

*Arcanorum caelestium lampas
τετράλυχνος, quatuor
obvelata hexametris, quae
totidem velut umbrae sunt;
quatuor anagrammatismis
revelata, quae totidem lumina*

[The Four-Wicked Lamp of Celestial Secrets]

(1643)

by Govaert Wendelen (Godefridus Wendelinus, 1580–1667)

Translation by Scott Weisman



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"Arcanorum caelestium lampas τετραλυχνος, quatuor obvelata hexametris, quae totidem velut umbrae sunt; quatuor anagrammatismis revelata, quae totidem lumina," published in 1643, is in the public domain. All translations, original additions, including illustrations, commentaries, and summaries, are copyright.

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Upright reason dictates that the recipients of the good, of whatever type and level of beneficence it may be, must show gratitude and blessing to the beneficent person in every way possible, commensurate with the value of the beneficence. And one who has benefited all the people of the world — for example, one who invented a new instrument for the good of the world, or a good book — it is fitting for every discerning person, out of the obligation of love of fellow beings, to at least purchase it, so that the man will profit and his heart will be encouraged thereby to invent yet more good instruments in the world. And similarly, all other wise-hearted people will likewise strive and exert themselves to invent good things and instruments needed for the repair of the world and its perfection.

And therefore, whoever says: "What do I need this new instrument for?" — he does not act well towards the world. For if not for the man who invented it, where would you be? And what would your city do? And more than this, if the man did not exert himself, what would the world do?

— R. Pinchas Eliyahu Hurwitz, *Sefer HaBris HaShalem* (1797)

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A NOTE ON THE WORK

In this short tract Govaert Wendelen publishes four astronomical claims in the manner of his age: first hidden in four Latin hexameters ("shadows"), then revealed by anagram ("lights"). Each "light" is followed by a brief explanation. Dedicated to the humanist Erycius Puteanus, with a letter from Puteanus to the reader, the *Lampas* is a record of the priority claims Wendelen staked out while preparing his *Tabulae Atlanticae*, and a curiosity of seventeenth-century scientific publishing.

A NOTE ON THE TRANSLATION PROCESS

This translation was produced with the translation-pipeline. See the linked repository for details on the process.

A note on the references. A scriptural or bibliographic reference given in brackets or parentheses is, in most cases, an **editorial identification of an allusion rather than a citation printed in the source**. Books of this kind quote and weave scripture constantly without naming it, and the identification is supplied here as a convenience to the reader. Where the source does print a reference of its own, it is given as printed. **An identified allusion is not evidence that the author cited that passage** — look at the original before resting an argument on one.

This text is the product of a highly refined automated translation process. It has undergone only cursory human review and should not be treated as an authoritative or scholarly rendering. It is offered solely as a reference and reading aid — a way to make an otherwise inaccessible work approachable — and any passage of real consequence should be checked against the original source.

ACKNOWLEDGEMENTS

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Notation and abbreviations

A few conventions have been applied uniformly throughout this translation, so that one quantity is always written one way. They change how a value is *written*, never what it is; where the printed source and this translation differ in notation, the source's own form is recorded in the editorial apparatus.

Numerals are Arabic, even where the source sets Roman ones. Roman numerals are kept only in headings, running headers and signatures, which are transcribed as printed.

Dates are given as year, month, day — *1572 November 11*. Dates are Julian, as the source gives them, and have not been converted to the Gregorian calendar.

Angles are written with the conventional signs — $23^{\circ} 27' 30''$. Early modern astronomy divides the degree sexagesimally and often runs to places for which modern writing has no common symbol; the orders used in this book are:

sign	order	the source's term
$^{\circ}$	degrees	<i>partes, gradus</i>
$'$	minutes of arc	<i>scrupula prima, minuta</i>
$''$	seconds of arc	<i>scrupula secunda</i>

Abbreviations used in table headings: **RA** right ascension.

Where a table in the source spreads one quantity across separate columns for degrees, minutes and seconds, those columns have been joined into a single column and the value written whole. Where a value runs to thirds and beyond, the columns are kept, since there the columns are the notation.

[Binding: blank unprinted leaf, no text.]

[Binding: blank unprinted leaf, no text.]

[Margin: a handwritten mark at the top right corner, ending in what looks like the figure "2"; the rest is a pen stroke [?].]

