

Arabic Science in Sixteenth-Century Europe: Guillaume Postel (1510-1581) and Arabic Astronomy*

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Abstract

This paper investigates a hitherto untapped, but quite possible, route of transmission of scientific ideas from the Islamic world to Renaissance Europe. It focuses in particular on the role played by the famous orientalist Guillaume Postel (1519-1581) who seems to have studied Arabic astronomical texts dealing with planetary theories and tries to contextualize the marginal notes Postel wrote on the Arabic manuscripts that he had owned. The purpose of this investigation is to demonstrate that the sixteenth century European scientists like Postel were not in need of Latin translations of Arabic scientific works in order for them to

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incorporate those works in their own for they could read the original Arabic texts and understand their import, and at times even correct those same texts. Once this interaction between Renaissance Europe and the Islamic world is fully appreciated one could better understand the conditions under which the well documented mathematical works that were first developed in the Islamic world could have been transmitted to people like Copernicus without having those original Arabic works necessarily translated into Latin.

*Ibn Sina says more on one or two pages than
does Galen in five or six large volumes.*

Guillaume Postel.

1. Introduction

The ongoing research regarding the relationship between the works of Copernicus (d. 1543) and the works of the Arabic-writing astronomers who preceded him has already established some important findings since its inception some five decades ago.¹ In particular, it has been established

¹ This connection between Copernicus's works and the earlier Arabic astronomical texts is now so widely known that echoes of it are available even on the internet, where one can find on one of the Library of Congress sites (URL: <http://lcweb.loc.gov/exhibits/vatican/math.html>) the following statement about a Byzantine manuscript page kept at the Vatican library: "In the thirteenth and fourteenth centuries, a number of recent Arabic and Persian astronomical works were translated into Greek by scholars who traveled to Persia under the Ilkhanid Empire. One short and confused treatise, translated by Gregory Chioniades, describes Tusi's lunar theory, illustrated, not altogether correctly, in this figure [Byzantine Astronomical Collection] along with Tusi's device for producing rectilinear from circular motions. A part of the planetary and lunar theory of the astronomers of Maragha was later utilized by Copernicus, though scholars do not know how he gained access to this material."

On another closely related site, (URL: http://www.ibiblio.org/expo/vatican.exhibit/exhibit/d-mathematics/Greek_astro.html), which is slightly different from that of the Library of Congress although containing essentially the same information, one finds next to the manuscript page posted under the title Byzantine Astronomical Collection the following statement: "In the thirteenth and fourteenth centuries, a number of recent Arabic and Persian astronomical works were translated into Greek by scholars who traveled to Persia under the Ilkhanid Empire. One short and confused treatise, translated by Gregory Chioniades, describes Tusi's lunar theory, illustrated, not altogether correctly, in this figure along with Tusi's device for producing rectilinear from circular motions (shown also in Vat. ar. 319 (math19)). A part of the planetary and lunar theory of the astronomers of Maragha was later utilized by Copernicus, though scholars do not know how he gained access to this material."

that the astronomical works of Copernicus contained among other things two new mathematical theorems that were not found in the classical Greek astronomical corpus, the corpus upon which Copernicus relied very heavily. Moreover, it has been also established that those same theorems were extensively documented in the Arabic astronomical works during the three centuries preceding Copernicus.

The theorems in question are the Ṭūsī Couple, as it is now known in the literature, which was first formulated by Naṣīr al-Dīn al-Ṭūsī (d. 1274) in 1247 AD. It demonstrated how linear oscillatory motion could be obtained as a result of two uniform circular motions. It asserted that if one took two spheres, one embedded inside the other, tangent to it internally, and whose diameter is equal to half the diameter of the larger sphere; and if one allowed the smaller sphere to move in place, twice as fast as the larger sphere, in a direction opposite to the motion of the larger sphere, then the point that was first a common point of inner tangency between the two spheres would move linearly along the diameter of the larger sphere.²

The second theorem is now called the ‘Urḍī Lemma. It was first proposed by one of Ṭūsī’s collaborator at the Marāgha observatory by the

Both internet sites derive their information from the printed catalogue of the Vatican exhibition *Rome Reborn: The Vatican Library and Renaissance Culture*, ed. by Anthony Grafton, Washington, Library of Congress, 1993, and from Noel Swerdlow’s article in that catalogue: “The Recovery of the Exact Sciences of Antiquity: Mathematics, Astronomy, Geography,” pp. 125-168.

Secondary literature and text book authors have also begun to catch up with the primary research on the subject, and have already started to note the significant connection between the works of Copernicus and the earlier Arabic astronomical texts. See, for example, Thurston, Hugh, *Early Astronomy*, Springer Study Edition, Springer, NY, 1994, pp. 190f, where the very brief section that is devoted to Arabic astronomy (p. 190-195) concerns itself primarily with this very issue, although the author bemoans the fact (p. 251) that “we are in sore need of a general study of Arabic astronomy by a specialist.” The author returns to this very issue as well in his more elaborate discussion of Copernican astronomy (p. 209-210). [This source was brought to my attention by Dr. Farah Faramazpour] See now George Saliba, *Islamic Science and the Making of the European Renaissance*, MIT Press, 2007, chp. 6, pp. 193-232, *et passim*.

See the following paragraph for a brief discussion of Ṭūsī’s theorem.

² The first discussion of this theorem in a European language came in a text which included a translation of a chapter of *al-Tadhkira fī al-Hay’a*, which is by far the most important astronomical work of Ṭūsī. See Carra de Vaux, Baron, “Les sphères célestes selon Nasīr-Eddīn Attūsī,” in Paul Tannery, *Recherches sur l’histoire de l’astronomie ancienne*, Paris, 1893, appendix, vi, pp. 337-361.

name of Mu'ayyad al-Dīn al-'Urḏī (d. 1266). It demonstrated the manner in which one could combine uniform circular motions of two spheres, namely, that of an eccentric carrying the center of a secondary epicycle at its circumference, while the secondary epicycle moved at the same speed and in the same direction as the eccentric. 'Urḏī proved that the resulting motion would not only satisfy the motion prescribed by Ptolemy's (fl. 150) observations, but would also appear, to an observer on the earth, to be very close to the motion that was also described in Ptolemy's Greek text. It should be noted though that although the solution proposed by 'Urḏī's Lemma was in effect very similar to the equation first devised by Apollonius (d. c. 170 BC) and later adopted by Ptolemy, it nevertheless followed mathematical structures quite different from the Apollonian equation in that it required both an eccentric and an epicycle.³

Both of these theorems were apparently known to and deployed by Copernicus to achieve the same results that they were supposed to achieve in the earlier Arabic sources. Had Copernicus known any Arabic, and there is no evidence to suggest that, or had any of the Arabic works containing those two theorems been translated into Latin before or during the time of Copernicus, and there is no evidence to suggest that either, then it would have been much easier to determine whether Copernicus was influenced by the earlier Arabic works or not. There is no doubt that Copernicus knew of, and even utilized, the other much earlier Arabic works of Muḥammad b. Jābir al-Battānī (Latin Albategnius d. 929) and Jābir b. Aflaḥ (Latin Geber c. 1120); but those were already translated into Latin during the massive translations of the tenth to the thirteenth centuries. Copernicus cited both of those particular authors by name. But none of the earlier Arabic works that contained the mathematical theorems just mentioned had ever been translated into Latin as far as

³ Although 'Urḏī's Lemma was used by Copernicus to construct his model for the motion of the upper planets in exactly the same fashion as was done by 'Urḏī, it was left without a proof in the Copernican text. This lapse on the part of Copernicus was later rectified by Kepler (d. 1630) who wrote to his teacher Maestlin (d. 1631) asking him about this particular problem. And it was Maestlin who supplied the proof to Kepler. See Anthony Grafton, "Michael Maestlin's Account of Copernican Planetary Theory," *Proceedings of the American Philosophical Society*, vol. 117 (1973), pp. 523-550. On the history of this theorem and its relationship to the works of Copernicus, see George Saliba, "Arabic Astronomy and Copernicus," *Zeitschrift für Geschichte der Arabisch-Islamischen Wissenschaften*, vol. 1 (1984), pp. 73-87, reprinted in *idem*, *A History of Arabic Astronomy: Planetary Theories During the Golden Age of Islam*, NY, NYU Press, 1994, pp. 291-305.

anyone can tell. Furthermore, Copernicus makes no mention of these later Arabic authors, who developed the two mathematical theorems during the thirteenth century, neither by name nor by text. And yet he certainly deployed their results in the construction of his own astronomy.

Under the circumstances, and in an attempt to explain the similarities between the astronomical works of Copernicus and the earlier Arabic astronomical works the same research had to develop new ways of approaching the problem of influence and the concept of transmission of ideas, and to establish routes of contact between the Islamic world and the Latin west during the Renaissance if there was any hope of explaining those similarities in a way other than pure coincidence.⁴

So far this research has followed two main routes. The first route was pioneered by Otto Neugebauer who had hinted to a possibility of transmission of ideas from east to west via Greek, the language of Byzantium at least till the fall of Constantinople in 1453, and a language that Copernicus could read. Neugebauer went on to describe the main features of that possible route by establishing a concrete textual instance when he discovered the existence of one Greek manuscript in an Italian library that was originally written in Byzantium, before the fall of Constantinople, and which contained at least one of the two mathematical theorems mentioned above. Furthermore, the author of this manuscript claimed that he was consciously rendering the latest of Arabic and Persian astronomy into Greek.⁵ The fact that Copernicus had spent the

⁴ The possibility of coincidence had already been ruled out as far fetched by Noel Swerdlow as early as 1973, for the similarities between the Arabic works and those of Copernicus were too many to be plausibly explained by coincidence. See Swerdlow, "The Derivation and First Draft of Copernicus's Planetary Theory: A Translation of the *Commentariolus* with Commentary," *Proceedings of the American Philosophical Society*, vol. 117 (1973), pp. 423-512, esp. p. 504 where he cites a great number of similarities between Copernicus's *Commentariolus* and earlier Arabic astronomical works.

⁵ It was Otto Neugebauer who first drew attention to the possible relationship between Copernican and Arabic astronomy and particularly to the theorem now called the Tūsī Couple in the appendix to his classical text on the *Exact Sciences in Antiquity*, Providence, Brown University, 1957, pp. 197, 203-204. In his search for possible routes of contact between Copernicus and the Islamic World via Greek, he located later on the Greek manuscript, Vat. Gr. 211, which contained on folio 116r a version of the Tūsī Couple. He published a photocopy of that page in his monumental work *History of Ancient Mathematical Astronomy* (HAMA), NY, Springer, 1975. More pertinently he later republished the same page together with folio 117r of the same manuscript in his joint work with Noel Swerdlow, *Mathematical Astronomy in Copernicus's De Revolutionibus*, NY, Springer, 1984 in order to underscore the possibility that Copernicus could have

formative years of his scientific career in Italy towards the end of the fifteenth century and the beginning of the sixteenth added to the plausibility of that route.

