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Chapter 2

Astrology and Prophecy in Campanella and Galileo*

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Abstract. In this essay some aspects of the relationship between Galileo and Campanella are analysed. Campanella held the scientist in high esteem. After reading his *Sidereus Nuncius* he sent to him a long Latin epistle and in 1616 he wrote the *Apologia pro Galileo*, in defence of the right of Galileo to abandon Aristotelian philosophy in order to read directly from the book of nature. As is well known, prophecy and astrology played an important role in the thought of Campanella. As far as Galileo is concerned, notwithstanding his rejection of prophetic themes, he had some competence and interest in astrology. Many friends wrote to him to ask for horoscopes and to solve astrological problems derived from the recently discovered stars. His personal curiosity is proved by the nativities he outlined or his friends, daughters and himself.

1. Soon after a meeting in Paris with Campanella, Father Mersenne wrote to his friend N. Fabri de Peiresc: 'There is no doubt that this excellent man has a great understanding and a lively imagination. And if we still had Signor Galilei I would have lost my desire to go to Italy, as I think we would have had its two greatest men here.' In this he came close to correcting in a radical way a previous, very harsh, judgement concerning Campanella. Two years or so later, in a letter to Galileo, he renewed the complaint that the country of France, and that liberty that it guaranteed, did not now welcome him, as it had once welcomed the Dominican exile.¹

The conjunction of the names of Campanella and Galileo in these years is neither infrequent nor coincidental. It stems above all from the *Apologia pro Galileo*, written by Campanella when imprisoned in Naples in 1616 (the year of the suspension *donec corrigatur* of the *De revolutionibus* of Copernicus) and printed in Frankfurt six years later.² Campanella's was the only voice which arose openly to defend the

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scientist at a very difficult moment, as Campanella himself could not abstain from recalling, saddened by the belief of his friend's negligence: 'and remember that my writing alone is printed in your defence, and not that of others'³. The *Apologia*, however, is only the most conspicuous episode in the dialogue between these two very different personalities, and in their relationship which, despite caveats and disagreements, long intervals of silence and mutual incomprehension, lasted their whole lives. As Campanella said, less than a year before his death, in a touching letter to the Grand Duke Ferdinand II, 'the discord of intellect can coexist with the concord of will in both parties',⁴ sending a copy of his *Philosophia realis* and recalling one more time his first, distant Paduan meeting with Galileo.

It was indeed in Padua, at the end of 1592, that the two men got to know each other personally. Throughout 1593 they had occasion to meet,⁵ but the thread of their youthful discussion was rudely broken when the Dominican was arrested, on a serious charge, and subsequently transferred to the prison of the Inquisition in Rome.⁶ Although this dramatic event, and those that followed, made their paths diverge, this first meeting in the convent of St. Augustine remained indelibly fixed in the mind of Campanella. It came to assume an almost mystical value, signifying simultaneously the beginning of friendship and uninterrupted respect; the pride of connections, albeit fleeting, with the Medici family, which had had the extraordinary merit of promulgating the renaissance of Platonic studies; and the sorrow that such connections had not been able to remain more solid, thanks to a system which could have granted them a life less afflicted and exposed to persecution, as he had hoped for in his youth – and had not become weary of hoping for later in life, as we read again in a letter to Galileo of 26 April 1631: 'I would willingly stay with you, in his highness's house, if you were to deign to help me, as the Grand Duke Ferdinand did'.⁷

2. Among the many voices which greeted the sensational appearance of the *Sidereus Nuncius*, that of Campanella was not absent. At the beginning of 1611, immediately after reading the pamphlet, he hastened to send to Galileo an elaborate Latin epistle, which well reflected the emotions and impressions aroused by the extraordinary 'Starry Messenger'.⁸ The interweaving of enthusiasm and reservation, of praise and doubt, gave accurate expression to the attitude of agreement mixed with perplexity towards the new science. This attitude was to remain substantially unchanged in him. After more than twenty years, getting to

hear of the printing of Galileo's *Dialogo*, Campanella added a postscript to a letter to Galileo: 'I would have wished that you printed the first letter I sent you on this matter', confessing that in his eyes these pages had not lost their own value and had not been disfigured by proximity to the *Dialogo*, to which they were able to represent a useful complement.⁹