Title page

GOTIFREDI VENDELINI [Govaert Wendelen] LVMINARCANI
 ARCANORVM CÆLESTIVM LAMPAS TETPAΛYXNOΣ, Quatuor
 OBVELATA Hexametris, *Quæ totidem velut Vmbræ sunt*: Quatuor Anagram-
 matifmis RE- VELATA, *Quæ totidem Lumina*. OMNIBVS Orbis terrarum
Mathematicis ac Physicis TRADITVR. SPECTEMVR AGENDO.

The Four-Wicked Lamp of Celestial Secrets [LAMPAS TETPAΛYXNOΣ — Greek: tetralychnos, "with four wicks"], by Gotifredus Vendelinus [Govaert Wendelen], Luminarcanus.

Its secrets are veiled in four hexameters, which are, as it were, so many shadows; and revealed in four anagrams, which are so many lights.

It is handed over to ALL the mathematicians and natural philosophers [Phyfici] of the whole world.

Let us be judged by our deeds. [SPECTEMVR AGENDO]

Brussels [BRVXELLÆ], from the press of Ioan Mommarti [Jan Mommaert],
 1643 [∞. IOC. XLIII.]¹

With approbation and privilege. [*Cum Approbatione & Privilegio.*]

Reverse of the title page [p. 2, unnumbered]

Inscription (set out in display lines, italic capitals then italic, with the author's name in roman capitals):

Printed	Translation
EN MALE NATE SANNIO	Look here, you ill-born buffoon,
Quisquis carpes quæ non capies;	whoever you are who will carp at what you will not grasp:
Invido ibi,& Livido,	to the Envious one there [ibi], and the Livid one,
GOTIFREDVS VENDELINVS	Gotifredus Vendelinus [Govaert Wendelen]
Anagrammatismum suum	throws down his anagram.
objicit.	

Epigram (two elegiac couplets, italic):

Printed	Translation
Me quòd amant Superi; Proceres	That the gods above love me, that the great honour me,
dignan-	

¹the first sort of the date is partly under a brown stain on the leaf; its visible part has the form of the thousand-sign ∞; IOC and XLIII stand clear.

Printed	Translation
tur honore; Concelebrant Docti; Publica fama	that the learned join in praising me, that public fame favours me —
favet: Te similesq; tui dum pro lætamine ducunt, Zoile, Vipereâ ringeris invidiâ?	while they count you and those like you as so much dung, do you, Zoilus, snarl with a viper's envy?

The anagram:

Printed	Translation
DIVINE FVLGENT SVDORES, Lampadis instar: FVLGENT SVDORES, INVIDE, quò doleas.	DIVINELY SHINE THE LABOURS [literally "sweats"] ² , like a lamp: THE LABOURS SHINE, ENVIOUS MAN, to make you grieve.

[Printed rule across the page.]

To the author, conspicuous everywhere. [Autori ubique spectabili.]

Printed	Translation
Effigi quid opu[s]? nulli est non obvia: quippe est Quo Quinctus quondam CAROLVS ore fuit. Quàm be[n]e conveniunt! Vati hoc ignosce: celebrat Belga solum sceptro, Belga polum radio.	What need of a portrait? It is familiar to everyone, since it is the face that Charles V once had. How well they match! Forgive the poet this: a Belgian honours the earth with the sceptre, a Belgian the heavens with the rod.

Titus Bulcrycius.

To the most distinguished Erycius Puteanus, his friend — Gotifredus Vendelinus

[AMPLISSIMO VIRO / ERYCIO PVTEANO / SVO, / GOTIFREDVS
VENDELINVS.]

I had been summoned to Brussels by the leading men [à Proceribus], and while I was spending some days there I learned from friends that you have in hand a treatise on the anagram [Commentationem de Anagrammatifmo], in which you would commend, in a brilliant piece of writing, its antiquity, and in turn its necessity, and in every case its elegance. Then there came into my mind