Others who were more inclined to think of the theory of coincidental discoveries steered away from the Islamic material and continued to search in the Latin works of Copernicus's contemporaries and his immediate predecessors and successors for features of those similarities that could explain some form of a natural development within the scientific works of the Renaissance. They hope that their findings would account for the appearance of these theorems in the works of Copernicus. There was hope that this alternative route could at least explain two problems at once. First, it could determine once and for all that such theorems came as a natural development within the Latin tradition itself, and thus there was no need to look elsewhere for their genesis or for such things as inspiration or influence. And second, it could also explain the origins of those two theorems within the Latin tradition in such a way that their development could be accounted for by the inner scientific logic of the Latin tradition, or the needs of the research that was going on within that tradition itself. If that could be established it would then eliminate the possibility of influence from the Arabic sources or at least make that influence much more removed and superfluous.

In support of this approach some evidence has already been established regarding at least one of the two theorems, the *Ṭūsī Couple*.⁶ It said that

known about the Arabic mathematical theorems through their Byzantine Greek translations. It is now firmly established that the Greek translation, still preserved in Vat. gr. 211, was in fact completed by the Byzantine astronomer Gregory Chioniades (c. 1300) who stated explicitly that he endeavored to collect the latest of Arabic and Persian astronomical theory in order to incorporate it in his Greek works.

⁶ Noel Swerdlow has done the most extensive research on the possible relationship of Copernicus to the Arabic astronomical tradition. On the one hand he was the first to point to the difficulty in Copernicus's model for the planet Mercury, which appeared in Copernicus's earliest astronomical work the *Commentariolus*, thus suggesting that Copernicus may have already had during the early years of the sixteenth-century some undigested knowledge of the equivalent Mercury model which was devised about two centuries earlier by Ibn al-Shāṭir (d. 1375) of Damascus and which also used both the *Ṭūsī Couple* as well as the 'Urḏī Lemma. See Swerdlow, Noel, "*Commentariolus*" p. 469. On the other hand, Swerdlow also looked into the possible existence of a Latin tradition that may explain the Renaissance interest in the Aristotelian dimension of astronomy, or at least account for the use of the *Ṭūsī Couple* in the Latin sources as an expression of that interest. See Swerdlow, Noel, "Aristotelian Planetary Theory in the Renaissance: Giovanni Battista Amico's homocentric spheres," *Journal for the History of Astronomy*, vol. 3 (1972), pp. 36-48. Similar efforts regarding the same Latin tradition have been expended

the theorem was indeed mentioned by contemporaries of Copernicus. But no Latin evidence has so far come to light regarding the ‘Urđī Lemma. Nor has there been any evidence in any Latin works that there were such models that deployed the said theorems as they were deployed in the Copernican planetary models, or that they served exactly the same purposes they served in their Arabic counterparts, or the many other similarities mentioned before. On the contrary, as research went on and more Arabic texts began to be studied and digested, the possibility of an independent Latin tradition developing similar theorems for its own needs became more and more remote.

So far, that is almost all we know about those two mathematical theorems just mentioned. Research in other fields began to corroborate those results by shedding light on the question of transmission of ideas from the Islamic world to Europe during the Renaissance or immediately before. In this context, and as more Arabic scientific texts were uncovered and studied, people began to notice more similarities and in fields quite distinct from astronomy as well.

But before we explore those areas, let us first note that beyond the two mathematical theorems there were also technical similarities between the Copernican astronomical works and their Arabic counterparts. And those were very well documented as well by Swerdlow in his commentary on Copernicus’s *Commentariolus*.⁷ But more importantly, there were also those similarities that touched upon the style and the approach to astronomy itself which raised questions regarding the motivation of both Copernicus and his predecessors from the Islamic world as to why one needed to confront Greek astronomy in the first place, and why did one have to seek an alternative astronomy. Here, contrary to received wisdom, Copernicus’s main concern in his earliest work, as he stated it in the introduction to his *Commentariolus*, was not the issue of heliocentricity per se – although that became important in

more recently by Di Bono, Mario, “Copernicus, Amico, Fracastoro and Ṭūsī’s Device: Observations on the use and Transmission of a Model,” *Journal for the History of Astronomy*, 26 (1995), pp. 133-154. By 1984, Swerdlow and Neugebauer had both reached the conclusion that Copernicus must be seen as the last of the Marāgha astronomers, thus signaling an overwhelming conviction regarding the importance of the eastern connection in Renaissance astronomy. See, for example, Swerdlow and Neugebauer, *Mathematical Astronomy*, p. 295.

⁷ See, for example those pertaining to the Mercury model mentioned before. Swerdlow, “*Commentariolus*”, p. 504.

itself – but the problem of those strange circles called the equants.⁸ This complaint also turned out to be in effect the same complaint that was voiced against Greek astronomy in many Arabic sources. Moreover, the wording of the complaint in the *Commentariolus* seemed to imply that Copernicus was somehow aware of at least some astronomers who did not follow Ptolemy in adopting these equant circles. When he spoke of the equants he explicitly said that it was “Ptolemy and *most* others” who used the equants [emphasis added], thus implying that some did not do so, and had developed alternative models of their own that were not encumbered by the Ptolemaic equants. Could he then have heard of the many Arabic astronomers, and particularly of Ibn al-Shāṭir of Damascus, who spared no effort to construct alternative planetary theories that would specifically avoid the Ptolemaic equants?

Then there were other Renaissance scientists, such as the famous Spanish theologian and physician Michael Servetus (1511-1553) and the Italian physician Matteo Realdo Colombo (d. 1559), who also did not seem to have known Arabic and whose works also exhibited similarities with earlier Arabic works that were not translated into Latin during the famous medieval translations of Arabic scientific works.⁹

⁸ Swerdlow, “*Commentariolus*”, *op. cit.*, p. 433 and 434. The full text of Copernicus’s complaint reads in Swerdlow’s translation thus: “I understand that our predecessors assumed a large number of celestial spheres principally in order to account for the apparent motion of the planets through uniform motion, for it seemed highly unreasonable that a heavenly body should not always move uniformly in a perfectly circular figure ... Nevertheless, the theories concerning these matters that have been put forth far and wide by Ptolemy and most others, although they correspond numerically [with the apparent motions], also seemed quite doubtful, for these theories were inadequate unless they also envisioned certain *equant* circles, on account of which it appeared that the planet never moves with uniform velocity either in its *deferent* sphere or with respect to its proper center. Therefore a theory of this kind seemed neither perfect enough nor sufficiently in accordance with reason.”

⁹ Both of these physicians seem to have known of the work of Ibn al-Nafīs (d. 1288) on the circulation of the blood through the lungs. In the Latin works of Servetus and Colombo, both from the sixteenth century, and both connected with Padua, the university close to Ferrara where Copernicus had earned his Canon Law degree, there is a clear evidence of similar ideas appearing first in Arabic and then some three centuries later in Latin, just as was the case with the ideas of Copernicus. Both of the sixteenth century physicians wrote on the problem of the pulmonary circulation of the blood in a manner similar to the original formulation of the same circulation in the work of Ibn al-Nafīs. Ibn al-Nafīs’s motivation, however, was his theoretical critique of Galen, their motivation is not well established. And yet, Ibn al-Nafīs’s stipulation that the blood had to go through the lungs, rather than pass from one ventricle of the heart to the other, was echoed in

With the convergence of all these factors, it is no wonder that the issue of an Arabic influence on the European Renaissance has been kept very much alive. This influence is furthermore beginning to touch upon areas of research that include much more than few obscure mathematical theorems used in theoretical astronomy. And when looked upon in connection with the literary studies touching upon the similarities between the earlier works of Dante and Boccaccio and the still more ancient Arabic works of literature and poetry the issue of influence becomes more and more intriguing.

To sum up, modern research regarding the explanation of the similarities between the astronomical works of Copernicus and the earlier Arabic works seems to be moving more and more into the direction of positing a transmission of ideas from the Islamic world to Europe during the time of the Renaissance. The Greek intermediate route that was first uncovered by Neugebauer has not been exhausted yet, and even the sole Greek manuscript that was unearthed by him almost half a century ago was only very recently edited and made available for further study.¹⁰ Yet it creates more problems than it solves.

On the other hand, those working on establishing an inner coherence within the Latin astronomical tradition itself that would explain away those similarities as coincidences seem to be coming to a halt in the face of the ever-accumulating evidence of more and more similarities between Arabic and Latin scientific sources of the same period.

To my knowledge, no one has seriously looked into a third possible route of transmission, namely, the route of the Arabic astronomical manuscripts themselves that existed in Europe during the Renaissance,

almost the same terms in the works of the two Latin authors just mentioned. Danielle Jacquart, who most recently approached this question with extreme caution, finished by concluding: "Although this influence [of Ibn al-Nafis on the Latin authors to whom she adds Giovanni de Valverde] would seem to be incontestable, its path of action remains unknown." Then she goes on to speculate "One must thus assume either that manuscripts were in circulation which are now lost or, more probably, that transmission was oral." Jacquart, Danielle, "The Influence of Arabic Medicine in the Medieval West," *Encyclopedia of the History of Arabic Science*, ed. Roshdi Rashed with Regis Morelon, London, Routledge, 1996, pp. 963-984, esp. pp. 979-980. In this article we will see yet another possibility, namely, the likelihood of sixteenth century orientalist reading the material in Arabic and then, without formally translating it, incorporating it in their own Latin works and passing it to their contemporaries.

¹⁰ See now Paschos, E. A., and P. Sotiroudis. *The Schemata of the Stars: Byzantine Astronomy from AD 1300*. World Scientific, 1998.

manuscripts themselves that existed in Europe during the Renaissance, and whose contents could have been made available to Copernicus and his contemporaries as well as to other scientists by some European Renaissance scientists themselves who could read scientific Arabic very competently and whose main sources of inspiration were still centered around the Arabic scientific tradition. On the whole, those same Renaissance scientists were apparently of two types: There were those who did not produce full translations of Arabic scientific texts, while there were others who did just that, and their pretext was the dissatisfaction they harbored towards the earlier medieval translations of the same texts.

In what follows I will examine two Arabic astronomical manuscripts that seem to have fallen into the hands of one of the Renaissance scientists of the first type. The man in question is the notorious and enterprising French man named Guillaume Postel (1510-1581). And the manuscripts were apparently purchased in the Islamic world during Postel's trips to that region. They are both preserved still at the two European libraries: the Biblioteca Apostolica of the Vatican, and the Bibliothèque Nationale de France in Paris.¹¹ One of those manuscripts, the Vatican Arabo 319, is in fact a copy of the main work of Naṣīr al-Dīn al-Ṭūsī, the *Tadhkira*, which contains the famous Ṭūsī Couple. While the other, BNF Arabe 2499, is a work called *Muntahā al-Idrāk* which was authored by an earlier astronomer by the name of 'Abd al-Jabbār al-Kharaqī (d. 1138) and is also devoted to planetary astronomy, but does not contain any of the two said theorems.

Immediately following this introduction I will present a skeletal biography of Guillame Postel, gleaned mainly from the two well known biographies for him that were published in this century, and will naturally focus on the events of his life that shed some light on the issue of transfer of scientific ideas from the world of Islam to Renaissance Europe.