Towards the end of the letter of 1611, Campanella reiterated to Galileo the hope that the new discoveries would be the starting point for a general reformation of knowledge, and told him, as if in passing, that he had composed, on the occasion of the great conjunction of 1603, an astrological prognosis, in which he had even foreseen the diffusion of the new astronomy because of the distinctive position of Mercury.¹⁰ The prognosis, supposedly lost, is in fact identifiable as the last chapter of the *Articuli prophetales*.¹¹ Drawn up in a short version during his first period of incarceration in Naples, for the purpose of defence, and subsequently amplified to constitute a volume, the *Articuli* are designed to show judges and readers that the belief in an imminent and great change and its consequent attempt (nonetheless unsuccessful) for installing in Calabria a new society, was not accidental, nor based on deceit and lies. The text is constructed as a weighty compendium of testimony that, apart from biblical prophecies and the Church Fathers, includes poets and men of letters, ancient and modern philosophers, saints such as Catherine of Siena and Bridget of Sweden, Vincent Ferrer and Dionysius the Carthusian, astrologers such as Arquato and Cardano, and prophets such as Joachim of Fiore, Serafino of Fermo and the Sibyls. All these authorities are invoked to support the legitimacy of expecting a general renewal and an age of peace and happiness.

The last chapter of the *Articuli* is specifically astrological in argument. Written on the occasion of the conjunction of Jupiter and Saturn in 1603, it proposes to reread the great threads of principal historical events in the light of particular astral configurations, in order to pronounce probable conjectures relating to future events. Campanella considers the doctrine of Ptolemy to be insufficient, because it only takes into consideration phenomena of brief duration such as eclipses and comets, and for that reason is not in a position to furnish explanations for changes of vast span and of persistence in time. He therefore integrates it with the recourse to other factors, such as the very slow displacement in space of the zodiacal signs, the movement of planetary apogees, and the progressive approach of the sun to the earth as a result of the continual contraction of its obliquity. Linking himself then to the Arab tradition and to Albumasar as revived in the Renaissance by Cardano and Cyprian Leowitz, he also

shows himself to be interested by the doctrine of the great conjunctions and their regular passage from triplicity to triplicity, which makes it possible to find a useful key for the interpretation of principal historical events and allows the location of precise rhythms and scansion in the flux of time.

The meeting of Jupiter and Saturn in the fire-sign of Sagittarius – awaited on the 24 December 1603 – held a particular significance. It was not only that then, and for a period of around 200 years, the conjunction of the superior planets would take place in fire signs, and no longer in those of water, as in the preceding 200 years; but also that, with the fiery triplicity, there began a whole new cycle of triplicity and a new era of the world. Kepler himself was to be fascinated by the parallelism between the succession of different historical epochs and the passage of the great conjunctions from triplicity to triplicity, so that the ages of the world turn out to be measured by the rhythm of the regular alternation of cycles of triplicity, every 800 years or so.¹² The fiery triplicity, moreover, was the same one that had presided over the birth of the Messiah and the diffusion of the Christian religion. The intense hopes of Campanella for a profound renewal of Christianity and for an age of unity and harmony found confirmation, in his eyes, in the fact that there was about to recur an astrological configuration analogous to that in which the birth of Christ had taken place.¹³ The hope for the return of an age of original felicity is assured by the regularity of planetary motion. The golden age must be able to return, if the stars, retraversing their cycles, again resolve themselves into configurations analogous to those of the past:

If there was in the world the happy golden age
 Surely there can be one once again,
 That all things buried should be revived,
 As the circle returns to where the root was.¹⁴

3. It is very likely that Galileo would not have been especially interested by Campanella's prognosis. Indeed, his acute suspicion when confronted by hypotheses which lacked a rigorous foundation, and his extreme caution towards such uncertain arguments, are well known. An example to support this proposition is given by his attitude on the occasion of the supernova of 1604, that with its unforeseen appearance in the sign of Sagittarius had rekindled the debate which, a little more than 30 years before, had accompanied the clamorous appearance of the supernova in Cassiopeia.