²DIVINE may also be read as a vocative, "O divine one", answering INVIDE, "envious man", two lines below

a certain hexameter line of mine, composed 30 years ago [ante annos 30], from whose letters, the very same number of them, I had carved out a second line asserting the Hidden Light [Luminis Arcani] — something that had escaped all mortals before me. It is this: the equation of natural days (as they are called) [Dierum (ut vocant) Naturalium ... Æquatio] is rejected, and their constant and perpetual equality is asserted. On this point the labour, entangled in a thousand ways, has portentously driven the most eminent mathematicians (indeed the leaders of the leaders) to despair. I offer as proof the words of Kepler [Kepleri] — and what a man he was! In his *Rudolphine Tables* [Tabulas suas Rodolphinas], after a whole chapter 15 [toto capite xv.], and a long one, in which he said much and said nothing (apart from that very true statement, NO EQUATION OF DAYS AGREES WITH EXPERIENCE [NVLLA DIERVM ÆQVATIO CONSENTIT EXPERIENTIÆ]), at last, in chapter 33, page III [cap. XXXIII. pagina III], he breathes out his soul, as it were, in these words: "After the counsels of all the craftsmen have been spent, after so many inequalities of the Moon have been brought to light, the star is still stubborn, and, spurning laws, it strays from its course here and there by tiny amounts. To inquire into the causes is therefore premature, and is not the business of this book." [*Post consumpta omnium Artificum cōsilia, post tot inæqualitates Lunæ prolatas in lucem, adhuc contumax fidus, legesq; respuens, passim exorbitat minutulè. Causas igitur inquirere immaturum est, nec hujus libri.*]

See how he sends us away from himself! If I were to call in Lansbergius [Philips van Lansbergen] on this as well, may I perish if we are not condemned to eternal darkness. So I abolished this inequality of the days altogether — timidly at first, and not with enough confidence until the year 1628. From then on, however, with all the eclipses up to that time, whether observed by me myself or received from elsewhere, I was confirmed in it, and I claimed for myself my former axiom, wrapped up [involutum] in one of the two hexameter lines and unwrapped [evolutum] in the other; and I also shared it with certain friends — to the astonishment of our friend Blitterswyckius [Blitterfwyckio], while Langerenus [Michael Florent van Langren] protested no less, though he did not distrust his own eclipses in the meantime.

A second hidden light followed: namely, the lunar prosthaphæreses [Prosthaphæreses ... Lunares], likewise unknown to all mortals until now. This is the second account of the motions needed to define the times of eclipses with certainty, and a far more desperate one than the first. This light, then, hidden as if in a secret in one line, and disclosed and brought forth in another made from the same source [indidem], I likewise wished to share with friends.

These results, investigated by me in this way, represent all the eclipses, and the approaches [adpulsus] of the Moon to the stars, with such certainty that — I say it without boasting [præfiscinè] — everything agrees, no longer to its hours or half-hours, not to quarters, not to eighths, not to twelfths [uncias], but to the minu- -tes themselves [ta ipsissima], and indeed to half-minutes — such a thing as it would have been presumptuous for any mortal before me even

to expect. Meanwhile two other lights, greater than these, made their way into my mind out of the secret [Arcano] recess of nature's more inward part: namely, the progression of the apogees, or aphelia [Proceffus ... Apogæorum, five Apheliorum]; and the Moon's character [ingenium] in these, truly most admirable, which no mind [ingenio] can marvel at enough.

So each of these, woven into its own wrapping of hexameters [Hexametrorum involucris] and unwoven again in as many other lines, I have not yet passed on to other friends, because I had not yet drawn their veils over them. But now that this has at last been granted me in these days, you shall be the first to have the four cases [thecas], as it were, of the Hidden Light, to be unlocked by four anagrams as if by keys; and this Lamp, which I am to hand on to all the learned. When I say the learned, I name Gassendi [Gaffendum], and Mersennius [Marin Mersenne], and Kircherus [Athanasius Kircher], and the star rising among the Frisians, Phocylides [Johannes Phocylides Holwarda]; and many others besides, whose names to com- -memorate [-morandis], and so to honour as they deserve, both the narrowness of this paper and that of my own wit fall short. All of them I beg and implore to help my efforts with their goodwill; and they will indeed help, if they too bring their own contributions [symbolas], mathematical as well as physical, into the common stock.

