

## MICHAEL MAESTLIN AND HIS UNPUBLISHED TREATISE ON THE NOVA OF 1604

MIGUEL A. GRANADA, Universitat de Barcelona

Michael Maestlin (1550–1631), professor of mathematics at the University of Tübingen and one of the most significant astronomers between Copernicus and Kepler, published important treatises on the celestial novelties of his period: a short tract on the nova of 1572 in Cassiopeia, which attracted the interest and admiration of Tycho Brahe, who nevertheless criticised Maestlin for his tacit adhesion to Copernicanism;<sup>1</sup> a larger treatise on the comet of 1577, where Maestlin located the comet in the sphere of Venus according to the Copernican world system;<sup>2</sup> and finally a less elaborate tract on the comet of 1580, interpreted as a new creation in the sphere of Saturn.<sup>3</sup> But this is not all Maestlin wrote on the subject of novas and comets.

Recently, in a collective volume issued with the proceedings of the conference on Michael Maestlin held in Tübingen in 2000, Gerhard Betsch published a survey of Maestlin's printed works, accompanied by a detailed summary of his *Nachlass*, that is, of his archival papers (manuscripts and letters) preserved in different libraries in Germany and Austria.<sup>4</sup> In that publication, Betsch offered, from the two boxes containing Maestlin's papers in the Württembergische Landesbibliothek in Stuttgart (WLB), a precise description of the contents of Cod. math. quarto 15 b, among them (as item 8) a treatise in German on the comet of 1618–19.<sup>5</sup> Surprisingly, however, Betsch did not mention the presence of another treatise (as item 11), this time in Latin, on the nova of 1604, titled *Consideratio Astronomica inusitatae Novae et prodigiosae Stellae, superiori 1604 anno, sub initium Octobris, iuxta Eclipticam in signo Sagittarii vesperi exortae, et adhuc nunc eodem loco lumine corusco lucentis* (*Astronomical consideration of the extraordinary and prodigious new star that appeared near the ecliptic in the sign of Sagittarius one evening in early October in the preceding year 1604, and continues to shine in the same place with a tremulous light*).<sup>6</sup> The existence of this tract had already been noted by Richard A. Jarrell in his unpublished doctoral dissertation on Maestlin, which remains the best monograph about the Tübingen astronomer to date.<sup>7</sup> Jarrell concluded too hastily that the manuscript is "badly scored and illegible", contributing decisively to the lack of subsequent attention by scholars. However, while the manuscript is badly scored, it is not completely illegible. Although very difficult to read, due to the many cancellations and additions both at the margins and between the lines in the very small handwriting typical of Maestlin (moreover with a constant use of abbreviations), the manuscript treatise can be read to a great extent along the main lines of the argument. Unfortunately, however, the treatise is incomplete, suggesting that either Maestlin finally abandoned it or the concluding pages have disappeared. Our intention in the present paper is to offer a full transcription (together with an English translation by Patrick J. Boner) of the legible parts in the manuscript, along with a presentation and a discussion of

Maestlin's theses on the phenomenon in the context of the contemporary debate in Germany and in relation to his previous treatise on the nova of 1572.

### 1. *Short Description of the Manuscript*

The autograph manuscript extends over 12 pages. Despite the many cancellations and additions, frequently impossible to read, pages 1–10 offer a readily legible text. Significantly, pages 1–4 and 9–12 present a vertical streak extending diagonally across the entire page. Perhaps this indicates that the content of these pages has been transferred to a fair copy, but this possible copy seems to be irretrievably lost. In addition, from the first lines on page 10 to the abrupt end of the manuscript at the bottom of page 12 (where we find the usual indication of the first word of the following page, which is not preserved), the script changes to a very small and quick writing, with constant cancellations and abbreviations, resembling the first notes of an improvised writing to be polished later. Thus, the state of this manuscript is completely different from that concerning the comet of 1618–19.<sup>8</sup> In the latter case, besides the surprising fact that it is written in German, we find a fair copy extending from page 9 to 65 and containing chapters 3–9 with the two last pages of chapter 2, practically ready for print. The first sheet covering pages 1–8 is lost, but we have instead a rough preliminary copy of 27 pages containing an introduction and some preliminary issues. Leaving the study of this cometary treatise (which Maestlin intended to publish) and the reason why it was written in German for a future occasion, we will limit here our attention to the treatise on the nova of 1604 in Serpentarius, or — as Maestlin preferred to say — “in the sign of Sagittarius”.

### 2. *Maestlin's Mind around 1604*

When the nova appeared in the sky at the beginning of October (old style) 1604, Maestlin, already in his fifties, had reached maturity, and his cosmological and astronomical ideas seemed close to their final state. After the comet of 1580, he continued to pay close attention to the novelties in the heavens and in 1589 was thus able to inform his friend Helisaeus Roeslin (1545–1616) of the appearance of the comet of 1585, which Roeslin — enormously interested in comets on account of his astrological and even eschatological expectations of the end of history<sup>9</sup> — had been unable to observe. However, Maestlin wrote no new treatise on the comets that appeared between 1580 and 1618. By 1596, his involvement in the publication of his pupil Johannes Kepler's *Mysterium cosmographicum* gave Maestlin the occasion to publicize his adherence to Copernicanism beyond the indirect endorsement he had made in the treatises of 1573 and 1578. Maestlin wrote the important preface to Rheticus's *Narratio prima*, for whose inclusion in the *Mysterium cosmographicum* he was largely responsible,<sup>10</sup> and contributed to Kepler's book with significant diagrams and tables as well as with an appendix, “De dimensionibus orbium et sphaerarum coelestium iuxta Tabulas Prutenicas, ex sententia Nicolai Copernici”.<sup>11</sup>

Maestlin had devoted too much energy to the rebuttal of the Gregorian calendar reform and the ensuing controversy with Christophorus Clavius, a violent discussion that endured from 1583 to 1593.<sup>12</sup> In addition, his handbook on astronomy (the *Epitome astronomiae*), which was written according to the traditional hypotheses, and presupposed therefore the geocentric worldview, had a good editorial fortune and was printed successively in 1582, 1588, 1593 and 1598.<sup>13</sup> When the nova of 1604 appeared, Maestlin was very busy with his university teaching.<sup>14</sup> At the same time, his correspondence with his former disciple Johannes Kepler, very frequent between 1594 and 1600, had faded despite the strenuous efforts Kepler had made to keep it alive. Maestlin simply remained silent, without answering Kepler's letters, between 1600 and January 1605.<sup>15</sup> Maestlin's silence has been explained as a reaction to his fear that Kepler could publish his letters,<sup>16</sup> but other causes were probably also present. According to Friedrich Seck, these causes included Maestlin's "anguish and fear of having Kepler as a colleague in Tübingen" and a "personal crisis" that contributed to rumours about Maestlin's suicide and was described by Kepler as "Melancholy" in a letter of November 1602 to Herwart von Hohenburg.<sup>17</sup> Unfortunately, this epistolary silence prevents us from knowing Maestlin's immediate reaction to the appearance of the nova at the beginning of October 1604. Nevertheless, Kepler's complaint about Maestlin's silence in his letter of 14 December 1604<sup>18</sup> and his exhortation in the same letter (which was accompanied by Kepler's first tract on the nova, written in German) to write something about the nova (if not to him, at least for the sake of the Emperor, who liked this kind of literature),<sup>19</sup> compelled Maestlin to break his silence. Otherwise, he could be rightly accused — Kepler said — of "the crime of deserting astronomy".<sup>20</sup> Thus, Maestlin wrote a letter at the end of January 1605, excusing himself from his protracted silence and acknowledging receipt of Kepler's small tract on the recent nova.<sup>21</sup> As an interesting testimony to Maestlin's state of mind, he excused his silence by the fact that he had nothing of value to adduce concerning Kepler's queries. Acknowledging that he was fully conscious of Kepler's intellectual superiority, as the recent publication of Kepler's *Optics* witnessed, Maestlin humbly declared: "I fear you are bestowing on me too much. If only this were true, that I am who you proclaim! But I know my defective qualification."<sup>22</sup>

In this letter Maestlin answered Kepler's earlier query about the new star in Cygnus,<sup>23</sup> telling his former pupil that, in his opinion, the presumed nova was in fact an old star previously unnoticed, like many other stars in different constellations. The fact that Tycho Brahe had omitted that star in his revised and augmented star catalogue in the *Astronomiae instauratae progymnasmata* did not speak against it, since Tycho had omitted many stars. Although Maestlin allowed that he had been unable to observe it accurately and would willingly accept more certain observations, he affirmed that "the ensuing continual duration [of the star in Cygnus] and its [small] magnitude (unlike that of the present nova) confirm me in my opinion".<sup>24</sup>

Maestlin continued with his own observation of the "wonderful" nova that had recently appeared in the sign of Sagittarius (or, as Kepler said, at the foot of Serpentarius) and was still visible. He informed Kepler of his first observation on 6 October

(O.S.). According to Maestlin, the star was not visible on 29 September and bad atmospheric conditions had prevented him from observing it in the interval, although he had looked at the three superior planets, doubtless expecting the moment of the announced incorporation of Mars in the great conjunction of Jupiter and Saturn in Sagittarius. Maestlin added that some people in Württemberg had already seen the nova on 3 October and that he himself had observed a bright light between the clouds in the place of the nova, accepting it as the light of Jupiter. He also informed Kepler of the heliacal setting and rising of the nova, which he computed for 9 November and 13 December (O.S.) respectively.<sup>25</sup> Maestlin added more particulars about (1) the variable magnitude of the nova (before the heliacal setting the magnitude was greater than that of Jupiter and similar to that of Venus; after the heliacal rising, it had become similar in brightness to Saturn, maintaining, however, in the following weeks its diminished magnitude), and (2) its light (tremulous and sparkling [“vehementissime scintillante”]) and colour (varying every single moment [“ad momenta prope singula”] from yellow, to saffron and purple red, and to white). Maestlin closed his short report by expressing his regret at the insufficiency of his observations, due to bad weather.<sup>26</sup>

Kepler’s response in his letter of 5 March 1605 touched only briefly on the issue of the two novas, preferring instead to inform Maestlin of his significant innovations in the war on Mars, that is, in planetary theory: the introduction of the equant in the Earth’s theory, the substitution of the mean Sun by the true Sun, and the rotation of the magnetic body of the Sun.<sup>27</sup> Concerning the novas, Kepler mentioned only that the one in Cygnus really seemed to be a new star, adducing the authority of Justus Byrgi as an accurate observer; and for the recent nova in Serpentarius, he only confirmed that the first appearance was 1 October, invoking the date of 14 December (O.S.) for the heliacal rising.<sup>28</sup> The following letter in the correspondence only came after a whole year, with a short and unimportant letter by Kepler on 31 March 1606.<sup>29</sup>

### 3. *Maestlin’s Treatise on the Nova of 1604*

#### 3.1. *Date of composition and other literature on the nova known to Maestlin*

Various pronouncements by Maestlin allow us to date his manuscript to April 1605. The first indication mentions February or March as the moment in which the nova showed a strong decrease in magnitude.<sup>30</sup> Immediately afterwards, Maestlin announces his forecast that the nova shall hardly endure until the end of May, when the Sun will be in opposition to the nova. This indicates that the tract had been written earlier, but in a new indication at the end of the manuscript it is said that six complete months have already elapsed since the first appearance, allowing us therefore to fix April as the final date of writing.<sup>31</sup>

As for references to other writings on the phenomenon, they are rather meagre. This is most probably a consequence of the relatively early date of composition of the treatise, but some absence is surprising. When discussing the date of the first

appearance of the nova, Maestlin mentions Johann Krabbe's first observation of it on 3 October,<sup>32</sup> and the German treatise by Kepler, which his former pupil had sent him in December.<sup>33</sup> Maestlin did not mention the short manuscript tract by his friend Roeslin,<sup>34</sup> where 2 October (O.S.) was given as the date of appearance of the nova. This can possibly be explained by the fact that this tract, written as a manuscript letter on 4 October (O.S.), at first did not reach Maestlin. It was printed in 1605 without Roeslin's knowledge and reprinted the same year with Kepler's German treatise, but most surely too late for any mention by Maestlin, who otherwise would have introduced the date of 2 October in his own text.

No other treatises on the nova published in Germany in the meantime are mentioned. This is the case with David Herlicius's *Astronomische und Historische Erklerung des Newen Sterns oder ungeschwänzten Cometen/ so Anno 1604. im ende des Septembris, und folgendem Octobri, auch Novembri erschienen*, whose dedicatory letter is dated 5 December 1604,<sup>35</sup> and with Paul Nagel's *Himmels Zeichen. Grosse Conjunctiones Planetarum superiorum, und newer Wunderstern/ so Anno 1604. den 29. Septembris erschienen*,<sup>36</sup> whose dedicatory letter is dated 21 February 1605. Although neither of these treatises could be much of any interest to Maestlin due to their astrological emphasis, they were most probably unknown to him, since they were published in another remote corner of Germany. The same must be said of David Fabricius (1564–1617) and his tract *Himlischer herold und Glück-Botte*, written in North German dialect and now lost. Fabricius was at this time Kepler's most prolific correspondent only after Herwart von Hohenburg, and had sent his tract to Kepler at the end of 1604.<sup>37</sup>

### 3.2. Refusal to enter into astrological considerations

As was the case in his earlier writings on the nova of 1572 and the comets of 1577 and 1580, Maestlin refused to consider the nova of 1604 astrologically. He justified his decision right from the start, claiming that astrological prediction had never been his object of study.<sup>38</sup> By consequence, he had nothing to say "on the effects of this star". On the contrary, Maestlin declared his desire to concentrate on issues such as the "location, condition, and region, as well as those remarkable accidentals and other passions" of the star, which can be resolved "with certitude" through "astronomical contemplation".<sup>39</sup> It was the same methodological position that had driven his previous studies, as well as those of Tycho in his first treatise on the nova of Cassiopeia and in the recently published *Astronomiae instauratae progymnasmata*. This did not prevent Maestlin from acknowledging that, like the earlier celestial novelties, the present nova also was an extraordinary production of God's power and will ("either immediately or mediately, with nature cooperating").<sup>40</sup> He even emphasized — like the vast majority of authors writing on the phenomenon — that its sudden appearance, at the precise place and moment in which Mars joined Jupiter and Saturn in conjunction in Sagittarius, at the beginning of a new period of fiery trigon, was not casual, but an intentional intervention of God.<sup>41</sup> There was no doubt that the nova

had appeared at that moment and in that place for some reason and with a specific meaning, but according to Maestlin “it is so difficult to judge the meaning of portents of this kind unless one dares to boast every mystery of God as known and examined by himself”.<sup>42</sup>

In addition, the meaning of extraordinary events, like the sudden appearance of the nova in the heavens, could be known only through comparison with similar events and the effects following them. But Maestlin claims that this knowledge amounts at best to “conjectures”, never achieving the degree of “certitude”. Furthermore, since these appearances are rather “infrequent”, to predict the effects of this star from past history is “utterly impossible”, unless one is “inspired by a prophetic spirit”.<sup>43</sup> Nevertheless, astrologers still do not hesitate to pronounce on the effects, although they very frequently ignore the necessary requirements for an astrological prediction. Hence, Maestlin says, it is more appropriate behaviour to admire God’s prodigy and practise a sincere “penance through faithful prayers” to God in order to placate His anger.<sup>44</sup>

### 3.3 *Variations in the nova: magnitude, brightness, and colour*

As with the nova of 1572, Maestlin devoted great attention to the changes occurring in the present nova in magnitude and colour, two kinds of qualitative change impossible in the heavens according to Aristotle. Accordingly, once the heavenly character of the phenomenon was established, these changes were of extreme importance for criticising the traditional cosmological dualism. Like the nova of Cassiopeia, the nova of 1604 began as a first-magnitude star, similar to Venus and to the brightest stars Arcturus, Vega and Sirius.<sup>45</sup> But unlike the nova of 1572 and the comets observed from 1577, whose decreasing magnitude remained constant from their first appearance, the present nova had preserved its initial magnitude until its heliacal setting on 9 November. In astonishment, Maestlin tells how the present nova has shown, after its heliacal rising (on 13 December), a changed form, “much smaller”, and almost reduced to the magnitude of Saturn and of the stars of the second magnitude. Between December and January, the nova preserved this magnitude, suddenly diminishing in the following two months, so that it could be presumed to vanish at the end of May.<sup>46</sup>

Like the earlier nova, that of 1604 also changed its colour. However, while the former retained each successive colour for some time, Maestlin notes with admiration that the present nova — although initially white or silver in colour with some reddish or fiery hints that became more frequent after the heliacal rising — changed and modified its colour fairly continuously. Maestlin says that “it took on diverse colours” and compares it to a “revolving hoop” of several colours rotating very swiftly.<sup>47</sup>

Finally, concerning the light, Maestlin notes that the nova, again similar to that of 1572, gleamed with a sparkling more steadfast than all the other stars, although this swiftness had begun to decrease from February.