Thereafter, I will return to the two manuscripts that form the subject of this study and try to examine the various annotations that were made by Postel himself on the margins of these manuscripts or at times even between their lines. I will also try to determine, as far as possible, Postel's reasons for annotating these two manuscripts. Questions such as which concepts attracted his attention, and what kind of remarks he

¹¹ I wish to express my gratitude to both libraries for supplying me with microfilms for this study.

associated with them will receive most of the attention. Was he trying to elaborate on those concepts or trying to understand their import? What was his general approach to the texts and what possible use he may have made of them?

Following that, I will then return to the question of transmission once more by raising the same question but from a different perspective. I will ask, for example, if it is possible to assume that since there were contemporaries of Copernicus who were capable of reading technical Arabic astronomical texts, whether it would be far-fetched to assume that those very same people could have acted as intermediaries and may have passed on the ideas contained in those Arabic texts in the form of lectures to their students, as was probably done by Postel, or oral discourses with their colleagues who were interested in the same subjects. I will also ask if it is at all possible to assume that Copernicus would have also looked for inspiration in Arabic astronomical sources just as his own even younger contemporaries did and whether he would have looked upon those sources with the same respect he had shown towards the other Arabic sources that were available to him in Latin translations. His use of the translated Arabic sources could have motivated him enough to inquire from his contemporaries about the contents of other Arabic sources that were not translated into Latin.

Even if one fails to offer definitive and convincing answers to all or any of the above questions, it would still not be without interest to survey the kind of annotations a renaissance French man did actually make on very technical Arabic astronomical texts and raise other questions as to why he was doing that and how did that exercise complement his other activities. By itself, the exercise could also shed some light on this new mode of transmission from Arabic into Latin that seems to have been rather widespread during the Renaissance. But first we need to have a short biography of Postel in order to contextualize his annotations and his use of the Arabic astronomical texts.

2. A Biographical Sketch of Guillaume Postel

The main features of this man's life, when examined for the purposes of determining the extent of Postel's contacts with Arabic scientific material and his direct involvement in the intellectual activities of his time, will hopefully assist in contextualising the said manuscripts and the annotations that they bear.¹² Guillaume Postel was born to poor parents in a small village near Barenton in Normandy. His birth date is slightly problematic, and the dates given for it vary from as early as 1475, to 1477, 1487, 1505, and finally to 1510. The most accepted date is 1510, and the other earlier dates are sometimes explained as having arisen at various times from the widely circulated legend of Postel's longevity which was supposedly due to his having discovered the elixir of life.¹³ At about age eight he lost both of his parents to the plague, thus marking the beginning of miseries that were to follow him throughout his tumultuous life.

From his childhood, he seems to have been obsessed with acquiring knowledge, in the pursuit of which he at times even forgot to eat or drink. By age 13 he was hired as a teacher in the village of Sagy (Seine-et-Oise) close to Pontoise. Having saved enough money from his teaching job, he went to Paris to continue his studies whereupon his arrival he was robbed of his money as well as his cloths.

Naked and exposed to the elements rendered him sick and earned him a two-year stay at the hospital. Once discharged, he could only work as a laborer in the fields near Chartres to accumulate enough funds for clothing and to return to Paris where he hired himself as a servant at the Collège Sainte-Barbe.

At Sainte-Barbe he seems to have begun his formal education. But hearing that there were some Jews in the neighborhood, he acquired from them the Hebrew alphabet together with a grammar and a Latin-Hebrew book of the Psalms. This way, he familiarized himself with Hebrew without a teacher. Apparently that was his first encounter with an oriental

¹² This biographical sketch of Postel is based on the following works: Weill, Georges and Secret, François, *Vie et caractère de Guillaume Postel*, Archè "Les Belles Lettres", Milan, 1987 [hereafter, Secret], and Kuntz, Marion L., *Guillaume Postel Prophet of the Resitutiion of All Things: His Life and Thought*, The Hague/Boston/London, Martinus Nijhoff Publishers, 1981 [hereafter, Kuntz].

¹³ Kuntz, pp. 5-6.

language. In the same period he taught himself Greek, and through a Portuguese friend of noble descent learned both Spanish and Portuguese. When offered a teaching chair at Lisbon he declined for he wanted to pursue his studies.

With his friend Jean Racourt, a judge at Amiens, he went to Rouen in 1532 to witness the triumphal entrance of Eléonore the sister of the Holy Roman Emperor Charles V, who had become the wife of the French King François I (rl. 1515-1547). There at Rouen, he met the Abbot Jean Raguier who engaged him to tutor his nephew, an association that was to last some three years.

While still at Sainte-Barbe, Postel had acquired a Master of Arts and a Bachelor of Medicine. But more importantly, he became acquainted with an international mix of students at that college, especially those who came from Portugal and Spain and who spoke enthusiastically of the geographical discoveries their respective countries were undertaking. This interest in geography is in fact reflected in his annotations as we shall see. And with it, his love for travel may have been awakened. And at Sainte-Barbe too he became acquainted with the future founder of the order of the Jesuits, Ignatius Loyola who came to the college in 1528.

Postel's exposure to Arabic must date to that period, at least in some elementary form, for he says that he was supposed to have been "absorbed with the study of the Arabic language when he first met Ignatius."¹⁴ That report must bear some truth for in the 1530's Postel came to the attention of King François I, and especially to his sister Marguerite of Navarre, who was a respectable literary figure in her own right, and who may have shared some of the pietistic religious inclinations of Postel. In light of the role Postel would later play in the transmission of ideas from East to West, it is important to note that Postel was introduced to Marguerite and to the French court by the famous Byzantine scholar John Lascaris (1445-1535) who had escaped in his childhood the fall of Constantinople in 1453, had served at the Medici court, and had gone back to the Orient in 1489-1492 as a librarian of Lorenzo de Medici in search of oriental and Greek manuscripts. It was this Lascaris who brought Postel to the attention of his student Jean de la Forêt who in 1536 was sent as an ambassador of François I to the Turkish court of Sulaymān the Magnificent (rl. 1520-1566) and who welcomed

¹⁴ Kuntz, pp. 17-18, and p. 23 where it is asserted that Postel's study of Arabic had already begun during the early 1530's when he was still in Paris.

the company of Postel on account of his knowledge of oriental languages. While La Forêt's mission was to strike an alliance with the Turks in the on-going conflicts that were raging between François I and the Holy Roman Emperor Charles V, Postel's was to collect oriental manuscripts "to enrich ... the library at Fontainebleau which [François I] had moved from Blois in order to make it more accessible to his scholarly circle."¹⁵ The alliance with the Turks was later actually concluded around 1542.¹⁶

While in Turkey, Postel reports a failed attempt to recover the monetary estate of a French citizen who had traded in gems between India and Portugal and had died in Ankara on his way back to France from the East. He also reports that he used the opportunity of his presence in Turkey to master Turkish and Arabic. This, despite the difficulty that there were few Turks who knew Arabic in the first place, or "wished to have any dealings with 'profane' Christians."¹⁷ But he persisted and finally managed to arrange for a tutor who "agreed to teach [him] without pay, even though he was poor."¹⁸ That tutor became so devoted to Postel and expressed the wish to "live and die with him."¹⁹

One of the manuscripts described here, Kharraqī's *Muntahā*, BNF 2499, was acquired during this time in Constantinople as it is clearly marked on the flyleaf: "*G. Postellus. Constantinopoli 1536.*" And some of the Turkish marginal notes, as on folio 7r and 57r, may have been due to Postel's tutor although they were written in Turkish, in what may very well be Postel's hand. As it turned out, Postel reports, the tutor was

¹⁵ Kuntz, pp. 23-24, note 66. See also p. 97, note 313 where it is asserted that Postel collected oriental manuscript and not Greek ones against the expressed desire of his friend Guillaume Budé who was also the bibliotecaire of François I.

¹⁶ See, Lestringant, F., "Guillaume Postel et l'"obsession Turque", in *Guillaume Postel 1510-1581*, pp. 265-298, esp. p. 284, Bouwsma, p. 8. Toomer, G., in *Eastern Wisdom and Learning*, Oxford, Oxford University Press, 1996, quotes Charrières, Ernest (ed.), *Négociations de la France dans le Levant* (Collection de documents inédits sur l'histoire de France, I) Paris, 1848, p. 283-94, as saying that a treaty of commerce and friendship was indeed concluded between François I and Sulaymān the Magnificent as early as 1536, and probably as a result of the embassy of la Forêt.

¹⁷ Kuntz, p. 24.

¹⁸ Kuntz, p. 24.

¹⁹ Kuntz, p. 24.

himself a Christian, converted from Islam since the time of Sultan Selim (rl. 1512-1520) during whose reign one could “preach his religion in public,”²⁰ and that there were more than three hundred thousand other converts in the city who desired nothing more than having the Gospels in Arabic or in Turkish.²¹

But Postel was at the time still “addicted to Greek literature and the collection of rare books in Arabic about medicine, mathematics, and interpretations of Aristotle,” and did not yet care about true religion.²² He goes on to say that he also accepted on behalf of François I such rare Arabic books that were sent as gifts from Sultan Sulaymān to his French counterpart.²³ In addition he apparently acquired books on the Kabbalah which he received from the Jewish physician of the Sultan by the name of Moses Almuli.²⁴

Loaded with rare oriental books, Postel went back to France in 1537 via Venice. While in Venice, he met Daniel Bomberg and Elias Levita,²⁵ two scholars of oriental languages who were at the time involved in printing the books of Job and Daniel. Bomberg’s interest in printing Hebrew books brought Postel in contact with others in Venice who were interested in extending their printing ventures to include eastern scripts. One such person was Teseo Ambrogio (1469-1540), the father of Syriac

²⁰ Secret, p. 36, Kuntz, p. 25, note 71 where the remark is attributed to Postel himself.

²¹ Kuntz, pp. 24-25, Secret, pp. 36-37. This report by Postel of the large number of converts to Christianity in Istanbul may have been slightly exaggerated in order to demonstrate the success of the missionary activity among Muslims, and thus further the cause of teaching Arabic in Europe for this missionary activity that has been going on since the Middle Ages, and was often used even by later 17th century Arabists as an argument in favor of studying Arabic. See, for example, Toomer, G.J., *Eastern Wisdom and learning : the study of Arabic in seventeenth-century England*, Oxford, 1996, pp. 9, 123, 309-310, esp. 309 where he says that “the principal arguments for studying Arabic adduced by those who advocated it in the seventeenth century were ... its necessity for spreading Christianity ... in Muslim lands ... [which] with the passage of time ... [was] seen to be exaggerated or invalid.”

²² Kuntz, p. 25, note 72 referring to Postel’s own statement on the subject.

²³ Kuntz, p. 25, note, 74.

²⁴ Kuntz, p. 25, Secret, p. 33.