And lest it should perhaps offend these same people that I have accepted the name LUMINARCANUS [LVMINARCANI] that you conferred on me — as though, with a pompous title, I were swelling with foolish madness, a habit you know to be utterly foreign to me — let them know this: the ancestral home of my family is Luminium [LVMINIVM], a very large township among the Taxandri [in Taxandris], the patrimony at once of the Dukes of Brabant and of the most illustrious House of Marcana [Marcanae domus]. There, too, my kinsman Henricus Wendelinus was distinguished by the public dignity of the praetorship [præturæ]; and a memorable deed ennobled my Cornelii on my mother's side [Cornelios meos maternos]. Among these were four priests, my great-uncles [Avunculi magni]. The eldest of them, parish priest of Luminium [Luminii Parochus], when he already lay carried out on his bier, the second brother performed the sacred rite [sacrum fe-] [-cit]; the third served as deacon, and the fourth as subdeacon [Hypodiaconū]. The fifth (my grandfather [meus Avus]) led the men to the offertory; the sixth (their sister, my great-aunt [Amita mea magna]) led the women's procession [muliebre chorū]. No funeral cortège is ever recorded to have been more crowded — with people flocking from the neighbouring towns and places to so novel a spectacle — or more sorrowful, for the piety of everyone weeping over it.

My other homeland, a chance one [patria fortuita], is HERCA; the old records wrote it Arka or Archa [Arkam five Archam] from as far back as the age of Saint Lambert, and later Harck. You know that here in the Low Countries [in Belgio] many places bear the same name, taken from their Roman founders, who built strongholds [Arces] for themselves everywhere, and these it was correct to pronounce *Arkes*; as Malebrancus observed carefully in his *Morini* [in

fuis Morinis]. So then, to be called LUMINARCANUS [LVMINARCANVM] after this twin homeland of mine will (I hope) carry none of the ill-will that a malicious reading of it as "Hidden Light" [de Lumine Arcano] could have earned me; since even Gali- [Gali]-leo, whom we do not begrudge shining with the title of LYNCEAN Philosopher [Philosophi LYNCEI] (a title he most richly deserves). In that spirit, then, I accept the surname you give me — more so that I may not seem to slight your judgement than because I trust that I can live up to so august a name. However that may turn out, I shall strive with all my strength, and to the measure of my life, so that you are not deceived in your judgement, and so that these things, served up raw, are not tasted without a fuller preparation [apparatu pleniore].

That, indeed, ought to have been done long ago (and could have been, too), had not the sense of both domestic and public misfortunes kept plucking at me again and again as I wrestled with my health. While these slowly abate, take these things meanwhile, commended to you on two counts. First, because by them the bolts [feræ] are drawn back on the celestial motions — unknown in so many and such great parts, and to remain unknown still into late ages [in fera fæcula] — and (a few out of many) the DOORS OF THINGS [RERVVM FORES] are opened, which until now were shut with strong bars indeed. Second, because, brought into the Nym- -phs [-pharum], into that darkest cave, my Lamp lights up these secrets [Arcana hæc] with its own Light and so scatters the gloomy darkness that from now on our men of darkness [Tenebriones] will have nowhere to hide, and will find nothing to hold up as a cover for the disgrace of nativity-casting [Genethliacæ infamiæ]. For they will be forced to acknowledge on what futile horoscopes, ephemerides, tables and hypotheses they, befooled themselves, sing fates to fools [fatuati Fata canunt Fatuis] — while so many things still lie hidden from all mortals, things which (I hope) will one day see the LIGHT [LVMEN].

So may my most excellent LUMINARCHA [LVMINARCHA] love me; but let the wicked hate me, from whom I hope for nothing else: I fear nothing else than that they should speak well of me

Ever yours [Semper tuo], Gotifredus Vendelinus [GOTIFREDO VENDELINO].

Brussels, from the house [ex ædibus] of the Marquis de Torres, 1643 May 1 [Cal. Majis 1643].

ERYCIUS PVTEANVS LECTORI ANAGRAMMA- TISMOPHILO, ET ARCANORVM CÆLESTIVM CVRIOSQ.

Erycius Puteanus to the Reader who loves anagrams, and who is curious about Celestial Secrets.

My Anagrammatismus [ANAGRAMMATISMVS meus] was calling for a new finishing flourish [Coronidem]; and here it is: this FOUR-WICKED

LAMP OF CELESTIAL SECRETS [ARCANORVM CÆLESTIVM LAMPADEM τετράλυχνον — Greek: tetralychnon, "four-wicked"], shining with fourfold anagrams [Quatergeminis ANAGRAMMATISMIS] as if with so many wicks, which I take from that most distinguished man, the Hipparchus of the Belgians [Belgarum Hipparcho], GOTIFREDUS VENDELINUS [GOTIFREDO VENDELINO]. To show how highly he valued the figured interchange of letters [Figuratam Litterarum Commutationem], even in verse, he judged it worthy of Heaven; and how highly he valued a friend who writes on this interchange, he showed by taking it up himself [ipse ufurpavit].