At the beginning of December, at the University of Padua, Galileo held three crowded lectures on the argument, to satisfy the general and lively curiosity and reply to questions on the nature, position and movement of the exceptional celestial phenomenon. Although only a few fragments and notes of the text of these lectures have come down to us, this was the occasion to take a stance in public against the Aristotelian doctrine of the incorruptibility of the heavens.¹⁵ Precise observation and mathematical demonstration proved that the star could not be located in the sublunar sphere, subject to corruption and transformation, but ought to be positioned above the planets, in the sphere of the fixed stars. The argument occupies the entire correspondence for these months. Of particular interest are the letters of Ilario Altobelli, who, although declaring himself ‘unschooled in the field of astronomy’ and deprived of adequate instruments, was one of the first to perform and communicate accurate observations. He showed that he well understood the point of the question when he talked of the star as ‘this new portent of the heaven which maddens the peripatetics’, whose stubbornness he underlined in their refusal to make personal experiments or to give credit to those made by others. Even if he recalled that Aristotle himself yielded to evidence, Altobelli was aware of the difficulty of convincing those who prevent themselves from looking with their own eyes and listening with their own ears. However, he declared himself confident that the star, by the fact of its being found in Sagittarius, the house of Jupiter and the sign opposite that of Gemini, ‘dual not only in figure but also in nature’, ‘will destroy the false and bring forth the true, and finally we will proceed by light and not by darkness’.¹⁶ From Rome, Clavius put in an appearance, hinting at the ‘great whisper’ aroused by the new star, and asking Galileo to communicate to him any observations that may have been made. From Verona, Leonardo Tedeschi wrote a long letter, which in his turn excluded the possibility that this was an issue of an elemental phenomenon or a comet. Anti-peripatetic arguments were to be confirmed by Ottavio Brezoni, the Veronese doctor to whom Galileo was accustomed to turn to ask for astrological judgements.¹⁷

At the beginning of the following year, the *Discorso intorno alla nuova stella* of Antonio Lorenzini, defined by Altobelli as a ‘buffoonery’, made public the conflict between the ‘philosophers’ and the ‘mathematicians’, and attacked those who placed the supernova above the elemental sphere, contravening the Aristotelian principle of the incorruptibility of the heavens. The arguments of the *Discorso* are sufficiently risible that a point-by-point contradiction of them appeared

some weeks later: this was the *Dialogo di Cecco de' Ronchitti*, of which Galileo was without doubt the inspiration, and with great probability the author.¹⁸ A pamphlet written in the Paduan dialect, it compares two peasants, one of whom, Matteo, amuses himself by deriding and arguing against those opinions of Lorenzini which are referred to by the other peasant. In comparison with the *Discorso*, which is the object of the discussion, the situation is overturned, as it is asserted that 'it is necessary to believe the mathematicians, who are measurers of air', while mockery is made of the Aristotelian philosophers, put under even greater accusation by their villainous method of reasoning than by their professed doctrines. They are afraid that everything might go topsy-turvy, and lay the blame on the star which has come to confound their system. As Matteo ironically comments, 'This star did wrong in ruining their philosophy like this. If I were in their place, I would have it summoned before the Mayor, and lay on it a heavy charge of causing a breach of the peace'.¹⁹

The fact is not without significance that the *Dialogo* was written in a time of carnival, as if to accentuate the flavour of burlesque and irony, and as if Galileo, who had so much love and respect for the workers of the countryside, amused himself by donning the rough garb of the peasant Matteo to show how good sense, adherence to reality and the capacity for reasoning in a simple and concrete fashion should be preferable to the teachings of the Paduan doctor, whose toga served only to cover up his ignorance and presumption.²⁰ One of the conclusive remarks of the *Dialogo*, which settles polemically the discussion of the prognoses connected to the new star ('all his pamphlet seems to me a prognosis and he always makes guesses'), shows us clearly his annoyance at all teaching that is arbitrary and not founded on experiment. It makes us measure his distance from positions such as those of Campanella, or even Kepler, in which scientific rigour and the firm refutation of all superstitious credulity are not to be separated from reflections on the significance of the celestial event, which is still the character and cipher with which God means to communicate his own messages to mankind.²¹

4. Writing from Naples to Paolo Beni, who in a letter to him had communicated celestial marvels never previously seen or heard of, Giovan Battista Manso informed him of the reactions provoked in friends and scholars, including Giovan Battista Della Porta, who after reading the *Sidereus Nuncius* told him that most of them 'are terrified of the new thing and of the difficulty of the things contained in it; but the most

learned do not judge them impossible'. For his part, he regards them as not only possible, but very true. But when he begins to treat of the discoveries of the satellites of Jupiter, he cannot help referring to the 'most bitter quarrel' of astrologers and doctors:

[Understanding that] if they add so many new planets to the first, already-known ones, astrology must necessarily be damaged by them, and a large part of medicine ruined, because the distribution of the houses of the Zodiac, the essential dignities of the signs, the quality of the natures of the fixed stars, the series of the chronicators, the government of the age of men, the months of the formation of embryos, the causes of critical days and eleven hundred other things, which depend on the number of the planets being seven, will all be destroyed from the foundations.²²

The situation appears to him serious, and the response difficult, because if one maintains, as he himself has done, that the effects of the new planets can be considered negligible through the weakness of their light, one risks running into a more serious difficulty: 'To what end, then, are five planets that are not of use to anything, if nature does nothing in vain?'

That the question was not irrelevant is demonstrated by the fact that Galileo dedicated to it a large part of the letter to Monsignor Dini on the 21 May 1611. Indeed, the presumed inefficacy of the Medician planets offers him the occasion to confront the mentality of the astrologers, and to express interesting clarifications on the concepts of 'useful' and 'superfluous' in the natural world. In the first place he clarifies that he has not made up new stars, but has simply observed already-existing celestial bodies, concerning which, 'if anyone judges them superfluous, useless and pointless for the world, they should rather dispute against nature and God'. He therefore counsels the greatest caution in judging their effects to be inexistent: 'I, for my part, would have many reservations against asserting that these Medician planets lack influence, while the other stars abound in it: it would seem to be boldness, not to say temerity, on my part, if I were to include the understanding and the operation of nature within the narrow confines of my knowledge.'²³

After having shown that the equation of smallness and uselessness is not sustainable, either in nature or in human artifice, he advances cautious views, purely conjectural, on the possible effects of the planets of Jupiter. If the strongest passions of the soul are linked to the largest stars, other faculties, such as 'acuteness and perspicacity of intelligence', could be linked to 'subtle and almost invisible lights' – without

considering that it is still possible to assert that the effects hitherto attributed to Jupiter alone will in truth derive also from its satellites, and that the slightness of their light is compensated for by the speed of their movements.

Naturally Galileo, more than positively claiming a precise astrological role for the new planets, intended to reject further objections of this type, and thus to sweep away the basis for any possible opposition or criticism; nevertheless, his thought does not lack specifically astrological components. At this proposition, the mind runs instantly to the celebrated passage of the dedicatory epistle of the *Sidereus Nuncius*, in which, with a somewhat far-fetched turn of phrase, he affirms his decision to dedicate the satellites of Jupiter to the Grand Duke Cosimo II, insofar as the splendid virtues which adorn his person have been conferred on him through this most benign star, which, at the moment of his birth, occupied a position of particular significance in the sky:

As these stars, as worthy offspring of Jupiter, do not ever separate themselves from his side, except slightly, so who does not know that mercy, mildness of spirit, gentleness of manner, splendour of royal blood, majesty of actions, excellence of authority and rule – which all have their home and seat in your Highness – who, I say, does not know that all these virtues emanate from the most benign star of Jupiter, after God the supreme source of all good? Jupiter, Jupiter, I say, at the first rising of your highness, had already passed beyond the torpid vapours of the horizon, and, occupying the middle of the sky and illuminating with his royal seat the eastern corner, looked over your blessed birth from his sublime throne; he poured out all his splendour and grandeur into the most pure air, so that the tender body and the soul (decorated by God with the most noble ornaments) should drink, with the first breath, his universal strength and power.²⁴

The flavour of the passage is so indubitably astrological, and the references so specific, that it reasonably presupposes a preliminary compilation by Galileo of a birth-chart for the Grand Duke. This has been identified and illustrated.²⁵ I would wish only to add a clarification: the phrase ‘illuminating with his royal seat the eastern corner’ which to Righini appeared ‘less clear’, is technically astrological as well: it alludes to the fact that the eastern, or ascendant, angle, one of the most significant points of a birth chart, was positioned in the sign of Sagittarius, which is the ‘house’ or, given the nature of the sign and the planet, the ‘royal seat’ of Jupiter. The hint at the ‘throne’ also re-echoes

astrological terminology, in which the ‘throne’ or ‘chariot’ (*carpentum*) indicates an important dignity of a planet.

