



Rise and Fall of Prognostic Astrology in Scientific Paradigms of Early Modern Protestantism

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The historian of science, Anthony Grafton, and the historian of religion, Kocku von Stuckrad, have both noticed that Western cultural history, on the one hand, shows an amazing continuity of astrological traditions and practices but, on the other hand, that astrology has always been subject to profound changes resulting from its entanglement with changing religious, social, political and scientific situations. Today, I would like to introduce to you such a change in the concept and function of astrology: the *prime* of astrology in the 16th and early 17th centuries which was induced by the religious and scientific development of Europe with its new orientation to the future; and the *decay* of its scientific and religious reputation after the Thirty Years' War, a decay that became definite with the expulsion of astrology from astronomy

despite the respectable attempts of the Reformation.

The rise and demise of serious astrology between the Renaissance and Enlightenment is a phenomenon of cultural history that can be observed all over Europe, but is particularly interesting in *Protestant* states, whose first decades were characterized by political threat and religious tensions. At a time, that, since the late 15th century, looked expectantly but also uncertainly toward the future, the Reformation built up an extremely intense and extremely ambivalent expectation of the future; the forms of coping with the newly experienced contingencies also included astrology. Astrology was traditionally viewed as a method that sets striking phenomena in the sky in relation to earthly events and specifically to the processes of human history and can qualify them in terms of their meaning and predict their further course, as *coping with the future* astrology was particularly widespread in *Lutheran* Protestantism, and one could almost call it a Lutheran science, if it had not been Luther and Lutherans that refused to accept it as a reputable instrument of orientation in the "time - order".

I will now (1) outline the horizon of a "history of salvation", which was generally determinative for the cultural validity of astrology in the early modern period, especially the apocalyptic expectation of the end of the world; (2) characterize the most important forms of prognostication, the apocalyptic-prophetical and the astrological one, as well as the amazing contentiousness of the latter within the Lutheran Reformation; and (3) trace the reform astrologies which were both scientifically and religiously motivated, by means of one last example,

which, however, could not avoid the repudiation of astrology from astronomy and had to make room for another form of coping with contingency.

1. The Interpretation of the Presence as the final Phase of Salvation History

It is well known that the self-description of the human experience of time in pre-modern Europe, shaped by Christianity, is reciprocally correlated with the interpretation of the course of time as a story of loss and of restitution. World and time comprised the loss of the original harmony of man with nature and its Creator, unthreatened by any unforeseeable future; and the recovery of that harmony by successive divine intervention and human response to these interventions, implemented as belief and morality. Planetary cycles were replaced by a *linear* historical process under the title "Paradise Lost - Paradise regained", in John Milton's words, or "education of the human race", in Gotthold Ephraim Lessing's.

Although the experiences of *cyclical* time, of course, never became irrelevant, they were classified as cosmical regularities and subordinated to the religious concept of the history of salvation. Life-determining cyclical phenomena were no longer mythically ambivalent, but with a view of the history of salvation, their creator and sustainer was able to change them and perform a miracle, as they were indeed passed down numerous times in the Bible. In the early modern time, besides terrestrial events such as floods, earthquakes or monsters, celestial phenomena like the

hardly if ever occurring big conjunctions of planets and the irregular occurrences of comets were the dramatic events that meant something, i.e. by means of which God wanted to say something to people and move them, namely, to repentance and devout reversion. Of all the comets of the 16th and 17th centuries, we know of not only scholarly reports and astronomical representations of comets, but also popular pamphlets that interpret those horrific appearances as divine admonitions and place them in the interpretation context of the history of salvation, i.e. interpret them as signs of the *end-time*. Astrology processed by the mass media in the early 16th century thus became the "hermeneutics of doomsday" (Grafton).

The steep rise of astrology from the expertise of astronomers to a knowledge of orientation coveted by many (and well-paid by the wealthy) is closely connected with the crisis-ridden religious, economic and political developments in the decades around 1500, especially with the Reformation, which has given new momentum to these developments since 1520 at the latest. Because it meant an enormous *apocalyptic* intensification of time experience, it reinforced the emotionally inflamed and socially mobilizing expectation that the redemptive return of Christ and the catastrophic end of the world were now imminent. Although there were earlier prognoses maintaining that, due to biblical genealogies, the time of the universe would amount to 6000 years and *post Christum natum* to only a few years; but now things compressed into a dramatic scenario of the end of the world which had grown old. As a new and sometimes most important form of relationship with the

future now appeared, the *prophecy* of the dawning end-times.