There are four lines, and they are hexameters, and they lead to Urania. Then there are four more, one from each of these lines in turn [ex his fingulis finguli]; and by what is almost a prodigy of ingenuity they open the secrets of Urania. You would marvel that such august things could be veiled in this way, and such lofty things revealed.

Do you ask what I think? I love and look up to the Author, I praise and extol his learning [Doctrinam]. He, indeed, is already great among the great, and unknown to no one. His learning, being curious, awakens desire for itself; being celestial, it carries its own value. What more? That it has remained unknown until now only adds to its recommendation. You see the LAMP, and a four-wicked one [LAMPADEM & τετράλυχνον]: veiled [Obvelatam] in four lines, so that you may find as many Shadows of Secrets [Vmbra Arcanorum]; and likewise revealed [Revelatam] by four anagrams, so that you may be refreshed by as many Lights [Luminibus]. Just as it is pleasant to play among Shadows, so it is to be taught by the Lights and by LUMINARCANUS [LVMINARCANO] — Lights that are truly new, great, wonderful and astounding. Had even one of them come into the mind of the Tuscan Mathematician [Hetrusco Mathematico] or of the man of Urbino [Vrbinati], even in a dream, what a thing it would have been [Quantum Inftar]! The Belgians too are bringing light to the heavens [A Belgis quoque illustratur Cælum], so that nothing is now obscure. But look at the LAMP — look at it, I say.

LAMPADIS TETPAAYXNOY

Of the Four-Wicked Lamp,

Diagram. Below the two-line title the foot of the page is divided into two blocks of type, each under its own italic capital heading: LVMEN ("Light") on the left and ARCANVM. ("Secret") on the right. Under each heading four short lines are set turned sideways (rotated a quarter-turn, reading downward, the first line at the right of each block). They are the opening words of the four revealed and the four veiled lines set out on the next page, which is printed sideways in the book. Read in order:

- Under LVMEN (left block), first to last: IN · PAR · APS. · L[V/Y]N.
- Under ARCANVM. (right block), first to last: An · Qu[à/ã] · Ex · Diva

ARCANVM VELATVM.

The Secret Veiled.

1. Annosi meritis Cæli super æthera scandam. By the merits of ancient Heaven I shall climb above the aether.
2. Quà summa ima petam Menti loca, sollicitamur. By what way I may seek, for the Mind, the highest and lowest places — over this we are troubled.
3. Ex Astris tandem sua gloria dña patebit. From the stars at last its divine glory will be laid open.
4. Diva alibi nodis inclusa en applicat Astris. See: the goddess, shut in elsewhere by knots [nodis], joins herself to the stars.

LVMEN REVELATVM.

The Light Revealed.

1. IN CÆLIS PAR EST HODIERNÆ CRASTINA SVMMÆ. In the heavens tomorrow's sum is equal to today's.
2. PAR SVMMAM ATQVE IMAM CIET OSCILLATIO LVNAM. An equal oscillation drives the Moon at its highest and at its lowest.
3. APSIDIBVS RATIO DAT SEXTANTARIA LEGEM. A sextantal ratio [RATIO ... SEXTANTARIA] lays down the law for the apsides.
4. LVNA VICES ANNI TRIPLICABIT AD APSIDA SOLIS. The Moon will triple the year's turns [VICES ANNI] at the apsis of the Sun.

COMPARE the first Veiled line with the first Revealed: you will find that both consist of the same 36 letters [XXXVI. Litteris]. Compare the second with the second: the same 37 [XXXVII]. The third with the third: the same 32 [XXXII]. The fourth with the fourth: again the same 37 [XXXVII].

FIRST, then, the Author climbs into heaven, which is the duty of a human being, and still more of a learned one. God

Os homini sublime dedit, cælumq; videre gave man a face held high, and bade him look upon heaven Iussit, & erectos ad Sidera tollere vultus. and lift his face upright to the stars.

SECOND, he surveys the heights and the depths of Heaven, anxious to embrace with his mind what is divine and eternal:

Virtus recludens immeritis mori, Virtue, opening to those who did not deserve to die Cælum negatâ tentat ire viâ. Heaven, tries to go by a road denied.