The precise astrological allusions of the passage were immediately seized upon by Campanella, an expert in these doctrines. Hence his understandable astonishment and disapproval, when, requesting from Galileo, via Federico Cesi, the birth dates for outlining a horoscope for him and furnishing some useful advice on his health, he was met by a refusal, motivated by Galileo’s incredulity. Campanella asked himself how it was possible for Galileo to reconcile his actual scepticism with that passage in the *Nuncius*. If the mention of Jupiter and its influences was purely encomiastic, it should have been avoided, because ‘it is not admissible for you, Sir, as a writer, to make use of false opinions believed only by the uneducated’. For his part, it still seemed to him that ‘this doctrine is full of falsehood’; but he was nonetheless convinced that ‘there are also in there very divine things’ and he informed Galileo of having composed six books on this doctrine, purified of superstition and distinguished with various levels of certainty: ‘in this doctrine one proceeds by science and by conjecture and by suspicion: if one distinguishes them, not too much will go wrong’.²⁶

Though the horoscope of Cosimo II is the most famous, on account of the celebrity of the text in which it is mentioned, it is not however the only case of a horoscope compiled by Galileo. Already, more than a century ago, with great intellectual honesty, Antonio Favaro dedicated an essay to ‘Galileo astrologo’, overcoming considerable resistance relating to an argument that was in those days embarrassing.²⁷ Today, on the other hand, it is a subject of regret that the manuscript horoscopes which contain notes, calculations, and diagrams of astrological characters, have remained for the most part unpublished. The national edition of the *Opere* reduces the fifty or so folios of manuscript to just two pages (to which should be added the horoscopes for Galileo’s daughters), under the Galilean title of *Astrologica Nonnulla*, reproducing the titles and the most discursive parts, but omitting the notes and the most technical astrological apparatus.²⁸

From this material, and from the letters, one concludes that Galileo knew the technicalities of astrology rather well and had to compile birth charts on many occasions. It is certain that in the Paduan period he composed horoscopes for remuneration, one of which is extant.²⁹ Compiled by Cristoforo Stettner, it turns out to be divided into the usual sections, concerning the personality of the subject, marriage, wealth, honours, profession, travel, disease and death.³⁰ Moreover, as time went

on, requests of this sort seem to have been rather frequent, so much so that Galileo had to resort to the advice and collaboration of the Veronese doctor Ottavio Brenzoni, who did not always succeed in concealing his annoyance for the requests, sometimes urgent, with which he complied only in the name of friendship: 'If you please, do not be upset by the lateness of my reply, and that moreover I write only four stupid things under the enclosed figure'; 'from the esteem that people must have for these funny prognoses and for this game, surely no one could say that I wrote it late', adding that he responded to these only 'as a mark of obedience'.³¹

Recourse to Galileo was made by people of importance, to whom it was difficult to say no, but also by friends and relatives. Sagredo submitted requests to him on someone else's behalf, patiently awaiting his turn. The nativity of Sagredo is among those which have come down to us, and in a few lines Galileo outlines an affectionate portrait of his friend, whom the felicitous position of Venus renders 'attractive, happy, cheerful, charitable, peaceful, sociable, inclined to pleasure, a lover of God and not tolerant of hard work'.³² The secretary Curzio Picchena asked for the horoscope of his newborn daughter, but, noticing serious inaccuracies in Brenzoni's assertions, feared that he had mistaken the hour of birth. The Grand Duchess Cristina di Lorena consulted Galileo with reference to a serious illness of her husband, seeking to locate with exactitude the next climacteric year. From Mantua, Francesco Rasi turned up again after many years, and excused himself for his long silence, which was owing to the fact that 'all those misfortunes' and 'very bitter hardships' that Galileo had light-heartedly predicted for him, in compiling his birth-chart, had exactly taken place. From Rome, Franciotto Orsini proposed an exchange of astrological opinions, still more convinced that there was no incompatibility between astrology and the new astronomy. Again, in 1618, Cardinal Alessandro d'Este asked him to compile a birth-chart.³³