### 3.4. *Reverence paid to the nova by all the planets*

If the nova amazingly appeared at the very moment the conjunction of the three superior planets became complete on 29 September, when the new period of fiery trigon began,<sup>48</sup> still more wonderful was its location near the ecliptic, where none of the comets nor the star of 1572 had ever appeared.<sup>49</sup> This location and the protracted presence of the nova without motion give Maestlin occasion to stress the most magnificent and unprecedented “accident”<sup>50</sup> shown by the nova. This was the reverence paid to the new star successively (in the short period of three months) by all the planets as they came in their proper course to pass by it without ever obstructing its ‘vision’ (that is, with a different latitude), except during its heliacal setting when the Sun crossed the sign of Sagittarius. Besides the initial conjunction with Jupiter and Mars, which “promptly came to greet the star in goodwill on the very first day it appeared, as if expecting it, and surrendered their place in Sagittarius, the house of Jupiter”,<sup>51</sup> the Moon hastened to the nova for the first time on 16 October, while the Sun approached the nova one degree daily before it began to cover the nova with its rays and the heliacal setting ensued around 12 November. Then, Saturn, the Sun, Mercury and Venus joined it successively on 27 and 29 November, 13 December 1604 and 10 January 1605 respectively. Maestlin noted that all of the planets joined the nova while in direct motion (none of them was stationary or retrograde) and swiftest in their course.<sup>52</sup> This meticulous observation for some months of the course of the planets in relation to the nova led Maestlin to make an enthusiastic and almost literary comparison with the motion of a swarm of bees flying around their queen (Maestlin calls it the king) without touching her, as if “touching him [were] an offence that can be atoned for only by the death of the offender”.<sup>53</sup> This is a poetic tone rare, not to say unique, in the work of Maestlin that leads to a sort of hymnal exultation praising the dance (*tripudium*) of the celestial ‘chorus’<sup>54</sup> around this prodigy exhibited by God to the intellectual contemplation of astronomers and common men.<sup>55</sup> Like bees flying around their queen in a swarm, the planets have approached the nova without touching it, five of them with a latitude more meridional (“australiores”) and the other two (Mercury and the Moon) with a latitude more septentrional (“borealiores”), with the monthly passing of the Moon acting as a balance or “compensation”.<sup>56</sup> Maestlin expresses his astonishment, “as soon as I realized that the star was immobile”, before this wonderful dance of the planetary chorus around the new star, something anyone can recall by consulting the planetary tables or current ephemerides.<sup>57</sup> He concludes that this extraordinary event has surely been without precedent in the whole course of history, thus putting this nova far above the previous one in Cassiopeia, whose septentrional latitude made it incapable of receiving such a demonstration of reverence.<sup>58</sup>

### 3.5 *Lack of proper motion and distance from the Earth*

This is the last issue considered in the treatise.<sup>59</sup> Maestlin begins by mentioning the obstinate adherence of the Peripatetics to Aristotle’s doctrine of celestial immutability and, as a consequence, the sublunar origin and location of the nova of 1572 and

subsequent comets (1577, 1580, 1582, 1585, 1590, 1593 and 1596). Nevertheless, Maestlin says that many of them have been forced to concede the celestial location of these phenomena and the possibility of new generations in the heavens as a necessary consequence of the fact that these phenomena did not exhibit any sensible parallax. And Maestlin uses this fact to establish the correct method in these matters: far from imposing on reality the aprioristic tenets of reason or common opinion (as the Aristotelians usually do), the sure way is (1) to start from “Experience”, that is, from repeated and accurate astronomical observations and (2) to submit these observations to the “rule of truth” provided by the geometrical “doctrine of parallax”. Maestlin deems this as the only way to determine without contention the distance of any phenomenon from the observer. The passage in question runs as follows:

But many of them [the Aristotelians], after they saw themselves refuted by the observations of the mathematical experts that the star of 1572 and the comets of 1577, 1580, 1582, 1585, 1590, 1593 and 1596 clearly lacked all perceptible parallax, and for this reason, in keeping with the doctrine of parallax (which alone in the measurement of distances, without contradiction or exception, can neither deceive nor be deceived, and so without contradiction must be recognized as the rule of truth), it is completely certain that none of them could have arisen in the elemental region, but all of them [arose] in the aethereal region of the heavens, and indeed far beyond the Moon and all of them beyond those orbs in relation to which the Earth has some sensible proportion of magnitude: likewise, after they learned from genuine foundations that either they themselves or certain others thought from their own calculations that they had found or distorted some parallax, they had erred far from this doctrine: finally, they began to become less hostile and having become more equitable to the aethereal region, the power which they foolishly but insistently denied it, as if nothing new could arise or happen there, they restored, confessing that in investigating the truth, it is not what reason persuades, nor common opinion (which, unless it relies upon firm foundations is oftentimes no different from the fallacious opinion of the ignorant multitude), but what Experience, as the proper measure of rational calculations, transmits that must be considered.<sup>60</sup>

This method will enable us to expel false opinions, and “in their place is planted the indubitable Truth”.<sup>61</sup> By this method, Maestlin claims to have “clearly ascertained” two significant results: the nova was deprived of any proper motion and lacked any sensible daily parallax.

Maestlin had repeatedly observed the nova with the aid of a thin thread connecting it in a straight line to the fifth shapeless star around Ophiuchus (72 Oph) and the fifteenth star of Serpens (o Ser).<sup>62</sup> He had also observed the straight line formed by the nova and the twelfth star on the right knee of Ophiuchus (η Oph) leaving aside at sunset the sixteenth star on the right thigh of Bootes (ε Boo) by two-thirds the diameter of the Moon. The position of the nova on these lines as well as its distance from the stars remained unchanged day after day.<sup>63</sup> Finally, Maestlin concluded: “this

is, of course, the invincible argument that the nova has no sensible parallax and no motion of its own."<sup>64</sup>

Absence of parallax places the nova much higher in the heavens than the Moon.<sup>65</sup> Though Maestlin does not mention it, we can gather that this situates the nova from the start in the region of the superior planets or the fixed stars. Furthermore, the fact that the nova has remained in the same place for six months since it first appeared, deprived of any proper motion and provided only with the diurnal motion of the heavens, is a solid argument that it is above the region of the superior planets. Indeed, if it were placed in the region of the superior planets, it would necessarily have shown "the motion of commutation" (*motus commutationis*), that is (we can add) the motion that appears in the superior planets as their epicyclical motion reflecting the real annual motion of the Earth. As a result, the nova would have "separated itself from the aforementioned straight lines or great circles, and at the same time would have altered its distance from the other fixed stars".<sup>66</sup>

For this reason, in combination with the scintillation shown by the nova, Maestlin concludes that the present nova was (like the nova in Cassiopeia) placed in the sphere of the fixed stars:

[it] clearly testifies that no place of residence within the realm of the planets had been assigned to it, but that it was exalted [to] a citadel much higher than their spheres and orbs, namely the sphere of the fixed stars, to those unwandering stars no less than the aforementioned star of 1572. Its scintillating light abundantly confirms this.<sup>67</sup>

On this occasion and in contrast with the earlier treatise, Maestlin does not suggest another possible location for the star, namely the vast space between Saturn and the fixed stars. As a necessary innovation of Copernicanism absent in the geocentric worldview, this was in the earlier tract another sign of his Copernican faith acutely criticised by Tycho.<sup>68</sup> In 1605, however, this was unnecessary, following the explicit adhesion to Copernicanism displayed by Maestlin in 1596 in his contribution to Kepler's *Mysterium cosmographicum*.

#### 4. *Reasons for the Incompletion and Abandonment of the Treatise*

What reasons prevented Maestlin from completing and even publishing his treatise on the nova of 1604? As indicated above, some features of the manuscript suggest that it is the first rough version of a treatise later refined by Maestlin to a fair copy. This is, however, a mere possibility, since there is no trace of the final copy. As it has arrived to us, the manuscript is broken near the end, on page 10, with two further pages of practically impossible reading that appear more like notes for a later introduction to the treatise.

Since further information about this treatise is lacking, all we can adduce for explaining its incompletion is purely hypothetical and speculative. Two possibilities occur to us: the first involves Maestlin's psychological circumstances during

this period, namely his protracted state of “depression”; the second is that Maestlin eventually learned of the impending publication of Kepler’s *De stella nova in pede Serpentarii*. This latter hypothesis seems, however, to be excluded by the interruption in correspondence between the former master and his pupil. Only three letters (all written by Kepler) are extant between March 1605 and June 1606.<sup>69</sup> In none of them does Kepler mention his composition of an extensive Latin treatise on the nova. Therefore, it is not apparent that Maestlin had any knowledge of *De stella nova* before it appeared in the autumn of 1606 and Kepler announced to Maestlin in a letter of 7 April 1607 that he was sending several copies of the book to Tübingen, including one for him.<sup>70</sup> Spring 1607 seems too late a date for having caused the abandonment of a treatise whose writing went back two years earlier. In addition, the treatise of 1605 — longer than that of 1573, despite its incompleteness — is not as well balanced as the former and less effective in its argument. The different sections are not as clearly distinct and the progression in the argument is less obvious. Leaving aside any psychological factors, the abandonment of the treatise must be attributed rather to Maestlin’s personal dissatisfaction with it.

In the following appendix, we offer a transcription of Maestlin’s treatise on the nova of 1604 followed by an English translation. Our purpose is to present an intelligible text with a clear argumentative sequence. This has not been always easy to achieve, since the many sentences cancelled or deleted in the manuscript are not always substituted clearly, due to the illegible character of the new formulation between the lines or in the margin. Moreover, it happens sometimes that the alternative redaction is lacking. In both cases, we have decided to maintain the cancelled composition in order to preserve the meaningful continuity of the argument, all the more since the original text has been abandoned mostly for stylistic or literary, not conceptual, reasons.

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### REFERENCES

1. M. Maestlin, *Demonstratio astronomica loci stellae novae, tum respectu centri mundi, tum respectu signiferi et aequinoctialis* (Tübingen, 1573). See the reproduction and discussion by Tycho in his *Astronomiae instauratae progymnasmata*, in Tycho Brahe, *Opera omnia*, ed. by J. L. E. Dreyer (Copenhagen, 1913–29 [in what follows we refer to this edition by the initials *TBOO* followed by the number of the volume]), iii, 58–62 (Maestlin’s text) and 62–7 (Tycho’s comments). On this discussion and Maestlin’s Copernicanism, see M. A. Granada, “Tycho Brahe’s anti-Copernican

campaign: His criticism of Michael Maestlin and Thomas Digges in the *Astronomiae instauratae progymnasmata*, in P. J. Boner and D. Tessicini (eds), *Celestial novelties, science and politics on the eve of the Scientific Revolution (1540–1630)* (Florence, 2013), 185–207. For a manuscript version of Maestlin's treatise and its significance, see M. A. Granada, "Michael Maestlin and the new star of 1572", *Journal for the history of astronomy*, xxxviii (2007), 99–124.

2. M. Maestlin, *Observatio et Demonstratio Cometae Aetherei, qui Anno 1577. et 1578. constitutus in sphaera Veneris, apparuit* (Tübingen, 1578). On this treatise, see C. D. Hellman, *The comet of 1577: Its place in the history of astronomy* (New York, 1944), 137–59; R. S. Westman, "The comet and the cosmos: Kepler, Mästlin and the Copernican hypothesis", *Studia Copernicana*, v (1972), 7–30; *idem*, "Michael Mästlin's adoption of the Copernican theory", *Studia Copernicana*, xiv (1975), 53–63.
3. M. Maestlin, *Consideratio et Observatio Cometae Aetherei Astronomica, qui Anno MDLXXX mensibus Octobri, Novembri et Decembri, in alto Aethere apparuit* (Heidelberg, 1581). The absolute absence of daily parallax in the comet implied, according to Maestlin, that it was placed above the Sun, in the sphere of one of the three superior planets. Maestlin, however, inclined towards placing it in the sphere of Saturn because of its colour and motion. On the location in the sphere of Saturn, see *ibid.*, p. xxxiii.
4. G. Betsch, "Parerga Maestlini", in G. Betsch and J. Hamel (eds), *Zwischen Copernicus und Kepler – M. Michael Maestlinus Mathematicus Goepplingensis 1550–1631* (Acta Historica Astronomiae, xvii; Frankfurt, 2002), 141–56.
5. *Ibid.*, 154.
6. Cf. below, Figure 1.
7. Richard A. Jarrell, "The life and scientific work of the Tübingen astronomer Michael Maestlin, 1550–1631", doctoral thesis, University of Toronto, 1971, p. 127. According to note 1 on this page, "part of the manuscript is in the WLB: Cod. Math. 4<sup>o</sup> 15b nr. 11. The Ms. is badly scored and illegible". The order of the manuscripts indicated by Betsch does not coincide with the one we saw in our inspection in July 2012. Our results coincide with those of Jarrell. The existence of this manuscript was also absent from the accurate list of manuscript sources given by Edward Rosen in his entry "Mästlin, Michael", *Dictionary of scientific biography*, ix, 167–70.
8. *Astronomischer discours von dem Cometen, so in Anno 1618, in November zu erscheinen angefangen und bis in Februar dis 1619 Jars am himmel noch gesehen wirt*. Cf. Betsch, "Parerga Maestlini" (ref. 4), 154, and Jarrell, "The life and scientific work of the Tübingen astronomer Michael Maestlin" (ref. 7), 127 seq.
9. On this, see Miguel A. Granada, "La théorie des comètes de Helisæus Roeslin", in *Nouveau ciel, nouvelle terre: La révolution copernicienne dans l'Allemagne de la Réforme (1530–1630)*, ed. by Miguel A. Granada and Édouard Mehl (Paris, 2009), 207–44, p. 240, note 84.
10. Cf. J. Kepler, *Gesammelte Werke*, ed. by M. Caspar et al. (Munich, 1937–2010; henceforth *JKGW*, followed by the number of the volume), i, 82–5. In these pages Maestlin, beyond defending the Copernican cosmology in the Keplerian foundation through the five regular polyhedra, criticizes vigorously the geo-heliocentric system proposed in 1588 by Tycho.
11. *JKGW*, i, 132–45. This appendix has been translated into English and commented in A. Grafton, "Michael Maestlin's account of Copernican planetary theory", *Proceedings of the American Philosophical Society*, cxvii/6 (1973), 523–50. For the decisive contribution by Maestlin to Kepler's *Mysterium*, see now the significant essay by Gerd Grasshoff, "Michael Maestlin's mystery: Theory building with diagrams", *Journal for the history of astronomy*, xliii (2012), 57–73.
12. On this, see now J. Hamel, "Die Rolle Maestlins in der Polemik um die Kalenderreform", in *Zwischen Copernicus und Kepler* (ref. 4), 33–63.
13. M. Maestlin, *Epitome astronomiae* (Heidelberg, 1582). On this work, see F. Rex, "Keplers Lehrer Maestlin und sein Lehrbuch der Astronomie", in *Zwischen Copernicus und Kepler* (ref. 4), 11–32; I. Pantin, "L' *Epitome Astronomiae* de Maestlin ou comment enseigner aux débutants les bons principes", in *Nouveau ciel, nouvelle terre* (ref. 9), 245–67.