²⁵ Kuntz, p. 26.

studies in Italy, who had studied Syriac under two natives, a monk by the name of Elia who came to Rome with the Maronite delegation of 1515 for talks with Leo X and stayed there, and Moses of Mardin who came later on to Rome, in 1549, as the delegate of the Antiochian Syriac Patriarch Ignatius 'Abdallah and stayed between Italy and Vienna to help in the production of the Syriac Gospel.²⁶ More will be said about Moses of Mardin below. As for Ambrogio, he was also very well connected with all those who were interested in oriental studies at the time such as Elias Levita just mentioned, the Dominican Agostino Giustiniani who taught Hebrew in Paris among other things, Abraham of Balmes interested in Ethiopic studies, and cardinal Egidio da Viterbo who had studied Arabic with Giustiniani.²⁷ Egidio's assistant and second teacher was none other than the famous Leo Africanus (b.c. 1490) of al-Andalus who was captured in 1517, given to Pope Leo X as a slave, thus converting to Christianity and adopting his master's name at baptism, but died back in Tunisia as a Muslim around 1554.²⁸ In the same surroundings, Postel reports that he had the chance to meet, at Bomberg's house in Venice, the French traveler who he referred to Postel as "Postellus Ambolatus doctor medicinae", and who on top of Greek, Hebrew and Latin that he had learned in Paris, could also manipulate Punic, Arabic, Armenian, Samaritan and Indian letters.²⁹

Having convinced himself of the success of missionaries among Muslims and thus of the need for Arabic studies in Europe and for the

²⁶ Hamilton, Alastair, "Eastern Churches and Western Scholarship," in *Rome Reborn: The Vatican Library and Renaissance Culture*, ed. Anthony Grafton, Washington, Library of Congress, 1993, pp. 225-249, esp. p. 239.

²⁷ See, Bobzin, Hartmut, *Der Koran im Zeitalter der Reformation*, Beirut Texts und Studien, Franz Steiner, 1995, p. 84

²⁸ See, Jones, John Robert, *Learning Arabic in Renaissance Europe (1505-1624)*, Ph.D. dissertation, London University, 1988, p. 15, and Dannenfeldt, Karl H., "The Renaissance Humanists and the Knowledge of Arabic," *Studies in the Renaissance*, vol 2 (1955) 96-117, esp. p. 102-103. See also the introduction to *The History and Description of Africa and of the Notable Things therein contained*, written by Al-Ḥassan ibn Mohammed al-Wezaz al-Fasi, a moor, baptised as Giovanni Leone, but better known as Leo Africanus. Done into English in the year 1600 by John Pory, and now edited, with introduction and notes by Dr. Robert Brown, in three volumes, London, Hakluyt Society, 1896, p. xlv, where Dr. Brown says that Leo Africanus "taught Arabic - the most distinguished of his pupils being the Bishop of Viterbo, afterwards Cardinal Egidio Antonini."

²⁹ Secret, pp. 39-40.

production of texts printed in Arabic and other oriental scripts for the eastern Christians and converts, and having met all those distinguished orientalist in Venice on his way back to Paris, Postel was by then filled with enthusiasm to undertake a wide-spread program of Arabic studies in Europe and thus tarried for a while in Venice before he finally departed to Paris on August 9, 1537. He “maintained that his main goal was to see Arabic taught in the schools and public gymnasia so that the Latin West could return the message of the Gospel back to the East. He was also eager to have the Gospels printed in the Arabic language.”³⁰

Upon his return to Paris, he was appointed in 1538, according to some, as one of the “lecteurs royaux in Greek, Arabic and Hebrew,”³¹ although he himself complained that he was not advanced “from *interpres regius* to *lector regius*” as he had hoped.³² But it was then, in 1538, that he produced his first book, *Alphabetum...*,³³ and his main work on the origin of the Hebrew language, *De originibus seu de hebraicae linguae...*³⁴ as well as other works that increased his reputation and brought him to the attention of both François I and his sister Margaret. As a result he was appointed in 1539 as one of the royal professors³⁵ at the Institut Royal which later became the Collège de France. His “great interest in Hebrew and oriental languages” though, “aroused criticism to the extent that some

³⁰ Kuntz, pp. 27-28. In a plea for the teaching of Arabic that is very much similar to the arguments made by the later seventeenth-century Arabists (see *supra*), Postel argues that since almost two thirds of the world use this language, therefore Arabic must be studied by scholars and taught in the schools. See, Kuntz, p. 39 and note 120.

³¹ Kuntz, p. 29.

³² Kuntz, p. 30.

³³ *Linguarum duodecim characteribus differentium alphabetum, introductio, ac legendi modus longe facilimus. Linguarum nomina sequens proxime pagella offeret.* Paris? 1538.

³⁴ *De Originibus seu de hebraicae linguae et gentis antiquitate, de que variarum linguarum affinitate. In quo ab hebraeorum Chaldaeorumve gente traductas in toto orbe colonias vocabuli hebraici argumento, humanitatisque auctorum testimonio videbis: literas, leges, disciplinasque omnes inde ortas cognosces: communitatemque notiorum idiomatum aliquam cum Hebraismo esse.* Paris? 1538.

³⁵ Secret, p. 42.

considered his passion for Hebrew and Arabic tantamount to heresy.”³⁶ The fact that he was enchanted by these languages is beyond doubt. His own assessment of his predilection for Arabic, and his own conviction that it could be easily acquired after one learnt Hebrew is reflected in the story that he told about “the Turks [who] called him “daemon” because of the speed with which he comprehended Arabic.”³⁷

Postel’s exposition of Arabic as a language appeared first in 1538, in his *Linguarum XII characterum differentium alphabetum* in which he devoted a chapter to Arabic. That was followed and superseded by his publication of *Grammatica Arabica*.³⁸ At that point he was clearly chanting the virtues of that language. And his *Grammatica Arabica*, was indeed “the first publication to adapt Arabic grammatical tracts to a western-style grammar book and set an example for others to follow.”³⁹ However, besides its particular linguistic features and its relationship to Hebrew, Arabic had other qualities to recommend it. While arguing for its utility for the spread of Christianity among Muslims, Postel also argued that “he was also greatly impressed with the vast contributions to the disciplines of medicine, astrology, and philosophy written in the Arabic language.”⁴⁰ “Ibn Sina (Avicenna, 980-1037)), he writes, ‘says more on one or two pages than does Galen in five or six large volumes.’”⁴¹

³⁶ Kuntz, p. 38. Most of the criticism was apparently coming from the Calvinist circles, who later burnt his friend Michael Servetus in Geneva in 1553 for a similar charge of Judaizing. See, Feist Hirsch, Elizabeth, “Michel Servetus and Judaism,” in *Guillaume Postel 1581-1981*, Actes du Colloque International d’Avranches 5-9 Septembre, 1981, Paris, Guy Trédaniel, Éditions de la Maisnie, 1985, pp. 223-232.

³⁷ Kuntz, p. 39.

³⁸ The date of publication of this book is questionable. Dannenfeldt (p. 111) suggests 1538 or 1539, while Kuntz (p. 42) suggests 1543, and Bobzin (p. 430) has it as *circa* 1538/40.

³⁹ Jones, John Robert, *Learning Arabic in Renaissance Europe (1505-1624)*, Ph.D. dissertation, SOAS, London, 1988, pp. 149-150.

⁴⁰ Kuntz, p. 40.

⁴¹ Quoted by Dannenfeldt, Karl H., “The Renaissance Humanists and the Knowledge of Arabic,” *Studies in the Renaissance*, vol. 2 (1955), pp. 96-117, esp. p. 111.

Postel's good fortune as a royal professor was not apparently very lucrative nor was it to last very long. On the one hand those professors seem to have been constantly asking for their stipends which were dispensed with great delays directly by the king,⁴² and thus required the intervention of other court officials. In the case of Postel, it was the Chancellor Poyet who acted as his guardian angel in that respect. But on the other hand, the fall of Poyet from grace, and Postel's admirable loyalty to his patron and his intervention at the court on his behalf, led to Postel's own strained relations with the court. These events transpired during the years 1540-1541, and dragged on till 1545 with Poyet's trial. At the end, and after the condemnation of the parliament, Poyet was confined to the Bastille.

All these incidents left Postel quite distraught, so much so that when François I apparently wished to send him back to the orient on another trip, he declined the offer.⁴³ His main protection at that time came from the Bishop Gabriel Bouvery the nephew of the Chancellor, and it was at his house that Postel began to devote himself to the study of languages and to religious pursuits. The result was several books that he published in the year 1543, *Alcorani*,⁴⁴ *De rationibus*,⁴⁵ and the *Sacrarum apodixeon*.⁴⁶ His other work, the voluminous *De Orbis Terrae Concordia*, was also apparently completed during the same year but appeared in Basel the year after⁴⁷ due to the delay in obtaining the approval of the Sorbonne doctors.

It was during those years that he apparently convinced himself that God had commissioned him to call the infidels to the true religion and to

⁴² Secret, p. 43.

⁴³ Secret, p. 44.

⁴⁴ *Alcorani seu legis Mahometi et Evangelistarum concordiae liber, in quo de calamitatibus orbi christiano imminentibus tractatur*. Paris, 1543.

⁴⁵ *De rationibus Spiritus sancti lib. II*. Paris, 1543.

⁴⁶ *Sacrarum apodixeon, seu Euclidis christiani lib. II.*, Paris, 1543.

⁴⁷ *De orbis terrae concordia libri quatuor, multiuga eruditione ac pietate referti, quibus nihil hoc tam perturbato rerum statu vel utilius, vel accomodatius potuisse in publicum edi, quivis aequus lector iudicabit*. Basel, 1544.

assemble them under the banner of king François I. There is enough evidence of that in Postel's works of this period. He even approached François I with his project, but claimed that he was rebuffed not due to anything the king had done or said but due to the intrigues of a lady at the court (thought to be Anne de Pisseleu (1508-1580), the mistress of François I and Duchess of Etampes) who referred to Postel as a fool.⁴⁸

Having failed to make amends at the court and to convert the king to his new vision, Postel had to seek followers somewhere else. The recently founded order of the Jesuits,⁴⁹ seemed to him to be a good target for his ideas.⁵⁰ He then left Paris in 1543 or 1544⁵¹ and went to Rome on foot⁵² hoping to rekindle a relationship he once had with Ignatius of Loyola (1491-1556) the founder of the said order, whom he had met before at the Collège Sainte-Barbe in Paris, and to join the Company in order to redirect its mission. He arrived in Rome in March of 1544, and by June 8 of that year he recorded his vow to the Jesuit order.⁵³

He was apparently admitted to the order as a novice, and was ordained as an apostolic priest by the Papal Vicar (Filippo Archinto),⁵⁴ as he himself recounted.⁵⁵ Postel lived for eighteen months with the Jesuits without being admitted as full member. His confession to Loyola of his true beliefs must have precipitated his expulsion from the Jesuit order as

⁴⁸ Secret, p. 45, but Kuntz, p. 55, notes 176-178, thinks that the woman in question was Diane of Poitiers (1499-1566), and that this citation of Postel supports the suggestion that Diane of Poitiers was "the mistress of Francis [*sic*, that is François I] as well as Henry II".

⁴⁹ Although the Jesuit order was founded in Paris in 1534, it was not officially recognized until 1540 when it was approved by Pope Paul III.