Again, while it is necessary to underline the fact that Galileo constantly displayed a very prudent attitude, always attentive to keeping himself on a plane of conjecture and probability, without ever going beyond 'the boundaries of art' and venturing into unfounded opinions, it is undeniable that he must also have nurtured a certain personal curiosity for natal astrology, as is demonstrated by the birth-charts compiled on the occasions of the births of his two daughters, which include an outline of a comment and of an attempt to distinguish the principal traits of character and personality of the two.³⁴ Of Virginia, the intellectual and moral gifts

are noted, but more, the dominant rule of Saturn, which makes her of 'upright and severe demeanour, not without a drop of malice' and 'capable of enduring difficulties and annoyances, solitary, taciturn, sober, a lover of her own comforts, jealous, but not always faithful in promises'. More pleasant was the portrait of Livia: not without spirit, beauty and talent, 'she will be docile, prudent, able in any task, versed in poetry and mathematics, capable of learning on her own, without a teacher, a good imitator, able to adapt herself to any circumstance and person'.³⁵

Galileo's personal curiosity for astrology is above all demonstrated by the fact that at least a couple of times, he worked on his own nativity – which, among other things, can prove useful in settling the controversial question of his exact date of birth.³⁶ Because Raffaele Viviani fluctuated between the 15, 18 and 19 of February, Favaro had already taken into consideration sketches of horoscopes to settle the correct date. But he was bewildered, and with reason, because the two sketches in Galileo's hand seemed to present two different dates.³⁷ In fact the dates are the same, making references in both cases to the 15 February, between 22 and 22:30 hours 'of the dial', but it is true that in one sketch Galileo includes a misleading correction, as I will seek to explain.

To approach this question, some clarifications are necessary. Above all, it is necessary to remember that, at that time, the hours were calculated not from midnight, but from sunset: that is, the time 'of the dial' indicated how many hours had elapsed since sunset the previous day. Because the ephemerides, that is the astronomical tables which registered planetary positions day by day, were calculated from midday, the first very simple operation consists in putting the time 'of the dial' into time *post meridiem* (= p.m.). If the birth fell between sunset and the following noon, the time turned out to be p.m. in respect of midday of the previous day. To take an example, based on a horoscope calculated by Galileo himself, 11 'of the dial' on the 19 June (more or less around seven in the morning) becomes 18 p.m. of the 18 June.³⁸ If the moment of birth fell between midday and sunset, the time p.m. naturally referred to the midday of the same day. Having transformed the natural time into time p.m., it was possible to consult the tables. Because, as has been said, planetary positions were dated from noon, except for in cases of births occurring at that very time, an interpolation to calculate the elapsed journeys of the planets was required. In the above case, for example, it was a matter of considering the two series of dates offered by the tables for the 18 and the 19 June, to calculate with the greatest possible accuracy how much the positions of the planets would have changed in

the eighteen hours elapsed since noon of 18 June. In the case of an afternoon birth, the two series used to calculate the interpolation for the modification would have been those which referred to the day of the birth and the next day.

But let us return to Galileo. He always indicates as the day of his own birth the 15 February, around 22 'of the dial'. In one horoscope he produces the successive modifications in correct fashion, and indicates dates in the following manner: '15 febr. h. 22 horol[ogii] a m[eridie] v[er]o 3.25', which is to say, the day is 15 February, the time is 22 'of the dial', which means 22 hours after the sunset that separates the 14th from the 15th. Given that the sun sets in February at around half past five, the twenty-second hour corresponds roughly to half past three on the afternoon of the 15th. To calculate the correct planetary position, it was therefore a matter of transcribing the two series of data which referred to the 15th and 16th February, and calculating, on the basis of speed in the course of 24 hours, the changes of position which occurred in the three and a half hours since noon. Galileo does this precisely.³⁹ In the other diagram we come across the correction which threw Favaro into his predicament. The same data (15 February, 22:30 hours) in the first instance is translated exactly to three and a half hours after midday of the 15th. But in the second instance the data of three and a half hours p.m. on the 15th is corrected to three and a half hours p.m. on the 16th, as if the twenty-second hour 'of the dial' were to be calculated from the dusk of the 15th and not, in the correct calculation, from the dusk of the 14th. I am convinced that this correction from 15 to 16 is due to a very basic slip, and to a very human absent-mindedness, and that it is exactly in order to correct this error that Galileo redid his own horoscope, calculating it correctly from the 15th. I think that we have good reason to believe that the 15th, at half past three in the afternoon, is the correct time of Galileo's birth; and this is confirmed by other diagrams of his nativity, which agree in putting forward this day.⁴⁰

It is beyond doubt that Galileo showed a certain attention and curiosity for the possible connections between planetary influence and certain aspects of character, always on a strictly physical plane, and on a purely conjectural level: but his impatience with all prophetic attitude and all prediction without rigorous basis is very clear. In a passage in the *Dialogo*, with sharp irony and open derision, he was to join the predictions of natal astrology to the prophecies of Joachim of Flore, and to the responses of the oracles of the Gentiles, 'which only make sense after the prophesised events'.⁴¹ But more than astrology in the sense of

natural doctrine and within the very restricted boundaries of the conjectural and the probable, it is prophecy of every kind, general and individual, that attracts Galileo's sarcasm and condemnation.