14. See C. Methuen, "Maestlin's teaching of Copernicus: The evidence of his university textbook and disputations", *Isis*, lxxxvii (1996), 230–47.
15. Their extant correspondence amounts to 45 letters between November 1594 and Oktober 1600, 26 by Kepler and 19 by Maestlin. By contrast, between February 1601 and June 1606 we only have 8 letters, 7 by Kepler and only one by Maestlin (that of 28 January 1605). On this, see the tables in G. Grasshoff, "Maestlin's Beitrag zu Kepler's *Astronomia nova*", in *Zwischen Copernicus und Kepler* (ref. 4), 72–109, pp. 74 seq. See also the essay by F. Seck cited in ref. 16.
16. See E. Rosen, *Three imperial mathematicians: Kepler trapped between Tycho Brahe and Ursus* (New York, 1986), 284, where Maestlin's letter to Kepler of 9/19 October 1600 (= *JKGW*, xiv, no. 178) is quoted: "With regard to what you recently wrote about publishing my letters, I ask you not to do so. For I wrote them as a friend to a friend.... But if the thought had ever crossed my mind that they would be published some day, I would have written much more carefully.... I disapprove of the intention of those who are so quick to publish the letters of personal friends writing about personal matters" (Rosen's translation). The same reason has been advanced by F. Seck in his important article "Der Briefwechsel zwischen Kepler und Maestlin", in *Zwischen Copernicus und Kepler* (ref. 4), 110–21, see pp. 111, 119. Maestlin's attitude in this respect is confirmed by Helisaeus Roeslin. Roeslin wrote to Herwart von Hohenburg on 2/12 November 1597 about his own intention to publish the letters Maestlin had addressed to him in 1588–89 about Ursus and Brahe, and warned Herwart not to reveal his intention to Maestlin since he would be opposed to it. Cf. M. A. Granada, "Helisaeus Röslin contre Raymarus Ursus après la publication du *De astronomicis hypothesibus*: Ses lettres à Herwart von Hohenburg de 1597", in *Omnia in uno: Hommage à Alain-Philippe Segonds*, ed. by C. Noïrot and N. Ordine (Paris, 2012), 425–51, pp. 437, 448. At any rate, Kepler vigorously denied in his response letter of December 1600 having said or intended anything of the kind; see *JKGW*, xiv, letter no. 180, lines 13–17. Concerning Herwart von Hohenburg, see Patrick J. Boner, "Statesman and scholar: Herwart von Hohenburg as patron and author in the Republic of Letters", *History of science*, lii (2014), in press.
17. Seck, "Der Briefwechsel zwischen Kepler und Maestlin" (ref. 16), 117–20.
18. *JKGW*, xiv, letter no. 305, lines 1–4.
19. *Ibid.*, lines 8–13. In order to persuade Maestlin, Kepler added that one tract by their common friend Helisaeus Roeslin had already reached the Emperor, "defying" then Maestlin to write. On this work by Roeslin and the ensuing criticism by Kepler, see M. A. Granada, "Kepler v. Roeslin on the interpretation of Kepler's nova: (1) 1604–1606", *Journal for the history of astronomy*, xxxvi (2005), 299–319.
20. *JKGW*, xiv, letter no. 305, lines 12–13: "communis haec Mathematicorum est materia, quam non attingere, desertionis crimen repraesentat".
21. *JKGW*, xiv, letter no. 322 of 28 Jan. 1605 (O.S.), lines 44–45: "pro prognostico et Descriptione Stellae Novae, summas tibi ago gratias".
22. *Ibid.*, lines 51–3: "Vereor tamen ne nimium mihi tribuas. Utinam is essem, quem me praedicas. Ego vero meam curtam suppellectilem scio".
23. Cf. Kepler's letter of 10/20 January 1604, in *JKGW*, xiv, letter no. 278, lines 26–8: "Add in a few words what you mean about the unknown star in the Swan, which has already crept into the globes."
24. *JKGW*, xiv, letter no. 322, lines 56–74 (the citation corresponds to lines 71–3).
25. *Ibid.*, lines 75–91. Maestlin accepts from Kepler's short German treatise 30 September (O.S.) as the date of the nova's first appearance.
26. *Ibid.*, lines 92–101. As will be shown, Maestlin's description anticipates the one in his unpublished treatise.
27. *JKGW*, xiv, letter no. 335, lines 54–247. A more complete presentation of the principles of his celestial physics was to appear in the letter to Herwart von Hohenburg of 28 March.
28. *Ibid.*, lines 30–9 (nova in Cygnus) and 40–53 (nova in Serpentarius).
29. *JKGW*, xiv, letter no. 376.
30. Maestlin, *Consideratio astronomica*, 4.

31. *Ibid.*, 9: “intra hos sex completos menses”.
32. *Ibid.*, 2. Cf. Johannes Krabbe, *Cometa, so anno 1604. den 3. Tag Octobris am Himmel erschienen sampt desselben Lauff, Höhe, Größe und Effect* (Erfordt, 1604, and Magdeburg, 1605). Krabbe’s treatise is dated 24 November 1604 in the Preface to the Reader (sig. Aiii v). As the title indicates, Krabbe interpreted the nova as a comet in the heavens, precisely between the spheres of Saturn and the fixed stars (sig. Ei r), due to the total absence of parallax (sig. Biv v). He explains the comet as a product of the conjunction of Mars and Jupiter the last 26 December [*sic*; erratum for September] and pretends to have observed a proper motion of 30 minutes in the first 36 days since its appearance (Biv r). This permits Krabbe to concede the comet an “orb or circle” in the heavens completed “in 70 years, 11 months and 23 days” (*ibid.*). The reference to Krabbe’s treatise appears at the foot of p. 2 in a smaller handwriting, clearly indicating that it is a later insertion.
33. J. Kepler, *Gründtlicher Bericht Von einem ungewöhnlichen Newen Stern, welcher im October ditz 1604. Jahrs erstmahlen erschienen* (Prague, 1604), reproduced in *JKGW*, i, 394–9.
34. H. Roeslin, *Iudicium, oder Bedencken Vom Newen Stern, welchen den zweiten Octobris erschinen und zum erstenmal gesehen worden* (Strasbourg, 1605), reproduced in *JKGW*, i, 483–5.
35. Full title: *Astronomische und Historische Erklerung des Newen Sterns oder ungeschwänzten Cometen/ so Anno 1604. im ende des Septembris, und folgendem Octobri, auch Novembri erschienen/ und der anfänglich im himlischen Serpentario oder Schlangentreger (wie ihm die Astronomi nennen) sich hat sehen lassen* (Stettin, n. d.). Besides taking notice of Kepler’s dating the nova to 30 September, Herlicius reports that the nova had been observed on the same day by Albinus Möller. Cf. *ibid.*, sig. B r–v.
36. Full title: *Himmels Zeichen. Grosse Conjunctiones Planetarum superiorum, und newer Wunderstern/ so Anno 1604. den 29. Septembris erschienen: Was sie bedeuten/ und wie wunderbar es in der Welt/ vor dem Tage des grossen Richters Jesu Christi/ die zeit uber wird zugehen/beschrieben* (Halle, 1605). Nagel claims to have seen the new star on 30 September.
37. See the letter by Fabricius to Kepler at the end of December 1604 (O.S.), in *JKGW*, xiv, no. 315, p. 98. On the discussion between Fabricius and Kepler on this nova, see Miguel A. Granada, “Johannes Kepler and David Fabricius: Their discussion on the nova of 1604”, in *Change and continuity in early modern cosmology*, ed. by P. J. Boner (Archimedes, 27; Dordrecht, 2010), 67–92, pp. 68 seq. Fabricius saw the nova for the first time on 3 October (O.S.), as he reported to Kepler in his letter of 27 October (*ibid.*, 70).
38. In a short Stuttgart manuscript (WLB Ms. Cod. Math. 4<sup>o</sup> 15b, n<sup>o</sup> 55), Maestlin declines to draw up a horoscope in the following terms: “The astrological opinion that is asked of me I am unable to write, nor do I have the skill, because both publicly and privately I have often protested [against it].... I have never undertaken astrology”, as translated by Jarrell, *op. cit.* (ref. 7), 139.
39. Maestlin, *Consideratio astronomica*, 1: “Ita et ego meum, quo trahor, desiderium sequendo, iis me adiungo, <qui> iam quidem non adeo, quid Nova haec Stella portendat, disquirere, sed quis eius sit in caelo status, locus et motus, et quid certitudo Astronomica in ea animadvertat atque iudicet, pervestigare intendunt”; p. 2: “ego, qui, quae de stellae huius effectibus methodo astrologica (cui alioqui mea studia hactenus non adeo dedicavi) praedicerem, non habeo, ad alterum, videlicet ad contemplationem eius Astronomicam me converto, eius locum, statum, regionem, nec non quae admiranda accidentia vel passiones aliae in ea hactenus apparuerunt, indagaturus”.
40. *Ibid.*, 4–5: “cuius [of God] illa [the new star] opus est, sive immediatè, sive cooperante Natura mediatè eam produxerit”.
41. See *ibid.*, 4–5, on the long exposition of the theory of trigons in connexion with the appearance of the nova. However, unlike most authors who used the motive of the fiery trigon to present a complete scheme of historical development from the creation of the world to announce the complete renewal of Christian society or even the second coming of Christ, Maestlin used the birth of the new star “near the ecliptic” (p. 5) at the moment of the much attended great conjunction of the three superior planets as an occasion for admiring intellectually the wisdom and power of God, who had created a star that would receive in a few months the reverence of all the planets.
42. *Ibid.*, 1: “de significationibus huiusmodi portentorum difficile sit iudicare, nisi quis sibi omnia arcana

Dei nota ac perspecta esse gloriari ausit’.

43. *Ibid.*: “tamen huiusmodi repenti ortarum Stellarum tam generales, quam speciales significationes non aliter, quam ex consimilium aliarum apparitionum, et subsecutorum eventuum collatione coniecturando potius, non sciendo, aliquo modo cognosci possunt, tales autem apparitiones valde infrequentes sunt: Nemo non videt quod ex antiquorum seculorum historiis de futuris huius stellae eventibus aliquid certi pronunciare velle, non modò sit perquam difficile, sed etiam (nisi quis verè prophético afflatur spiritu) prorsus impossibile”.
44. *Ibid.*, 2.
45. *Ibid.*, 3.
46. *Ibid.*, 4.
47. *Ibid.*, 3–4.
48. See ref. 41 above.
49. Maestlin, *Consideratio astronomica*, 5: “Locum summus Rerum Moderator huic stellae attribuit non a communi planetarum regia via, velut aliis nonnullis Cometis aut Stellae anni 1572. remotum, sed sub ipso Zodiaco, prope Eclipticam”.
50. *Ibid.*, 4, 6.
51. *Ibid.*, 6: “qui eam primo apparitionis die advenientem quasi expectantes, mox amice salutarunt, locumque in Sagittario, domicilio Iovis, concesserunt”.
52. *Ibid.*, 6–7. Cf. p. 7: “Dein rarum et hoc est, quod omnes Planetæ his suis cum hac Stella congressibus motu veloces fuerunt, medioeris nullus, multo minus tardus, stationarius aut retrogradus”.
53. *Ibid.*, 7: “Et ne quid reverentiae hac honorifica salutatione deesset: omnes planetas quasi de industria latitudinibus suis, ne quis proficiens eam attingeret, industriam atque observationem hanc in apibus ipsis didicisse diceres, quae, ut fertur, Regem suum ex alveario evolantem certatim circumvolvendo cingunt, deducunt et comitantur, attingere volantem autem pro piaculo non nisi morte delinquentis expiando, habent”.
54. *Chorus* is employed twice. See ref. 55.
55. *Ibid.*, 7: “Non minus admirandum et de nulla repentina stella unquam auditum fuit, quod haec stella tali et hoc caeli loco fuerit conspecta, quo intra breve tempus, nempe paulo plus quadrante Anni, omnis Planetarum chorus ad eam confluit, tanquam novum Hospitem summa cum observantia reverenter excipiendi.... Eam omnes et singulos planetas quasi prae gaudio alacriter exultasse et cum tripudio congratulantes, hunc hospitem salutasse atque excepisse dixere potuisses.... Haec commemorata accidentia quibus planetarum chorus Stellae adventum excepit et his quasi praeconiis coelitus concelebravit, quia rara et insolita sunt et idcirco prodigiosis et portentosis aliis ostentis non immerito adaequari possunt et debent”. Some years later, in 1612, the Silesian physician Johannes Dobricius expressed with less enthusiastic overtones the same idea. See J. Dobricius, Χρονομηνητορ das ist/ Zeiterinner/ In welchen durch anleitung einer Astrologischen der nechst vollbrachten siebenfächtigen grossen Conjunction der oberen zweien Planeten/ und des darauff erfolgten neuen Sternes zugleich ... kürzlichen erkleret und angezeigt wird/ In was vor einer zeit wir jetzo sein/ und was nun mehr unfehlbar der Welt und uns schierkünfftig zugewarten (Lignitz, 1612), 4: “Und zwar/ weil die bedeutung des Sternes groß und wichtig sein sollen/ so ist nicht genung gewesen/ das die oberen drey Planeten mit diesem Sterne congregiret/ und neben ihme gestanden sein/ sondern es haben auch die anderen vier/ Sol, Venus, Mercurius und Luna gleicher weise solchen besuchen/ und ihme ihre assistenz und hülfte anbitten/ und leisten müssen.”
56. Maestlin, *Consideratio astronomica*, 7: “Quare quinque ex Planetis cum Stella hac coniuncti, australiores inceserunt, et duo borealiores. Veruntamen illorum pluralitatem una Luna menstruo suo recurso compensare videtur”.
57. *Ibid.*: “etiam me, quam primum Stellam immobilem esse cognovi (ea [accidentia] enim hoc modo, ordine et tempore, sicut recensui, eventura esse, quilibet qui Tabularum numeros novit, aut Ephemerides ad manus habet, tum statim praevidere potuit) obstupescere fecerunt”.
58. *Ibid.*, 7–8: “An autem ulli extraordinariae stellae horum quid unquam contigerit, tantoque honore ab omnibus et singulis Planetis affecta fuerit, haud facile credidero. Stella anni 1572. integros 16.

menses, vid. ab initio circiter Novembris anni 1572. ad initium Martii Anni 1574, coelo spectata fuit in 7. gr. Tauri. Sed propter latitudinem borealem 54. gr. nullus Planetarum ei appropinquare, nedum simili eam observantia colere potuit". Kepler had also expressed in his German treatise, already known to Maestlin, his greater admiration for the present nova. See Granada, *op. cit.* (ref. 19), 308. Nevertheless, in his German treatise Kepler did not reach the enthusiasm his teacher showed when singing the 'dance' of the planets around the nova.