⁵⁰ "... ie men allay a Rome, pensant attirer a mon institution de ladictte Concorde du monde, les Iesuites..." cited in Kuntz, p. 58, note 191.

⁵¹ Secret, p. 45.

⁵² Secret, p. 61.

⁵³ Secret, pp. 63-64.

⁵⁴ Secret, p. 68.

⁵⁵ Secret, p. 62.

recorded in a letter by Loyola in December of 1545, or at least given the choice to leave the order instead of being expelled. Those beliefs concerned his affirmation that a universal monarchy was to be ushered in by a Christian king of France who will not only lead the world under one Christian religion but that on account of the corruption in Rome he would also see to it that a new pope, most probably the angelic Pope, much talked about during the sixteenth-century, would be elected in France. In light of the recent wars between France and Spain at the time, the fact that the Spanish brothers found Postel's ideas about a French king who would rule the world irritating did not help matters either. Besides, the Jesuits were not apparently very excited about Postel's indulgence in such oriental languages as Hebrew and Arabic and his possible appreciation of authors who wrote in those languages.⁵⁶

Having been dismissed from the Jesuit order, Postel remained in Rome and continued to expound his dangerous ideas that some believe may have caused him an immense amount of trouble if not actual incarceration.⁵⁷ It is not clear how long these conditions lasted, but, at the latest, he must have regained favor by 1548 when pope Paul III seems to have pardoned his previous effronteries and put him in charge of answering in Chaldean and in Arabic some of the letters of a multilingual noble Portuguese woman of extraordinary knowledge.⁵⁸ He was obviously free to move about the city of Rome during that period and to meet with such people as the Ethiopian priest who introduced him to the meaning of the book of Enoch and with Johann Albertus Widmanstadt (1506-1557) who introduced him to the secret knowledge of the Hebrews. Postel had been curious about the secrets of the Hebrews, the Kabbalah, since his first trip to the orient in 1536, but his meeting with Widmanstadt

⁵⁶ Loyola himself being Spanish may have also worked against Postel's ideas. But, there is some concrete evidence that the Jesuits were also suspicious about Postel's indulgence in and appreciation of both Hebrew and Arabic cultures. See, Kuntz, pp. 60-61, note, 200, where the evidence is collected about "the Jesuits [being] initially nervous about his great appreciation of Arabic culture and authors."

⁵⁷ See Secret, p. 63, against which see Kuntz, p. 63, and Bouwsma, William, *Concordia Mundi: The Career and Thought of Guillaume Postel (1510-1581)*, Harvard University Press, 1975, p. 13, note 46, who think that Postel lived in Rome under difficult conditions but that there is no evidence that he was actually imprisoned.

⁵⁸ Secret, p. 63, and Postel, Guillaume, *Les merveilleuses histoires des femmes du Nouveau monde*, Paris, 1553, chap. VI.

in Rome triggered his interest in studying it in earnest whence he began to connect it to his “eternal gospel.”⁵⁹ Those studies led to his work *De Restitutione humane naturae*, which he sent to Basel for publication in 1546, but was intercepted and never reached the publisher.⁶⁰

A more important indication of Postel’s freedom to move about the city of Rome was his ability to associate with such church dignitaries as the Papal Vicar Filippo Archinto whom, we had seen, had ordained him to the apostolic priesthood, but who also continued to see him and to share with him much of his interest in Arabic, for he “admired Postel’s vast knowledge, especially his knowledge of Arabic and oriental magic,” and Cardinal Reginald Pole “who also had numerous scholarly interests in common with Postel.”⁶¹ During the same period, Postel met in Rome with the Flemish Hebraist André Maes (Masius) with whom he developed a lasting friendship and had the chance to instruct him in Arabic although briefly. Masius complained later to Postel that he was losing his ability in Arabic despite the latter’s instruction.⁶²

Those years were also crucial years in Postel’s life in another sense, for they coincided with the proceedings of the Council of Trent that had already started its first session in 1545 and continued to meet and deliberate with shift of venue to Bologna till the year 1547. The issues discussed during the Council were of great importance to the history of the reformation, the dogma of the catholic church itself, the actual authority of the Pope, the position vis a vis the protestant movement that was spreading widely north of the Alps, and finally the relationship of the Pope to the earthly power of kings and the like. For someone like Postel, who had been convinced that he was called upon by the divine will to call all the infidels to the true religion under a universal Christian king whose

⁵⁹ Kuntz, p. 65. On Widmanstadt see, Dannenfeldt, “Humanists,” p. 108 -109, where it is reported that “in 1544, after Widmanstetter had returned to Germany, Petrus Ghalinus , a deacon of Damascus, was sent from Rome to aid the scholar in his Arabic studies,” thus supplying evidence to the existence of native Arabs like this Deacon and Leo Africanus and others in Rome and possibly in other Italian cities such as Venice and Florence during the early part of the sixteenth-century.

⁶⁰ Kuntz, p. 66.

⁶¹ Kuntz, p. 67.

⁶² Kuntz, p. 67.

reign will usher in the angelic Pope, all the matters discussed at the Council of Trent were of much concern to him. And he obviously had something to say about each and every item. He is even reputed to have addressed the delegates, in 1547, and to have made non-flattering pronouncements regarding Pope Paul III and even Postel's erstwhile benefactor François I. Those pronouncements by themselves may have caused his incarceration, but there is no strong evidence to support that.⁶³

By late 1546 early 1547, Postel left Rome and arrived at the hospital of Saints John and Paul in Venice, where, in January of 1547, he wrote a letter to Masius.⁶⁴ That hospital to which he came to care for the sick, administer sacraments, bury the dead, celebrate Mass and preach the word of God,⁶⁵ was to become the focus of his spiritual life till his death in 1581. For in it he was destined to meet a woman by the name of Zuana (Johanna).

This woman, who was about fifty-years-old at the time, left a remarkable impression on Postel. Speaking of her, he referred to the mysteries that she revealed to him in such terms as "would not be intelligible to men or angels even for a thousand years."⁶⁶ He even went as far as to say that she revealed to him the mysteries of the *Zohar*, the book that was written in Aramaic and was often forbidden to be translated, even though this "poor, simple virgin" did not understand a word of the language.⁶⁷ Having been interested in the Kabbalistic books

⁶³ Kuntz, p. 63.

⁶⁴ Secret, p. 72.

⁶⁵ Kuntz, p. 69f.

⁶⁶ Secret, p. 75.

⁶⁷ See Kuntz, p. 83, Secret, pp. 75-76. Bouwsma's account of this encounter is worth quoting at this point. "But the most important development of these years in Venice was Postel's acquaintance with the woman whom he called, as he first described her in a letter to Massius, the "mater mundi" and the "new Eve." She was a woman of about fifty, who had first impressed him with her piety and her devotion to the poor and sick in the hospital. While others laughed at her, Postel soon became convinced of her supernatural powers; her vision could penetrate solids, and she was thus able to summon up a vision of Satan bound at the center of the earth. Even more impressive to Postel was the ability of this illiterate woman to expound to him all the deepest mysteries of the *Zohar*. "I know in whom I have believed, and what I have seen and heard," he wrote; and he began to refer to her obscurely as "the consummation of the mystery of eternity," as a woman "in whom

for a long time, he undertook, in 1548, to translate the *Zohar* and may have also translated the other similar Kabbalistic book the *Bahir*. Several other mystical books were also composed by him during his stay in Venice.

His adoration for mother Johanna was permanent. He referred to her as the Universal Mother, *mater mundi*, believed in her prophecies, thought of her as the literal incarnation of the true spirit of Christ or the Kabbalistic Shekhina, and valued greatly her appointing him as a priest in the order initiated by her as the angelic feminine pope. As he was to recount later on, in his story of the “Venetian Vergin,” she was supposed to have said to him: “I shall send you some beautiful gifts in our two garments, and you shall be our first-born son [meaning hers with her sweet husband Christ], who shall cause to be understood by Reason and Intellect the truth of these Mysteries. These two gifts will be first the perfection of the Brain or Restored Intelligence, and the other is the testimony of the heart or true Restored Reason; by means of these two weapons when I come into you from Heaven you shall be given the means to subjugating the whole of the human Race in order to lead them into the Obedience of God.”⁶⁸ Postel liked nothing better than to think of himself as some sort of a chosen prophet. And mother Juhanna bestowed on him that honor.

But things did not remain quiet at the hospital of the saints John and Paul in Venice, and mother Johanna was not apparently the only woman to think of herself as especially chosen by God to render service to humanity. The competition came from one devout woman by the name of Antonia Negri who had such a reputation for sanctity “that ecclesiastics

dwells the fullness of the substance of Christ, just as in Him dwells corporeally the fullness of Divinity,” as the bride of the Apocalypse, and as the “image of her spouse or father who is in heaven.” She was, in fact, the Shekinah of his cabalistic reading, and the impression she had left upon him became a permanent feature of his mind. Much later he wrote to the Emperor Ferdinand that everything he had written since 1547 had had one single purpose: to make known to the world, and especially to the Latin church, the unprecedented miracle that had taken place in the Venetian Virgin.”, *Concordia*, p. 15.

⁶⁸ Postel, Guillaume, *First News of the Other World or The Wonderful History Entitled “The Venetian Virgin”*: A history as startling as it is necessary and useful to read and to be understood of any and all, partly seen and partly demonstrated and faithfully recorded by Guillaume Postel, the first-born of the restitution and the father-confessor of this virgin, 1555, translated from the Italian, Venetian edition, into French by Mons. Morard, and from the French into English by H.A. Milme Home. Plymouth: J.H. Keys, 1922, pp. 34-35.

and others consulted her as an oracle.”⁶⁹ She and her supporters the Barnabites must have caused enough troubles for mother Johanna to distress Postel.

By 1549 the competition at the Venetian hospital and the ridicule with which mother Johanna was received were too much for Postel that he apparently allowed himself to be persuaded to travel back to the Holy Land by his old friend Daniel Bomberg, whom he had met in Venice on his return from the first trip to the orient in 1537. Bomberg apparently financed Postel’s trip to the earthly Jerusalem.⁷⁰ The expressed reason for traveling there was, according to Postel, to “search for books of the New Testament written in Arabic.”⁷¹ But in a letter to Masius he confesses that he wished to stay in that land for a few years in order to perfect his Arabic, and to translate the New Testament into that language. The other and more esoteric reason was to visit the earthly Jerusalem in order to perfect his Hebrew in the place of origin of that language,⁷² all in preparation for receiving the key of David from the “virgin-mother,” the universal mediating mother and the mother of reason and divine healing, upon his return to Venice.

Before he reached Jerusalem he passed through Cairo and Damascus and there he must have seen many books that he wanted to buy, but was impeded from doing so by lack of funds, as he complained to Masius.⁷³ He even made contact with Cardinal Antoine Perrenot of Granvelle, in a letter from Jerusalem written on the 21st of August 1549, describing to him the literary treasures he had found in those cities, and soliciting his help in securing a subsidy to buy the said books. There is no secure evidence that he received anything from those quarters.