Acknowledgment

* This English translation by Crofton Black reproduces, in abbreviated form, the essay *Aspetti dell'astrologia e della profezia in Galileo e Campanella*, in *Novità celesti e crisi del sapere*, ed. P. Galluzzi, Giunti, Florence, 1983, pp. 255-266 (then, with some alterations, in G. Ernst, *Religione, ragione e natura. Ricerche su Tommaso Campanella e il tardo Rinascimento*, Franco Angeli, Milan, 1991, pp. 237-254). Bibliographical additions are placed in square brackets.

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2 Tommaso Campanella, *Apologia pro Galileo*, Frankfurt, 1622, reproduced in facsimile with an Italian translation by L. Firpo, Strenna Utet, Turin, 1969 [cf. now the critical edition with French translation, *Apologia pro Galileo – Apologie de Galilée*, texte, traduction et notes par Michel Pierre Lerner, Les Belles Lettres, Paris, 2001].

3 Tommaso Campanella, *Lettere*, ed. V. Spampanato, Laterza, Bari, 1927, p. 236.

4 Campanella, *Lettere*, p. 389.

5 [L. Firpo, 'Appunti campanelliani. XXV. Storia di un furto', *Giornale critico della filosofia italiana*, XXXV, 1956, pp. 544-45, had hypothesized, on the basis of a lost letter, another meeting in Padua, between Galileo, Campanella, Giovan Battista Della Porta and Paolo Sarpi; but the rediscovery of this letter rules out such a meeting. Cf. G. Ernst-E. Canone, 'Una lettera ritrovata: Campanella a Peiresc, 19 giugno 1636', *Rivista di storia della filosofia*, XLIX, 1994, pp. 353-366].

6 [On the trials of Campanella, cf. L. Firpo, *I processi di Tommaso Campanella*, ed. E. Canone, Salerno editrice, Rome 1998].

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8 Campanella, *Lettere*, pp. 163-169.

9 Campanella, *Lettere*, p. 236.

10 Campanella, *Lettere*, p. 169.

11 Cf. Tommaso Campanella, *Articoli prophetales*, ed. G. Ernst, La Nuova Italia, Florence, 1977, p. XXXVII ff.

12 J. Kepler, *De stella nova in pede Serpentarii*, VII, in *Gesammelte Werke*, hrs. von M. Caspar, I, Munich, 1938, p. 182.

13 Campanella, *Articoli prophetales*, cit., p. 285.

14 The beginning of the third prophetal sonnet in *Tutte le opere di Tommaso Campanella*. I. *Scritti letterari*, ed. L. Firpo, Mondadori, Milan, 1954, p. 121; cf. also the sonnets on pp. 125, 126 [now in *Le poesie*, ed. F. Giancotti, Einaudi, Turin, 1998, pp. 236, 245, 247].

15 Cfr Galileo Galilei, *La nuova stella dell'ottobre 1604*, in *Opere*, Edizione Nazionale a cura di A. Favaro, Barbera, Florence 1890-1909, repr. 1939 and 1964-66, II, p. 267 ff.

16 Galileo, *Opere*, cit., X, pp. 117, 118ff., 132 f., 135 f.

17 Galileo, *Opere*, pp. 121; 122 ff.; 138 ff.

18 A. Favaro, 'Galileo Galilei e il "Dialogo di Cecco de' Ronchitti da Bruzene in perpuosito de la Stella Nuova"', *Atti del R. Istituto veneto di scienze, lettere ed arti*, ser. V, vol. VII, 1881, pp. 195-276. The text is reproduced, with the Italian translation cited here, in *Opere*, II, pp. 310-334. Galileo's authorship of the *Dialogo* is maintained by modern writers: cf. Stillman Drake, *Galileo at Work. His Scientific Biography*, Chicago, 1978, pp. 108-110; Paolo Galluzzi, *Firenze e la Toscana dei Medici nell'Europa del Cinquecento. La corte il mare i mercanti*, ecc., Florence, 1980, p. 194.