59. Maestlin, *Consideratio astronomica*, 8–12.
60. *Ibid.*, 8. This passage shows that, as far as cosmological conclusions are concerned, the present tract strongly opposes the Aristotelian doctrine of celestial immutability — and, as a consequence, the necessary location of comets (and novae) below the Moon — through the common consideration of the place of the new stars and recent comets. It thus considers more than the issue of the motion of the Earth, to which allusion will be made at the end. The present tract therefore follows the line of discussion of the earlier cometary treatises from 1578 and 1581 (*cf.* Methuen, "Maestlin's teaching of Copernicus" (ref. 14), 233–4, and more extensively *eadem*, *Kepler's Tübingen: Stimulus to a theological mathematics* (Aldershot, 1998), 173–85) and anticipates the (also unpublished) treatise on the comet of 1618, where the criticism of Aristotelian cometary theory is presented in full, complemented with the results obtained in the years immediately preceding about the sunspots. This will enable Maestlin to argue for the celestial origin of the matter of comets, excluding the Aristotelian tenet of terrestrial exhalations, and serves as a strong argument for a careful study and even edition of this latter cometary treatise by Maestlin, which has not been addressed by Methuen.
61. *Ibid.*
62. Maestlin had used this method for observing the nova of 1572. *Cf.* Maestlin, *Observatio et Demonstratio Cometae Aetherei, qui Anno 1577. et 1578. constitutus in sphaera Veneris, apparuit* (ref. 2), 22, and chapter V (pp. 20–8) for the full presentation of this method. In the treatise on the nova of 1572, the accurate description of the observation of the nova did not mention the use of the thread. See Maestlin, *Demonstratio astronomica loci stellae novae, tum respectu centri mundi, tum respectu signiferi et aequinoctialis*, as reproduced by Tycho Brahe, *Astronomiae instauratae progymnasmata*, TBOO, iii, 60–2 and the comment by Tycho on the method of observation with a thread, *ibid.*, 66 seq. In contrast to the treatise of 1573, Maestlin drew no figure for this location of the nova of 1604. The fixed stars chosen for this lineal alignment were septentrional, doubtless because the nova was close to the horizon.
63. Maestlin, *Observatio astronomica*, 9: "Porro hic novae stellae in his rectis positus, sicut et eiusdem ab illis distantia ..., crebra observatione ne unico minutulo variari, augeri minuive deprehenditur, sed eadem, tum in maiori, quam minori eius altitudine supra horizontem, tam illic vesperi quam nunc mane, invenitur". For his part, Kepler connected the nova with  $\eta$  Oph, the star in the shoulder of Sagittarius ( $\sigma$  Sag) and Antares or Cor Scorpii ( $\alpha$  Sco). See *De stella nova*, JKGW, i, chaps. 12 and 13, where he also adduces observations by David Fabricius.
64. *Ibid.*: "Quod profecto invictissimum nullius sensibilis parallaxeos et nullius proprii motus argumentum est".
65. *Ibid.*: "Infallibiliter concluditur, Stellam hanc non tantum non infra Lunam ... sed nec quidem alibi, ubicunque terrae quantitas sensibilis manet, verum multò altiore in aethere loco suam sedem posuisse".
66. *Ibid.*, 9–10: "Si enim alius ei praeter quotidianum motus inesset, fieri non potuisset, ut ut quis aliquam eius quasi stationariam quietem imaginetur, quia is vel tandem intra hos sex completos menses, si non alio, attamen commutationis motu, se prodidisset, et à dictis rectis vel circulis magnis, secessisset simulatque permutaret ab aliis stellis fixis distantiam". As was the case in his earlier treatise on the nova of 1572 (*cf.* TBOO, iii, 60), this reference to the *apparent* 'motion of commutation' is a clear indication of Copernicanism, as Tycho pointed out in his criticism of Maestlin's tract in the *Astronomiae instauratae progymnasmata* (TBOO, iii, 63). On this, see Granada, "Tycho Brahe's anti-Copernican campaign" (ref. 1), 199 seq., and for the presence in the treatise of 1572 (where the reference to Copernicus is more explicit), see *idem*, "Michael

- Maestlin and the new star of 1572" (ref. 1), 103 seq.
67. Maestlin, *Consideratio astronomica*, 10: "... liquidò testatum facit, [novam] nullum sibi intra Planetarum territoria habitandi domicilium assignatum esse, sed se eorum sphaeris et orbibus arcem longe excelsiorem, sphaeram nimirum stellarum fixarum, ad ipsas inerrantes stellas non minus quam dictam Stellam Anni 1572. exaltatam esse. Idipsum lumen eius scintillans abunde confirmat".
68. See Granada, "Michael Maestlin and the new star of 1572" (ref. 1), 104, and *idem*, "Tycho Brahe's anti-Copernican campaign" (ref. 1), 200.
69. For the first two letters, see refs 26 and 28. The third letter (no. 383, 10 June 1606) is rather short and unrelated to our topic.
70. Cf. *JKGW*, xiv, no. 417, lines 1–13.

APPENDIX: WÜRTTEMBERGISCHE LANDESBIBLIOTHEK STUTTGART,  
COD. MATH. 15B 11

[MICHAEL MAESTLIN]

Consideratio Astronomica inusitatae Novae et prodigiosae Stellae, superiori 1604 anno, sub initium Octobris, iuxta Eclipticam in signo Sagittarii vesperi exortae, et adhuc nunc eodem loco lumine corusco lucentis.

Superioris Anni mense Octobri admiranda quaedam Nova, et antea nullis seculis unquam visa Stella è caelo, lumine fulgentissimo et valde illustri coruscans, se mortalium generi vespertino tempore, post Solis occasum, visendam se obtulit.<sup>1</sup> Eadem, postquam per aliquot dies mensis Novembris et Decembris sub Sole, heliacè occultata, delituit, nunc matutinis horis ortum Solis praecedens, simili quidem scintillante lumine, corporis tamen apparente magnitudine diminuta cernitur. De hac Stella varii, ut moris est, audiuntur hominum sermones, variaque feruntur sententiae. Alii numerum Stellarum in caelo augeri mirantur: Alii Cometam<sup>ne</sup>, an Stellam dicant, dubitant: Alii in caelesti<sup>ne</sup> regione, an verò in elementari orbe, eo nimirum loco, quo secundum Peripateticorum dogma Cometas nasci hactenus creditum fuit, commoretur, novisse avent. Plerique ex vulgo phaenomeno insolito attoniti, quae vel bona vel mala novus his Hospes secum ferat, vel praenunciet aut portendat, cognoscere percipiunt. Ita et ego meum, quo trahor, desiderium sequendo, iis me adiungo<sup>2</sup>, <qui> iam quidem non adeo, quid Nova haec Stella portendat, disquirere, sed quis eius sit in caelo status, locus et motus, et quid certitudo Astronomica in ea animadvertat atque iudicet, pervestigare intendunt, praesertim cum de significationibus huiusmodi portentorum difficile sit iudicare, nisi quis sibi omnia arcana Dei nota ac perspecta esse gloriari ausit.<sup>3</sup>

Etsi sanè certissimum sit, quod huiusmodi extraordinariorum lampadarum in caelo exarserint conflagrationes quin<sup>4</sup> vel universum totius Orbis Terrarum, vel particulatim aliorum atque aliorum

1. We thank the Württembergische Landesbibliothek Stuttgart for its kind permission to reproduce the manuscript and Figure 1. While the manuscript does not contain the name of the author, it is without doubt the work of Maestlin. In the transcription, the intervocalic *u* that also appears before vowels has been rendered with *v*, the initial *v* before consonants has been rendered with *u*.

Added in the margin: *in Sagittarii signo prope eclipticam inter Saturnum Iovem et Martem consistens* (the rest is illegible).

2. *Et ... adiungo* added in the margin, substituting the cancelled *Me quoque in diversum ab his meum trahit desiderium*.

3. Added in the margin, difficult to read: *praesertim ... ausit*.

4. The text is difficult to read and the syntax does seem inaccurate. We adopt this cancelled word instead of *nunquam non* added above the line. Cf. Figure 1.

Consideratio Astronomica in iustitia Nova et  
 prodigiosa Stella Superiori 1604 Anno, sub mi-  
 tum Octobris, iuxta Eclipticam in signo Sagit-  
 tary vesperi exorta, et adhuc nunc eodem loco,  
 lumine consilio licentis.

Superioris Anni mense Octobri admiranda quedam Nova, et antea  
 nullis sculis unquam visa Stella e caelo, lumine fulgentissimo et  
 valde illustri coruscans, se mortalium generi, vel pessimo tempore, post  
 Solis occasum, visendam obtulit. Eadem, postquam p aliquot dies men-  
 sis Novembris et Decembris sub Sole, hactenus occultata, delitente, nunc  
 matutinis horis ortum Solis praecedens, simili quidem similitudine lu-  
 mine, corporis tamen apparente magnitudine diminuta cernitur.  
 De hac Stella variis, et motis est, auctioribus hominum sermiones, variis  
 feruntur sententia. Alij nomen Stellarum in celo augeri mirantur:  
 Alij Cometam ne, an Stellam dicant, dubitant: Alij in coelesti re regio-  
 ne, an veri in elementari orbe, eo mirum loco, quod phantasia Cometa-  
 tas nasci habentis. Secundum Peripateticorum doctria, evolutionis finis,  
 commo refo, novisse auctores: Plurij ex vulgo phenomenon in celo atomis,  
 quae vel bona vel mala nunciis his Hois seclum perat, vel praenuntia, aut  
 portendat, cognoscere percipiunt. Ita ~~haec quae~~ in diversum ab his nomen  
 trahit desiderium, iam quidem non alio, quid Nova haec Stella porten-  
 dat, ad quae tenent, sed quis eius sit in celo status, locus et motus, et quid  
 certitudo Astronomica in ea animadvertat atq; pndat, porci, et in scilicet  
 Effi sane certissimum sit, nunquam minus modo fauces in celo exortisse,  
 quibus vel unquam totius Orbis Terrarum, vel particularum aliarumq; aliarq;  
 Imperij et Regno, et viis communi sigillatim plurimorum inter privatar-  
 res, caput et vira, eorum significationes et plurimum tris, lamenta-  
 biles et fidei, brevis post magnam dolore senserint: Quia tamen  
 huiusmodi repente ortum stellarum tam generales, quam speciales  
 significationes non aliter, quam ex consuetudine antiquorum apparitionum,  
 et sub quatuor eorum collatione, fieri possunt, tales autem ap-  
 punctiones valde infrequentes sunt: Ita qd antiquorum scilicet in  
 storia de futuris huius stelle, equum aliquid certi praenuntia, non  
 modi perquam est dubia, sed etiam c: nisi quis vere propheticus affec-  
 tus, spiritus, prorsus impossibile. Unde praematura, seu potius in-  
 iudicia eorum iudicia nequaquam probantur, qui nunc post - (parva  
 abest, quod non ante -) quam extraordinariam Stellam, aut Cometam  
 videri percipiunt, suas predictiones in promissis veritas habent, quibus  
 de eius eventibus, eorum in sua ipsorum virtute, et in praenuntia vel  
 unclari audent: Cum tunc ipsi et plurimum nec Cometam et  
 nec motus, nec quaquam eorum, quae ad veras Astrologicas consi-  
 derantur.

*Handwritten notes:*  
 in Capite signi signi eclipsian...  
 121  
 484  
 1185.0  
 108.0  
 70.0  
 383  
 408

1430000 (8)  
 7  
 280  
 280  
 280  
 280  
 280  
 280  
 280

in hoc stellis...  
 quae vel bona vel mala nunciis...

FIG. 1. M. Maestlin, Consideratio astronomica, 1 (Württembergische Landesbibliothek Stuttgart, Cod. Math. 15b 11).

Imperia et Regna, *una* simul<sup>5</sup> sigilatim res, caput et vita plurimorum inter privatos earum significationes ut plurimum tristes, lamentabiles et funestas, brevi post magno cum dolore senserint: Quia tamen huiusmodi repente ortarum Stellarum tam generales, quam speciales significationes non aliter, quam ex consimilium aliarum apparitionum, et subsequutorum eventuum collatione coniecturando potius, non sciendo, aliquo modo cognosci possunt,<sup>6</sup> tales autem apparitiones valde infrequentes sunt:<sup>7</sup> Nemo non videt quod<sup>8</sup> ex antiquorum seculorum historiis de futuris huius stellae eventibus aliquid certi pronunciare velle, non modò sit perquam difficile, sed etiam (nisi quis verè prophético afflatur spiritu) prorsus impossibile. Unde praematura, seu potius immatura eorum iudicia nequaquam probantur, qui mox post- (parum abest, quod non ante-) quam extraordinariam Stellam, aut Cometam illuxisse percipiunt, suas praedictiones in promptu paratas habent, quibus de eius eventibus, omni haesitatione, ut ancipiti sententia sublata,<sup>9</sup> prognosticari vel ariolari audent: Cum tamen ii ipsi ut plurimum<sup>10</sup> nec de Cometae eius loco nec motu cognoscendo sunt solliciti, nec quicquam eorum, quae ad veras Astrologicas consi[p. 2]derationes propriè tanquam necessaria eruditae prognoseos fundamenta requiruntur curant, sed si de eis interrogentur, ipsi non dubitant, sed plane erronea et perquam falsa respondendo<sup>11</sup> nimiumque oberrando, toto caelo aberrant, stellam seu cometam in aeris regionem admodum humilem reponunt, cuius sedes in altissimo aethere est: vel de effectibus ex natura alicuius oblati signi iudicant, licet phaenomenon illud ad id signum aut nunquam accesserit, aut id celerrime prae aliis signis percurrerit.

Quoniam autem hae ad tempus in caelo lucentes lampades, non tantum ut portenta, Dei iram generi humano denunciant (licet quid in specie portant, Deus autem revelare non solet) sed etiam simul opera eius admiranda sunt: consultissimum erit, ut omnium primò seriam agentes poenitentiam piis precibus ipsi Deo supplices fiamus, orantes, ne iram suam in nos, sed in hostes Nominis sui, et persecutores S. Evangelii sui effundat, nobis verò<sup>12</sup> pacem et tranquillitatem clementer largiatur, spe non dubia freti, ipsum iram contra nos exardescens aut omnino aversurum, nobisque sicut olim Ninivitis, Ion. 3. v. ult.<sup>13</sup> parsurum, aut si omnino stat sententia, ut iudicium Domini à domo Domini incipiat, mala tamen illa mitigaturum esse. Deinde ut, sicut alibi, ita etiam hîc, magnalia Dei pia mente contemplerur, et in eis ipsum celebremus. Hoc enim ipsi non minus gratum est, utpote, qui in ira misericordiae suae non immemor, opera sua sicut contemni prohibet, ita ad gloriam nominis sui extolli et praedicari postulat. Hanc ob causam ego, qui, quae de stellae huius effectibus methodo astrologica (cui alioqui mea studia hactenus non adeo dedicavi) praedicerem, non habeo, ad alterum, videlicet ad contemplationem eius Astronomicam me convertito, eius locum, statum, regionem, nec non quae admiranda accidentia vel passiones aliae in ea hactenus apparuerunt,<sup>14</sup> indagaturus.

Et primo quidem, diem, quo Nova haec Stella Orbi Terrarum primùm illuxit, nec ego ex meis observationibus, nec quisquam alius, hîc Tubingae degentium, propter aerem à vespera post 29. diem Septemb. (cuius diei, Archangelo Michaeli sacri, vespere, hanc Stellam nondum apparuisse, apud me certus sum, ea enim nocte ipsa illustri sua claritate visum meum haudquaquam fefellisset)<sup>15</sup> ad diem 6. Octobris pluviosum et admodum turbidum, indicare possumus. Hinc<sup>16</sup> ante vesperam diei 6. Octob. quo aura mitior caelo defecato rediit, novam hanc accensam facem ignoravi. Ea autem vespera, adventante post solis occasum nocte, haec nova Stella praeclaro suo fulgore se conspiciendam mox obtulit, sed pro Iove, ibidem locorum versante, ab initio à me fuit habita, sicut et Iovem simili errore Martem esse

5. *et cum eis* cancelled in the text. Above the line, *quibus [una] simul*.