Diagnosis of the current, very last time was by virtue of analogy drawn from the biblical apocalypses: the Book of Daniel, the Book of Revelation and the preaching of Jesus (Mk 13). The prophetically interpreted findings therefore were mainly historical phenomena: the political turmoil of the time, especially the deadly threat of Christian Europe by the Ottoman expansion, and the soon emerging religious division of Europe. In this sense, the reformer, Martin Luther, called himself "prophet of Germany," interpreting the latest threats, the "Turks" and the "Pope" as the secular and spiritual "Antichrist", i.e. as characters of the eschatological drama, a sorrowful drama that would very soon be ended for Christians by the "dear Last Day", but as this day was long in coming, Luther wrote in 1543, shortly before his death, another *Supputatio annorum mundi*.

The apocalyptic-political prophecy also made ready use of astrological prognostication which was based on supralunary phenomena and on sublunary events that were caused by exorbitant celestial events. Going far beyond the prognosis of the annual calendars, which had, since the Ephemerides of Johannes Regiomontanus, put quite precise astronomical data at their disposal, astrologers within the Reformation acted with explicitly prophetic claim. I only mention the mathematician and chronologist Johannes Carion's *Prognosticatio* (1521) of a deluge for 1524, and the friend of Luther and Philipp Melanchthon, the mathematician and pastor, Michael Stifel, who predicted the return of Christ on 19th October 1533 at 8pm and who was therefore temporarily arrested

(Rechenbüchlin vom Endt der Welt, 1532). The combination of prophecy and astrology, however, was not limited to German Protestantism, as can be recognized by the French physician Michel de Nostredame (Nostradamus), whose horoscopes were indeed often erroneously calculated, but whose dark political prophecies could nevertheless be sold across the whole of Europe.

2. Prophecy and Astrology in Early Modern Protestantism

The placement of the prognosis in the context of the history of salvation permitted quite different theoretical and practical options, namely *astronomical astrology*, *apocalyptic-political prognosis*, and *divinatory practices* of all sorts. To some extent, astronomical astrology and apocalyptic prophecy had different uses and different supporters, irrespective of possible coalitions. Popular divination and the mantic arts tended to go their own way, apart from intellectual reflection. Although, for instance, chiromancy appealed to astrological hermeneutics, there are no official documents proving their acceptance. Indeed, those practices went out of hand in illiterate environments and warlike devastated regions in the superstitious arts of magic. Frequent secular and ecclesiastical bans and visitations could only very superficially discipline this until the 18th century.

2.1 As for the *prophetic*, that is, the apocalyptic-political prognostication, Luther's model had strong aftereffects in Lutheranism, which had indeed been rescued politically by

the Religious Peace of Augsburg in 1555. Lutheranism, however, developed its own theological profile in the discussion with the Melanchthon wing and the Calvinizing wing among the beneficiaries of the Augsburg agreement. To this period of uncertainty belongs e.g. the treatise of the Andreas Musculus, professor at Frankfurt/Oder: *Prophecey und Weissagung unsers Herrn Jhesu Christi / von dem zunahenden und allbereit vorhandenen zorn / straff / jammer und unglück / über Deutschland* (Erfurt 1557, 1562). There are dozens of such titles. Once a large part of German Lutheranism had defined itself as Confession in the Formula of Concord in 1577, such literature served to legitimize the close relationship between Lutheranism and the Emperor and the Empire, respectively, to polemicize against the political propaganda of Calvinism in the advance of the 30 Years' War; and in 1630 it legitimized the entry of Gustav Adolph of Sweden into the war.

