1368
23	1675	1640	1605	1570	1536	1502	1468	1434	1400	1367
24	1675	1640	1605	1570	1535	1301	1467	1433	1400	1367
25	1674	1639	1604	1569	1535	1500	1466	1433	1399	1366
26	1674	1638	1603	1569	1534	1500	1466	1432	1399	1366
27	1673	1638	1603	1568	1534	1499	1465	1432	1398	1365
28	1673	1637	1602	1567	1533	1499	1465	1431	1398	1365
29	1672	1637	1602	1567	1532	1498	1464	1431	1397	1364
30	1671	1636	1601	1566	1532	1498	1464	1430	1397	1363

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TABLE

OF

PROPORTIONAL LOGARITHMS.

′	122°	123°	124°	125°	126°	127°	128°	129°	130°	131°
31	1671	1635	1600	1566	1531	1497	1463	1429	1396	1363
32	1670	1635	1600	1565	1531	1496	1463	1429	1395	1362
33	1670	1634	1599	1565	1530	1496	1462	1428	1395	1362
34	1669	1634	1599	1564	1529	1495	1461	1428	1394	1361
35	1668	1633	1598	1563	1529	1495	1461	1427	1394	1361
36	1668	1633	1598	1563	1528	1494	1460	1427	1393	1360
37	1667	1632	1597	1562	1528	1494	1460	1426	1393	1360
38	1667	1631	1596	1562	1527	1493	1459	1426	1392	1359
39	1666	1631	1596	1561	1527	1493	1459	1425	1392	1359
40	1665	1630	1595	1560	1526	1492	1458	1424	1391	1358
41	1665	1630	1595	1560	1525	1491	1457	1424	1390	1357
42	1664	1629	1594	1559	1525	1491	1457	1423	1390	1357
43	1664	1628	1593	1559	1524	1490	1456	1423	1389	1356
44	1663	1628	1593	1558	1524	1490	1456	1422	1389	1356
45	1663	1627	1592	1558	1523	1489	1455	1422	1388	1355
46	1662	1627	1592	1557	1523	1489	1455	1421	1388	1355
47	1661	1626	1591	1556	1522	1488	1454	1420	1387	1354
48	1661	1626	1591	1556	1522	1487	1454	1420	1387	1354
49	1660	1625	1590	1555	1521	1487	1453	1419	1386	1353
50	1660	1624	1589	1555	1520	1486	1452	1419	1386	1352
51	1659	1624	1589	1554	1520	1486	1452	1418	1385	1352
52	1658	1623	1588	1554	1519	1485	1451	1418	1384	1351
53	1658	1623	1588	1553	1518	1485	1451	1417	1384	1351
54	1657	1622	1587	1552	1518	1484	1450	1417	1383	1350
55	1657	1621	1586	1552	1518	1483	1450	1416	1383	1350
56	1656	1621	1586	1551	1517	1483	1449	1415	1382	1349
57	1655	1620	1585	1551	1516	1482	1449	1415	1382	1349
58	1655	1620	1585	1550	1516	1482	1448	1414	1381	1348
59	1654	1619	1584	1550	1515	1481	1447	1414	1381	1347
60	1654	1619	1584	1549	1515	1481	1447	1413	1380	1347

A

TABLE

OF

PROPORTIONAL LOGARITHMS.

′	132°	133°	134°	135°	136°	137°	138°	139°	140°	141°
0	1347	1314	1282	1249	1217	1186	1154	1123	1091	1061
1	1346	1314	1281	1249	1217	1185	1153	1122	1091	1060
2	1346	1313	1281	1248	1216	1184	1153	1121	1090	1059
3	1345	1313	1280	1248	1216	1184	1152	1121	1090	1059
4	1345	1312	1279	1247	1215	1183	1152	1120	1089	1058
5	1344	1311	1279	1247	1215	1183	1151	1120	1089	1058
6	1344	1311	1278	1246	1214	1182	1151	1119	1088	1057
7	1343	1310	1278	1246	1214	1182	1150	1119	1088	1057
8	1343	1310	1277	1245	1213	1181	1150	1118	1087	1056
9	1342	1309	1277	1245	1213	1181	1149	1118	1087	1056
10	1341	1309	1276	1244	1212	1180	1149	1117	1086	1055
11	1341	1308	1276	1243	1211	1180	1148	1117	1086	1055
12	1340	1308	1275	1243	1211	1179	1148	1116	1085	1054
13	1340	1307	1275	1242	1210	1179	1147	1116	1085	1054
14	1339	1307	1274	1242	1210	1178	1147	1115	1084	1053
15	1339	1306	1274	1241	1209	1178	1146	1115	1084	1053
16	1338	1305	1273	1241	1209	1177	1146	1114	1083	1052
17	1338	1305	1272	1240	1208	1177	1145	1114	1083	1052
18	1337	1304	1272	1240	1208	1176	1145	1113	1082	1051
19	1337	1304	1271	1239	1207	1175	1144	1113	1082	1051
20	1336	1303	1271	1239	1207	1175	1143	1112	1081	1050
21	1335	1303	1270	1238	1206	1174	1143	1112	1081	1050
22	1335	1302	1270	1238	1206	1174	1142	1111	1080	1049
23	1334	1302	1269	1237	1205	1173	1142	1111	1080	1049
24	1334	1301	1269	1237	1205	1173	1141	1110	1079	1048
25	1333	1301	1268	1236	1204	1172	1141	1110	1079	1048
26	1333	1300	1268	1235	1203	1172	1140	1109	1078	1047
27	1332	1300	1267	1235	1203	1171	1140	1109	1078	1047
28	1332	1299	1267	1234	1202	1171	1139	1108	1077	1046
29	1331	1298	1266	1234	1202	1170	1139	1107	1076	1046
30	1331	1298	1266	1233	1201	1170	1138	1107	1076	1045

A TABLE OF PROPORTIONAL LOGARITHMS.

′	132°	133°	134°	135°	136°	137°	138°	139°	140°	141°
31	1330	1297	1265	1233	1201	1169	1138	1106	1075	1045
32	1329	1297	1264	1232	1200	1169	1137	1106	1075	1044
33	1329	1296	1264	1232	1200	1168	1137	1105	1074	1044
34	1328	1296	1263	1231	1199	1168	1136	1105	1074	1043
35	1328	1295	1263	1231	1199	1167	1136	1104	1073	1043
36	1327	1295	1262	1230	1198	1167	1135	1104	1073	1042
37	1327	1294	1262	1230	1198	1166	1135	1103	1072	1042
38	1326	1294	1261	1229	1197	1165	1134	1103	1072	1041
39	1326	1293	1261	1229	1197	1165	1134	1102	1071	1041
40	1325	1292	1260	1228	1196	1164	1133	1102	1071	1040
41	1325	1292	1260	1227	1196	1164	1132	1101	1070	1039
42	1324	1291	1259	1227	1195	1163	1132	1101	1070	1039
43	1323	1291	1258	1226	1194	1163	1131	1100	1069	1038
44	1323	1290	1258	1226	1194	1162	1131	1100	1069	1038
45	1322	1290	1257	1225	1193	1162	1130	1099	1068	1037
46	1322	1289	1257	1225	1193	1161	1130	1099	1068	1037
47	1321	1289	1256	1224	1192	1161	1129	1098	1067	1036
48	1321	1288	1256	1224	1192	1160	1129	1098	1067	1036
49	1320	1288	1255	1223	1191	1160	1128	1097	1066	1035
50	1320	1287	1255	1223	1191	1159	1128	1097	1066	1035
51	1319	1287	1254	1222	1190	1159	1127	1096	1065	1034
52	1319	1286	1254	1222	1190	1158	1127	1096	1065	1034
53	1318	1285	1253	1221	1189	1158	1126	1095	1064	1033
54	1317	1285	1253	1221	1189	1157	1126	1095	1064	1033
55	1317	1284	1252	1220	1188	1157	1125	1094	1063	1032
56	1316	1284	1251	1219	1188	1156	1125	1093	1063	1032
57	1316	1283	1251	1219	1187	1156	1124	1093	1062	1031
58	1315	1283	1250	1218	1187	1155	1124	1092	1062	1031
59	1315	1282	1250	1218	1186	1154	1123	1092	1061	1030
60	1314	1282	1249	1217	1186	1154	1123	1091	1061	1030

A TABLE OF PROPORTIONAL LOGARITHMS.

'	142°	143°	144°	145°	146°	147°	148°	149°	150°	151°
0	1030	0999	0969	0939	0909	0880	0850	0821	0792	0763
1	1029	0999	0969	0939	0909	0879	0850	0820	0791	0762
2	1029	0998	0968	0938	0908	0879	0849	0820	0791	0762
3	1028	0998	0968	0938	0908	0878	0849	0819	0790	0762
4	1028	0997	0967	0937	0907	0878	0848	0819	0790	0761
5	1027	0997	0967	0937	0907	0877	0848	0818	0789	0761
6	1027	0996	0966	0936	0906	0877	0847	0818	0789	0760
7	1026	0996	0966	0936	0906	0876	0847	0817	0788	0760
8	1026	0995	0965	0935	0905	0876	0846	0817	0788	0759
9	1025	0995	0965	0935	0905	0875	0846	0816	0787	0759
10	1025	0994	0964	0934	0904	0875	0845	0816	0787	0758
11	1024	0994	0964	0934	0904	0874	0845	0815	0787	0758
12	1024	0993	0963	0933	0903	0874	0844	0815	0786	0757
13	1023	0993	0963	0933	0903	0873	0844	0814	0786	0757
14	1023	0992	0962	0932	0902	0873	0843	0814	0785	0756
15	1022	0992	0962	0932	0902	0872	0843	0814	0785	0756
16	1022	0991	0961	0931	0901	0872	0842	0813	0784	0755
17	1021	0991	0961	0931	0901	0871	0842	0813	0784	0755
18	1021	0990	0960	0930	0900	0871	0841	0812	0783	0754
19	1020	0990	0960	0930	0900	0870	0841	0812	0783	0754
20	1020	0989	0959	0929	0899	0870	0840	0811	0782	0753
21	1019	0989	0959	0929	0899	0869	0840	0811	0782	0753
22	1019	0988	0958	0928	0898	0869	0839	0810	0781	0752
23	1018	0988	0958	0928	0898	0868	0839	0810	0781	0752
24	1018	0987	0957	0927	0897	0868	0838	0809	0780	0751
25	1017	0987	0957	0927	0897	0867	0838	0809	0780	0751
26	1017	0986	0956	0926	0896	0867	0837	0808	0779	0750
27	1016	0986	0956	0926	0896	0866	0837	0808	0779	0750
28	1016	0985	0955	0926	0895	0866	0836	0807	0778	0750
29	1015	0985	0955	0925	0895	0865	0836	0807	0778	0749
30	1015	0984	0954	0924	0894	0865	0835	0806	0777	0749

A TABLE OF PROPORTIONAL LOGARITHMS.