6. *coniecturando ... cognosci*, sentence hardly legible; it substitutes above the line a cancelled *sciri (sciri possunt)*.

7. In the margin an almost illegible sentence: *in primis vero quia haec stella ...*

8. *Nemo ... quod*, added in the margin.

9. *omni ... sublata*, added above the line, substituting *tanquam in sua ipsorum potestate sitis*, cancelled.

10. *Cum ... plurimum* cancelled. It is substituted in the margin with an illegible passage of several lines.

11. *sed si ... respondendo*, added in the margin.

12. Two illegible lines have been added in the margin.

13. Jonah 3:10.

14. *admiranda ... apparuerunt*, cancelled. An alternative sentence in the margin is illegible but apparently conveys the same meaning.

15. *(cuius diei ... fefellisset)* added in the margin.

16. *Hinc* cancelled, with an illegible word above the line.

putavi. Verum dum illustrem Iovis, et candidum Martis (putativi scil.) fulgorem admiror, interea nocte magis magisque ingruente, vera Martis stella eousque sub luce diei residua latitans, revelatur. Agnito itaque vero Marte, veroque Iove, novi huius hospitis praesentiam obstupesco. Hunc tamen non primum exortus sui diem fuisse postea addidici, alibi enim in agro wirttembergico, ubi caelum paulo magis, quam hinc Tubingae, serenum fuit, ipsam die 3. item die 2. Octobris fuisse animadversam, ex literis amicorum intelligo. Fulgorem sane quendam ego quidem per nubes nonnihil emicantem, die 3. vel 4. Oct. sensi, sed a Iove provenire putavi. Eodem die 3. Octob. Johannis Krabbe Geometra Brunsvicensis primo se in Wolfenbüttel vidisse, scripto publice edito testatur.<sup>17</sup>

[p. 3] Quam verò primam apparitionem caeli intemperies nobis denegavit, de ea M. Joannes Keplerus, Caes. Mai. Mathematicus ingeniosissimus et peritissimus, in suo de hac stella edito scripto,<sup>18</sup> disertè testatur, stellam hanc die 10. Octob. (stilo novo) hoc est, die 30. Septembris primò inspectam fuisse. Ultimum ergo Septembris, esse primum accensionis eius diem, omnino mihi persuadeo. Verum primam exortus horam nemini cognitam esse iudico. Ast ergo sufficit, eam vespere diei 29. nondum apparuisse, sed vespere diei 30. pleno lumine astitisse.<sup>19</sup>

Magnitudine apparente, et luminis perfulgido splendore, mense Octobri et Novembri, non modò Arcturum, Lÿram, et Sirium, fixarum stellarum maximas, itemque Iovem, vicino loco stantem, plurimum vicit, sed et cum Venere certare visa est. Ipsam fuisse aemulam stellae illius, quae anno 1572. iuxta Cassiopeae asterismum effulserat, recte dixeris, haec enim illam mole corporis et maiestate splendoris (quod apud omnes certum est, qui utramque oculo astronomico aspererunt) non quidem superavit, attamen probè adaequavit, unde dubium non est, quod etiam haec, si ut illa, tam boreali et à Sole remoto loco constitisset, interdum sereno loco<sup>20</sup> quavis hora, ab omnibus mediocri visus acumine valentibus, cerni potuisset.

Lumine praemicuit supra modum, et propemodum absque exemplo, tremulo. Scintillant stellae fixae, et quidem nonnullae earum sat vehementer; meminisse possumus stellam anni 1572. iubare corusco fulsisse; nullum ex quinque planetis à scintillatione prorsus immunem esse, scimus, nam vibrantes in singulis radios saepe vidimus, idque nuper multis diebus mane<sup>21</sup> in Saturno, Iove et Venere spectavimus sicut et alias in Marte et Mercurio<sup>22</sup>. At tanta pernecitate scintillantem, nullam ex omnibus stellis visam, recordari possumus. Verumtamen à proximo<sup>23</sup> mense Februario, de hac celeritate pernecitate<sup>24</sup> nonnihil remittere coepit.

Quid de colore huius stellae miris modis vario<sup>25</sup> dicam, quo ab omni aliorum siderum coetu memorabili discrimine secernitur? Mirati fuimus stellam novam anni 1572. alias et diversas formas induisse, albicans enim aliquando erat et argentea, quem colorem in flavum et croceum, postea in sanguineum, purpureum, nec non alium atque alium commutavit. Mirati fuimus Cometarum, quos annis superioribus vidimus, inconstantiam, qui postquam aliquandiu albi seu pallidi fuissent, effecti sunt subfusci, luridi, sanguinei, rufi, ignivomi, etc. At mutatio illa non subitanea fuit, sed aliquot dierum intercapedinem admisit. Hanc verò stellam qui attentè intuitus est, maximè versicolore deprehendit. Etsi enim<sup>26</sup> maiori parte et ut

17. *Eadem ... testatur*, added later at the bottom of the page in small, almost illegible writing. Cf. Johannes Krabbe, *Cometa, so anno 1604. den 3. Tag Octobris am Himmel erschienen sampt desselben Lauff, Höhe, Größe und Effect* (Erfordt, 1604, and Magdeburg, 1605).

18. Maestlin does not refer to Kepler's *De stella nova in pede Serpentarii* (Prague, 1606), but to his short treatise in German, written at the end of 1604 entitled *Gründtlicher Bericht Von einem ungewöhnlichen Newen Stern, welcher im October ditz 1604. Jahrs erstmahlen erschienen*.

19. *Ultimum ... astitisse*, added in the margin instead of the following text, cancelled in the text: "Quapropter omnino mihi persuadeo, primam eius accensionem in nullum alium diem, quam ultimum Septembris reponendam esse".

20. *sereno loco*, added in the margin.

21. *nuper and mane* cancelled and substituted with some illegible words above the line.

22. *sicut ... Mercurio*, added in the margin.

23. *proximo*, cancelled. First reference for dating the text: later than February. The date will be mentioned later more precisely.

24. *pernecitate*, added above the line without cancelling *celeritate*.

25. *miris modis vario*, added above the line.

26. Two illegible words added in the margin.

plurimum praesertim mense Octobri et Novembri ante heliacum occasum argenteo, iucundo aspectu apparuerit: non [p. 4] rarò tamen subrubrum sive ignitum aut sanguineum<sup>27</sup> admiscuit, qui color pallidulo nonnihil superinducto, eidem diebus posterioribus post heliacum ortum magis quam prioribus, familiaris factus est.<sup>28</sup> Verum praeter lentam hanc varietatem, ad singula propè momenta versatilem dicere potuisti, quae instar trochi subinde aliam faciem colore variatam nobis ostentaret. Quae enim modo albicans aut argentea apparebat, ea dicto citius purpurea, illico crocea, vestigio cerulea, repente rutilans, mox flava, ex continenti pallida, subito ignea, citissime aliis atque aliis coloribus tincta fulsit.<sup>29</sup>

Stellam Anni 1572, ut et Cometas hactenus visos, in vigore haud diu perstitisse, sed brevi post apparitionis initium paulatim, eadem tamen fideliter servata proportione, quantum notari potuit,<sup>30</sup> defecisse, animadvertimus. Haec Stella hactenus diversum modum obtinuit.<sup>31</sup> Nam a primo exortus die, ad heliacum occasum, quo propter solem, ipsi appropinquantem,<sup>32</sup> apparere desinens aliquandiu latuit, nullum decrementi signum quisquam in ea persentiscere potuit. Posteaquam autem manè detecta, ex radiis solaribus heliaco ortu se exolvit, proh quantum à priori figura mutata, quantum corpore diminuta prodiit? Quae prius Iovis stellam superavit, et cum Venere certavit, ei à sole redeunti Saturnus, et Cor Scorpis, stella paulo minor quam secundae magnitudinis, vix cesserunt, parumque abfuit, ut eam aequarent. Itaque eam dum sub Solis radiis detenta fuit, quasi arefactam, plurimumque contabuisse dicere quis posset, sed quid deinceps?<sup>33</sup>

Quae paucioribus<sup>34</sup> diebus, quibus sub Sole mansit abscondita, multum fuit diminuta, ea per reliquos Decembris dies, et totum praesentis Anni 1605 Ianuarium omnino invariata, quasi nullum decrementum ulterius sensura, perseveravit. Mense autem a Februario ad medietatem Marti decrementum in ea, non insensibile, sed velox comparuit,<sup>35</sup> ut ad stellas vicinas Ophiuchi, et Scorpis tertiae magnitudinis<sup>36</sup> vix excedere putetur.<sup>37</sup> Unde ipsa, nisi hanc decrementi proportionem denuo interrumpisset ad Ortum vespertinum, occasumque matutinum, h. e. usque dum Sol ad gradum Zodiaci Stellae oppositum perveniet (quod circa finem Maii futurum est)<sup>38</sup> vix perduratura, sed antè evanitura fuisse sane putasses.<sup>39</sup>

Memorabili, et notatu dignissimo accidenti, ceu singulari ornamento haec Stella insignitur, eoque ceu magnifico Encomio memoriae omnis subsecuturae posteritatis commendatur.<sup>40</sup>

In primis verò recensenda sunt memorabilia illa et notatu dignissima Novae huius Stellae<sup>41</sup> accidentia, quae tempore primae apparitionis, et loco quem Creatoris iussu occupavit, consideranda offeruntur. Ea talia sunt, quae nulli alteri extraordinariae stellae unquam accidisse, verè affirmari posse iudico. Equidem<sup>42</sup> eorum nullum vestigium<sup>43</sup> in ullis Commentariis aut descriptionibus invenimus.

Huius Novae Stellae primi exortus apparitionem Deus Creator (cuius illa opus est, sive immediatè,

27. *subrubrum sive ignitum aut sanguineum*, added above the line substituting *subrubrum*.

28. Three illegible lines added in the margin.

29. Long illegible addition of six lines at the bottom of the page.

30. *quantum ... potuit*, added in the margin.

31. Illegible addition in the margin.

32. Maestlin writes *approinquantem*.

33. *dicere ... deinceps?*, added in the margin in place of *videtur*, which has been crossed out. The text continues with the following sentence, which has been cancelled: *Sed aliud non minus admiratione dignum accedit*.

34. Added in the margin: *in Novembre et Decembre*.

35. Maestlin writes *comparit. Decrementum ... comparit*, cancelled, but the new text is illegible. Maestlin had previously written *Mense vero Februario Martique*.

36. One illegible addition in the margin.

37. A new addition in the margin, illegible.

38. A new, this time decisive allusion to the time of writing. The treatise was written before the end of May 1605. Some short additions above the line and in the margin, unfortunately illegible, seem to register a few later results. Maestlin means the entry of the Sun in Gemini, the zodiacal sign opposite to Sagittarius.

39. *fuisse ... putasses*, later addition instead of the initial *arbitror*.

40. *Memorabili ... commendatur*, cancelled without alternative reading.

41. *Novae ... Stellae*, added in the margin.

42. Cancelled in the text. The text above the line is illegible.

43. Instead of a cancelled *nihil*.

sive cooperante Natura mediâ eam [p. 5] produxerit) distulit usque ad famosam illam, et multo tempore decantatam magnam duorum, seu potius omnino trium superiorum Planetarum, Saturni, Iovis et Martis, Coniunctionem, tandem plenè, quanquam vix, confectam, cum hac autem coniunctione Trigonus Igneus (ut Astrologi vocant) post integram omnium quatuor trigonorum periodum, quae annis 795. absolvitur, completam, denuo incipit. Cum enim Saturnus et Iupiter suas coniunctiones, quarum interstitium<sup>44</sup> vicinos ferè annos complectitur, in Trigonos distribuunt, nec in alio signo, quam quod triente Zodiaci à proximae coniunctionis signo distat, iterum congregiantur, atque in qualibet harum triplicitatum annis 200. ferè commorentur:<sup>45</sup> accidit, ut hoc tempore primum congressum in Sagittario denuo ordiantur, post 20. annos in Leone, et iterum post 20 in Ariete, sicut et post denuo in Sagittario, etc.<sup>46</sup> repetituri. Et hanc primam in Sagittario coniunctionem Saturnus et Iupiter in multis mensibus, antequam iterum separarentur, prorogant, nam à medietate mensis Octobris anni 1602 usque ad Stellae exortum, Iupiter à Saturno non ultra 20. gradus: et à Septembri anni 1603. non ultra 9. gradus abfuit, a qua distantia ipsi pro coniunctis esse leguntur, seque mutuo, viribus suis, contingere, et vel ad coniunctionem corporalem applicare, vel ab ea separari dicuntur.<sup>47</sup> Latitudinem<sup>48</sup> orbis vel lucis Saturni statuunt Astrologi extendi ad 10. gr. et Iovis ad 12 gradus, aliqui tamen in utroque 11 gr. numerant, quae latitudo coniunctim, 22. vel ad minimum 18. gradus complectitur.<sup>49</sup> Verum coniunctio haec imperfectior videbatur, quia tertius planeta, Mars, toto illo tempore, praesertim tum, quando illi mensi Octobri Anni 1603 secundum longitudinem Zodiaci<sup>50</sup> in primis Sagittarii gradibus corporaliter<sup>51</sup> convenerunt, ab eis procul alibi obambulans abfuit, donec tandem mense Septembri Anni 1604. et ipse adveniens, eis se socium conventus adiungeret. Ubi ergo die 15. Sept. ad Saturnum in 10. gr. et die 29. eiusdem ad Iovem in 19. gradu Sagittarii, vero motu accedens, magnam hanc coniunctionem consummavit. Verum quid fuit? Ecce Nova<sup>52</sup> haec stella accensionem suam hucusque distulerat. Post, coniunctione trium superiorum Planetarum postrema vix peracta, ecce Nova haec Stella mox postridie nimirum ad vesperam diei 30. Septembris, praelustri suo fulgori in Mundi Theatrum prodiens, omnium oculos, ora et vultus, non absque stupore et admiratione in se convertere incipit.

Locum summus Rerum Moderator huic stellae attribuit non a communi planetarum regia via,<sup>53</sup> velut aliis nonnullis<sup>54</sup> Cometis aut Stellae anni 1572. remotum, sed sub ipso Zodiaco, prope Eclipticam: nec in aliqua eius regione eo tempore ab omnibus Planetis deserta, sed ubi et ipsae famosae illorum Magnae Coniunctionis non tantum particeps, sed eius pars potissima fieret.<sup>55</sup> Etsi sane qua [p. 6] hora intra vespere diei 29 et<sup>56</sup> diei 30. Septemb. exardescere ceperit, scire nemo possit: ex observatione tamen et motuum analogia certum est, quod vesperi diei 30. Sept. Mars occupaverit 20 gr. cum una octava Sagittarii, ab ecliptica 1 gr. cum septuaginta austrum. Iupiter 19. gr. cum duabus quintis Sagitt., ab ecliptica una sexta gradus ad boream, et Stella Nova 17. gr. cum besse eiusdem signi, ab ecliptica 2. gr. minus uncia<sup>57</sup> ad

44. In the margin: *propter indices eorum motuum*.

45. Illegible addition in the margin, presenting the distribution of zodiacal signs in different trigons.

46. Cancelled in the text after *etc.*: *hos reditus repetituri, quae tria signa Trianguli seu Triplicitatis igneae nomen acceperunt, hos reditus*.

47. *Seque ... dicuntur*, cancelled.

48. *Sive complicatio*, added above the line.