With the general fading of the apocalyptic expectation in the decades after 1650, prophetic prognostication lost its essential basis, but even in 1684, on the occasion of the new "Turkish threat", the superintendent Caspar Heunisch of Schweinfurt published a *Haupt-Schlüssel über die hohe Offenbahrung S. Johannis* which tried to make plausible again the Lutheran "time-order" based on Daniel's scheme of the sequence of four monarchies. He did this with respect to the gradually emerging chiliastic expectation of the future in (pietistic) Lutheranism, which was supported by the "hope of better times" already here on earth. Heunisch had in mind, for example, the millenarian Apocalypse exegeses of the Anglican, Joseph Mede (1627), of the German Calvinist, Johann Heinrich Alsted (1627), and the Lutheran, Christian

Knorr von Rosenroth (1670), who was also active in terms of the Kabbalah. However, Heunisch's chronotactical exegesis of the Revelation no longer provided the imminent return of Christ; his fairly detailed forecast of the political and ecclesiastical changes to the end of the world, placed in the fifth Circle Time, anticipates a further sixth and seventh Circle Time and assumes a "better state" of the Church stretching not over 1000 but after all over 280 years; the end of the world was dated to the year Anno Christi 2398 by him.

2.2 Whereas the apocalyptic prognostication in Lutheran Protestantism had a generally solid position, the *astrological prognostication* met here both active supporters and strong opponents. Even if there was no rejection of astrology in an index of forbidden books, as in Roman Catholicism at the Council of Trent in 1564 (DH 1859), Luther and Calvin uncompromisingly disapproved of prognostic astrology, the *astrologia judiciaria* (or: divinatrix), as it had been called since ancient times, and criticized it for being superstitious and even for supporting magical practices. However, this rejection did not concern the so-called "natural astrology", i.e. the relationship between the human microcosm with the macrocosm and its influence on the former ; the dualism of mind and matter that played a role for Calvin was not yet the Cartesian one, and Luther was in any case characterized by a strong feeling for creation. Both remained convinced of the religious significance of exorbitant stellar phenomena; but that did not imply any supernatural interpretation. Accordingly, the sermons that followed all comet apparitions of the 16th and 17th centuries avoided mixing the physical and the religious perspective. Such sermons often consisted

of a part that explained the religious significance of comets, and another part that described their physical nature – this part, depending on the educational level of the preacher, passed on the most current knowledge about comets to the community (Veit Dietrich, Ulm).

Luther also had personal reasons for his rejection of prognostic astrology. In 1527 and 1535, he published the *Prognosticatio* of the imperial court astrologer, Johannes Lichtenberger, of 1488, which had predicted a prophetic reformer of the church (this document was reprinted until 1813!); but this prognostication could just as plausibly be interpreted against Luther by the Roman side. In his own horoscope, Luther quoted not 1483 but 1484, the year of the Great Conjunction and a solar eclipse in the sign of Lion – the year Lichtenberger had started from; Luther's horoscope was interpreted by the Italian astrologer, Luca Gaurico, to the disadvantage of the legitimacy of Luther. Gaurico had even approached Melanchthon concerning the nativity of Luther, because the famous scholar Melanchthon was known to be a supporter of astrology.

2.3 “For this one thing is certain: Valuable and truthful is the science of astrology, it is a crown of the human race and all its wisdom is a testimony of God.” Thus Melanchthon wrote in his *Oratio de dignitate astrologiae* of 1535. Despite all the ironic criticism of Luther, Melanchthon made the young Wittenberg University a center for astrology. His academic reforms excluded Aristotelian metaphysics from the curriculum, but retained astrology as part of the quadrivium and, indeed, even elaborated its Hellenistic and Arab tradition (Ptolemaios,

Tetrábiblos; Abu Maschar, *De magnis coniunctionibus*) in the context of physics and astronomy, mathematics and medicine. His students, who occupied the mathematical chair (Erasmus Reinhold, Georg Joachim Rheticus,) the chair of natural philosophy (Paul Eber), and the chair of medicine (Caspar Peucer), supported his intention. His physics textbook of 1534 extensively dealt with astrology as part of astronomy and cosmology; the revised version of 1549 which was to be used for decades abridged astrology and linked it to the theory of motion, whereas astronomy was written anew and incorporated the research done by Copernicus (Rheticus had worked with Copernicus for two years and had published *De revolutionibus orbium coelestium* in Nuremberg in 1543).