′	142°	143°	144°	145°	146°	147°	148°	149°	150°	151°
31	1014	0984	0954	0924	0894	0864	0835	0805	0777	0748
32	1014	0983	0953	0923	0893	0864	0834	0805	0776	0748
33	1013	0983	0953	0923	0893	0863	0834	0805	0776	0747
34	1013	0982	0952	0922	0892	0863	0833	0804	0775	0747
35	1012	0982	09[illegible]2	0922	0892	0862	0833	0804	0775	0746
36	1012	0981	0951	0921	0891	0862	0833	0803	0774	0746
37	1011	0981	0951	0921	0891	0861	0832	0803	0774	0745
38	1010	0980	0950	0920	0890	0861	0832	0802	0773	0745
39	1010	0980	0950	0920	0890	0860	0831	0802	0773	0744
40	1009	0979	0949	0919	0889	0860	0831	0801	0773	0744
41	1009	0979	0949	0919	0889	0859	0830	0801	0772	0743
42	1008	0978	0948	0918	0888	0859	0830	0801	0772	0743
43	1008	0978	0948	0918	0888	0858	0829	0800	0771	0742
44	1007	0977	0947	0917	0887	0858	0829	0800	0771	0742
45	1007	0977	0947	0917	0887	0857	0828	0799	0770	0741
46	1006	0976	0946	0916	0886	0857	0828	0799	0770	0741
47	1006	0976	0946	0916	0886	0856	0827	0798	0769	0740
48	1005	0975	0945	0915	0885	0856	0827	0798	0769	0740
49	1005	0975	0945	0915	0885	0855	0826	0797	0768	0739
50	1004	0974	0944	0914	0884	0855	0826	0797	0768	0739
51	1004	0974	0944	0914	0884	0855	0825	0796	0767	0739
52	1003	0973	0943	0913	0883	0854	0825	0796	0767	0738
53	1003	0973	0943	0913	0883	0854	0824	0795	0766	0738
54	1002	0972	0942	0912	0883	0853	0824	0795	0766	0737
55	1002	0972	0942	0912	0882	0853	0823	0794	0765	0737
56	1001	0971	0941	0911	0882	0852	0823	0794	0765	0736
57	1001	0971	0941	0911	0881	0852	0822	0793	0764	0736
58	1000	0970	0940	0910	0881	0851	0822	0793	0764	0735
59	1000	0970	0940	0910	0880	0851	0821	0792	0763	0735
60	0999	0969	0939	0909	0880	0850	0821	0792	0763	0734

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TABLE

OF

PROPORTIONAL LOGARITHMS.

'	152°	153°	154°	155°	156°	157°	158°	159°	160°	161°
0	0734	0706	0678	0649	0621	0594	0566	0539	0512	0484
1	0734	0705	0677	0649	0621	0593	0566	0538	0511	0484
2	0733	0705	0677	0648	0621	0592	0565	0538	0511	0484
3	0733	0704	0676	0648	0620	0592	0565	0537	0510	0483
4	0732	0704	0676	0648	0620	0592	0564	0537	0510	0483
5	0732	0703	0675	0647	0619	0591	0564	0536	0509	0482
6	0731	0703	0675	0647	0619	0591	0563	0536	0509	0482
7	0731	0702	0674	0646	0618	0590	0563	0536	0508	0481
8	0730	0702	0674	0646	0618	0590	0562	0535	0508	0481
9	0730	0702	0673	0645	0617	0590	0562	0535	0507	0480
10	0729	0701	0673	0645	0617	0589	0562	0534	0507	0480
11	0729	0701	0672	0644	0616	0589	0561	0534	0507	0479
12	0729	0700	0672	0644	0616	0588	0561	0533	0506	0479
13	0728	0700	0671	0643	0615	0588	0560	0533	0506	0479
14	0728	0699	0671	0643	0615	0587	0560	0532	0505	0478
15	0727	0699	0670	0642	0615	0587	0559	0532	0505	0478
16	0727	0698	0670	0642	0614	0586	0559	0531	0504	0477
17	0726	0698	0669	0641	0614	0586	0558	0531	0504	0477
18	0726	0697	0669	0641	0613	0585	0558	0531	0503	0476
19	0725	0697	0669	0641	0613	0585	0557	0530	0503	0476
20	0725	0696	0668	0640	0612	0584	0557	0530	0502	0475
21	0724	0696	0668	0640	0612	0584	0557	0529	0502	0475
22	0724	0695	0667	0639	0611	0584	0556	0529	0502	0475
23	0723	0695	0667	0639	0611	0583	0556	0528	0501	0474
24	0723	0694	0666	0638	0610	0583	0555	0528	0501	0474
25	0722	0694	0666	0638	0610	0582	0555	0527	0500	0473
26	0722	0693	0665	0637	0609	0582	0554	0527	0500	0473
27	0721	0693	0665	0637	0609	0581	0554	0526	0499	0472
28	0721	0693	0664	0636	0608	0581	0553	0526	0499	0472
29	0720	0692	0664	0636	0608	0580	0553	0526	0198	0471
30	0720	0692	0663	0635	0608	0380	0552	0525	0498	0471

A TABLE OF PROPORTIONAL LOGARITHMS.

′	152°	153°	154°	155°	156°	157°	158°	159°	160°	161°
31	0720	0691	0663	0635	0607	0579	0552	0525	0497	0471
32	0719	0691	0662	0634	0607	0579	0551	0524	0497	0470
33	0719	0690	0662	0634	0606	0579	0551	0524	0497	0470
34	0718	0690	0662	0634	0606	0578	0551	0523	0496	0469
35	0718	0689	0661	0633	0605	0578	0550	0523	0496	0469
36	0717	0689	0661	0633	0605	0577	0550	0522	0495	0468
37	0717	0688	0660	0632	0604	0577	0549	0522	0495	0468
38	0716	0688	0660	0632	0604	0576	0549	0521	0494	0467
39	0716	0687	0659	0631	0603	0576	0548	0521	0494	0467
40	0715	0687	0659	0631	0603	0575	0548	0521	0493	0466
41	0715	0686	0658	0630	0602	0575	0547	0520	0493	0466
42	0714	0686	0658	0630	0602	0574	0547	0520	0493	0466
43	0714	0685	0657	0629	0602	0574	0546	0519	0492	0465
44	0713	0685	0657	0629	0601	0573	0546	0519	0492	0465
45	0713	0685	0656	0628	0601	0573	0546	0518	0491	0464
46	0712	0684	0656	0628	0600	0573	0545	0518	0491	0464
47	0712	0684	0655	0627	0600	0572	0545	0517	0490	0463
48	0711	0683	0655	0627	0599	0572	0544	0517	0490	0463
49	0711	0683	0655	0627	0599	0571	0544	0516	0489	0462
50	0711	0682	0654	0626	0598	0571	0543	0516	0489	0462
51	0710	0682	0654	0626	0598	0570	0543	0516	0489	0462
52	0710	0681	0653	0625	0597	0570	0542	0515	0488	0461
53	0709	0681	0653	0625	0597	0569	0542	0515	0488	0461
54	0709	0680	0652	0624	0596	0569	0541	0514	0487	0460
55	0708	0680	0652	0624	0596	0568	0541	0514	0487	0460
56	0708	0679	0651	0623	0596	0568	0541	0513	0486	0459
57	0707	0679	0651	0623	0595	0568	0540	0513	0486	0459
58	0707	0678	0650	0622	0595	0567	0540	0512	0485	0458
59	0706	0678	0650	0622	0594	0567	0539	0512	0485	0458
60	0706	0678	0649	0621	0594	0566	0539	0512	0484	0458

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TABLE

OF

PROPORTIONAL LOGARITHMS.

′	162°	163°	164°	165°	166°	167°	168°	169°	170°	171°
0	0458	0431	0404	0378	0352	0326	0300	0274	0248	0222
1	0457	0430	0404	0377	0351	0325	0299	0273	0248	0222
2	0457	0430	0403	0377	0351	0325	0299	0273	0247	0222
3	0456	0430	0403	0377	0350	0324	0298	0273	0247	0221
4	0456	0429	0402	0376	0350	0324	0298	0272	0246	0221
5	0455	0429	0402	0376	0349	0323	0297	0272	0246	0221
6	0455	0428	0402	0375	0349	0323	0297	0271	0246	0220
7	0454	0428	0401	0375	0349	0322	0297	0271	0245	0220
8	0454	0427	0401	0374	0348	0322	0296	0270	0245	0219
9	0454	0427	0400	0374	0348	0322	0296	0270	0244	0219
10	0453	0426	0400	0373	0347	0321	0295	0270	0244	0218
11	0453	0426	0399	0373	0347	0321	0295	0269	0244	0218
12	0452	0426	0399	0373	0346	0320	0294	0269	0243	0218
13	0452	0425	0399	0372	0346	0320	0294	0268	0243	0217
14	0451	0425	0398	0372	0346	0319	0294	0268	0242	0217
15	0451	0424	0398	0371	0345	0319	0293	0267	0242	0216
16	0450	0424	0397	0371	0345	0319	0293	0267	0241	0216
17	0450	0423	0397	0370	0344	0318	0292	0267	0241	0216
18	0450	0423	0396	0370	0344	0318	0292	0266	0241	0215
19	0449	0422	0396	0370	0343	0317	0291	0266	0240	0215
20	0449	0422	0395	0369	0343	0317	0291	0265	0240	0214
21	0448	0422	0395	0369	0342	0316	0291	0265	0239	0214
22	0448	0421	0395	0368	0342	0316	0290	0264	0239	0213
23	0447	0421	0394	0368	0342	0316	0290	0264	0238	0213
24	0447	0420	0394	0367	0341	0315	0289	0264	0238	0213
25	0446	0420	0393	0367	0341	0315	0289	0263	0238	0212
26	0446	0419	0393	0366	0340	0314	0288	0263	0237	0212
27	0446	0419	0392	0366	0340	0314	0288	0262	0237	0211
28	0445	0418	0392	0366	0339	0313	0288	0262	0236	0211
29	0445	0418	0391	0365	0339	0313	0287	0261	0236	0210
30	0444	0418	0391	0365	0339	0313	0287	0261	0235	0210

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TABLE

OF

PROPORTIONAL LOGARITHMS.