49. *Metiuntur*, cancelled in the text. Above the line *complectitur*. In the margin, we find the following addition, difficult to read, which explains the elimination indicated in ref. 46: *intra quod 18 aut 22 graduum spacium ipsi non tantum vel ad coniunctionem corporalem applicare, vel ab ea rursus separari, sed etiam se mutuo, orbibus vel viribus suis, contingere atque sic partialiter coniuncti esse, dicuntur*.

50. *secundum ... Zodiaci*, added above the line.

51. *corporaliter*, added in the margin.

52. *Ecce Nova*, added in the margin instead of *Atque eo usque Nova*, cancelled in the text.

53. *a ... regia via*, added in the margin. In the cancelled text: *non procul à Planetarum communi semita*.

54. *plerisque*, added above the line.

55. In what follows, cancelled: *Nec quidem tardigrado Saturno, sed Iovi benigno, et Marti strenuo (tanquam quae aequitatem fortiter esse propugnandam, ostendat) astare praecepit*. The manuscript shows some illegible additions to these lines, along with many cancellations.

56. *intra ... et*, added above the line.

57. *minus*, added above the line. The first writing presented *cum deunce*.

bor., quem locum ipsa adhuc possidet.<sup>58</sup> Secundum longitudinem ergo Nova Stella duobus his planetis non quidem exactissime, attamen satis partiliter, fuit coniuncta. Sin latitudines annumeremur, Nova Stella à Marte distabat 4 gr. et quarta, à Iove 2 gr. et fermè semisse, ut et Iupiter à Marte uno gradu et deunce.<sup>59</sup> Quum autem hoc spacium longè intra terminos latitudinis orbium ipsorum includitur (qui termini numerantur in Saturno et Iove vel 9 vel 10 aut 12 gr., in Marte vel 7 vel 8 grad.<sup>60</sup> et in stellis primi honoris, quarum magnitudines Nova Stella non modo aequavit, sed multas superavit, 7 grad. cum semisse, et in Iove 9 vel 12 gr.) hae stellae omni modo pro coniunctissimis habendae fuerunt.<sup>61</sup>

Non minus admirandum et de nulla repentina stella unquam auditum fuit, quod haec stella tali et hoc caeli loco fuerit inspecta, quo intra breve tempus, nempe paulo plus quadrante Anni, omnis Planetarum chorus ad eam confluit, tanquam novum Hospitem summa cum observantia reverenter excipiendi.<sup>62</sup> Quam submissionem ut monstrarent, omnes motu veloces accesserunt; omnes tamen, ne eam attingerent, seduli quasi caverunt. De coniunctione eius cum Iove et Marte, modò dictum est; qui eam primo apparitionis die advenientem quasi expectantes, mox amice<sup>63</sup> salutarunt, locumque in Sagittario, domicilio Iovis, concesserunt. Post hos Luna die 16. Octobris accurrit. Verum quia haec reditus suos menstrua periodo reiterare solet, plura monere supersedeo. Sequentibus diebus Sol ad eam quotidie uno ferè gradu appropinquans, radiis suis eam involvere coepit, et circa 12. Novembris occasu heliaco è conspectu in nostro quidem horizonte omnino exemit. Eam tamen alibi, ut in Turonia<sup>64</sup> die 13. adhuc visam fuisse audio. Cui assertionem non repugno, propter sphaerae minorem obliquitatem, superexcellenti stellae claritate coadiuvante, et propter aerem haud dubio magis purum, is certè turbida sua apud nos crassitie die 12. eius aspectum nobis denegavit.

Ad latentem sub radiis Saturnus, aliàs segnis<sup>65</sup>, at hïc festinanti gressu,<sup>66</sup> die 27. Novemb. arrepsit. Eidem biduo post, die 29. Sol insecutus est. Deinceps die 13. Decemb. Mercurius, qui nuperrime matutino heliaco occasu Solis radios subiens se occultaverat (nam die 10. Decemb. postremò ipsum vidi, mox quum dies pluviosi secuti sunt<sup>67</sup>) eandem sub radiis quoque convenit. Inde Sol à Stella magis magis recedens, die 14 Decemb. stellae, ut manè ex radiis se iterum evolveret, permisit. Quam reducem ego quidem die 15. primùm aspexi (cuius diei aurora nox, post multos nimbosos dies, antecessit admodum serena et rigida, eaque unica, per totam hanc hÿemem praeter morem tepidam, nimis horrido gelu verè hÿberna, ea enim nox vitibus uredine adeo nocuit, ut similem cladem multis retroactis annis non sensisse existimentur) ex analogia autem apparitionis et aurorae fulgore [p. 7] eam forsàn ex radiis die 13. existiisse, haud difficulter argui potuit. Die 14. alibi eam inspectam esse constat. Postremò<sup>68</sup>, Venus se quoque<sup>69</sup> die 10. Ianuarii huius 1605. Anni<sup>70</sup> cum Nova Stella congressa est.

Dein rarum et hoc est,<sup>71</sup> quod omnes Planetæ his suis cum hac Stella congressibus motu veloces fuerunt, mediocris nullus, multo minus tardus, stationarius aut retrogradus. Saturnus enim, Iupiter et Mars, ut et Venus atque Mercurius, tempori sui ad illam accessus<sup>72</sup> ad commutationum suarum apogaea, quibus locis motus eorum acceleratur, ascenderunt: Sol autem ad perigaeum eccentrici sui descendit,

58. *quem locum ipsa adhuc possidet*, added in the margin. Maestlin thus notes that the nova (like the new star of 1572 in Cassiopeia) has not changed its position in the entire time elapsed from its first appearance and therefore lacks any proper motion.
59. In the margin the following figures are added: Mars in 20 1/8 Sagittarii; latit. 1 7/12 aust. Iovis in 19 2/5 Sagittarii; latit. 0 1/6 bor. Nova in 17 2/3 Sagitt.; lat. 1 11/12 bor.
60. *in Saturno ... in Marte vel* added in the margin instead of *in Marte*.
61. *et in Iove ... fuerunt*, cancelled in the text. In its place, a long passage appears in the margin and at the bottom of the page, although it is almost illegible.
62. Cf. Johann Dobricius as quoted in our presentation, ref. 55.
63. *mox amice*, added above the line.
64. Modern Tours in France.
65. Above: *tardigradus*.
66. *aliàs ... gressu*, added in the margin.
67. *mox ... sunt*, added in the margin.
68. *ne quis planetarum desideraretur*, cancelled in the text in what follows.
69. *non subduxit, sed*, cancelled in the text in what follows.
70. *et ipsa* cancelled in the text in what follows.
71. *Dein ... est*, cancelled in the text. The substituted text is illegible.
72. *sui ... accessus* added above the line; *coniunctionis suae cum illa*, cancelled in the text.

Luna non tantum prima coniunctione earum, sed etiam<sup>73</sup> hactenus omni ad ipsam reditu circa anomaliae suae perigaeum versata est, sed et iis locis Sol et Luna motus suos intendunt. Hinc cum Saturnus medio motu progrediatur uno die 2. scr. Iupiter 5. scr. Mars 31. scr. Sol ut et Venus et Mercurius 59 scr. Luna 13 gr. 10 scr. iam processisse deprehenduntur, Saturnus<sup>74</sup> 7 scr. Iupiter 10 scr. Mars 40 scr. Sol 60. vel 61 scr. Venus 75 scr. Mercurius 1 gr. 50 scr. Luna ultra 14 gr. Eam omnes et singulos planetas quasi prae gaudio alacriter exultasse et cum tripudio congratulantes, hunc hospitem salutasse atque excepsisse dixere potuisses.

Et ne quid reverentiae hac honorifica salutatione deesset: omnes planetas quasi de industria<sup>75</sup> latitudinibus suis, ne quis proficiens eam attingeret, industriam atque observationem hanc in apibus ipsis didicisse diceres,<sup>76</sup> quae, ut fertur, Regem suum ex alveario evolantem certatim circumvolvendo cingunt, deducunt<sup>77</sup> et comitantur, attingere volantem<sup>78</sup> autem pro piaculo non nisi morte delinquentis<sup>79</sup> expiando, habent. Stellam duobus ferè gradibus ab ecliptica ad boream abesse, Iovem autem sub primum apparitionis stellae tempus habuisse latitudinem ad unius gradus sextantem, borealem: et Martem parum ultra sesquigradum, australem, paulo ante dictum est. Sic Saturni latitudo borealis quidem, sed latitudine stellae minor ferè triente unius gradus fuit. Sol sub ecliptica perpetuo incedens, stellam ad boream etiam reliquit. Mercurius quoque ad eam accedens, quadrante gradus australior mansit. E contra Venus boreali latitudine Stellam ferè quadrante unius gradus transcendit. Item Luna, propter Caput Draconis in Libra, duobus penè gradibus ultra Stellam versus boream exaltari solet. Quare quinque ex Planetis cum Stella hac coniuncti, australiores inceserunt, et duo borealiores. Veruntamen illorum pluralitatem una Luna menstruo suo recursum compensare videtur.<sup>80</sup> Haec commemorata accidentia quibus planetarum chorus<sup>81</sup> Stellae huius adventum excepit et his<sup>82</sup> quasi praeconiis coelitus concelebravit, quia rara et insolita sunt<sup>83</sup> et idcirco prodigiosis et portentosis aliis ostentis non immerito adaequari possunt et<sup>84</sup> debent, quamvis unumquemque, qui paulo diligentius contendere voluit, atque sic<sup>85</sup> etiam me, quam primum Stellam immobilem esse cognovi (ea enim hoc modo, ordine et tempore, sicut recensui<sup>86</sup>, eventura esse, quilibet<sup>87</sup> qui Tabularum numeros novit, aut Ephemerides ad manus habet, tum statim praevidere potuit) obstupescere fecerunt. An autem ulli extraordinariae stellae horum quid unquam contigerit, tantoque ho[p. 8]nore ab omnibus et singulis Planetis affecta fuerit, haud facile credidero. Stella anni 1572. integros 16. menses, vid. ab initio circiter Novembris anni 1572. ad initium Martii Anni 1574, coelo spectata fuit in 7. gr. Tauri. Sed propter latitudinem borealem 54. gr. nullus Planetarum ei appropinquare, nedum simili eam observantia colere potuit. Sic plerique Cometae extra Zodiacum oberrant, vel etsi intra Zodiacum orientur, aut per eum pertranseant, Planetarum tamen congressus non expectant, sed incesso suo plerunque obliquo à communi Planetarum via se prius subducunt, quam horum quid experiantur. Hoc equidem in 7. Cometis qui ab anno 1577 stiterunt.<sup>88</sup>

73. *non ... etiam*, added in the margin; *quoque* cancelled in the text.

74. *processisse ... Saturnus* cancelled in the text; *progressus ... Saturni* added above the line. We maintain the cancelled text because Maestlin has not accommodated the new wording to the text following.

75. *quasi ... industria*, added in the margin.

76. *industria ... diceres*, added in the margin, substituting *prospexisse sibi, non immerito diceres, instar apum eam observantes*.

77. *deducunt* added above the line.

78. *volantem* added above the line.

79. *delinquentis*, added in the margin.

80. *An horum quid ulli extraordinariae Stellae unquam contigerit, tantoque honore eam omnes Pla[netae]*, cancelled in the text, but without an alternative wording. It is, then, an abandoned line of thought, which Maestlin nevertheless will recover some lines later.

81. *commemorata ... chorus*, added above the line; *quia rara et insolita sunt, quae* cancelled in the text.

82. *per orbem*, cancelled in the text.

83. *quia rara et insolita sunt*, added above the line.

84. *adaequari ... et*, added above the line; *annumerari* cancelled in the text.

85. *unumquemque ... sic*, added in the margin.

86. *sicut recensui*, added in the margin.

87. *quilibet*, added above the line.

88. *Hoc ... stiterunt*, an addition between the lines. It still continues for a line with illegible wording.

Quid de Novae huius Stellae loco in Mundo dicam? Omnia meteora in regione elementari, superiore vid. regione aeris,<sup>89</sup> nasci<sup>90</sup> oriri, Peripateticorum schola nos hactenus docuit, quam opinionem nonnulli mordicus retinendam putant. Unde quidam eorum Stellam anni 1572. et superiorum annorum Cometas in eandem regionem, summa vi omnique animi impetu detrahare sunt conati. Verum plerique illorum,<sup>91</sup> postquam se Artificum Mathematicorum observationibus convictos viderunt quod scil. Stella anni 1572 et Cometae anni 1577. 1580. 1582. 1585. 1590. 1593. 1596 omni sensibili parallaxi<sup>92</sup> caruerint, atque ex eo, iuxta parallaxeon doctrinam (quae sola in distantis dimetiendis, absque contradictione aut instantia nec fallere nec falli potest, ideoque absque contradictione pro regula veritatis sit agnoscenda)<sup>93</sup>, certo certius sit, nullum ex iis in elementari, sed omnes, in aetherea caeli regione, et quidem longè supra Lunam, atque omnes supra illos orbes, ad quos Terra aliquam sensibilem magnitudinis proportionem habet, exortos fuisse: postquam item ex genuinis fundamentis didicerunt quod vel ipsimet, vel quicumque alii, ex suis observationibus se aliquam in eis parallaxin vel invenisse vel extorsisse putarunt, procul ab hac doctrina exorbitarint: tandem mitescere coeperunt, et Aetherae regioni aequiores facti, potentiam, quam ei prius, quasi nihil quicquam novi ibi enasci aut fieri possit, imprudenter quidem, at per fas et nefas eripuerunt, restituerunt, reipsa confitentis, quod in veritate investiganda, non quid ratio, aut communis opinio (quae nisi firmis nitatur fundamentis, ab imperiti vulgi fallaci opinione non rarò parum differt) suadeat, sed quid Experientia, tanquam ratiocinationum propria mensura, tradat, considerandus sit. Non est ut quis opinetur quasi hoc modo veteres artes et scientiae exterminentur, ac si hac via procedamus, nobis nova tandem quaeritur. Sed verae et<sup>94</sup> antiquae scientiae non labefactantur, multo minus evertuntur: sed erroneae in eis opiniones, hactenus pro veris defensae, evelluntur, tolluntur, et in earum loca indubitata Veritas plantatur<sup>95</sup>. Veritatis autem communi vinculo universae sectantur et creduntur doctrinae et scientiae tam sublimiores quam habiliores copulantur, omnes enim à Deo constant, qui ipsa veritas, et proficiscuntur.<sup>96</sup> Idcirco et ego pro loco huius Stellae in Mundo indagando, ad observationes me contuli.

Ex observationibus verò, ea, qua par est, diligentia summa habitis, et crebrò tam antea vesperi ante occasum, quam nunc manè, post ortum heliacum repetitis, nec non fideliter examinatis, haec duo liquidò deprehenduntur: 1) Ab hac Nova Stella in diurna revolutione penitus omnem sensu perceptibilem parallaxin esse exclusam. 2) Eandem Novam Stellam ab omni motu, praeter solum quotidianum [p. 9] diurnum, esse exemptam. Ex pluribus duas observationes hinc commemorare lubet.