Just as Melanchthon could not be induced by Rheticus to replace the Ptolemaic worldview by the heliocentric one, he also did not change his view of astrology, which he took for good biblical thought anyways (Genesis 1:14 calls the heavenly bodies timer and signals); he drew horoscopes for princes or for his children. Melanchthon attached particular importance to astrology in contrast to the belief in fate. Just as Melanchthon fought against the "Epicurean" doctrine of the universal randomness of all events, he tried throughout his life to prove the "Stoic" *fatum* to be irrational and destructive (whereas he integrated the stoic *providentia* into his image of God, which unlike Luther's and Calvin's voluntarist image of God was rather sapientially oriented). Astrology was a strong argument against fatalism, because celestial phenomena were a sign of divine providence for Melanchthon, but not the cause of human happiness or misery. Indeed, he assumed an influence of the heavenly

motions on man, but only a physical one, as was also insinuated by the contemporaneous Humoral medicine; this did not abolish the free will of man, that is, his moral responsibility.

The most important areas of application of the astrology for Melanchthon were *medicine*, which he was very familiar with, and *history*, which he highly esteemed and extensively fostered as a stage for the exemplary human condition. In this respect, he was close to the astrology of *Girolamo Cardano*, who compared famous horoscopes in a collection published in 1538 and examined them on grounds of historical experience. In this sense, also, the physico-theologically dedicated Melanchthon was an empirically oriented astrologer, and vice versa Cardano also dealt with astrological *hermeneutics*: he achieved his results not already through the astronomical data, but only through their insertion into patterns of qualitative understanding. The requisite judgment (*ingenium*) was the special interest of the humanistic Renaissance Platonism, to which Melanchthon was much closer than Luther. This Humanism, which until the early 17th century, understood itself as a scientific avant-garde, was even in Protestantism the context of serious astrology and a church-tolerated, politically even desirable horoscopical practice. The emerging of political theory in the late 16th century always contained a discussion of the relationship of stellar constellations with political upheaval; not only in the eyes of the Protestants, but also of Catholic lawyers and politicians, although astrology was excluded from the *ratio studiorum* of philosophy.

3. Reform and Decay of Prognostic Astrology in 17th Century

3.1 That political theory, however, was at the same time one of the intellectual activities that contributed to the weakening of astrology, for those political authors analyzed mainly human circumstances and conditions of action, which, as experience shows, are not only determined by reason, but also, or even more so, by effects (this was clear also to those Antimachiavellists), so it was important to calculate the probability of future developments in the view of the agents to instruct political wisdom with this forecast. In this context, astrology already appeared like a method of self-deception based on empirical selection, as Michel de Montaigne noted, for example. The religiously inspired political *utopias* of that time, that held a normatively defined future against the poor presence, indeed looked down on the pragmatically calculated wisdom, but did not have anything to do with astrology since they relied on authoritarian education policy.

Often, the demise of the reputation of astrological prognostication in the course of the 17th century is explained through the establishment of a new natural science, working with experimental empiricism. However, this is correct only at a later stage. At any rate, it was not only progress that deligitimized astrology; this can very clearly be seen in the heterodox Lutheran, Johannes Kepler. He essentially belonged to the humanistic-platonic paradigm and remained an active astrologer, but tried to reform astrology. Even though, for example, he considered horoscopes for the emperor

politically dangerous, he drew up horoscopes and annual prognostications on the basis of his reform. In his writings (1602, 1610), he opposed the "stargazer's superstition", but his heliocentric *Astronomia Nova* and *Harmonia Mundi* remained the (improved) basis for a predictive astrology – and of course, remained physico-theologically committed.

In the years after 1600, however, in Protestant Germany, a change in the scientific paradigm took place, caused primarily by the *methodology* that had been taught at the University of Padua, prominently by Jacopo Zabarella. The change bypassed the melanchthonian, i.e. rhetorical-dialectical model of science in favor of an analytical-demonstrative model, in which the real disciplines were clearly distinguished from the logical instruments. This development was driven effectively forward at the University of Wittenberg, but not only there. Within a short time, the textbooks of Melanchthon and Ramistic dialectics were replaced by so-called Aristotelian paradigms, including metaphysics; in natural philosophy, Julius Caesar Scaliger, the most pronounced opponent of the astrologer Cardano, became a popular reference.