Despite all those difficulties it seems that Postel was still able to continue his travels till he reached Constantinople, only to return immediately to Jerusalem.⁷⁴ On his arrival in Jerusalem he encountered

⁶⁹ Kuntz, p. 86.

⁷⁰ Secret, p. 82.

⁷¹ Kuntz, p. 93.

⁷² Kuntz, p. 93.

⁷³ Secret, p. 82.

⁷⁴ Kuntz, p. 93.

this time the French Ambassador to the Turkish court, Gabriel de Luetz, the Baron of Aramont. The ambassador had accompanied the Ottoman Sultan Sulaymān on his wars against the Persian Safavids and returned to Constantinople via Palestine and Syria, thus arriving in Jerusalem during the month of November, 1549. Postel approached the ambassador with his request for support to purchase books, and the latter complied, provided that Postel would accompany him along the route. In this deal Postel received his subvention and the ambassador acquired an excellent guide and a companion who knew the local languages.

The ambassador, however, was also accompanied by several others: among them was the famous geographer André Thevet (1516-1592) who had spent time in Syria himself and liked Postel very much, Pierre Belon, and Pierre Gilles. Belon was a botanist and a friend of Pierre Gilles who was an archaeologist and may have also acted as a topographer on this trip. On the previous trip of 1536 Gilles had also been sent by François I to the Orient with the express purpose to purchase oriental books against the advice of the king's special librarian, the famous humanist Guillaume Budé who would have preferred to collect more Greek and Latin manuscripts.⁷⁵ Gilles did not like Postel very much. In fact he constantly disputed with him over the issue of who was in charge of buying books for the royal library. The ambassador, however, took both of them along with him to Constantinople, despite their constant bickering along the way.⁷⁶

In a letter to Masius, dated 1549, Postel reports about the books he had bought on this trip, and mentions in particular two important ones, namely, 1) a copy of *Taqwīm al-Buldān* of Abū al-Fidā' (d. 1331) now identifiable as Vatican Arab. 266, containing the famous geographical work of this Ayyūbid prince, and 2) "Musica & Astronomia", meaning of course the now identifiable Vatican manuscript Arab. 319, which is composed of a collection containing both *Kitāb al-Mūsīqā* of Šafī al-Dīn al-Urmawī (d. 1284) and *al-Tadhkira fī al-hay'a* of Našīr al-Dīn al-Ṭūsī (d. 1274).⁷⁷

⁷⁵ Bobzin, p. 389, note, 156. Kuntz, p. 97, and note 313.

⁷⁶ Secret, pp. 82-83.

⁷⁷ The appropriate sections of the letter are cited together with the identification of the manuscripts in Bobzin, p. 388, note, 153.

Postel arrived in Constantinople in June of 1550, when he expressed in a letter to Masius his excitement about translating the Gospels to eastern languages. But he also claimed that the numerous possible translators among the Turks that he had found “cared more for war than literature.”⁷⁸ In the fall of that year, he returned to Venice “laden with rare books and exotic memories.”⁷⁹ In the same letter to Masius he mentions another member of the expedition to the east with the vague indication “*noster niger*” thought to refer to Heliodorus Niger, “a learned man who was studying oriental languages.”⁸⁰ He also mentions once more Filippo Archinto, the vicar to Paul III, to whom he had entrusted some manuscripts, but the reference to him should be most probably understood as referring to Archinto having borrowed a copy of the *Qur’ān* from Postel.⁸¹

Once in Venice, he did not apparently head to the hospital of Saints John and Paul as one would have expected, for he probably had learned by then of the death of his *mater mundi* Johanna who had passed away during that year or the year before while he was traveling in the east. Instead, he seems to have stayed with Daniel Bomberg, who had after all financed at least part of his trip to the orient. And at Bomberg’s house, he met the Mesopotamian priest Moses of Mardin, the teacher of Ambrogio mentioned before. Moses’s mission to Europe was to acquire a copy of the Syriac New Testament once it was put to print.⁸² In addition, this Moses helped both Postel and Bomberg edit some of the oriental manuscripts as he had helped Teseo Ambrogio before acquire the Syriac language, and was later sent by Postel to help Widmanstadt in Vienna with his project of the Syriac Bible.⁸³

⁷⁸ Kuntz, p. 98.

⁷⁹ Kuntz, p. 99.

⁸⁰ Kuntz, p. 99., note 316, Secret, p. 83.

⁸¹ Secret, p. 83.

⁸² Kuntz, p. 99, Secret, p. 105, Bobzin, p. 313.

⁸³ Kuntz, p. 99, note 320.

From Venice, Postel returned to Paris probably via Dijon. For by 1552 he was in Dijon and was allowed to lecture publicly on mathematics.⁸⁴ The time when he reached Paris is not certain, but during that same year, 1552, he presented himself at the court and expected to be well received and forgiven.⁸⁵ By then King François I was dead and his son, King Henry II, had assumed the throne. While in France, Postel's heart was still heavy with the shock of Mother Johanna's death, and his sorrow could only be tempered by his firm belief that she had come back to take possession of him in some sort of an exchange, or "immutation" [Latin *immutationis*].⁸⁶ In his own words this experience meant that, "Her spiritual body and substance sensibly descended into me and sensibly extended throughout my body, so that it is [now] she and not I who lives in me."⁸⁷ This new experience confirmed his belief in his divine role, and in his own eyes he felt he was some sort of a prophet with a special mission, the fact that apparently caused him trouble with the Inquisition between the years 1553 and 1556 and may have even caused his imprisonment.

In Paris, and with King Henry's commitment to the teaching of Hebrew and the preservation of the royal lecturers, Postel expected to regain his old post at the Collège de France. He also expected support from Margaret the sister of King Henry II,⁸⁸ as he once had had from her

⁸⁴ Secret, 84.

⁸⁵ Postel's arrival in Paris is disputed. Kuntz claims that he arrived in the year 1550 (p. 100) and adds (p. 100, note 322) that Bouwsma offered the dates 1550 or 1551, but the 1550 was to be preferred for it could be confirmed from a note written in Postel's hand, stipulating that he was in Paris in that year. In reality, Bouwsma only said that "Postel returned to Europe late in 1550 or early in 1551, leaving his books with Bomberg as he passed through Italy on his way back to France." He did not say how long he stayed in Venice, nor when did he reach France, he only said that his "immutation" happened in Paris shortly after Christmas of 1551, that is early 1552. As for Postel's note that he was already in Paris by 1550, it has to be subjected to further study in order to bring it into agreement with the other information.

⁸⁶ Bouwsma, p. 17.

⁸⁷ Quoted in Bouwsma, p. 17.

⁸⁸ Duchess of Berry (1523-1574), to whom he dedicated his book *Les très merveilleuses victoires des femmes du nouveau-monde*, Paris, 1553. This Margaret, the sister of King Henry II, is different from Margaret of Valois who was the daughter of the same king and was born in 1553. The two are often confused as was done by Kuntz, p. 107.

aunt Margaret of Angoulême the sister of François I. She did attempt to help him, but her efforts seem to have proved in vain, for by 1553 Postel resorted to his public lectures, which were very popular,⁸⁹ and to his audience for financial assistance and complained that no such assistance was coming from the public treasury.⁹⁰

His preaching about his “immutation” and his new prophetic mission, as well as his deep desire to reform the rule so that it would fit his vision of the universal Christian monarchy that he desired for world government began to cause him trouble with King Henry II, and forced the king to put an end to Postel’s preaching. These developments led Postel to leave Paris again, in May of 1553, and to go, by way of Dijon and Besançon, to Basel where he arrived in June of the same year.⁹¹

Once in Basel, and in the company of his friend Oporinus to whom he had sent a copy of his translation of the *Zohar* for publication, Postel was embroiled in a new controversy, this time with the protestants, and particularly with Calvin himself, for in the same year, 1553, and in Geneva, the latter had accused the Spanish physician and theologian Michael Servetus of heresy, and after acting as “accuser, witness, and judge,”⁹² had him burned at the stake. In a typical Postellian fashion, Postel wrote a treatise, *Apologia pro Serveto*, in defense of Servetus whom he claimed he never heard of before, which caused Calvin to accuse Postel of holding the same heretic ideas as Servetus, in his own treatise *Defensio contra Servetum*.⁹³ The fact that Postel would find in Servetus a kindred spirit should not be surprising, for like Postel who wanted to unite the world under one Christian religion and one monarchy, Servetus also wanted to reformulate the church conception of the Holy Trinity in order to remove this one dogma from Christianity which was objectionable to Moslems and Jews in the hope of winning them over to Christianity. Postel’s declared association with Servetus must have

⁸⁹ Kuntz, p. 109.

⁹⁰ Secret, pp. 85-86.

⁹¹ Kuntz, p. 108.

⁹² Kuntz, p. 110.

⁹³ Kuntz, p. 110, and Bouwsma, p. 23.

caused him enough chagrin for by August of the same year Postel left for Venice, and deposited his unpublished translation of the *Zohar*, in the custody of Zwinger, Oporinus's nephew.⁹⁴

In Venice, he went to the library of Tomaso Giunta, the scion of a family of printers. And there he resumed some of the projects he had started when he had lived in that city in 1547-1549. In particular, he resumed his work on the Syriac version of the Gospel, with which he was aided by the same Syrian priest, Moses of Mardin, whom he had met in Rome and Venice before.⁹⁵ When Postel heard that his friend Widmanstadt, the Chancellor to Charles V's brother Ferdinand I, had started a similar project on the Syriac Gospel in Vienna, he decided to dispatch Moses to assist him, and by the end of the year, 1553, he himself appeared in Vienna. Widmanstadt must have recommended Postel to the future Holy Roman Emperor, Ferdinand I, who after some "discreet inquiries" appointed Postel to a chair at the University of Vienna similar to the one he had held at the Collège de France with the same title, professor of mathematics and foreign (i.e. oriental) languages, and the same pay "of two hundred florins".⁹⁶

Six months later, by May of 1554, without bidding farewell to his benefactor, King Ferdinand I, Postel was again on his way back to Venice in order to defend, as he explained later to the King, his books which were written after 1547 and which were being considered for the index of prohibited books.⁹⁷ Books that were placed on the Index were of two categories: 1) Those that contained offensive heresies, and 2) those that were badly written on matters of faith that the Christian should not read. Postel's name was on both categories, a matter that offended him deeply. He asked the inquisitional court to reconvene, in the hope that he would convince the court of his true intentions if its members would only listen to him. The court did convene, and four months later pronounced him not a villain and a heretic, but simply a demented mad man, an "amens".⁹⁸ In

⁹⁴ Kuntz, p. 112.

⁹⁵ Kuntz, p. 115.

⁹⁶ Kuntz, p.116, Secret, pp. 105-106, Bouwsma, p. 20.

⁹⁷ Kuntz, p. 117-118.