THIRD, by contemplating he brings it about that their glory is at last claimed for the stars and the heavens, and overflows to God. Οἱ οὐρανοὶ διηγοῦνται δόξαν Θεοῦ [Greek: "the heavens declare the glory of God"]: The heavens declare the glory of God [Cæli enarrant gloriam Dei].

FOURTH, so that Urania herself, hindered until now, may freely apply herself to her own stars, and untie for mortals the difficult knots [nodos] of knowledge. Happily indeed

video splendescere pulsu I see, struck by a sudden blow, Icta corusciferi
subitò laquearia Cæli. the panelled vault of flashing Heaven begin to shine.

Now let LUMINARCANUS [LVM[I]NARCANVS] himself speak, and
with his Lights bring light out of the very Shadows.

VELATÆ LAMPADIS UMBRA PRIMA.

The First Shadow of the Veiled Lamp.

Annosi meritis cæli super æthe- ra scandam. By the merits of ancient
heaven I shall climb above the aether.

REVELATÆ LVMEN PRIMVM.

The First Light of the Revealed [Lamp].

IN CÆLIS PAR EST HODIERNÆ CRASTINA SVMMÆ. In the heavens
tomorrow's sum is equal to today's.

That is:

All day-and-night days [dies Νυχθήμεροι — Greek: nychthēmeroi, "of a
night and a day", i.e. full natural days] are equal to one another.

It has been believed until now that the quantities of the days are unequal
for two reasons [DVABVS de caussis]: the first, because of the Eccentricity of
the Sun [Excentricitatem Solis] and the prosthaphaereses [Prostaphæreses] that
arise from it; the second, because of the Obliquity of the Zodiac [Obliquitatem
Zodiaci]. These two together are thought at times to grow to as much as 18
minutes of time [minuta horaria 18.], by which, in their whole [to-]tis — the
eclipses of both the Sun and the Moon must occur either earlier or later. So
much so that if you test the calculations from one eclipse against another, a
discrepancy of as much as 36 minutes [minutorum 36.] may emerge. This,
however, kept all the practitioners [Artifices] very busy, and various authors
constructed various Tables for the Equation of the natural days [Æquatione
dierum ... Naturalium], as they call them (which for the Ancients are the civil
days [Civiles]). Tycho [Tycho Brahe] was the first to remove that Equation of
the days which arises from the prosthaphaereses of the Sun; he retained only
the other one, which the Obliquity of the Zodiac would produce.

I myself, intent from as early as the year 1600 on taking and collecting
observations of eclipses with great labour, obtained more than 45 of them,
all reliable and certain; and after I had already revised my Luni-Solar Tables
[Tabulas meas Lunæ-Solares] twenty times with the utmost toil, I discovered
that no Equations of the days are needed anywhere. THIS IS A THING
HITHERTO UNKNOWN TO ALL MORTALS, THE FIRST MIRACLE
EITHER OF HEAVEN OR OF EARTH; and the first condemnation of the
vanity of the casters of nativities [Genethliacæ vanitatis].

VELATÆ LAMPADIS UMBRA SECVNDA.

The Second Shadow of the Veiled Lamp.

Quà Summa Ima petam Menti loca, sollicitamur. By what way I may seek, for the Mind, the highest and lowest places — over this we are troubled.

REVELATÆ LVMEN SECVNDVM.

The Second Light of the Revealed [Lamp].

PAR SVMMAM ATQVE IMAM CIET OSCILLATIO LVNAM. An equal oscillation drives the Moon at its highest and at its lowest.

That is:

The lunar prosthaphaereses are oscillatory [Oscillatoriae sunt Prostaphæreses Lunares].

I call oscillatory motion [OSCILLATORIVM motum] the motion that drives a hanging body to and fro on either side, away from the line of its own plumb [extra lineam perpendiculi sui], with the same measures of its swing [iisdem modulis libramenti] in no way varied, but equal. I say that the lunar prosthaphaereses are of this kind: that is, equal at an equal distance in degrees on either side of the Apogee and of the Perigee alike [tam circa Apogæum quàm Perigæum æquidistanti numero graduum Æquales]. Which all

[Which all mortals] have failed to notice until now. For it has always been believed that an anomaly of 45 degrees [Anomaliam graduum 45.], and likewise one of 315 degrees [graduum 315.], produces in the Moon a prosthaphaeresis of 3° 20' [graduum 3. min. 20.]; but that in an anomaly of 135 or 225 [Anomaliâ 135, vel 225.] it gives a prosthaphaeresis of about 3° 46' [grad 3. 46 admodum] — whereas in both cases it is one and the same, precisely 3° 32' [grad. 3. min. 32 præcisè].