From now on, astrology grew dubious not only in terms of methodology and natural philosophy, but also from the theological point of view. The methodological innovation was being operated (for controversial reasons) just by theologians in favor of a strictly science-oriented, demonstrative *Theologia accurata*. This was rejected by spiritually-dedicated groups and considered useless and arrogant, but, conversely, the leading Lutheran theologians fought spiritualism in which Paracelsus played an important role; they criticized

Paracelsus' astrology as being superstitious and frivolous but even apart from that, theology now rejected prognostic astrology completely. The most important theologian of the early 17th century, Johann Gerhard of Jena, in his *Loci theologici* (1610/1625), harshly rejected the astrology of Albertus Magnus and Cardano (in the context of the fourth day of creation, loc. I, 27-31), referring to Augustin, Luther and Scaliger, and also rejected the assumption that the time of death of a man could be predicted from his nativity, referring to those mentioned, and to Pico della Mirandola (loc. XXVI, 38).

One might think that astrology therefore came to an end, but that was not the case. The theoretical reason for this fact is that both theology and philosophy remained principally committed to physico-theology, i.e. the cognition of the divine creator through the order of the created world and of natural processes; and this on the basis of Ptolemaic cosmology modified by Tycho Brahe in which the earth was still at the center of the world. Therefore prognostical practice was in some way still possible. Although astrology as theory had become precarious in what went beyond physics, horoscopes were generated with medical and political intentions for many decades, if not centuries.

3.2 Still, astrology lost its scientific reputation in Lutheran Protestantism entirely between 1650 and 1680; way before Isaac Newton's *Principia* of 1687, to which this total collapse is often attributed. Abdias Trew, the professor of mathematics and physics at the University of Nuremberg in Altdorf from 1636 until his death in 1669 (Hans Gaab!), shall now serve as

an example to show how the last attempt to reform astrology came to an end. (The attempts that can be observed in England at that time to reform astrology, were largely unsuccessful, also). .

Abdias Trew is also interesting because he had once studied mathematics, philosophy, physics and theology at Wittenberg, a centre for opposition to astrology; there he saw, before the second Advent, when Jesus' speech of the last times (Luke 21) was the text of the sermon, the comet(s) of the year 1618. Prior to his professorship, Trew served as a pastor and headmaster. In Altdorf, he taught mathematics, physics, music theory and practical geometry, and had a great influence through his many publications, but his particular interest was astronomy, for which he built two observatories and instruments designed for accurate observations and fast arithmetic. As clear since Melanchthon and Kepler, he ran astrology as part of physics; this was reflected in his descriptions of the next comets (1652, 1661, 1664/5). In the wake of the reform astrology of Kepler, Trew still thought that those comets would also constitute an astrological challenge; as an author of many calendars he was anyway engaged with *Practica*, i.e. prognostications. However, he did not follow Kepler's Pythagorean-Platonic cosmology, but remained strictly devoted to Aristotelian cosmology and physics, as taught at Lutheran universities. That kind of physics admitted some alteration, such as in the conception of the elements (Daniel Sennert, Johann Sperling) or in medical practice, but essentially remained normative. Also, in cosmology, Trew refused to switch to the Copernican system, although he considered it astronomically

more plausible than the Ptolemaic one and, a fortiori, the biblical worldview. He did not want to move away from the central position of the earth as the object of divine interest and defended the compromise of the Brahe model.