⁹⁸ Secret, pp. 110-111.

a letter to Masius dated April, 1554, he confesses that the sentence was especially distressing for him. More importantly, he began to also worry about the fate of his manuscripts, for in a letter to Masius, dated January 1555, “he expressed hope that the ancient books in Arabic pertaining to medicine, astronomy, geometry, and other disciplines could be sent from Paris, so that he could make copies to be preserved in some public library.”⁹⁹

At this time he was obviously in financial straits and seems to have run out of patrons to resort to. In the same year, 1555, he apparently pledged some of his oriental manuscripts to the Palatine Elector Pfalzgrafen Ottheinrich of Neuburg for a specified sum of money he received from this nobleman. The oriental manuscripts themselves must have included the text of Naṣīr al-Dīn al-Ṭūsī, Vatican Arabo 319, which was bought by Postel on the second trip to the orient, as was mentioned before, for it eventually ended up at the Vatican Library where it is still preserved. The erstwhile librarian of the Vatican library, the famous Giorgio Levi Della Vida, in determining its provenance mentioned that it came from the Palatine Elector.¹⁰⁰ Why was a German nobleman like Ottheinrich interested in such books is yet to be determined.

As for Postel himself he continued to go about writing and publishing as before, and on a short trip to Padua he even found someone who accepted to cut oriental fonts for him at a small price. With a sense of reinvigoration he returned to Venice once more. And once more he fell into the hands of the Holy Office on account of his having circulated yet another book. This time he was confined at Ravenna in the prison of the local bishop who ruled the region on behalf of the Holy See.¹⁰¹ Thereafter, he was sent from Ravenna to Rome, but did not regain his freedom. Trying to escape, he fell and was brought back to jail with a broken arm. Just when Postel thought that Pope Paul IV was about to send him to a distant prison or to put him to death, the Pope himself died

⁹⁹ Kuntz, p. 120.

¹⁰⁰ See Bobzin, p. 396, and Levi Della Vida, G., *Ricerche sulla Formazione del più Antico Fondo dei Manoscritti Orientali della Biblioteca Vaticana* (Rome:Vatican, 1939), 307.

¹⁰¹ Secret, pp. 112-113.

and Postel was once again set free together with the other prisoners by the riots that swept through Rome after the death of Pope Paul IV.¹⁰²

Some information about Postel's captivity in Rome comes from the diary of a fellow prisoner, a Jew by the name of Benjamin Nehemia ben Elnathan, who had himself predicted, by his own astrological computations, that Paul IV was going to die when he did.¹⁰³ This Benjamin mentions Postel as speaking Hebrew and performing his prayers in Hebrew.¹⁰⁴ This account as well as others may have been at the root of Postel's reputed conversion to Judaism.¹⁰⁵ Moreover, his close identification with the Jews could also be confirmed by his own reference to himself as "God's Ass, ... [who] viewed his suffering and that of the Hebrew people as a sign of God's special favor and purpose."¹⁰⁶ Postel was already speaking in such terms as early as 1547, and as late as 1566 he signed his name as Postallus, which he claimed, through a likely tortured etymology, to derive from Hebrew *post* (to multiply, increase) and *tal* or *tel* (meaning dew). He even worked a Latin back formation for his Hebrew name as Rorispergius, from *spargere* (to scatter) and *ros, roris* (dew).¹⁰⁷

In 1559, the year when he was freed from the Papal jail in Rome, a copy of the *Zohar* was published in Cremona in the original Aramaic language. Postel noted that, and confirmed that his own Latin translation of the book had not by then appeared in print for a divine reason, namely, that it was waiting for the original to appear first lest something of this divine book be added or changed.¹⁰⁸ For in itself, the *Zohar* was very important to Postel who believed that "this book proved all the mysteries revealed by Mother Johanna, especially about the second coming of

¹⁰² Secret, p. 113.

¹⁰³ Secret, p. 119, Kuntz, p. 130.

¹⁰⁴ Secret, p. 119.

¹⁰⁵ Kuntz, p. 133.

¹⁰⁶ Kuntz, p. 132.

¹⁰⁷ Kuntz, p. 133- 134.

¹⁰⁸ Kuntz, p. 136.

Christ in the female person.”¹⁰⁹ Such was his devotion to the *Zohar* as was the devotion of the Jews of Cremona who brought out the book in Aramaic in the first place.¹¹⁰

From Rome, after his release from prison, and probably via Cremona, Postel went back to Basel, probably to reconnect with his publisher Oporinus. There is no evidence that the two got together again then. But there is information to the effect that Postel received financial help from a rich German from Augsburg, a Baron by the name of Georg Paumgartner, who also promised to pay an additional sum of 200 ducats to Ottheinrich’s heirs in order to reclaim the books that Postel had sent to Ottheinrich, who was dead by then, only if Postel promised to send along the remaining books he still had in Paris.¹¹¹ Why was Paumgartner interested in Postel’s oriental books remains to be established as well.

Postel remained in Basel for a few months, and quickly returned to Venice, only to decide to go visit Paumgartner in Germany passing on his way by Padua in order to consult with the physicians at that institution regarding his broken leg.¹¹² On his way too, he passed by Trent, where the Council was in its last session of 1561, and where he hoped to interact with some of the delegates. But he did not stay there long, and had to escape from his sworn enemy, the guardian of Lutheran orthodoxy Flaccius Illyricus, with whom he had had an unpleasant encounter some ten years before. Postel continued his trip to Augsburg through a circuitous route, only to find that Paumgartner was not there.¹¹³

From Germany, Postel finally decided to return to France. But trouble was to haunt him again, this time in Lyon, in 1562, where a lawyer in that city who was under the influence of Calvin, by the name of Matthieu

¹⁰⁹Kuntz, p. 138.

¹¹⁰ Kuntz, p. 136. Those Jews whose names appeared on the title page as proofreaders included among others Hayyim, son of Rabbi Samuel, son of Gotteneu, and Vittorio Eliano, grandson of Elias Levita whom Postel had met in Venice on his return from his first trip to the Orient.

¹¹¹ Kuntz, p. 138, and Secret, p. 120.

¹¹² Secret, p. 159. This is probably unrelated to the broken arm which he got when he attempted to escape from the Roman jail.

¹¹³ Secret, p. 120.

d'Antoine, published a book attacking Postel, and accusing him of wanting "to put the Moslems in place of Christians in regard to predestination."¹¹⁴ Furthermore, charges were brought against him that he was seducing people into *Postellisme*, and was therefore confined once more. The king himself, most probably through the influence of Queen Catherine de Medici, had to intervene in order to secure his release.

In Paris, Postel assembled the manuscripts that he intended to send to Augsburg, but they fell in the hands of the Calvinists. Left penniless, Postel went back to teach in public, an act in itself that aroused more trouble. This time the parliament granted him a hearing to defend himself and on December 12, 1562, "the judges decreed that he should be detained for three months in the Monastery of Saint Martin-de-Champs until the case was decided."¹¹⁵ Upon his release, he recovered some of his books and was apparently allowed to teach cosmography publicly in 1563, and to attract a great following.¹¹⁶ But his lectures were not confined to cosmography, or they probably used cosmography as a pretext, for they must have touched on the religious matters that were always preoccupying Postel. The atmosphere in Paris at the time did not allow for such teachings in public and he was ordered to be confined to the Monastery again.¹¹⁷ Instead he went to the house of Joseph Scaliger, who gave him a bed and a refuge in exchange for his teaching him Arabic.¹¹⁸ Shortly after that, he was apprehended at Scaliger's house and was finally confined to the Monastery.

At the Monastery, where he was to spend the rest of his life, till 1581, he was not treated as a prisoner in the true sense of the word. For there he continued to write, dedicating some of his works to Catherine de Medici herself, and to expose the errors of the Calvinists.¹¹⁹ He must have also left a good impression on his fellow priests, for a group of them issued a

¹¹⁴ Secret, pp. 120121, Kuntz, p. 140.

¹¹⁵ Kuntz, p. 141.

¹¹⁶ Secret, 124.

¹¹⁷ Secret, p. 124, Kuntz, p. 141.

¹¹⁸ Secret, p. 125.

¹¹⁹ Secret, p. 125.

statement, dated 1566, testifying to the proper behavior of Postel, “the former royal professor of mathematics and foreign languages,” and to his catholic views and his zeal in printing the Gospels in order to convert the Ismaelites.¹²⁰ Such good behavior earned Postel the freedom to move around provided he kept some form of residence at the Monastery. He still received the respect due to him on account of his knowledge and practice of medicine,¹²¹ and King Charles IX (1550-74) received him as “his philosopher,”¹²² and may have even employed him as his interpreter of oriental languages.¹²³ Considering the young age of the King and his relationship with his mother, Queen Catherine de Medici, these reports may simply mean that Postel was favored by the queen mother who also wanted him to tutor her son François, which he refused for he knew only too well what awaited him in the ambience of courtly life.¹²⁴

Postel was also apparently free to go to Laon in 1566 in order to witness, with ten thousand others both Catholics, who believed, and protestants, who came to mock, an event that had a deep impact on him, namely, the exorcism of a woman by the name of Nicole Obrey.¹²⁵ This woman, believed to have been possessed by the devil, was apparently cleansed of him by the miraculous power of the body of Christ which she accepted in communion. Postel recounts the events in a special monograph on the subject published under the pseudonym Anusius Synesius.¹²⁶ To him the events were also harbingers of the proximity of the second coming of Christ, and that he himself was under obligation, presumably as an apostolic priest, to disseminate the news about that miracle and its significance as widely as possible.¹²⁷

¹²⁰ Secret, pp. 125-126.

¹²¹ Secret, p. 138.

¹²² Kuntz, p. 143, Secret, p. 138.

¹²³ Kuntz, p. 160, note 505.

¹²⁴ Secret, p. 138.

¹²⁵ Secret, p. 127, Kuntz, p. 143.

¹²⁶ Secret, p. 127.

¹²⁷ Secret, p. 127.

Postel seems to have finally attained tranquility only in the latter years of his life. After entering a competition with two others to regain his post as a royal professor in 1576, and losing, he seems to have been able to still deliver some public lectures nevertheless. One of his contemporary biographers, Antoine Du Verdier (1544-1600) recounts that he used to see Postel go on foot from the Monastery to the college of Cambrai without any apparent difficulty.¹²⁸ He even went as far as testifying to Postel's longevity, claiming that he lived till the age of a hundred and ten, and that his beard even turned black in his old age.¹²⁹ Since his death date in the year 1581 is quite certain, his birth date would have to be moved back to the year 1471 if Du Verdier's report were to be true. The consensus, however, is that Du Verdier's statement was most likely an exaggeration.

For Postel, the rest of the time at the Monastery was spent in relative peace where he enjoyed the company of distinguished visitors. People would bring him their Arabic manuscripts in order to decipher their contents for them.¹³⁰ Others would come to him seeking his interpretation of symbols in a book that was brought from America.¹³¹ Still, when he did not have visitors, he would at times walk around the garden or play his flute.¹³² He stayed in those surroundings till the 6th of September, 1581, at nine o'clock, in the evening, when he gave up the spirit, and was interred in the church of the Virgin at the same Monastery.¹³³

This rather quick and yet long account of Postel's life brings out one important aspect of the status of Arabic science in Renaissance Europe. With his wanderings almost all over Europe, and the networks of people he came in contact with, we can easily discern tens of very learned people in all these European cities who were interested in matters Arabic. Priests, professors, noblemen, laymen, eastern Christians and converted slaves whose native tongue was Arabic, and most importantly publishers

¹²⁸ Reported in Secret, p. 140.