′	162°	163°	164°	165°	166°	167°	168°	169°	170°	171°
31	0444	0417	0391	0364	0338	0312	0286	0261	0235	0210
32	0443	0417	0390	0364	0338	0312	0286	0260	0235	0209
33	0443	0416	0390	0363	0337	0311	0285	0260	0234	0209
34	0442	0416	0389	0363	0337	0311	0285	0259	0234	0208
35	0442	0415	0389	0363	0336	0310	0285	0259	0233	0208
36	0442	0415	0388	0362	0336	0310	0284	0258	0233	0208
37	0441	0414	0388	0362	0336	0310	0284	0258	0232	0207
38	0441	0414	0388	0361	0335	0309	0283	0258	0232	0207
39	0440	0414	0387	0361	0335	0309	0283	0257	0232	0206
40	0440	0413	0387	0360	0334	0308	0282	0257	0231	0206
41	0439	0413	0386	0360	0334	0308	0282	0256	0231	0205
42	0439	0412	0386	0359	0333	0307	0282	0256	0230	0205
43	0438	0412	0385	0359	0333	0307	0281	0255	0230	0205
44	0438	0411	0385	0359	0332	0306	0281	0255	0230	0204
45	0438	0411	0384	0358	0332	0306	0280	0255	0229	0204
46	0437	0410	0384	0358	0332	0306	0280	0254	0229	0203
47	0437	0410	0384	0357	0331	0305	0279	0254	0228	0203
48	0436	0410	0383	0357	0331	0305	0279	0253	0228	0202
49	0436	0409	0383	0356	0330	0304	0279	0253	0227	0202
50	0435	0409	0382	0356	0330	0304	0278	0252	0227	0202
51	0435	0408	0382	0356	0329	0304	0278	0252	0227	0201
52	0434	0408	0381	0355	0329	0303	0277	0252	0226	0201
53	0434	0407	0381	0355	0329	0303	0277	0251	0226	0200
54	0434	0407	0381	0354	0328	0302	0276	0251	0225	0200
55	0433	0406	0380	0354	0328	0302	0276	0250	0225	0200
56	0433	0406	0380	0353	0327	0301	0276	0250	0224	0199
57	0432	0406	0379	0353	0327	0301	0275	0250	0224	0199
58	0432	0405	0379	0352	0326	0300	0275	0249	0224	0198
59	0431	0405	0378	0352	0326	0300	0274	0249	0223	0198
60	0431	0404	0378	0352	0326	0300	0274	0248	0223	0197

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TABLE

OF

PROPORTIONAL LOGARITHMS.

′	172°	173°	174°	175°	176°	177°	178°	179°
0	0197	0172	0147	0122	0098	0073	0049	0024
1	0197	0172	0147	0122	0097	0073	0048	0024
2	0197	0171	0146	0121	0097	0072	0048	0023
3	0196	0171	0146	0121	0096	0072	0047	0023
4	0196	0171	0146	0121	0096	0071	0047	0023
5	0195	0170	0145	0120	0096	0071	0046	0022
6	0195	0170	0145	0120	0095	0071	0046	0022
7	0194	0169	0144	0119	0095	0070	0046	0021
8	0194	0169	0144	0119	0094	0070	0045	0021
9	0194	0169	0143	0119	0094	0069	0045	0021
10	0193	0168	0143	0118	0093	0069	0044	0020
11	0193	0168	0143	0118	0093	0068	0044	0020
12	0192	0167	0142	0117	0093	0068	0044	0019
13	0192	0167	0142	0117	0092	0068	0043	0019
14	0192	0166	0141	0117	0092	0067	0043	0018
15	0191	0166	0141	0116	0091	0067	0042	0018
16	0191	0166	0141	0116	0091	0066	0042	0018
17	0190	0165	0140	0115	0091	0066	0042	0017
18	0190	0165	0140	0115	0090	0066	0041	0017
19	0189	0164	0139	0114	0090	0065	0041	0016
20	0189	0164	0139	0114	0089	0065	0040	0016
21	0189	0163	0139	0114	0089	0064	0040	0016
22	0188	0163	0138	0113	0089	0064	0040	0015
23	0188	0163	0138	0113	0088	0064	0039	0015
24	0187	0162	0137	0112	0088	0063	0039	0015
25	0187	0162	0137	0112	0087	0063	0038	0014
26	0186	0161	0136	0112	0087	0062	0038	0014
27	0186	0161	0136	0111	0087	0062	0038	0013
28	0186	0161	0136	0111	0086	0062	0037	0013
29	0185	0160	0135	0110	0086	0061	0037	0012
30	0185	0160	0135	0110	0085	0061	0036	0012

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TABLE

OF

PROPORTIONAL LOGARITHMS.

′	172°	173°	174°	175°	176°	177°	178°	179°
31	0184	0159	0134	0110	0085	0060	0036	0012
32	0184	0159	0134	0109	0084	0060	0035	0011
33	0184	0158	0134	0109	0084	0060	0035	0011
34	0183	0158	0133	0108	0084	0059	0035	0010
35	0183	0158	0133	0108	0083	0069	0034	0010
36	0182	0157	0132	0107	0083	0058	0034	0000
37	0182	0157	0132	0107	0082	0058	0033	0009
38	0181	0156	0131	0107	0082	0057	0033	0009
39	0181	0156	0131	0106	0082	0057	0033	0008
40	0181	0156	0131	0106	0081	0057	0032	0008
41	0180	0155	0130	0105	0081	0056	0032	0008
42	0180	0155	0130	0105	0080	0056	0031	0007
43	0179	0154	0129	0105	0080	0055	0031	0007
44	0179	0154	0129	0104	0080	0055	0031	0006
45	0179	0153	0129	0104	0079	0055	0030	0006
46	0178	0153	0128	0103	0079	0054	0030	0006
47	0178	0153	0128	0103	0078	0054	0029	0005
48	0177	0152	0127	0103	0078	0053	0029	0005
49	0177	0152	0127	0102	0077	0053	0029	0004
50	0176	0151	0126	0102	0077	0053	0028	0004
51	0176	0151	0126	0101	0077	0052	0028	0004
52	0176	0151	0126	0101	0076	0052	0027	0003
53	0175	0150	0125	0100	0076	0051	0027	0003
54	0175	0150	0125	0100	0075	0051	0027	0002
55	0174	0149	0124	0100	0075	0051	0026	0002
56	0174	0149	0124	0099	0075	0050	0026	0002
57	0174	0148	0124	0099	0074	0050	0025	0001
58	0173	0148	0123	0098	0074	0049	0025	0001
59	0173	0148	0123	0098	0073	0049	0025	0000
60	0172	0147	0122	0098	0073	0049	0024	0000

A Table of the Thirty Nativities.

AN

APPENDIX

TO

PLACIDUS DE TITUS'S

Primum Mobile.

Containing the Trigonometrical Precepts for computing the Right Ascension, Declination, Semidiurnal and Nocturnal Arcs, Poles of Position, Sun's Depression and Secondary Distance; and every other Requisite for obtaining the Arcs of Direction with much more facility and accuracy than by any Collection of Tables hitherto extant; the whole referred to the Placidian Canons, and illustrated by examples adapted to the work.

THE many errors contained in the old astronomical tables, as well as the great want of new ones adapted to the modern discoveries and improvements in Astronomy, render it essentially necessary for all who would make their calculations with any degree of accuracy, to perform their operations by the rules of Trigonometry; which, if they should at first appear difficult to a beginner, will more than doubly recompense him for his labour in their attainment.

In all cases where precision is required, Trigonometry becomes not only the most exact, but also more concise than any other mode of calculation, for which reason I have here inserted the Trigonometrical Precepts necessary for calculating the Arcs of Direction, and referred them to their corresponding Canons in this work.

CANON I.

To find the Declination, and, from that, the Longitude, in the Ecliptic.

If the declination is required, and you have the longitude given:

To the sine of 23° 28′ add the sine of the distance from the nearest equinoctial point, and the sum is the sine of the declination.

Example. In the following figure the ☉ is in 7° 25′ of ♓, which is 22° 35′ from ♈.

To the sine of 23° 28′ - - - -	9.60011
Add the sine of 22° 35′ - - - -	9.58436
Sum is sine of 8° 48′ - - - -	9.18447

which is the ☉'s declination.

If the declination is given, to find the longitude corresponding:

To the arithmetical complement of the sine of 23° 28′, add the sine of the declination, and the sum is the sine of the longitude from the nearest equinox, as in the foregoing example.

The arith. comp. of sine of 23° 28′ -	0.39989
Sine of ☉'s declination 8° 48′ - -	9.18465
Sum is sine of 22° 35′ - - - -	9.58454

which is ☉' longitude from ♈, or 7° 25′ of ♓.

If the declination of a planet is required with latitude, the most easy method is as follows :

Example. Let ♄ be in 15° 20′ of ♏, with 2° 29′ north latitude; required his declination.

To the sine of ♄'s long. from ♎ 45° 20′	9.85110
Add the tangent of 23° 28′ - - - -	9.63588
Sum is tangent of first angle 17° 4′ -	9.48698

To ♄'s lat. 2° 29′ add 90°, sum is -	92°	29′
From which subtract the first angle	17	4
And there remains the second angle	75	25

Then as cosine of first angle 17° 4′, C. A.	0.01956
Is to cosine of second angle 75° 25′ -	9.40104
So is cosine of 23° 28′ - - - - - -	9.96251
To sine of ♄'s declination 14° 1′ S. -	9.38311

If the longitude and latitude are of the same denomination, viz. both north, or both south, the declination is of the same denomination also; but if the longitude and latitude are of different denominations, viz. one north and the other south, then observe whether the declination found is greater or less than the latitude, and if the declination is less than the latitude, it is of the same denomination as the latitude; but, if it is greater, it is of the same denomination as the sign wherein it is placed; north, in a northern sign, and south, in a southern one.

Canon II.

To find the Ascensional Difference.

Add the tangent of the latitude of the place to the tangent of the planet's declination, and the sum is the sine of the ascensional difference.

Example. In the same figure, the latitude of the birth is 53°, and ♃'s declination 15° 54'; required his ascensional difference.

To tangent of latitude 53° 0' - -	10.12289
Add tangent of ♃'s declin. 15° 54'	9.45463
Sine of ♃'s ascen. diff. 22° 13' -	9.57752

Canon III.

To find the Semidiurnal or Nocturnal Arcs.

Having found the ascensional difference by Canon II, if the planet's declination is north above the earth, or south below, add the ascensional difference to 90°, and the sum will be the arc required; but, if the planet's declination is south above the earth, or north below, subtract the ascensional difference from 90°, and the difference will be the arc required; and which, being divided by 3, will produce the space of the house.

In the last example, ♃'s ascensional difference was found to be 22° 13', and as ♃ has north declination, and is above the earth, 90° must be added, which makes 112° 13' for his semidiurnal arc; and, divided by 3, gives 37° 24' for the space of ♃'s house.

Canon V.

To obtain the Right Ascension.