In the computation [Epilogismô] of eclipses and of the other motions, this is a perpetual and inextricable cause of error. So it is not without reason that Kepler [Kepplerus] — who saw nothing of these things, nor suspected them — says that the motion of the Moon is *suspected of wild habits* [Lunæ motum ... de feris moribus suspectum]. His Tables too, and the Ephemerides computed from them, have never been able to represent even a single eclipse at its proper moments, as several learned men have already noted in sharp criticism.

AND SO THIS TOO, HITHERTO UNKNOWN TO ALL MORTALS, IS THE SECOND, AND A FAR MORE ASTOUNDING, FEAT OF NATURE'S INGENUITY [NATVRAE INGENIVM]; and at the same time a second sword at the throat of the shady casters of nativities [Genethliacorum tenebrionum].

VELATÆ LAMPADIS UMBRA TERTIA.

The Third Shadow of the Veiled Lamp.

Ex Astris tandem sua gloria dia patebit. From the Stars its divine glory will at last lie open.

REVELATÆ LVMEN TERTIVM.

The Third Light of the Revealed [Lamp].

APSIDIBVS RATIO DAT SEXTANTARIA LEGEM. The sextantary ratio gives the law to the apsides.

That is:

The speeds of the apsides [Celeritates Apsidum] are to one another in the sextantary ratio [ratione Sextantaria] of their eccentricities.

I call a ratio sextantary [SEXTENTARIAM ... rationem, as printed] when, of any given number, the root is taken which, multiplied six times, produces that number. For example, let these two numbers be given:

64. & 729.

Their sextantary roots will be 2 and 3 [2. & 3.], as is shown in the following way.

64. 32. 16. 8. 4. 2. 729. 243. 81. 27. 9. 3.

For the number 2, taken twice, makes 4; multiplied three times, the same number gives 8; taken four times, it yields 16; five times, it shows 32; and finally, six times, it produces 64. So the sextantary root of this number 64 turns out to be 2. Understand the same of 729, beginning the multiplication from 3, taken six times [à 3. sexies ductis].

Therefore, if there were two planets, the eccentricity of one being 64 parts [partium 64] and of the other 729, I say that the speeds of their apogees or apsides (or aphelia, if you prefer to call them that) will be to each other in the ratio 2 to 3. That is: if the apsis of the smaller eccentricity advances two degrees in one century, then the apsis of the greater eccentricity will advance 3 degrees [gradus 3] — precisely, not a whit more and not a whit less.

I will give one notable example out of many. The eccentricity of the Sun is believed to be 1800 small parts [particularum 1800.]. Some time ago I found it to be less than 1760. But at last I found it to be 1745, no more, with a maximum prosthaphæresis [Prosthaphæresi maxima] of 2° 0' [graduum 2. 0. præcisissimè], most precisely. The sextantary root of this eccentricity (extended, as is usual in these matters) is about 1611 [1611 admodum].

The eccentricity of Saturn is 5724, investigated with fair accuracy; the sextantary root of this number is 1963. I say therefore: as [as] 1611 is to 1963 [habent 1611, ad 1963.], so is the speed of the solar apogee to the speed of the aphelion of Saturn. And so, while the solar apogee advances by 1611" [secundis 1611"], that is, 26' 51" (which it does in very nearly 26 years exactly [annis 26 ipsis admodum]), the aphelion of Saturn is meanwhile advanced by 1963" [secundis 1963"], that is, 32' 43" [minutis 32' 43.]. This too is entirely true, and most certain even on the evidence of the Rudolphine Tables [Tabulis Rodolphinis].

So, then, the apsis of Saturn runs through one degree [Gradum] in about 47 years and 9 months; that of Jupiter [Iovis] in very nearly 49 years and 2 months; and that of Mars in 44 years and 1 month. The apogee or aphelion of the fourth body takes 58 years, less only the smallest amount [minimo quo minus]. The aphelion of Venus requires 69 years and 5 months; and that of Mercury, finally, 38 years and 3 months, more or less. We shall show that all of these also agree with their own trials [experimentis], going back a great many years.