Trew uncompromisingly refused prognostic astrology, just like his Wittenberg teachers, as in the treatise *Ablainung und Widerlegung der Astrologiae Iudiciariae und aberglaubischen Kalendermacher* (1654). He also held back concerning the prophetic correlation of celestial phenomena and the history of salvation at the end of time, although the Great Comet of 1664/5 and the year 1666, with its "apocalyptic" number 666, triggered again (and for the last time) passionate end-of-time speculations; he had already feuded with calendar writers like Israel Hiebner, who prophesied the end of the world with the solar eclipse of 1654. Like Kepler, Trew did not want to provide "Wahrsagerey" (soothsaying) but strictly wanted "to consider and interpret the course of heaven by mathematical calculations and measuring". In this "interpretation" he went no further than astronomical data allowed; that included real ascendants etc., but not metaphors like the signs of the zodiac, the division into four times three "houses", the so-called *Trutina Hermetis* by means of which the time of conception was determined, or the death forecast due to "violent" stars, zodiac signs or planet direction through Mars or Saturn. All this was queried by Trew in several approaches between 1639 and 1663.

What, then, remained? First, the personal horoscope that finds characteristic "tendencies" but does not necessitate (again an axiom of Melanchthon and earlier of Thomas of

Aquin); second, the meteorology with statements of more or less feasibility; last but not least, endured medicine, for which Trew formulated astrological advice in all areas, e.g. for the time of medication; most recently in his *Astrologia Medica* (antiparacelsic but open to chymiatry) (1663).

3.3 Despite these revisions, however, the astrology of Abdias Trew no longer prevailed, and did not cause any significant aftereffect. He himself had realized for some time that astrology, so often falsified and abused for monetary fraud, would no longer be trusted. His own successor since 1669 in Altdorf, Johann Christoph Sturm, occasionally praised Trew's criticism of speculative prognostication, but pointed out laconically in 1580 that no serious mathematician would continue with astrology. The question why can be answered to a large extent by Sturm himself, for he was the first in Germany to introduce mathematized experimental physics and to see off the traditional notion of empiricism which was always hermeneutically open, and he broke away from Aristotelian physics and cosmology as a categorically sufficient framework for natural science; in their place came the *eclectic* method which was much less normatively prejudiced. Eclecticism became the scientific paradigm of the Early Enlightenment, which found its breakthrough in the new University of Halle. There it was implemented in philosophy and jurisprudence (Christian Thomasius), in medicine that turned away from humoral pathology, and in theological propaedeutics (Johann Franz Budde). Astrology now migrated to syncretistic esotericism; especially now, to name only three processes of history of science, the Copernican system prevailed, the Cartesian privileging of

thinking against the correlation of micro-and macrocosm was accepted, and the canonicity of the Bible also for the “book of nature” was hermeneutically restricted and soon removed from the historical-critical perspective.

The changes occurring in small Altdorf are only two moments in the *Crise de la conscience Européenne*, as Paul Hazard called it. It will not be described further here, but I would like to point out how the failure of reputable astrology was now compensated for by a different strategy of coping with contingency, that became the dominant cultural paradigm in the 18th century. It is the strategy of a modern *Chiliasm*, a Chiliasm that has left its old position in the apocalyptic-religious scenario and no longer associates the signs of the times with the end of the world, or only shifted it slightly further into the future. Astrological orientation in a finite “time order” is replaced in modern Chiliasm by the expectation of an open future as the field of progress, the *progrès perpétuel* as Gottfried Wilhelm Leibniz called it programmatically. Thus, the future belongs to science-based technological and political practice, a practice that is motivated by a Millenarianism of progress.

The Lutheran, Leibniz, however, had no illusions about the contingent character of this future, which would show processes of acceleration and a shortage of time. Because we, as the *Theodicée* (1710) expresses in religious language, do not know in detail the will of God that infallibly comes to its end, we must assume that each given reality is in accordance with that will, i.e. accept it as good, and we must align our further actions with the alleged will of God, which means:

we must act according to rules, which we are rationally and piously entitled to ascribe to the creator of the best of all possible worlds. Thus, a syndrom of maximum realism and maximum optimism enters the persisting function point of astrology. How stable this link was can be checked with the sceptical Immanuel Kant (who was also a Lutheran). In the absurd course of human affairs, Kant finds a plan of Nature for the perfection of the human race in a story, because “Philosophy can also have its Chiliasm; but one to whose induction its idea, though only from, far can become conducive itself and therefore is nothing less but enthusiastic”. (*Idee zu einer allgemeinen Geschichte in weltbürgerlicher Absicht*, 1784, 404; vgl. *Das Ende aller Dinge* 1794, VI 182).