The most convenient rule for practice is as follows: To the arithmetical complement of the cosine of the planet's declination, add the cosine of the longitude from the nearest equinoctial point, and the cosine of the planet's latitude; the sum, rejecting radius, is the cosine of the right ascension from the same equinoctial point from which the longitude was taken; and, if the longitude is in ♈, ♉, or ♊, the arc found is the right ascension; if in ♋, ♌, or ♍, subtract the arc found from 180°, for the right ascension; if it is in ♎, ♏, or ♐, add the arc to 180°; and, if in ♑, ♒, or ♓, subtract the arc found from 360° for the right ascension required.

Example. In the following figure, ♃ is in 20° of ♌, with 1° 8′ of latitude, and his declination is 15° 54′; required his right ascension.

As cosine of ♃'s declination	15°	54′ C. A.	0.01695
Is to cos. of his long. from ♎	40	0	9.88425
So is cosine of ♃'s latitude	1	8	9.99991
To cosine of his right ascen.	37	13	9.90111
Which, subtracted from	180	0	
Remains	142	47 ♃'s right ascen.	

For the ☉'s right ascension,

To cosine of ☉'s declination	8° 47′	C. A.	0.00513
Add cos. of its long. from ♈	22 35		9.96535
Sum is cos. of ☉'s R. A. à ♈	20 53		9.97048
Which, subtract from -	360 0		
Remains	339 7	☉'s right ascen.	

Here it is to be observed, that when a planet is in the beginning of ♈, with great north latitude, or the beginning of ♎, with south, the above method will not answer the purpose, and you may then proceed thus; for example, Let the ☽ be in 56′ of ♎, with 4° 32′ south latitude; required her right ascension.

As radius - - - - - - - - - -		10.00000
To sine of ☽'s long. from ♎	0° 56′	8.21189
So is cotangent of ☽'s latitude	4 32	11.10079
To tangent of first arc - -	11 36	9.31268
Subt. from obliquity of ecliptic	23 28	
Remains second arc	11 52.	Now say,

As sine of first arc - -	11° 36′	C. A.	0.69663
To sine of second arc -	11 52		9.31309
So is tang. of long. from ♎	0 56		8.21195
To tangent of R. A. from ♎	0 57		8.22167
Which, subtract from -	180 0		
Remains	179 3	☽'s right ascen.	

CANON X.

To describe a Figure of the Heavens.

This may be done two ways besides the common method by the tables of houses, viz. either by the tables of oblique ascension, or trigonometrically. The first method is taught in almost all astrological authors, as well as in page 46 of this work, in its proper Canon.

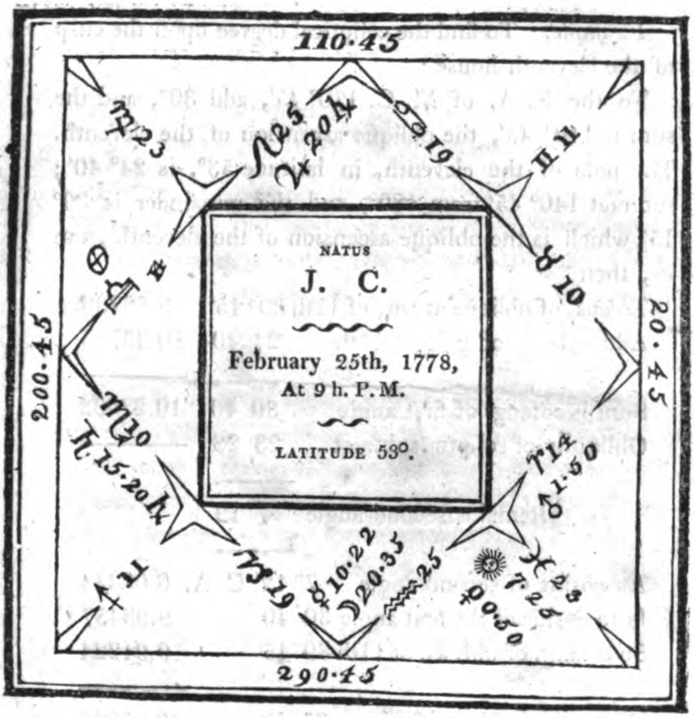
To erect a Figure of the Heavens by the Rules of Trigonometry for any Latitude.

To the given clock time apply the equation of time, and you will have the apparent time, which is to be added to, or subtracted from, the ☉'s right ascension in time, as occasion requires, for the right ascension of the M. C. in time, which convert into degrees and minutes, and, to that, add 30° for the oblique ascension of the eleventh house, 30° more for the oblique ascension of the twelfth, &c., till you come to the third. Then, to obtain the degree of the ecliptic upon the cusp of the M. C.; to the cosine of the obliquity of the ecliptic, add the cotangent of the R. A. of M. C. from the nearest equinox, and the sum is the cotangent of its longitude from the same equinoctial point. For the other houses you must obtain their polar elevation, and then, to the cosine of the oblique ascension of the house, add the cotangent of the pole of the house, and the sum is the cotangent of the first arc, to which, if the oblique ascension of the house is nearest to ♈, add the obliquity of the ecliptic 23° 28; but if it is nearest to ♎, subtract 23° 28′ from it, and the sum or difference is the second arc. Then say, as the cosine of the second arc is to the cosine of the first, so is the tangent of the oblique ascension of the house to the tangent of its longitude from ♈ or ♎, which, if the second angle is less than 90°, is to be accounted from the same equinoctial point which the oblique ascension was reckoned from, but, if more than 90°, it is to be accounted from the contrary equinoctial point.

Example. In the following figure, where the R. A. of M. C. is 110° 45′.

To cosine of obliquity of ecliptic	23° 28′	9.96251
Add cotangent of R. A. from ♎	69 15	9.57849
Sum is cotang. of long. from ♎	70 50	9.54100
But as ♋ 0 is 90°, subtract it from	90 0	

Remains longitude of M. C. 19 10 of ♋.



P.	Lat.	Dec.	Semi. Arcs.	Hor. Times.	Rt. Ascen.
♄	2° 29′ N.	14° 5′ S.	109° 27′ N.	18° 14′ N.	223° 37′
♃	1 8 N.	15 54 N.	112 13 D.	18 42 D.	142 47
♂	0 35 S.	0 13 N.	89 40 N.	14 56 N.	1 55
☉	0 0	8 48 S.	101 50 N.	16 58 N.	339 7
♀	1 21 S.	12 26 S.	107 1 N.	17 50 N.	333 22
☿	0 9 S.	17 48 S.	115 13 N.	19 12 N.	312 52
☽	3 29 S.	17 53 S.	115 21 N.	19 13 N.	324 8
⊕	0 0	17 53 S.	64 39 D.	10 47 D.	173 56

Example. To find the ecliptical degree upon the cusp of the eleventh house:

To the R. A. of M. C. 110° 45′, add 30°, and the sum is 140° 45′, the oblique ascension of the eleventh. The pole of the eleventh, in latitude 53°, is 24° 40′; subtract 140° 45′ from 180°, and the remainder is 39° 15′, which is the oblique ascension of the eleventh from ♎, then

To cos. of oblique ascen. of 11th	39° 15′		9.88896
Add cotang. of pole of 11th	24 40		10.33796
Sum is cotang. of first angle	30 40		10.22692
Obliquity of ecliptic subtract	23 28		
Remains second angle	7 12		
As cosine of second angle	7° 12′	C. A.	0.00344
Is to cosine of the first angle	30 40		9.93457
So is tang. of obl. as. of 11th	39 15		9.91224
To tangent of long. from ♎	35 19		9.85025

or 24° 41′ of ♌; and in this manner you may proceed to find the ecliptical degree upon the other houses, down to the third; and put the opposite signs and degrees upon the opposite houses; and, in all cases, before you attempt to calculate the directions to any figure, it will be necessary to obtain all the requisites placed in the foregoing table.

Canon XII.

To find the Elevation of the Pole above the Circle of Position of either the Planets or Houses.

General Rule.—As the semi arc of the planet is to 90° of the equator, so is its distance from the meridian to the distance of the circle of position from the meridian, the difference between which is the planet's ascensional difference under its own pole; then, to the sine of the ascensional difference, add the cotangent of the planet's declination, and the sum is the tangent of the elevation of the pole.

Example. To find the pole of ♃ in the preceding figure, his semidiurnal arc being 112° 13′, distance from the tenth 32° 2′, and declination 15° 54′.

As the semidiurnal arc of ♃ -	112° 13′	2052
Is to 90° of the equator - -	90 0	3010
So is ♃'s distance from M. C.	32 2	7496
To dist. of circ. of pos. from M. C.	25 42	1.0506
		2052
♃'s ascensional difference	6 20	
		8454
To the sine of the ascen. differ.	6° 20′	9.04263
Add cotangent of ♃'s declin.	15 54	10.54537
Sum is tangent of ♃'s pole	21 11	9.58800

Or, thus:

As the space of ♃'s house - -	37° 24′	6824
Is to 30° of the equator - - -	30 0	7782
So is ♃'s distance from M. C. -	32 2	7496
To dist. of circ. of pos. from M. C.	25 42	1.5278
		6824
♃'s ascen. difference, as before	6 20	
		8454

The poles of the houses may be found by placing the ☉ upon the cusp of the house, and finding his pole in that situation.

Canon XV.

The Use of the Logarithms.

The logarithms inserted in this work are the common proportional logarithms, only their denomination is altered from minutes to degrees, and from seconds to minutes, in order to render them more familiar to those not well versed in computations; the degrees are to be sought at the top of the table, and the minutes at the side, and in the common angle is the logarithm required, and they will answer equally the same for hours and minutes, or minutes and seconds, if you only suppose the denomination to be changed.

In the last example, the space of ♃'s house is 37° 24′; to find the logarithm corresponding to that number, I look at the head of the table for 37°, and down the side for 24′, opposite to which, and under 37°, is 6824, the logarithm required.

When those logarithms are used for finding the proportional parts, the second and third numbers are usually added together, and the first subtracted from the sum, and the remainder is the logarithm of the fourth number required; but the work will be shorter, if you take the arithmetical complement of the first logarithm, and then add them all three together, which will produce the same result as by adding the two last logarithms together, and subtracting the first. Example in Canon XII: The space of ♃'s house is 37° 24′, the logarithm of which is 6824, which, subtract from 10.000, and the remainder is 3176, the arithmetical complement of the logarithm required; then will the work stand thus:

As the space of ♃'s house -	37°	24′	C. A. 3176
Is to 30° of the equator - -	30	0	7782
So is ♃'s distance from M. C.	32	2	7496
To the circle of position's dist.	25	42	8454

By this means you have two lines less in the work than by the other method.

Canon XVI.

Of equating the Arc of Direction.