Stellam hanc novam mox postquam initio mihi innotuit, deprehendi in eadem linea recta (quò ad visum, subtilioris fili adminiculo) sive rectius, in eodem circulo magno (in coeli sphaerica figura) exactissimè consistere cum ea stella, quae est quinta inter informes circa Ophiuchum seu Serpentarium, et cum decima quinta Serpentis eius. Deinde observavi, quod recta per Novam Stellam, et per dextrum latus Serpentarii, stellam in ordine eius asterismi duodecimam, relinquat stellam in femore Bootis, numero decimam sextam, ad occasum quasi duabus tertiis diametri Lunae. Porrò hic novae<sup>97</sup> stellae in his rectis positus, sicut et eiusdem ab illis distantia, de qua infra latius dicemus,<sup>98</sup> crebra observatione ne unico minutulo variari, augeri minuive deprehenditur, sed eadem, tam in maiori, quam minori eius altitudine supra horizontem, tam illic vesperi quam nunc manè, invenitur. Quod profectò invictissimum nullius sensibilis parallaxeos et nullius proprii motus argumentum<sup>99</sup> est. Nam 1) Si ullius sensibilis parallaxeos Stella particeps esset, fieri non posset, ut observatio stellae ab horizonte remotioris, observationi eiusdem, si horizonti fit propior, concordaret. Cum enim parallaxes, ut ex earum doctrina constat, ad horizontem auctiores et maiores fiant,

89. Added in the margin: *aut in terrae visceribus (sed de eis hinc nobis sermo non est) aut in aeris vel inferiore, vel superiore regione.*

90. *Omnia meteora ... aeris, nasci*, cancelled in the text.

91. *Plerique illorum*, added in the margin.

92. *fuertint destituti, atque* cancelled in the text.

93. (*quae sola ... agnoscenda*), added in the margin. This is a significant methodological statement.

94. Cancelled: *Et hoc modo.*

95. *plantatur*, added above the line; *reponitur* cancelled.

96. *At ... proficiscuntur*, long addition in the margin. The first and last sentence in this important addition are difficult to read.

97. *novae*, added above the line.

98. *de qua ... dicemus*, added in the margin.

99. In the text *argumentumum*.

quam in maiori supra eum altitudine esse possunt: necessariò fieri debebat, ut augmentum hoc stellam à rectis vel circulis illis,<sup>100</sup> vesperi quidem versus occidentem, manè autem versus orientem, notabiliter avelleret: distantiam quoque eius<sup>101</sup> à dictis stellis<sup>102</sup> apparentem sensibiliter mutaret<sup>103</sup>. Quorum quia nihil neutrorum evenit, non tantum quando prius mense octobri<sup>104</sup> vesperi post Solis occasum Stella non diù supra horizontem commorabatur et idcirco illud parallaxeos<sup>105</sup> incrementum adeo magnum non fuit, sed etiam nunc, quando hoc anno<sup>106</sup> Stella nova Meridianum non tantum<sup>107</sup> attingit, sed etiam praeterit,<sup>108</sup> priusquam diei adventantis lux eam et caeteras stellas occultat: Infallibiliter<sup>109</sup> concluditur, Stellam hanc non tantum non infra Lunam (nam et ibi ad unum gradum, h. e. ad duas diametros Lunae, parallaxis excrescit eaque in horas variè mutatur, quae quantitas visum in diversis observationibus effugere, et ne is<sup>110</sup> stellam ab illis circulis declinare sentiret, fallere nequaquam posset) sed nec quidem alibi, ubicunque terrae quantitas sensibilis manet, verum multò altiore in aethere loco suam sedem posuisse. Et eatenus haec Stellae novae cum cometis supra enumeratis communia sunt, quos perfectio doctrinae<sup>111</sup> parallaxeon simili argumentatione<sup>112</sup> in Aethere invenit.

2) Sicut observationum illarum iudicio Stella nova ab omni parallaxeon diversitate liberatur, ita earundem attestazione ipsa ab omni motu proprio multò evidentius vindicatur. Si enim alius ei praeter quotidianum motus inesset, fieri non potuisset, ut ut quis aliquam eius quasi stationariam quietem imaginetur, quia is vel tandem intra hos sex completos<sup>113</sup> menses, si non alio, attamen commutationis [p. 10] motu, se prodidisset, et à dictis rectis vel circulis magnis, secessisset simulatque permutaret ab aliis stellis fixis distantiam.<sup>114</sup> Et<sup>115</sup> stella nullius Planetæ motum, sicut alios cometas facere observatum est,<sup>116</sup> aemulatur, nec sicut alii Cometæ imitare voluisse videtur, sed immunitate motus stellis fixis, sicut et stella Anni 1572. fuerat, se assimilat liquidò testatum facit, nullum sibi intra Planetarum territoria habitandi domicilium assignatum esse, sed se eorum sphaeris et orbibus arcem longe excelsiorem, sphaeram nimirum stellarum fixarum, ad ipsas inerrantes stellas non minus quam dictam Stellam Anni 1572. exaltatam esse. Idipsum lumen eius scintillans abunde confirmat.<sup>117</sup>

100. *vel ... illis* added in the margin.

101. *eius* added above the line; *stellarum* cancelled in the text.

102. *à ... stellis* added in the margin.

103. *sensibiliter mutaret* added above the line; *augeret* cancelled in the text. Maestlin adds a short, illegible sentence in the margin.

104. *mense octobri* added in the margin.

105. *parallaxeos* added above the line.

106. *hoc anno* added above the line.

107. *non tantum* added above the line; *quam proximè* cancelled in the text.

108. *sed ... praeterit* added above the line.

109. Underlined in the original text. Added in the margin: *ex eis exactissime et absque omni contradictione*.

110. *Is (= visus)* added in the margin.

111. *perfectio doctrinae* added in the margin; *doctrina* cancelled in the text.

112. *ab observationibus similibus* cancelled in the text. Maestlin writes *argumentione*.

113. *completos* added above the line. This addition allows us to date the manuscript in its revised form to March 1605.

114. *simul ... distantiam* added in the margin.

115. *Haec* cancelled in the text.

116. *sicut ... est* added above the line.

117. *sed immunitate ... abunde confirmat*, long passage which appears deleted in the text and substituted with an alternative passage immediately in the main text. This second wording is written in very small letters and with many abbreviations. Our reading, in some places doubtful, is as follows: *uniformi revolutionis quotidianae et immunitate omnis motus proprii se stellis inerrantibus, sicut et stella anni 1572 fecerat, assimilat; eo ipso liquidò monstrat nullum sibi in Planetarum territoriis habitandi domicilium assignatur; sed se ab eorum sphaeris et orbibus exsolutam, in aream longe excelsiorem, sphaeram nimirum stellarum fixarum, quae firmamentum nominatur; inter ipsas inerrantes, non minus quam dictam stellam anni 1572 exaltatam esse. Cui sententiae lumen ipsius supra modum et semper absque intermissione scintillans, quale in ullo planetarum nec in ullo Cometarum unquam vidimus vel visum fuisse legimus, astipulatur. Ipsa quoque rei*

[The remaining text (pp. 10–12) is illegible.]

[MICHAEL MAESTLIN]

*Translated by Patrick J. Boner*

Astronomical consideration of the extraordinary and prodigious new star that appeared near the ecliptic in the sign of Sagittarius one evening in early October in the preceding year 1604, and continues to shine in the same place with a tremulous light.

In the month of October of the previous year, a remarkable new and never before seen star became visible in the evening sky after sunset, trembling with a very bright and brilliantly shining light. After being hidden beneath the Sun for some days in November and December, the nova vanished, and while it can now be discerned by the same scintillating light in the early hours of the morning before sunrise, the size of its body appears smaller. Various conversations among men, as is the custom, are heard about this star, and various opinions expressed [about it]. Some marvel that the number of stars grows greater in the heavens, others do not know whether to call it a comet or a star, while still others are eager to know whether it abides in the celestial region or rather in the elementary orb, that is, in the same place in which, according to the doctrine of the Peripatetics, it has been believed up until now that comets are born. Much of the masses, astonished by this extraordinary phenomenon, strive to know what good or bad this new guest bears or what it predicts or portends. For my own part, I pursue my own interest (by which I am drawn) and join those who do not yet aim to inquire what this new star portends but rather what its condition, location and motion is in the heavens, and what astronomical certitude may observe and judge in it, especially since it is so difficult to judge the meaning of portents of this kind unless one dares to boast every mystery of God as known and examined by himself.

Although it is certainly most true that the conflagrations of such extraordinary luminaries in the heavens can never kindle without [affecting] the entire globe of the Earth or each and every particular country or kingdom, at the same time the affairs, the person and the life of many private citizens experience individually their mostly sad, lamentable, and harmful significance with great suffering soon after [they appear]; however, since the general as well as the particular significance of stars generated so suddenly cannot be grasped in any other way than by drawing, rather than determining for certain, a conjecture from comparison with other similar appearances and the events following, even though such appearances are highly infrequent. Everyone sees that a pretension to pronounce something certain about the events stemming from this star according to the histories of centuries not only is extremely difficult, but also utterly impossible (unless he is truly inspired by a prophetic spirit). Hence, those whose premature, or rather immature, judgements are by no means proven have their predictions placed on display soon after they perceive the illumination of an extraordinary star or comet (with just as much wanting as before it [appeared]), as they dare to predict or divine events without any hesitation or doubt. And yet while most of those very people do not concern themselves with determining either the location or the motion of the comet, nor any of those things that properly concern actual astrological [p. 2] considerations, just as the necessary foundations of learned prediction are required, if they are ever asked about those things they do not hesitate but, responding with clearly wrong and completely false things and wandering beyond measure, they err greatly and remove the comet or star to the very lowly region of the air when it actually belongs in the highest ether; or they reckon the effects according to the nature of any apparent sign [in the heavens], even if the phenomenon either never approached that sign or passed swiftly through it before the other signs.

However, since these luminaries that shine brightly in the heavens for some time not only announce as portents the wrath of God at the human race (even while what they may portend in their own way God does not tend to reveal), but at the same time are also an admirable part of His work, it shall be most prudent for us, first of all, to beseech God humbly, making grave penance through faithful prayers, begging Him to spare us his wrath and unleash it rather on the enemies of His name and the persecutors of His

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*evidentia omne dubium de ea stella tollit.*

Holy Gospel, mercifully granting us peace and tranquillity while we faithfully wait in full hope that He will either entirely turn away His wrath raging against us and spare us, just as He once did the Ninivites (in the final verse of Jonah 3), or, if the verdict remains altogether the same and the judgement of the Lord begins with the House of the Lord, that nevertheless that awful load may be lightened. At long last, we may then contemplate the great works of God here and everywhere with a pious mind and celebrate Him in these things. For this is no less pleasing to Him, in as much as He does not forget His mercy in anger and forbids His works from being despised, in the same way He demands that they be exalted and praised to the glory of His name. It is for this reason that I have nothing to predict of the effects of this star through an astrological method (to which, in any case, I still have not dedicated my studies so far), but turn rather to the other matter, namely to the astronomical contemplation of this star, investigating its location, condition, and region, as well as those remarkable accidents and other passions that have appeared in it thus far.

First of all, neither I from my own observations nor anyone else dwelling here in Tübingen can indicate the first day on which that new star began to shine, on account of the rainy and very turbid weather from the evening after 29 September (the feast day of Saint Michael the Archangel, on which evening this star had not yet appeared, I am certain, for it could not have slipped past my sight with its great brightness that night) to 6 October. Then, when the air calmed down and the sky became clear before evening began on 6 October, I failed to notice this new flame that had been kindled. On that same evening, however, with night approaching after sunset, this new star soon became conspicuous by its splendid brilliance, but initially I mistook it for Jupiter moving near the same place, just as I mistook Jupiter by a similar error for Mars. And yet while I admired the lustre of Jupiter and the bright light of Mars (or so I thought), night continued to advance more and more and the real planet of Mars, up to that time lying hidden beneath the remaining light of day, was finally revealed. Once I thus recognised the real Mars and the real Jupiter, I was astounded by the presence of this new guest. I later learned, however, that this was not the first day it had appeared, since I understand from the letters of friends that the star had been observed on 3 October as well as on 2 October elsewhere, in the Württemberg countryside, where the sky was slightly more serene than here in Tübingen. For my own part, I did perceive a bright flame shining some through the clouds on 3 or 4 October, but believed it came from Jupiter. It was first seen on the same day, 3 October, in Wolfenbüttel by the geometer Johannes Krabbe from Braunschweig, as he testifies in print.

[p. 3] That most knowledgeable and learned Imperial Mathematician Johannes Kepler eloquently attests in his published work about the new star that this star, whose very first appearance an intemperate sky had denied us, first became visible on 10 October (N.S.), that is, 30 September. I am completely convinced, therefore, that it first appeared on the final day of September. To be certain, I judge that the original hour of appearance is known to no one. It suffices, therefore, that it had not yet appeared on the evening of 29 September but emerged in full light the following evening.

In apparent magnitude and brilliant splendour of light, the star far surpassed in the months of October and November not only Arcturus, Lyra and Sirius, the greatest of the fixed stars, as well as Jupiter, which was standing in the near vicinity, but was also seen to vie with Venus. You would rightly say that it rivalled that star that brightly shone near the constellation of Cassiopeia in 1572, for while it did not quite surpass it in bulk of body or greatness of splendour (a fact for anyone who observed the two stars with an astronomical eye), it certainly did equal it; hence, there is no doubt that if this star had stood as far north as the other [star] and in such a remote location from the Sun, it could also have been distinguished by all endowed even with a moderate keenness of sight from a calm location at any time of day.

It gleamed beyond measure, with a tremulous light, practically without par. The fixed stars scintillate, and in fact some of them quite strongly; we can recall the star of 1572 and how it shone with a waving radiance; we know that none of the five planets is entirely without scintillation, for we have often seen flashing rays in all of them, as we have observed recently with Saturn, Jupiter and Venus in the morning for several days, as well as Mars and Mercury at other times. And yet we cannot recall a scintillation so swift that was ever seen in any of the stars. Since last February, however, [the star] began to diminish some from that swiftness.

What shall I say about the greatly varying colour of this star, by which it is distinguished from every assembly of other stars by a remarkable degree? We were stunned by the new star of 1572, which took on many different forms, since it was of a white and silver colour at one time, changing to a golden

yellow and saffron, and finally sanguine and purple, changing one and the other. We were stunned by the inconstancy of the comets we saw in previous years, which after being white or pale for some time became brown, yellow, red, sanguine, fiery, etc. This change was not sudden, however, but admitted an interval of several days. Indeed, anyone who attentively observed this star discerned that it took on diverse colours. For although it appeared in large part and most often with a pleasant silver aspect, especially in the months of October and November before being covered by the Sun, [p. 4] nevertheless it frequently mixed [something] ruddy or fiery or sanguine, which colour, when it turned lighter, occurred more often in later days after emerging from the Sun than in earlier days. In addition to this slow change, you could say that it would constantly show us a new face that changed colour at almost every moment in the same way as a revolving hoop. For as soon as you could say it appeared white or silver it swiftly turned purple, then suddenly golden yellow, instantly dark blue, at once reddening, then yellow, next pallid, suddenly fiery, and so on in a rapid succession of ever changing colours.

We witnessed that the star of 1572, as well as the comets seen up to now, did not remain strong for very long but gradually grew fainter soon after they first appeared, precisely at the same apparent rate, as far as could be observed. Thus far, this star [of 1604] has followed a different path. For from the first day it appeared until the heliacal setting, when it lay hidden for a time, failing to appear on account of the approaching Sun, no one could perceive the slightest sign of diminution in it. After it became visible in the morning, however, and freed from the rays of the Sun in the heliacal rising, how greatly did it appear changed from its previous form, how much smaller in size? While it first surpassed Jupiter and vied with Venus, as it emerged from the Sun, however, Saturn and Antares, a star slightly less than second magnitude, scarcely conceded to it and it was not far enough for them to match it. And so while it was detained by the rays of the Sun, withered up, as it were, one could say it had largely wasted away. Then what happened next?

While [the star] was greatly diminished during the few days it remained hidden beneath the Sun, it continued unchanged during the remaining days of December and all of January in the present year 1605, as if experiencing no further diminution. From the month of February to the middle of March, however, it was seen to diminish quickly and sensibly, so that it scarcely surpassed the third-magnitude stars of Ophiucus and Scorpio closeby. Hence, unless the star had once again interrupted this rate of diminution, you would certainly think that it will scarcely survive until its evening rising and its setting early in the morning, that is, when the Sun reaches that part of the zodiac opposite the star (which will occur near the end of May), but that it will vanish before then.