19 Galileo, *Opere*, II, pp. 315, 318.

20 Galileo, *Opere*, II, p. 334: When Natale announces a forthcoming Latin book by Lorenzini, Matteo answers back: 'Let him do it quickly, because Lent is near; it would also be good for something, like this one, which made us laugh, and is of carnival.'

21 Kepler, *De stella nova*, cit., p. 291.

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- 22 Galilei, *Opere*, X, p. 291 ss.; 295.
- 23 Galilei, *Opere*, XI, p. 107 ff.
- 24 G. Galilei, *Sidereus Nuncius*, in *Opere*, III.1, p. 56.
- 25 G. Righini, 'L'oroscopo galileiano di Cosimo II de' Medici', *Annali dell'Istituto e Museo di Storia della scienza di Firenze*, I, 1976, pp. 29-36.
- 26 Campanella, *Lettere*, cit., p. 176.
- 27 A. Favaro, *Galileo astrologo secondo documenti editi e inediti*, Trieste 1881, from the journal *Mente e cuore*, VIII, pp. 99-108.
- 28 The ms. is in Florence, Biblioteca Nazionale Centrale, mss. Galil. 81 (henceforth indicated by F). Cf. Galilei, *Opere*, XIX, pp. 205, 206, 218-220.
- 29 [Significant testimony to the compilation of horoscopes by Galileo is contained in the denunciation presented to the Inquisition in Padua, 21 April 1604, by Silvestro Pagnoni, who among other charges announced, 'I have seen him in his chamber preparing diverse birth-charts for diverse persons.' Cf. A. Poppi, *Cremonini e Galilei inquisiti a Padova nel 1604. Nuovi documenti d'Archivio*, Antenore, Padua, 1992, pp. 56-57.]
- 30 F, ff. 35-36; cf. Galileo, *Opere*, XIX, doc. XIII, b, 1, lin. 173-174, p. 54.
- 31 Galileo, *Opere*, X, pp. 216, 272. For the astrological opinions requested from Brenzoni cf. also pp. 152-53, 269.
- 32 Galileo, *Opere*, X, pp. 96-97. Ms. of the nativity in F, ff. 11-13, 15.
- 33 Galileo, *Opere*, X, pp. 224; 226; XI, p. 472; 557; XII, p. 375.
- 34 Galileo, *Opere*, X, p. 187; cf. p. 152.
- 35 F, ff. 21-23; 24-26. Cf. Galileo, *Opere*, XIX, pp. 218-220.
- 36 F, ff. 7r, 37r. It seems to me that the calculations on f. 12v also refer to this last nativity.
- 37 A. Favaro, 'Miscellanea galileiana inedita. Studi e ricerche. 1. Sul giorno della nascita di Galileo', from *Memorie del R. Istituto veneto di scienze, lettere e*

arti, XXII, 1887, pp. 12-13; Idem, 'Serie decimottava di scampoli galileiani. In qual giorno del febbraio '64 dovrebbe celebrarsi la ricorrenza del natalizio di Galileo?', from *Atti e Memorie della R. Accademia di scienze, lettere ed arti di Padova*, XXIV, 1908, pp. 6-8.

38 F, f. 27.

39 Galileo transcribed data from the volume of Ioannes Stadius, *Ephemerides novae... ab anno 1554 usque ad annum 1600*, Coloniae Agrippinae, 1570. For more recent nativities he preferred the more up to date and reliable ephemerides by G. A. Magini, which he published in various editions from the 1580s.

40 Other of Galileo's horoscopes, which notated substantially the same data, are conserved in Florence, Biblioteca Nazionale, ms. Gal. 11, c. 190r; Magl. II, 105, c. 58 (reproduced in *Opere*, XIX, pp. 23-24); Magl. XX, 8, c. 50r. The horoscope included in the collection of Orazio Morandi in G. Campori, 'Carteggio galileiano inedito', *Memorie della R. Accademia di scienze, lettere ed arti di Modena*, XX, p. II, 1881, p. 585.

41 *Dialogo sopra i due massimi sistemi del mondo*, Second Day, in *Opere*, VII, pp. 135-136.