LET THIS, HITHERTO UNKNOWN TO ALL MORTALS, BE THE THIRD PRODIGY OF DIVINE WISDOM [DIVINAE SAPIENTIAE PRODIGIVM]. And no less is the value that the folly of the casters of nativities [Genethliacæ stultitiæ] holds among fools alone brought down [depretiatum].

VELATÆ LAMPADIS UMBRA QVARTA.

The Fourth Shadow of the Veiled Lamp.

Diva alibi nodis inclusa, en ap- plicat astris. The goddess, shut in elsewhere by knots [nodis] — see, she applies [herself] to the stars.

REVELATÆ LVMEN QVARTVM.

The Fourth Light of the Revealed [Lamp].

LVNA VICES ANNI TRIPLICABIT, AD APSIDA SOLIS. The Moon will triple the year's turns, in relation to the apsis of the Sun.

That is:

To the comparison of the apsides of the Sun and Moon must be applied the triplicate ratio of the months of the year [ratio triplicata mensium annuorum].

The yearly turns of the Moon, that is, the months, are 12 [12;], with, in addition, the epact days [diebus ... Epactis], about 11 [11 ferme]. These months (together with the excess [& quod excurrit]), taken in triplicate — that is, multiplied by themselves three times [ter in seipsos ducti] — produce a cube of 1892, very nearly exactly [1892 admodum partiliter]. This cube, therefore, is to be used in comparing with one another the advances of the apsides of the Sun and Moon, in this way.

The eccentricity of the Sun is (as I said) 1745, with a prosthaphæresis of 2° 0' [gradum 2. 0], most precisely. The eccentricity of the Moon is 6544, and its free prosthaphæresis [libera Prostaphæresis] is 7° 30' [graduum 7. 30], most exactly. Plainly, then, these two eccentricities are to each other as 4 to 15, most exactly.

Their sextantary roots are 27.14425 [27. 14425] for the Sun and 33.83257 for the Moon — or, broadly speaking [πλατικῶς (platikōs, "broadly, roughly")], as 27 to 34, a little less. So, by the preceding proposition, while the Sun's apsis is advanced by 27' [minutis 27] (which it does in 26 years, a very little more), the Moon's apsis ought meanwhile to be advanced by 34' [minutis 34.], a very little less.

But in fact the speed of the Moon's apsis is far, far greater. In that brief span of 26 years it runs through not 34' [minuta 34] but nearly three whole circles [orbes totos ferme tres] — that is, very nearly 1080 degrees, or, I mean, a little less than 64800 minutes. It is therefore manifest that it is found to be faster than the solar apsis nearly two thousand times — that is, in truth, one thousand eight hundred and ninety-two times [Millies octingenties bis & nonagies].

Now since the advance [processus] of the lunar apsis is the most certain of all — for it takes 3231 days, with 5 hours and about 30 minutes [dierum ... 3231, cum horis 5, minutis 30 ferè] — the advance of the solar apsis can

APPROBATIO.

no longer be unknown. From this I hence define it as one of 20864 years [annorum 20864]. And with this known, for the remaining planets too I shall give their own [advances] (which I have computed and soundly demonstrated), when I make my Luminarcane origin [LVMINARCANAM originem meam] attested by a LIGHT hitherto ARCANE [LVMINE hactenus ARCANO], more illustrious from then on. Then, of course, it will be granted that WE SING OF SOMEWHAT GREATER THINGS [PAVLLO MAIORA CANAMVS]. And let us show that the blinded vanity of the astrology of nativities [Astrologiæ Genethliacæ] glimmers in darkness — an astrology that until now has not been able to make out even the shadow of the true Light.

LET THIS, HITHERTO UNKNOWN TO ALL MORTALS, BE THE FOURTH PRODIGY, AND GREATER THAN ALL THE OTHERS [QVARTVM ESTO, ET OMNIBVS ALIIS MAIVS PORTENTVM]. Nor is the verdict on the casters of nativities [in Genethliacos censura] any kinder than in the earlier ones.

FINIS.

APPROBATIO.

Approbation.

This Lamp of Celestial Secrets, lit by the most distinguished man Gotifredus Vendelinus [Govaert Wendelen], may be brought out in public. Given at Leuven [Lovanii], 1643 April 27.

IACOBVS PONTANVS [Iacobus Pontanus], Doctor of Sacred Theology [S. Th. Doct.], Apostolic and Royal Censor of Books.