There have been several modes of equation adopted in different ages, by various authors, all of whom support their favourite method by some plausible argument in its favour; but, certainly none so well entitled to credence as the Placidian method, for it is not among the least beauties to be found in the works of this author, that he is a strict observer and follower of nature. His method of equation is as old as Nature herself, and is not fettered with suppositions and human inventions, but resolves itself into nothing more or less than one single revolution of the earth upon its axis to denote one year, or one annual revolution round the ☉. In this way of equating, there are no degrees of human invention (for the circle might as well have been divided into 360000 degrees as 360) which require to be equated by parts of other degrees equally as incompetent to the purpose; as is done in the use of Naibod's measure of time, whilst that of Ptolemy uses a single 360th part of a circle, but upon what ground we are at a loss to comprehend. I have been led to these remarks, by observing, that some persons of the present day are advocates for Naibod's measure of time, although it is not possible to prove its existence in nature. In the nativity of George, Prince Aldobrandini, at page 248, Placidus has demonstrated this measure of time beyond dispute, and shewn the absurdity of those artificial methods adopted previous to the discovery of that of his own.

CANON XX.

To obtain the ☉'s Depression below the Horizon, and its secondary Distance upon the Crepusculine Circle.

For the ☉'s depression, find the altitude of his opposite point, by the following rule.—Take the R. A. of

M. C. in time, and the R. A. of ☉'s ☍ in time, the difference between which is the horary angle, with which, enter table 16 of the Requisite Tables, and take out the logarithm rising corresponding thereto; to which add the cosine of the latitude of the place, and the cosine of the ☉'s declination, the sum, abating 20 from the index, is the logarithm of a number, which, subtracted from the natural sine of the ☉'s meridian altitude, leaves the natural sine of the altitude required.

Example. In the foregoing figure:

R. A. of M. C. in time -	7^h	23′
R. A. of ☉'s ☍ in time -	10	37
Difference is the horary angle	3	14

The logarithm rising of which is - -		4.52812
Cosine of latitude of birth -	53° 0′	9.77946
Cosine of ☉'s declination -	8 47	9.99487
		4.30245

Natural number = 20061.

To ☉'s declination - -	8° 47′	
Add comp. latitude - -	37 0	
☉'s meridian altitude -	45 47	N. sine 71671
Natural number subtract - - - - -		20061
		51610

Natural sine of altitude of ☉'s ☍ 31° 4′, or ☉'s depression, which, as it exceeds 18°, the ☉ is not in the crepusculine but in the obscure space.

For the secondary Distance, proceed as follows:

As the ☉ here is not in the crepusculine circles, we will take the example of the ☉ to the □ of ♂ in the nativity of Gustavus Adolphus, King of Sweden, page 164—165, for the ☉'s depression.

R. A. of ☉'s ☍ in time	5^h 48′		
R. A. of M. C. in time	13 30		
Horary angle - - -	7 42	log. rising	5.15548
Cosine of latitude 59°		- - - - -	9.71183
Cosine of ☉' declination 23° 30′		- -	9.96239
Sum is logarithm of N° 67560		- - -	4.82970

To compl. of lat.	31° 0′
Add ☉'s declinat.	23 30
	54 30

Merid. alt. of ☉'s ☍ nat. sine - -	81412
Natural number subtract	67560
Natural sine of 7° 58′	13852

☉'s depression.

To find the secondary Distance of the □ of ♂.

Co. latitude -	31° 0′	sine co. ar.	0.28817
Co. altitude -	82 2		
Co. dec. of □ of ♂	76 46	sine co. ar.	0.01169
Sum	2)189 48		
Half sum	94 54		
	63 54	half sum — co. lat. sine	9.95329
	18 8	half sum — co. dec. sine	9.49346
			2)19.74661
			9.87330

which is the sine of -	48° 20′
	2
doubled is - - - - -	96 40
which, subtract from the semi. noc. arc of the place of the aspect - - -	113 2
Remains secondary dist.	16 22

☉'s primary distance in horoscope is	20° 48′
Secondary subtract - - - - - -	16 22
Remains, ortive difference - - - -	4 26
To be added to the common arc of dir.	37 36
Makes the proper arc - - - - - -	42 2

Canon XXI.

To find the Crepusculine and Obscure Arcs.

If you have not tables of arcs and twilight, they may be found in the following manner:

Example. Latitude 51° 32′, and the $\odot$'s declination 15° 9′ north; required his crepusculine and obscure arc.

Complement of latit.	38° 28′	sine co. ar.	0.20616
Comp. of $\odot$'s declin.	74 51	sine co. ar.	0.01536
$\odot$'s zenith distance	108 0		......
	2)221 19	sum	......
	110 39	half sum	......
Half sum — co. latitude	72° 11′	sine -	9.97865
Half sum — co. declin.	35 49	sine -	9.76730
Sum of the 4 logarithms - - - -			2)19.96747
			9.98373

Half sum = sine of 74° 25′
Multiplied by - 2

Produces 148 50 = 9^h 55′
Which, subtracted from - 12 0

Leaves the beginn. of twilight 2 5
And, subtracted from - - - 4 36 time of $\odot$ rise,

Remains, crepusculine arc - 2 31, or 37° 30′;

and, if you subtract the crepusculine arc from the semi-nocturnal arc, the remainder is the obscure arc; but if the obscure arc is wanted for London only, it may be obtained from White's Ephemeris, thus:

Example: May 1st, 1814, required the semi-nocturnal, crepusculine, and obscure arc of the ☉ at London.

Time of ☉ set - - -	7^h	$23'$
Subtract from - - - -	12	0
Semi-nocturnal arc - -	4	37
Crepusculine arc - - -	2	31
Obscure arc - - - -	2	6

Canon XXIV.

To find the Place of the ☽'s Zodiacal Parallels in Longitude and Latitude.

General Rule.—Find the daily change in declination, and the required change in declination; then say, as the daily change in declination is to 24 hours, so is the required change in declination to the time required to make that change; to which time, find the ☽'s longitude and latitude, and that will be the place of the parallel required, to which direct the ☽ under her own pole.

Example. Of the ☽ to the parallel of the ☉, in the foregoing figure, in 8° 47′ south declination.

1778.

Feb. 27, ☽'s dec. at noon	10° 59′	From - -	10° 59′
28, Ditto - - -	5 46	Subt. req. decl.	8 47
Daily change	5 13	Required change	2 12

Then as	5° 13′	8.4621	*For ☽'s longitude at that time.*	
Is to -	24ʰ 0	8751	☽'s long. 28th,	27° 0 ♓
So is	2° 12	1.9128	Ditto, 27th,	12 56 ♓
To -	10ʰ 7	1.2500	☽' diur. motion -	14 4

the time required.

As -	24ʰ 0′	9.1249	To 12° 56′ ♓
Is to	14° 4	1.1071	Add 5 56
So is	10ʰ 7	1.2502	
			18 52 ☽'s long. ♓.
To -	5° 56	1.4822	

For the ☽'s latitude at that time.

☽'s latitude 28th,	4° 59′	As -	24ʰ 0′ - -	9.1249
Ditto - - 27th,	4 38	Is to	0 21 - -	2.7112
		So is	10 7 - -	1.2502
Difference of lat. -	0 21			
		To -	0 9 - -	3.0863
		Add	4 38	
			4 47 ☽'s latitude.	

Therefore, the ☽ meets the zodiacal parallel of the ☉ in 19° 52′ of ♓, with 4° 47′ south latitude; to which place she must be directed under her own pole.

Canon XXXVI.

To direct the ☉ to the Aspects in Mundo, by the Crepusculine and Obscure Arcs.

Exemplification.—In the nativity of Odoardus, Cardinal Farnese, page 170, the ☉ to the △ of ♃ in mundo, in the crepusculine arcs.

As the noct. horary times of the ☉	19°	17′	9.0299
To his distance from the ascend.	20	57	9341
So is the noct. horary times of ♃	11	51	1.1816
To his secondary dist. from the 5th	12	53	1.1456
♃'s primary distance - - - -	34	3	
Common arc - - - - - - -	21	10	
☉'s oblique ascension pole 38 -	284	35	
Place the ☉ arrives at - - -	305	45 = 15° 20′ ♑.	

To pole 44, ☉'s distance from the ascendant in 25° of ♐ is 20° 57′, which gives his depression 13° to the same depression under 15° of ♑, the secondary distance is 20° 46′; therefore,

As the horary times of the ☉ -	19° 17′	9.0299
To its second. dist. from the asc.	20 46	9379
So is ♃'s horary times - - -	11 51	1.1816
To his second. dist. from the 5th	12 46	1.1494
♃'s primary distance - - -	34 3	
Arc of direction - - - - - -	21 17	

In the nativity of Lewis, Cardinal Zachia, page 196, the ☉ to the ⚹ of ☿ in mundo, in the obscure arcs.

As the noc. hor. times of ☉	14° 26′	8.9041
To his dist. from the 5th	13 45	1.1170
So is the noc. hor. times of ☿	16 0	1.0512
To ☿'s sec. dist. from 3d	15 15	1.0723
☿'s primary distance is	58 51	
Common arc is - - -	43 36	
Pole 25° obliq. asc. of ☉'s ☍	189 35	
	233 11	

Equal to 17° 30′ of ♏, so that the ☉ will arrive at 17° 30′ of ♉.

As the obscure arc of the ☉ -	4h 2′	8.3504
Is to his dist. from the 4th -	42° 38	.6255
So is the obs. arc of 17° 30 of ♉	2h 46	1.8133
To its secondary distance -	29° 15	7892
Space of ☉'s house subtract -	28 52	
☉'s distance from the 5th -	0 23	

Then, as the horary times of ☉	14° 26′	8.9041
To its distance from the 5th -	0 23	2.6717
So is horary times of ☿ - -	16 0	1.0512
		———
To ☿'s second. dist. from the 3d	0 26	2.6270
☿'s primary dist. from the 3d	58 51	———
	———	
Arc of direction - - - -	58 25	
	———	

Hence it appears, the arc of direction, as now wrought, exceeds the common arc nearly 15°.

Canon XXXIX.

As the secondary directions are of some importance in finding the time of the operation of the primary ones, I shall here point out to the young Tyro the method of obtaining the times of the mutual and lunar aspects, in order that he may know at what period the secondary directions co-operate with those of the primary; for, in ascertaining the times of the effects of directions, it is necessary that we should have recourse to all the known causes of those effects, and, by comparing them together, we shall be able to know at what time the majority of concurrent causes operate together to produce the effect; for we are not to expect the event to immediately follow the expiration of the arc of direction, as there may be divers causes exist either to accelerate or retard the event, as may be seen in several of these examples. I have known some instances of persons who have entertained such ideas, and then, because they were not realized, have materially altered the time of birth, or endeavoured to make the event agree, by adopting another measure of time.