This star is distinguished, like a singular ornament, with a remarkable accident, most worthy of mention, and on this account is committed as magnificent praise to the memory of all subsequent posterity.

But first we must examine those noteworthy and remarkable accidents of this new star that were offered for our consideration from the time of the original appearance and from the place it occupied according to the command of the Creator. These accidents were such, I reckon, that it can truly be affirmed that none ever occurred in the case of any other extraordinary star. Indeed, we have not found a single trace of them in any commentary or description.

God the Creator (who produced this work either immediately or mediately, with nature cooperating) [p. 5] delayed the first appearance of this new star until that famous and long recited great conjunction of the two, or rather of the three superior planets, Saturn, Jupiter and Mars, was finally fully, but barely completed. This had just taken place, in fact, when with this conjunction the Fiery Trigon (as astrologers call it) began again after the entire series of all four trigons, which takes 795 years to complete, was brought to a close. For since Saturn and Jupiter divide their conjunctions that occur about every twenty years into Trigons, meeting again in the following conjunction only in a sign that is a third of the zodiac away and remaining in any one of these triplicities for about 200 years, it turns out that when they resume their congress again in Sagittarius, they will return to Leo in twenty years, and again to Aries in twenty years, and then again to Sagittarius, and so on. And Saturn and Jupiter protracted this first conjunction in Sagittarius for many months before they again went their separate ways, for Jupiter never strayed from Saturn by more than 20° from the middle of October 1602 until this star appeared, and from September 1603 never more than 9°. At the latter distance, they are reckoned as if they were conjoined and in contact with one another through their own powers and said either to apply to corporeal conjunction or depart from it. The astrologers claim that the orb or light of Saturn extends in latitude to 10° while that of Jupiter [extends]

to  $12^\circ$ . Others, however, count  $11^\circ$  in the case of either planet, this latitude embracing  $22^\circ$ , or at least  $18^\circ$ , conjointly. In fact, this conjunction was seen as less than perfect, since the third planet, Mars, during all that time had always been following a path far away from Saturn and Jupiter, especially in October 1603, when the two met together corporeally in the opening degrees of Sagittarius according to the longitude of the zodiac, until finally it drew near in September 1604 and joined them as a member of their assembly. And this is how on 15 September it sped with its true motion up to Saturn in  $10^\circ$  Sagittarius and on 29 September up to Jupiter in  $19^\circ$  Sagittarius, thereby consummating this great conjunction. So then what happened? Behold! This new star had delayed its illumination hitherto. Shortly after the conjunction of the three superior planets had occurred, this new star soon appeared, the following day, in fact, on the evening of 30 September, advancing on the world theatre with its great splendour, turning the eyes and dropping the jaws of everyone in awe and admiration.

The supreme governor of affairs did not assign to this star a location far away from the regular and royal path of the planets, like to so many other comets or the new star of 1572, but within the very zodiac, near the ecliptic; nor at any place in the zodiac empty of planets at that time. Indeed, not only did the star participate in their famous great conjunction, but it played a leading part in it. Although [p. 6] no one may know for certain at what hour in the evening it began to blaze between 29 and 30 September, nevertheless it is clear from observation and by accounting for the motion that on the evening of 30 September Mars would have occupied  $20\frac{1}{8}^\circ$  Sagittarius,  $1\frac{7}{12}^\circ$  to the south of the ecliptic; Jupiter [would have occupied]  $19\frac{7}{5}^\circ$  Sagittarius,  $\frac{1}{6}^\circ$  to the north of the ecliptic; and the new star [would have occupied]  $17\frac{2}{5}^\circ$  in the same sign,  $1\frac{11}{12}^\circ$  to the north of the ecliptic, where it continues to remain today. In terms of the longitude, then, the new star was conjoined with the above two planets not exactly but still sufficiently in part. However, if we count the latitudes, the new star was removed from Mars by  $4\frac{1}{4}^\circ$  and from Jupiter by about  $2\frac{1}{2}^\circ$ , with Jupiter being removed from Mars by  $1\frac{11}{12}^\circ$ . However, since this interval is well within the limits of latitude of the orbs of those [planets] (these limits measuring in Saturn and Jupiter either  $9^\circ$  or  $10^\circ$  or  $12^\circ$ , in Mars either  $7^\circ$  or  $8^\circ$ , in stars of the first honour, whose magnitudes the new star not only matched but surpassed many of them,  $7\frac{1}{2}^\circ$ , and in Jupiter  $9^\circ$  or  $12^\circ$ ), these stars were to be considered by all means closely conjoined.

No less remarkable is what was never heard in the case of any sudden star, namely that this star was witnessed in such a place in the heavens where, within a brief amount of time, that is, just over a quarter of a year, the entire chorus of planets gathered around it, as if receiving the new guest reverently with the utmost observance. While every planet expressed submission to the star by approaching [it] swift in motion, every planet also took care not to touch it, as if guarding diligently against it. Concerning its conjunction with Jupiter and Mars, which we just mentioned, [the two planets] promptly came to greet the star in goodwill on the very first day it appeared, as if expecting it, and surrendered their place in Sagittarius, the house of Jupiter. After these [planets], the Moon hastened to the star on 16 October. Since the Moon normally repeats the same return in the period of a month, however, I refrain from telling anything more [about it]. Approaching the star on the following days by about one degree each day, the Sun began to envelop it with its rays, and around 12 November removed it entirely from our view on our horizon on account of the heliacal setting. However, I hear that elsewhere, such as Tours, it was seen up until 13 [November]. I do not deny this assertion due to the slight slant of the [terrestrial] sphere and the supremely bright light of the star, as well as the air, no doubt clearer than the turbid density that prevailed here and prevented the star from appearing to us on 12 November.

Saturn, once sluggish but now hastening, crept on 27 November up to the star hidden beneath the rays [of the Sun]. Two days later, on 29 [November] the Sun overtook it. Next, on 13 December Mercury, which had most recently gone hidden by passing beneath the rays of the Sun on account of its matutinal heliacal setting (for I last saw it on 10 December, after which rainy days ensued), met with the star beneath the rays [of the Sun] as well. Then, as the Sun moved more and more away from the star, it allowed the star on 14 December to unroll itself from its rays again in the morning. In fact, I first saw the star returning on 15 [December] (on which day a very serene and stern night, after several stormy days, preceded the morning, the only night in this entire unusually warm winter with such a frightful winter chill that it even damaged the vines so greatly with frostbite that they reckon a similar disaster has not been felt for many years past); however, if we calculate the appearance and [account for] the light of dawn, it could be argued with little difficulty that the star might have emerged [p. 7] from the rays on 13 [December]. It is said that

the star was observed elsewhere on 14 December. Finally, Venus too was conjoined with the new star on 10 January of the present year 1605.

Then this too is strange, that all the planets in their congresses with this star were swift in motion, none being moderate [in speed], not to mention any being slow, stationary or retrograde. For Saturn, Jupiter, and Mars, as well as Venus and Mercury, during the time of their approach to this star ascended to the apogees of their commutations, in those places where their motion is accelerated: the Sun, however, descended to the perigee of its eccentric, the Moon, not only at the first conjunction of these, but even during its whole return to it [the star], turned around the perigee of its anomaly, but in those places the Sun and Moon strain their motions. From here when Saturn in one day advances 2 scr. with its mean motion, Jupiter 5 scr., Mars 31 scr., the Sun, as both Mercury and Venus, 59 scr., the Moon 13 gr. 10 scr., Saturn [is noted to have advanced] 7 scr., Jupiter 10 scr., Mars 40 scr., the Sun 60 or 61 scr., Venus 75 scr., Mercury 1 gr. 50 scr., the Moon more than 14 gr. You could have said that all these individual planets, as it were, had swiftly leapt with joy and with a congratulatory dance had greeted and welcomed this star as a guest.

And indeed, no measure of reverence was missing from this honorific greeting: you could say that all the planets, as if intentionally, in their latitudes had learned from bees that diligence and observation that none was to touch upon this star, just as it is said that bees, when their king flies out of the hive, vie to surround him in flight, escorting and accompanying him, but consider touching him an offence that can be atoned for only by the death of the offender. It was stated earlier that the star was nearly  $2^\circ$  north from the ecliptic, and, moreover, Jupiter when the star first appeared had a latitude of  $\frac{1}{6}^\circ$  north, and Mars just a little more than  $1\frac{1}{2}^\circ$  south. Thus, the latitude of Saturn was indeed northern, but nearly  $\frac{1}{3}^\circ$  less than the latitude of the star. The Sun, advancing constantly along the ecliptic, even left the star behind on the northern side. Mercury too when approaching the star remained  $\frac{1}{4}^\circ$  to the south. On the other hand, Venus in its northern latitude passed over the star by nearly  $\frac{1}{4}^\circ$ . Likewise the Moon, near the Head of the Dragon in Libra, is accustomed to jumping almost two degrees beyond the star towards the north. And so five of the planets when in conjunction with this star moved along a more southerly path and two along a more northerly. However, the Moon on her own seems to compensate their plurality by her monthly return. These recorded accidents, with which the chorus of planets welcomed the advent of this star and celebrated it with something like announcements in the sky, because they are rare and uncustomary, and thus can and should rightly be considered equal to other prodigious and portentous signs, astonished anyone who wished to strive a bit more diligently, including myself, as soon as I realized that the star was immobile (for anyone who knew the calculations of the tables or had the ephemerides to hand could immediately predict that these things would turn out in the manner, order and time I reckoned). Moreover, I could not easily believe that any of the above things occurred to any extraordinary star and that it was graced with so great an honour [p. 8] by each and every planet. The star of 1572 was seen in the sky in  $7^\circ$  Taurus for 16 whole months, that is to say, from around the beginning of November 1572 to the beginning of March 1574. But because of its northern latitude of  $54^\circ$  none of the planets was able to approach it, let alone attend it with a similar reverence. In this way, most comets wander beyond the zodiac, or even if they arise within the zodiac, or pass through it, nevertheless they do not expect congresses with the planets, but in their path, usually at an angle away from the common path of the planets, they remove themselves before they can experience anything of this kind. Such is the case with the seven comets that have arisen since the year 1577.

What shall I say about the location of this new star in the cosmos? The school of the Peripatetics has taught us thus far that all meteors are born [and] arise in the elemental region, that is, the superior region of the air, and some think that this opinion must be retained at all costs. For this reason, some of them have attempted with all their might and power of mind to remove the star of 1572 and the comets of preceding years to this same region. But many of them, after they saw themselves refuted by the observations of the mathematical experts that the star of 1572 and the comets of 1577, 1580, 1582, 1585, 1590, 1593 and 1596 clearly lacked all perceptible parallax, and for this reason, in keeping with the doctrine of parallax (which alone in the measurement of distances, without contradiction or exception, can neither deceive nor be deceived, and so without contradiction must be recognized as the rule of truth), it is completely certain that none of them could have arisen in the elemental region, but all of them [arose] in the aethereal region of the heavens, and indeed far beyond the Moon and all of them beyond those orbs in relation to which the Earth has some sensible proportion of magnitude: likewise, after they learned from genuine foundations

that either they themselves or certain others thought from their own calculations that they had found or distorted some parallax, they had erred far from this doctrine: finally, they began to become less hostile and having become more equitable to the aethereal region, the power which they foolishly but insistently denied to it, as if nothing new could arise or happen there, they restored, confessing that in investigating the truth, it is not what reason persuades, nor common opinion (which, unless it relies upon firm foundations is oftentimes no different from the fallacious opinion of the ignorant multitude), but what Experience, as the proper measure of rational calculations, transmits that must be considered. It is not that anyone should believe that in this way the old arts and sciences are to be destroyed, as if proceeding on this path a new one is finally being sought by us. But the true and ancient sciences are not being unsettled, much less are they being overturned; however, the erroneous opinions in them, having been defended as true up until now, are pulled out and removed, and in their place is planted the indubitable Truth. Moreover, by the common chain of Truth all doctrines are elaborated and accepted, and sciences, the more eminent as well as the more skilful, are connected, for all of them are established and come from God, who is the truth itself. And so I too turned to the observations to determine the location of this star in the cosmos.

But from my observations, executed with the highest diligence as is right and repeated frequently, earlier in the evening before the heliacal setting as well as now in the morning after the heliacal rising, and examined with close care, two things are clearly ascertained: (1) from this new star in its diurnal revolution all sensible parallax is excluded entirely. (2) This same new star is exempt from all motion except only daily [p. 9] [and] quotidian [motion]. Among many more observations, it is worth recording two here.

After I first learned of this new star, I noticed that it stood most exactly on the same straight line (with the support of a very fine thread for observing this), or more properly on the same great circle (in the spherical shape of the heavens) as that star which is fifth among the indistinct stars around Ophiuchus or Serpentarius, and the fifteenth star of his Serpent. Then I observed that the straight [line] through the new star and through the right side of Serpentarius, the twelfth star in the order of its arrangement, leaves behind the star in the thigh of Bootes, sixteen in number, towards the west by about two-thirds the diameter of the Moon. Furthermore, this position of the new star on these straight lines, just as well as its distance from them, concerning which we will speak more extensively below, by frequent observation, is noted not to change, increase or decrease by even the slightest minute, but this distance is found to be the same, as much in the highest as the lowest altitude of the nova above the horizon, both at that time in the evening as now in the early morning. This is, of course, the invincible argument that the nova has no sensible parallax and no motion of its own. For (1) if the star were subject to any sensible parallax, it would not be possible for the observation of the star when more distant from the horizon to agree with its observation when closer to the horizon. Since parallaxes, as their doctrine makes clear, increase and grow greater at the horizon than they are able to be at a higher altitude above it, it would necessarily have been the case that this increase pull the star away from those straight lines or circles, indeed in the evening towards the west, and in the morning towards the east: also, it would have changed its apparent distance from the other stars. Because neither of these things occurred, not only when earlier in the month of October, in the evening after sunset, the star did not remain long while above the horizon, and thus that increment of parallax was not large, but also now, when this year the new star not only touched the meridian, but even passed it, before the light of the coming day could obscure it and the other stars, it is infallibly concluded that this star has its place not only above the Moon (for there, parallax grows to one degree, that is, to two diameters of the Moon, changing variously through the hours, which quantity could in no way have escaped our sight in different observations, so that it [i.e., the sight] would not sense the star declining from those circles), but it cannot have its place anywhere else where the measure of the Earth remains sensible, but in a much higher location in the aether. And to this extent these [features] of the new star are common to the comets enumerated above, which by a similar argument were found to be in the aether through the perfect doctrine of parallax.

(2) Just as by the judgement of those observations the new star is acquitted of all change of parallax, so by the same testimony of those observations is it even more clearly exonerated of all motion of its own. For if some other motion besides the quotidian belonged to it, it would not have been possible for anyone even to imagine its stationary rest, because at length, within six complete months, if not by any other motion, at least by the motion of commutation, [p. 10] it would have betrayed itself, and separated

itself from the aforementioned straight lines or great circles, and at the same time would have altered its distance from the other fixed stars. And the star does not emulate the motion of any planet, a thing that other comets have been observed to do, nor, just as the other comets, does it seem to have wished to imitate, but with an immunity from motion it assimilates itself to the fixed stars, just as well as the star of 1572 had done, [and] clearly testifies that no place of residence within the realm of the planets had been assigned to it, but that it was exalted [to] a citadel much higher than their spheres and orbs, namely the sphere of the fixed stars, to those unwandering stars no less than the aforementioned star of 1572. Its scintillating light abundantly confirms this.

[The remaining text (pp. 10–12) is illegible].