To obtain the Mutual and Lunar Aspects.

First, get the diurnal motion of each planet whose ☌ or aspect you want, and, if they are both direct, or both retrograde, subtract the lesser from the greater, and use the difference; but, if one is direct, and the other retrograde, add both their motions together, and make use of the sum; and this sum or difference shall be the diurnal motion of the swifter planet from the slower. This done, take the distance of the aspect from noon, which reserve, and the true time is found by the proportional logarithms; thus:

September 13th, 1814, *I observe the Sun meets the* ☌ *of* ♃ D.

Diurnal motion of ☉ -	0° 58′	Distance at noon,
Diurnal motion of ♃ direct	0 13	0° 29′
Diurnal motion of ☉ from ♃	0 45	

Now, say,

If - - -	45′	co. ar.	9.3979
give - -	24	hours	8751
what will -	29′	give	7929
Answer	15h 28′	- -	1.0659

Sept. 17*th, the Sun meets the* △ *of* ♄ *retrograde.*

Diurnal motion of ☉ - -	0° 59′	Distance at noon,	
Diurnal motion of ♄ ℞ add	0 1	22′	
Diurnal mot. of ☉ from ♄ △	1 0		

Now, If - - - -	60′	co. ar.	9.5229
give - -	24	hours	8751
what shall -	22′	give	9128
Answer	8h 48	- - -	1.3108

Sept 18*th, the Moon meets the Sun's Sextile Aspect.*

Diurnal motion of ☽ - -	12° 23′	Distance of the ✱ aspect at noon,
Diurnal motion of ☉ - -	0 59	3° 48′
Diurnal mot. of ☽ from ☉	11 24	

If - -	11° 24′	co. arc.	8.8016
give - -	24	hours	8751
what -	3° 48′	- - -	1.6755
Answer -	8	hours	1.3522

Remarks on the Division of the Heavens,

From Partridge's Ephemeris for the Years 1708 and 1709.

The division of the heavens, formerly made use of, was that which is commonly called (but improperly) the rational way of Regiomontanus, which is false, and not true to the real and natural motion of the heavens; for it is impossible, by dividing the equator into twelve equal parts, to divide the ecliptic so too; for, in dividing the ecliptic we shall divide true motion, but, in dividing the equator, we divide nothing but air. And, though trigonometry is an excellent art, yet, if your data are false, your quæsita must be of the same nature. But, in dividing the heavens true, the sun, &c. &c. must have an equal variance in each house between cusp and cusp, *supra aut infra terram*. Now then, let us examine how this common division in use doth agree with this motion. We will take the longest day in the year, when the Sun enters Cancer. The semi-diurnal arc of the ☉, in the beginning of ♋, is 123° 11′, the third part of that is 41° 3′ nearly. Now, let us suppose the ☉ in the very beginning of Cancer on the cusp of the ascendant, take 41° 3′ from 123° 11′, and there remains 82° 8′, the sun's distance from the tenth, when he comes to the cusp of the twelfth, 9° of ♈ being then on M. C.; but, by the rational way (a very improper term), when the sun comes to the twelfth house, there is 2° of ♈ on the M. C., which makes 6° false on the twelfth house. Again, bring the sun to the eleventh house, and then he is distant from the M. C. 41° 3′, one third of his S. D. arc, and 22° of ♉ is culminant: but, by the rational, there is 17° of ♉ on the mid-heaven, which makes an error of 5° on the cusp of the eleventh house. And when the sun comes to the cusp of the tenth we differ 3°, on the eleventh 2°, on the twelfth 2°, on the second 2°, and 3° on the third.

Now, let us try the shortest day also; the Sun in the beginning of Capricorn, his semi-diurnal arc is 56° 48′, the third of which is 18° 56′, which is also the sun's true distance from the ascendant, when he comes to the cusp of the twelfth house, 24° of Scorpio is then on the mid-heaven, which, in their irrational way, hath 1° of ♐, which is 6° false on the cusp of the twelfth house. Again, from 37° 52′, take one third more, and that brings the ☉ to the cusp of the eleventh house; at which time we have 12° of ♐ on the tenth, and they have 18; so that they are false 5° on the eleventh house by true motion: but, besides, when they have 0° of ♑ on the tenth, they have but 13° of the same sign on the eleventh house, which should be 18; which, by their rule, will make the semi-diurnal arc of 0° of ♑ but 39°, which any one may see is false, if they have but ingenuity enough to examine it. And, as for their trigonometry, they are deceived in their data, for the same proportions and numbers serve us likewise. As, for example, to gain the cusp of the eleventh house, 0° of ♑ being on the tenth. As radius to C. S. of 60° 00′, so is the C. T. 23° 28′ to the C. T. 40° 56′. Again, as C. S. 64° 26′ to C. S. of 40′ 56′, so is the T. 60° 00′ to the T of 71° 45′, which gives 18° 15′ of ♑ on the cusp of the eleventh house, as, before, it was by the semi-diurnal arc. Hence, it is plain, that the division of the heavens, by the equator, is not true, and they may as well divide the ecliptic by the prime vertical as that, and much about as true as that is; but, besides, they may also consider the poles of the houses, whether 32°, 47°, and 51° 32′ do agree in proportion to the division of the semi-diurnal arc, for 32°, the pole of their eleventh, bear no proportion to 4° and a half, the difference between the poles of the ascendant and twelfth house: and, from hence it will appear, to any reasonable person, that their imaginary division is all false, and not agreeable to the real and natural motion of the heavens.

I am not the first that hath complained of the *modus rationalis*, as you may see if you please to look into *Morinus*'s *Astro. Gall.* lib. 17, which is all about that; but, more particularly, in the fifth chapter of that book. 'Tis true, his objections are not the same with mine; but his objections were to prove the rational false. I would give you some of his objections, but I want room to do it here, and therefore refer you to the author himself, and, in particular, to page 409. Hence you ought not to be angry with me, but rather thank me for helping you to so easy a remedy for your false division. There are old errors as well as old truths, and the former generally rides the fore-horse. However, I will go on and give you farther proofs of its falseness, and also shew the ill consequence of it in practice. Let us suppose the ☉ in 8 deg. of ♊ *sub. lat.* 51° 32′, his semi-diurnal arc there is 120° 12′, the third part of that is 40° 4′; this, taken from 120° 12′, leaves its distance from the M. C., and is its distance from the ascendant when the sun comes to the cusp of the twelfth house, at which time there is 8° of ♊ on the twelfth; but, by the rational, there are 15° of ♊ there, and yet how positive they are to exactness when they work the cusps to minutes and seconds. Now, let us see how trigonometry will justify this division by the diurnal arc; 15° of ♓ on M. C. and its R. A. 346° 5'. As radius to the cosine 46° 5', so the cotang. 40° 52' to the cotang. of 51° 17'. Again, as the cosine of 74° 47' to the cosine of 51° 17', so the tangent of 46° 5' to the tangent of 68° 0', which gives exactly 8° of ♊ on the twelfth, as before. I do intreat them, that endeavour to justify Regiomontanus, to prove theirs by true motion. He was a learned man, but Bernardus *non videt omnia*. Again, let us take the ☉ in 22° of ♑, *sub. lat.* 51° 32', the M. C. 15° of ♐, to find the cusp of the twelfth house. The semi-diurnal arc of the ☉ there is 59° 48', and one third of it is 19° 56', which, subtracted from 59° 48', leaves the distance of the ☉, from the tenth house, 39° 52', when he comes to the cusp of the twelfth, at which time there is exactly 22° of ♑ on the cusp of the twelfth; but, by the rational, there is but 15°, which is a very great difference in so small an arc, no less than 7° false; which, if it be well considered, is certainly the ground of abundance of errors in directions in nativities, which you see ought to be rectified; and the method I take is by *natural motion*, not imaginary, as theirs is, dividing nothing but air. Now let us see here, again, how trigonometry will justify us in this kind of division. As radius to the cosine of 46° 5', so is the cotang. of 40° 52' to the cotang. of 51° 17'. Again, as the cosine of 74° 47' to the cosine of 51° 17', so is the tang. of 46° 5' to the tang. of 68° 0': this, subtracted from twelve signs, leaves 22° of ♑ on the cusp of the twelfth house, as before; which, by the division of Regiomontanus, hath but 15°. I think I need not say any thing to expose the falseness of it, for it is very visible in itself. I now come to shew the mischief of this false division in direction, which is the principal thing I aim at in what I do on this subject.

Let us suppose the ☉ in 22° of ♑, on the cusp of the twelfth house, by the true division; and I will direct him to the body of ♄ in 26° in ♓, south latitude, and the arc of direction will be 43° 44′. Now, let us direct the ☉ to the cusp of the twelfth in 22° of ♑, by their division, to the body of ♄, as before, south latitude, and see what difference there will be: the arc of direction, in their way, will be 38° 8′, differing, from the former, 5° 36′, which will be almost six years. I hope they will all own this to be a vast difference, as well as a horrid error, in a direction.

Again, let us take the ☉ in 1° of ♓, on the cusp of the twelfth house, and direct him to the body of ♃ in 11° of ♉, by the true division, and the arc of direction will be 42° 1′. Let us also work the same direction in their way, and the arc will be 36° 20′, differing 5° and a half. Take one example more in signs of long ascension: Let the ☉ be in 15° of ♌, on the twelfth, as before, and I direct him to 20° of ♍, and the arc of direction is 44° 41′: then direct it their way, and the arc is 47° 41′, too great a difference to be allowed. And so I will leave it with those who think it worth their while to inquire into the matter, and see what they can say in defence of their division.

OBSERVATIONS

ON THE

Nativity of George the Third.

[*See the Plate.*]

THE positions and directions in this geniture being compared with the various events which have occurred at different periods of His Majesty's life, will be found to accord with a degree of accuracy very rarely to be seen; and, it is presumed, that their agreement is a sufficient proof of the correctness of the figure.

At the time His Majesty came to the crown, the ascendant was directed to the ⚹ of the ☉, and, upon the ☉ to the quintile of ♂, he was crowned and married. In 1763, a definitive treaty of peace was concluded at Paris, between His Britannic Majesty, the King of France, and the King of Spain, and acceded to by the King of Portugal; at this time, the ☉ was directed to the ⚹ of ♃ in mundo; and, on the ascendant to the ⚹ of ♄, the American war broke out; the arc is 38° 11′. Then came the ☉ to the □ of ♂ in mundo, arc 42° 33′, and a war commenced with France. On the ascendant to the square of ♂, arc 44° 49′, Lord Cornwallis surrendered himself, and his whole army, to General Washington; in consequence of which, more pacific steps were taken by the British parliament; and, on the ascendant to the △ of ♃, arc 45° 45′, a general peace ensued. In the month of August, 1786, Margaret Nicholson made an attempt upon His Majesty's life, as he was alighting from his carriage at the gate of St. James's palace; the ☽ was then directed to the square of ♂. On the M. C. to the ⚹ of ♂, St. Vincent's victory was obtained; and, on the ☉ to the △ of ♂, Duncan's victory and the battle of the Nile. When the ☉ came to the M. C., the Union with Ireland was effected; and, about that time, Hatfield made his attempt to assassinate His Majesty.

When the ☉ came to his own ⚹, the battle of Trafalgar was gained. His Majesty's present indisposition commenced when the ☽ came to the mundane parallel of ♂; and the various great victories which have recently taken place, have been effected under the M. C. to the quintile of ♂, and the ☉ to the △ of ♂ in mundo; the latter of which, in this geniture, is a great and glorious direction.

The directions for the next, and following years, are as under:—

Ascendant to □ of ☿ 1815
Ascendant to □ of ♄
Ascendant to □ of ♀

There are also various other important directions in this geniture, which accurately correspond with the events which have happened, and will be worth the attention of the young Tyro, and serve as a praxis for calculation.

Errata.

Page 3, Thesis 5, *for* "noncause" *read* "concause."

Page 152, line 21, *for* "☉" *read* "☽."

Any other errors which may have escaped notice, the reader is requested to correct.

A TABLE OF HOUSES,

For the Latitude of 51 *Degrees* 32 *Minutes*,

According to Ptolemy.

☉ in ♈.

Time from noon.		10 ♈	11 ♉	12 ♊	Ascen. ♋		2 ♌	3 ♍
H.	M.	gr	gr	gr	Gr.	M.	gr	gr
0	0	0	9	22	26	42	12	3
0	4	1	10	23	27	23	13	3
0	7	2	11	24	28	2	14	4
0	11	3	12	25	28	48	15	5
0	15	4	13	25	29	21	15	6
0	18	5	14	26	0♌	1	16	7
0	22	6	15	27	0	40	17	8
0	26	7	16	28	1	20	18	8
0	29	8	17	29	2	0	18	9
0	33	9	18	♋	2	39	19	10
0	37	10	19	1	3	19	20	11
0	40	11	20	1	3	59	20	12
0	44	12	22	2	4	38	21	13
0	48	13	23	3	5	17	22	14
0	51	14	24	4	5	57	23	15
0	55	15	25	5	6	36	23	15
0	59	16	26	6	7	15	24	16
1	3	17	27	6	7	55	25	17
1	6	18	28	7	8	35	26	18
1	10	19	29	8	9	14	26	19
1	14	20	♊	9	9	53	27	19
1	18	21	1	10	10	34	28	20
1	21	22	2	10	11	12	28	21
1	25	23	3	11	11	52	29	22
1	29	24	4	12	12	32	♍	23
1	33	25	5	13	13	12	1	24
1	36	26	6	14	13	52	1	25
1	40	27	7	14	14	32	2	25
1	44	28	7	15	15	12	3	26
1	48	29	8	16	15	51	4	27
1	52	30	9	17	16	31	4	28

☉ in ♉.

Time from noon.		10 ♉	11 ♊	12 ♋	Ascen. ♌		2 ♍	3 ♍
H.	M.	gr	gr	gr	Gr.	M.	g	gr
1	52	0	9	17	16	31	4	28
1	55	1	10	18	17	11	5	29
1	59	2	11	19	17	51	6	♎
2	3	3	12	19	18	31	7	1
2	7	4	13	20	19	12	8	2
2	11	5	14	21	19	52	9	2
2	15	6	15	22	20	32	9	3
2	19	7	16	22	21	13	10	4
2	23	8	17	23	21	54	11	5
2	26	9	18	24	22	35	11	6
2	30	10	19	25	23	16	12	7
2	34	11	20	25	23	57	13	8
2	38	12	21	26	24	38	14	9
2	42	13	22	27	25	19	14	10
2	46	14	23	28	26	0	15	11
2	50	15	24	29	26	42	16	12
2	54	16	25	29	27	24	17	12
2	58	17	26	♌	28	6	18	13
3	2	18	26	1	28	47	18	14
3	6	19	27	2	29	30	19	15
3	10	20	28	3	0♍	13	20	16
3	14	21	29	3	0	55	21	17
3	18	22	♋	4	1	37	22	18
3	22	23	1	5	2	20	22	19
3	26	24	2	6	3	2	23	20
3	31	25	3	7	3	46	24	21
3	35	26	4	7	4	29	25	22
3	39	27	5	8	5	12	26	23
3	43	28	6	9	5	55	27	24
3	47	29	7	10	6	39	27	25
3	51	30	8	11	7	22	28	25

A TABLE OF HOUSES,

For the Latitude of 51 *Degrees* 32 *Minutes*,

According to PTOLEMY.

⊙ in ♊.

Time from noon.		10 ♊	11 ♋	12 ♌	Ascen. ♍		2 ♍	3 ♎
H.	M.	gr	gr	gr	gr.	m.	gr	gr
3	51	0	8	11	7	22	28	25
3	55	1	9	12	8	0	29	26
4	0	2	10	12	8	50	♎	27
4	4	3	10	13	9	34	1	28
4	8	4	11	14	10	18	2	29
4	12	5	12	15	11	3	2	♏
4	16	6	13	16	11	47	3	1
4	21	7	14	17	12	31	4	2
4	25	8	15	17	13	16	5	3
4	29	9	16	18	14	1	6	4
4	33	10	17	19	14	46	7	5
4	38	11	18	20	15	31	8	6
4	42	12	19	21	16	16	8	7
4	46	13	20	21	17	1	9	8
4	51	14	21	22	17	46	10	9
4	55	15	22	23	18	31	11	10
4	59	16	23	24	19	17	12	11
5	3	17	24	25	20	4	13	12
5	8	18	25	26	20	49	14	13
5	12	19	25	27	21	35	14	14
5	16	20	26	28	22	20	15	14
5	21	21	27	28	23	6	16	15
5	25	22	28	29	23	51	17	16
5	29	23	29	♍	24	37	18	17
5	34	24	♌	1	25	25	19	18
5	38	25	1	2	26	9	20	19
5	43	26	2	3	26	55	20	20
5	47	27	3	4	27	41	21	21
5	51	28	4	4	28	27	22	22
5	56	29	5	5	29	13	23	23
6	0	30	6	6	30	0	24	24

⊙ in ♋.

Time from noon.		10 ♋	11 ♌	12 ♍	Afcen. ♎		2 ♎	3 ♏
H.	M.	gr	gr	gr	gr.	m.	gr	gr
6	0	0	6	6	0	0	24	24
6	4	1	7	7	0	47	25	25
6	9	2	8	8	1	33	26	26
6	13	3	9	9	2	19	27	27
6	17	4	10	10	3	5	27	28
6	22	5	11	10	3	51	28	29
6	26	6	12	11	4	27	29	♐
6	31	7	13	12	5	23	♏	1
6	35	8	14	13	6	9	1	2
6	39	9	15	14	6	55	2	3
6	41	10	16	15	7	40	2	4
6	48	11	16	16	8	26	3	4
6	52	12	17	16	9	12	4	5
6	57	13	18	17	9	57	5	6
7	1	14	19	18	10	41	6	7
7	5	15	20	19	11	28	7	8
7	9	16	21	20	12	14	8	9
7	14	17	22	21	12	59	8	10
7	18	18	23	22	13	45	9	11
7	22	19	24	22	14	30	10	12
7	27	20	25	23	15	14	11	13
7	31	21	26	24	15	59	12	14
7	35	22	27	25	16	44	13	15
7	39	23	28	26	17	29	13	16
7	44	24	29	27	18	14	14	17
7	48	25	♍	28	18	58	15	18
7	51	26	1	28	19	42	16	19
7	56	27	2	29	20	26	17	20
8	0	28	3	♎	21	10	18	20
8	5	29	4	1	21	54	18	21
8	9	30	5	2	22	38	19	22

A TABLE OF HOUSES,

For the Latitude of 51 *Degrees* 32 *Minutes,*

According to Ptolemy.

☉ in ♌.

Time from noon. H.	M.	10 ♌ gr	11 ♍ gr	12 ♎ gr	Ascen. ♎ gr.	m.	2 ♏ gr	3 ♐ gr
8	9	0	5	2	22	38	19	22
8	13	1	6	3	23	22	20	23
8	17	2	6	3	24	5	21	24
8	21	3	7	4	24	48	22	25
8	25	4	8	5	25	32	23	26
8	29	5	9	6	26	19	23	27
8	34	6	10	7	26	58	24	28
8	38	7	11	8	27	42	25	29
8	42	8	12	8	28	23	26	♑
8	46	9	13	9	29	6	27	1
8	50	10	14	10	29	48	27	2
8	54	11	15	11	0 ♏	30	28	3
8	58	12	16	12	1	13	29	4
9	2	13	17	12	1	55	♐	4
9	6	14	18	13	2	36	1	5
9	10	15	18	14	3	18	2	6
9	14	16	19	15	4	0	2	7
9	18	17	20	16	4	41	3	8
9	22	18	21	16	5	21	4	9
9	26	19	22	17	6	4	5	10
9	30	20	23	18	6	45	5	11
9	34	21	24	19	7	26	6	12
9	38	22	25	19	8	6	7	13
9	41	23	26	20	8	47	8	14
9	45	24	27	21	9	28	9	15
9	49	25	28	22	10	8	9	16
9	53	26	28	23	10	48	10	17
9	57	27	29	23	11	29	11	18
10	1	28	♎	24	12	9	12	19
10	5	29	1	25	12	50	12	20
10	8	30	2	26	13	30	13	20

☉ in ♍.

Time from noon. H.	M.	10 ♍ gr	11 ♎ gr	12 ♎ gr	Ascen. ♏ gr.	m.	2 ♐ gr	3 ♑ gr
10	8	0	2	26	13	30	13	20
10	12	1	3	26	14	9	14	21
10	16	2	4	27	14	49	15	22
10	20	3	5	28	15	29	16	23
10	24	4	5	29	16	9	16	24
10	28	5	6	29	16	48	17	25
10	31	6	7	♏	17	28	18	26
10	35	7	8	1	18	9	19	27
10	39	8	9	2	18	43	20	28
10	42	9	10	2	19	27	20	29
10	46	10	1	3	20	0	21	♒
10	50	11	11	4	20	48	22	1
10	54	12	12	4	21	26	23	2
10	57	13	13	5	22	5	24	3
11	1	14	14	6	22	43	24	4
11	5	15	15	7	23	24	25	5
11	9	16	16	7	24	4	26	6
11	12	17	17	8	24	43	27	8
11	16	18	17	9	25	23	28	9
11	20	19	18	10	26	1	29	10
11	23	20	19	10	26	41	♑	11
11	27	21	20	11	27	22	0	12
11	31	22	21	12	28	1	1	13
11	34	23	22	13	28	40	2	14
11	38	24	23	13	29	20	3	15
11	42	25	23	14	29	49	4	16
11	45	26	24	15	0 ♐	39	5	17
11	49	27	25	15	1	19	5	18
11	53	28	26	16	2	2	6	19
11	56	29	26	17	2	39	7	20
12	0	30	27	17	3	10	8	21

A TABLE OF HOUSES,

For the Latitude of 51 Degrees 32 Minutes,

According to PTOLEMY.

⊙ in ♎.

Time from noon		10 ♎	11 ♎	12 ♏	Ascen. ♐		2 ♑	3 ♒
H.	M.	gr	gr	gr	gr.	m.	gr	gr
12	0	0	27	17	3	15	8	21
12	4	1	28	18	3	59	9	22
12	7	2	29	19	4	49	10	24
12	11	3	♏	20	5	20	11	25
12	15	4	1	20	6	2	12	26
12	18	5	1	21	6	43	13	27
12	22	6	2	22	7	24	14	28
12	26	7	3	23	8	5	15	29
12	29	8	4	23	8	46	16	♓
12	33	9	5	24	9	28	17	2
12	37	10	6	25	10	10	18	3
12	40	11	6	25	10	52	19	4
12	44	12	7	26	11	35	20	5
12	48	13	8	27	12	18	21	6
12	51	14	9	28	12	59	22	7
12	55	15	10	28	13	43	23	9
12	59	16	11	29	14	26	24	10
13	3	17	11	♐	15	10	25	11
13	6	18	12	1	15	54	26	12
13	10	19	13	1	16	39	27	13
13	14	20	14	2	17	23	28	15
13	18	21	15	3	18	8	29	16
13	21	22	16	4	18	54	♒	17
13	25	23	16	4	19	39	1	18
13	29	24	17	5	20	26	2	20
13	33	25	18	6	21	14	4	21
13	36	26	19	7	22	1	5	22
13	40	27	20	7	22	49	6	23
13	44	28	21	8	23	37	7	25
13	48	29	21	9	24	20	8	26
13	52	30	22	10	25	15	10	27

⊙ in ♏.

Time from noon.		10 ♏	11 ♏	12 ♐	Ascen. ♐		2 ♒	3 ♓
H.	M.	gr	gr	gr	gr.	m.	gr	gr
13	51	0	22	10	25	15	10	27
13	55	1	23	11	26	5	11	28
13	59	2	24	11	26	50	12	♈
14	3	3	25	12	27	47	14	1
14	7	4	26	13	28	39	15	2
14	11	5	26	14	29	29	16	4
14	15	6	27	15	0♑	24	18	5
14	19	7	28	15	1	18	19	6
14	22	8	29	16	2	13	20	8
14	26	9	♐	17	3	10	22	9
14	32	10	1	18	4	6	23	10
14	34	11	2	19	5	3	25	11
14	38	12	2	20	6	1	26	13
14	42	13	3	20	7	0	28	14
14	46	14	4	21	8	0	29	15
14	50	15	5	22	9	2	♓	17
14	54	16	6	23	10	6	3	18
14	58	17	7	24	11	9	4	19
15	2	18	8	25	12	14	6	21
15	6	19	9	26	13	21	8	22
15	10	20	9	27	14	29	9	23
15	14	21	10	27	15	37	11	24
15	18	22	11	28	16	46	13	26
15	22	23	12	29	17	58	14	27
15	26	24	13	♑	19	11	16	28
15	31	25	14	1	20	27	17	29
15	35	26	15	2	21	43	19	♉
15	39	27	16	3	23	3	21	2
15	43	28	17	4	24	4	22	3
15	47	29	18	5	25	48	24	5
15	51	30	18	6	27	10	26	6

A TABLE OF HOUSES,

For the Latitude of 51 *Degrees* 32 *Minutes,*

According to PTOLEMY.

☉ in ♐.

Time from noon. H.	M.	10 ♐ gr	11 ♐ gr	12 ♑ gr	Ascen. ♑ gr.	m.	2 ♓ gr	3 ♉ gr
15	51	0	18	6	27	10	26	6
15	55	1	19	7	28	27	28	7
16	0	2	20	8	0 ♒	6	♈	9
16	4	3	21	9	1	37	1	10
16	8	4	22	10	3	11	3	11
16	12	5	23	11	4	48	5	12
16	16	6	24	12	6	27	7	14
16	21	7	25	13	8	8	9	15
16	25	8	26	14	9	52	11	16
16	29	9	27	16	11	40	12	17
16	33	10	28	17	12	30	14	18
16	38	11	29	18	15	20	16	20
16	42	12	♑	19	17	16	18	21
16	46	13	1	20	19	15	20	22
16	51	14	2	21	21	17	21	23
16	55	15	3	22	23	20	23	25
16	59	16	4	24	25	32	25	26
17	4	17	5	25	27	44	27	27
17	8	18	6	26	29	58	28	28
17	11	19	7	27	2 ♓	17	♉	29
17	16	20	8	29	4	38	2	♊
17	20	21	9	♒	7	0	3	1
17	25	22	10	1	9	24	5	2
17	30	23	11	3	11	53	7	3
17	34	24	12	4	14	23	8	5
17	38	25	13	5	16	59	10	6
17	43	26	14	7	19	36	11	7
17	47	27	15	8	22	5	13	8
17	51	28	16	10	24	39	14	9
17	56	29	17	11	27	20	16	10
18	0	30	18	13	30	0	17	11

☉ in ♑.

Time from noon. H.	M.	10 ♑ gr	11 ♑ gr	12 ♒ gr	Ascen. ♈ gr.	m.	2 ♉ gr	3 ♊ gr
18	0	0	18	13	0	0	17	11
18	4	1	20	14	2	37	19	13
18	9	2	21	16	5	19	20	14
18	13	3	22	17	7	55	22	15
18	17	4	23	19	10	29	23	16
18	22	5	24	20	13	2	25	17
18	26	6	25	22	15	37	26	18
18	30	7	26	23	18	7	28	19
18	35	8	27	25	20	35	29	20
18	39	9	29	27	23	0	♊	21
18	44	10	♒	28	25	22	1	22
18	48	11	1	♓	28	43	2	23
18	52	12	2	2	0 ♉	0	4	24
18	57	13	3	3	2	16	5	25
19	1	14	4	5	4	27	6	26
19	5	15	6	7	6	33	8	27
19	9	16	7	9	8	39	9	28
19	14	17	8	10	10	43	10	29
19	18	18	9	12	12	42	11	♋
19	22	19	10	14	14	40	12	1
19	27	20	12	16	16	31	13	2
19	31	21	13	18	18	20	14	3
19	35	22	14	19	20	5	16	4
19	39	23	15	21	21	52	17	5
19	44	24	16	23	23	33	18	6
19	48	25	18	25	25	13	19	7
19	52	26	19	27	26	49	20	8
19	56	27	20	28	28	22	21	9
20	0	28	21	♈	29	53	22	10
20	5	29	23	1	1 ♊	23	23	11
20	9	30	24	2	2	50	24	12

A TABLE OF HOUSES,

For the Latitude of 51 *Degrees* 32 *Minutes,*

According to PTOLEMY.

☉ in ♒.

Time from noon.		10 ♒	11 ♒	12 ♈	Ascen. ♊		2 ♊	3 ♋
H.	M.	gr	gr	gr	gr.	m.	gr	gr
20	9	0	24	4	2	50	24	12
20	13	1	25	6	4	14	25	12
20	17	2	27	7	5	37	26	13
20	21	3	28	9	6	58	27	14
20	25	4	29	11	8	17	28	15
20	29	5	♓	13	9	33	29	16
20	34	6	2	14	10	49	♋	17
20	38	7	3	16	12	3	1	18
20	42	8	4	18	13	14	2	19
20	46	9	6	19	14	24	3	20
20	50	10	7	21	15	32	3	21
20	54	11	8	23	16	40	4	21
20	58	12	9	24	17	46	5	22
21	2	13	11	26	18	55	6	23
21	6	14	12	28	19	56	7	24
21	10	15	13	29	20	58	8	25
21	14	16	15	♉	22	0	9	26
21	18	17	16	2	23	0	10	27
21	22	18	17	4	23	59	10	28
21	26	19	19	5	24	58	11	28
21	30	20	20	7	25	55	12	29
21	34	21	22	8	26	51	13	♌
21	38	22	23	10	27	47	14	1
21	41	23	24	11	28	41	15	2
21	45	24	25	13	29	36	15	3
21	49	25	26	14	0♋	29	16	4
21	53	26	28	15	1	22	17	4
21	57	27	29	16	2	14	18	5
22	1	28	♈	18	3	4	19	6
22	5	29	2	19	3	56	19	7
22	8	30	3	20	4	45	20	8

☉ in ♓.

Time from noon.		10 ♓	11 ♈	12 ♉	Ascen. ♋		2 ♋	3 ♌
H.	M.	gr	gr	gr	gr.	m.	gr	gr
22	8	0	3	20	4	45	20	8
22	12	1	4	21	5	35	21	8
22	16	2	6	23	6	[illegible]	22	9
22	20	3	7	24	7	12	23	10
22	24	4	8	25	8	0	23	11
22	27	5	9	26	8	48	24	12
22	31	6	10	28	9	35	25	13
22	35	7	12	29	10	22	26	14
22	39	8	13	♊	11	7	26	14
22	42	9	14	1	11	52	27	15
22	46	10	15	2	12	37	28	16
22	50	11	17	3	13	22	29	17
22	54	12	18	4	14	7	29	18
22	57	13	19	5	14	54	♌	19
23	1	14	20	6	15	35	1	19
23	5	15	21	7	16	17	2	20
23	9	16	23	8	17	1	2	21
23	12	17	24	9	17	44	3	22
23	16	18	25	10	18	26	4	23
23	20	19	26	11	19	9	5	24
23	23	20	27	12	19	52	5	24
23	27	21	29	13	20	23	6	25
23	31	22	♉	14	21	14	7	26
23	34	23	1	15	21	56	7	27
23	38	24	2	16	22	37	8	28
23	42	25	3	17	23	18	9	28
23	45	26	4	18	23	59	9	29
23	49	27	5	19	24	39	10	♍
23	53	28	6	20	25	21	11	1
23	56	29	8	21	26	2	12	2
24	0	30	9	22	26	42	12	3

Speedily will be published,

A New Translation of PTOLEMY's QUADRIPARTITE, with Notes and Observations, by the Editor of this Edition of Placidus de Titus.

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