¹²⁹ Kuntz, p. 5.

¹³⁰ Secret, p. 141, 142.

¹³¹ Secret. p. 141.

¹³² Secret, p. 141.

¹³³ Secret, p. 144.

were apparently roaming all over European cities and all seeking Arabic books. We shall return to this general environment in the conclusion. But for now let's turn to the minute details of Postel's own interest in astronomical texts by following the annotations that he himself inserted on the margins of such texts and try to relate those annotations as much as possible to the events of his life in order to gain a full appreciation for their full intent.

3. *B.N. 2499, Muntahā al-Idrāk fī Taqāsīm al-Aflāk of Kharaqī*

This manuscript is an introductory astronomical text, assembled (*jama'a*) by Abū Muḥammad b. 'Abd al-Jabbār b. 'Abd al-Jabbār b. Muḥammad al-Thābitī al-Kharaqī (d. 1138) as is clearly marked on the title page.¹³⁴ It contains most of the same astronomical material usually found in other Arabic planetary theoretical texts referred to collectively as *hay'a* texts. The other manuscript included in this study, i.e. Vat. Arabo 319, simply called *al-Tadhkira fī al-hay'a* of Naṣīr al-Dīn al-Ṭūsī is another example of such texts.¹³⁵

In terms of the presentation of astronomical material there are slight variations between Kharaqī's text and the other *hay'a* texts. While most of the others are composed of four treatises, containing respectively 1) an introductory section, 2) configuration of the celestial bodies, 3) mathematical geography including the appearances of the various celestial phenomena from the various parts of the earth, and 4) planetary

¹³⁴ According to Suter, Heinrich, *Die Mathematiker und Astronomen der Araber und Ihre Werke*, Abhandlungen zur Geschichte der Mathematischen Wissenschaften, X Heft, Leipzig, 1900, p. 116, this astronomer's name is Muḥammad b. Aḥmad b. Abī Bishr, Abū Bakr Bahā' al-Dīn al-Kharaqī, and that only two manuscripts, Paris 2499, and Berlin 5669, of this work refer to him by the name quoted in the body of the text. This is most unlikely. But since none of the works of this astronomer have been edited and properly investigated, a more definitive determination of his name can not at this point be established.

¹³⁵ There are now two modern editions of Ṭūsī's text, one by Ragep, F. J., *Naṣīr al-Dīn al-Ṭūsī's Memoir on Astronomy (al-Tadhkira fī 'ilm al-hay'a)*, Springer, NY, 1993, containing in addition an English translation and a commentary that can be consulted for this purpose, and the other containing only the edition and supplementary remarks is by Dr. 'Abbās Sulaymān, *Naṣīr al-Dīn al-Ṭūsī: al-Tadhkira fī 'ilm al-hay'a ma'a dirāsāt li-ishāmāt al-Ṭūsī al-falakīya*, Kuwait: Dār Su'ād al-Ṣabbāḥ, 1993. A general study of the contents of such texts was conducted by John Livingstone, "Naṣīr al-Dīn al-Ṭūsī's *al-Tadhkira*: A Category of Islamic Astronomical Literature," *Centaurus*, 17 (1973), pp. 260-275, where he also gives a general table of contents.

distances and dimensions, Kharaqī's text contains only three treatises. The first treatise combines the first two mentioned above and is therefore devoted to a "demonstration of the configurations of the celestial spheres and their motions, the introductions leading to them, as well as the conditions occurring in those spheres pertaining to the planets." The second treatise is devoted to the "configuration of the earth and its division into inhabited and un-inhabited parts and the variation in the ascensions and risings occurring in them on account of the variation in the localities." The third and last treatise is devoted to "chronology discussing the various eras and measures of time and things pertaining to them by way of conjunctions and revolutions."

Although the text of the manuscript was composed before 1138, this specific copy was completed about a hundred years later in Damascus on the 16th of Shawwāl of the year 633 A.H. (= 22 June 1236) as is clearly marked on folio 156v.

As was noted in the introduction, one of the flyleaves, the second before the title page, carries in Postel's hand, the annotation *G. Postellus. Constantinopoli... 1536*, followed by illegible writings in Hebrew and Greek probably indicating the price with which it was bought.

The next folio has the Arabic note indicating a price at which this manuscript was purchased before it reached Postel. In a clear Arabic hand, not that of Postel, it says: *intaqala ilā mulkī bi-l-sharā' al-ṣaḥīḥ bi-thamān mi'ah wa-khamsīn dirham* (passed on to my possession through legally valid sale for eight hundred and fifty dirhams), which is annotated in Postel's hand with the following phrase: *tres dedit qui ante me habuit 25 aspaas*.

The page facing the title page has the identification of the work in Postel's hand, stating the Author's name as well as the subject matter of the work: *Abu Muhamed Abdel Jebar F. Abdel Jebar. Cosmographiae compendium*.

The title page itself has various possession statements, in various hands, among them is that of the famous fourteenth-century man of letters and author of one of the most extensive biographical dictionaries, as well as several literary and religious works, called Khalīl b. Aybak b. 'Abdallāh al-Ṣafadī (d. 1365). His signature on this page simply indicates the importance of this manuscript, as well as the extent to which men of letters of the period at least owned, if not read, astronomical literature almost in the same fashion as their much later counterparts did during the European Renaissance.

The top of the title page has an illegible remark, not by Postel's hand, followed immediately underneath it by what seems to be a shelf number at the royal library: *Codex bolb? 4377. Regius 733/22*. In that order, another Greek remark, in Postel's hand this time, identifies the author of the astronomical text as: (ὁ Γεβέρου ὁ ἀστρονόμος ὁ μέγιστος), thus making it plausible that Postel was probably confusing 'Abd al-Jabbār [al-Kharaqī], whose work was never translated into Latin as far as we know, with the Andalusian astronomer Jābir [Ibn Aflah c. 1120: Latin Geber/Gebri] whose work was indeed translated into Latin and printed more than once during the Renaissance.

Right underneath the Arabic title there is another annotation, also in Greek identifying the work and the author as *GEBER (ἡ μεγάλη πραγματεῖος ἡ σύνταξις Τον μαμεδ τον λεγομηνα ΓΕΒΕΡ)*.

Finally, and on the same title page, Postel added his own possession statement, *Ex libris Guilielmi postelli*.

The first few pages of the manuscript, folios 1v to 3v, containing the usual introduction, calling God's blessings on the author and the patron and stating the motivation for the composition of the work as well as its table of contents are left without any annotations by Postel. But with the beginning of the first introductory chapter "On the Explanations of Terms Frequently Needed in these Matters," Postel's hand is noted everywhere, on the margin as well as supralinear. Folio 3v, for example, illustrates very clearly the elementary nature of Postel's remarks, and gives the feeling that he was either learning astronomical technical terms or just Arabic terms of the same for the first time. Annotations such as *De Sinibus & chordis* on the margin of the section containing a discussion of sines and chords, or superlinear terms such as *versus* (above *al-jayb al-ma'kūs*), *recto* (above *al-mustawī*), *subtendens* (above *watar du'f al-qaws*) or *absol* (above *al-muṭlaq*) reveal very clearly the nature of the exercise. Postel seems to be associating Arabic technical terms with their Latin counterparts, behaving just like a student of elementary trigonometry. His own addition, using the Arabic alphabet, on the margin closest to the spine of the Arabic words *watar sahm al-jayb*, a phrase not used in the text as such, indicates that he was probably collecting such similar terms from his teacher or from other sources that he was reading at the same time.

Similarly fol. 4r has several such annotations. Next to the Arabic expression *al-dā'ira al-'aẓīma* in the text, the marginal note reads: *sphere sectorite qui et equator ē*, and next to *al-dawā'ir al-ṣighār*, the note reads: *minores circ[uli]*. Next to the word *arbā'*, Postel glosses it with the

numerical fraction $\frac{1}{2}$, and twice he inserts supralinear remarks over Arabic words, once in Greek and once in Latin. Over the word *al-tawāzī*, he inserts the Greek word *παράλληλισμόν*, and over the word *rusimat*, he inserts the Latin *signat*. Few pages later, on fol. 6r he glosses the word *al-muḥaddab*, by the Latin word *convexus*, and the word *muqa''ar* with the word *cava[stus]*. The word *equationem* on the same page glosses the Arabic term *basīf*. Many more such annotations appear on the margins of the early pages of the Arabic manuscript. Their sheer number seems to indicate that Postel was still studying elementary astronomy when he was annotating this part of the manuscript. Since we know that he bought this manuscript in 1536, while he was in Istanbul, we can now determine that he was doing so when he was twenty-six years of age. The interesting point is that he was studying astronomy through an Arabic text. He obviously had other reasons to do so, since he intended to publish later on works on geography and cosmography as he did with his *Cosmographicae disciplinæ*, which was published first in 1561, and then posthumously printed in 1603, and then in 1636.¹³⁶

The fact that he was still learning Arabic when he purchased this text, is further confirmed by independent evidence which states that on his first trip to Istanbul he had hired someone to teach him Arabic there in Istanbul.¹³⁷ Those elementary notes may very well refer to that period in his life but they do indicate that he was a diligent student almost leaving no technical term without a gloss.

Other glosses such as those on fol. 8r, and 14v, seem to indicate that Postel was either taking notes to refresh his memory later on, or to bookmark the text as we would now say, or he was learning the pronunciation of some words. Otherwise, there is no reason why he would insert on the margin of fol. 8r, and vocalize the three annotations in Arabic script of *Bulghār*, *'Adan*, and *Ḥaḍarmūt* [thus vocalized] when the words are rather clear in the text, and of course without vowels, and do the same on fol. 14v, and also on 16r, by inserting the Arabic semi-vocalized note *falak al-mumaththil*, next to the place where this very sphere is defined. Was this part of the learning process, or was he taking notes so that he would know how to render those words in fully vocalized

¹³⁶ *Cosmographicae Disciplinæ compendium, in suum sinem, hoc est ad diuinæ prouidentiae certissimam demonstrationem conuetum*, Guilelmo Postel, Paris?, 1561.

¹³⁷ See note 18.

Latin script when he needed to use them later for his geographical and cosmographical works?

And what of the annotations of the chapter titles? Next to the chapter fol. 8v, titled: *fī bayān anna al-arḍ fī wasaṭ al-‘ālam*, he adds: *quod terra sit in medio*. And next to the chapter fol. 9v, with the title: *fī annahu laysa li-l-arḍ intiqāl ‘an al-markaz*, he adds: *non moveri terram*. Similarly, on fol. 10r, the chapter title: *fī annahu laysa li-l-arḍ ‘inda al-samā’ qadrun yuḥass*, he adds: *nulla quantitate ex terra coelo collate*, and next to the chapter, on fol. 10v, titled: *fī taqsīm al-aflāk ‘alā al-ijmāl wa-bayān marātibiha*, he adds: *spherarum divi[sione] et ordo*. On this large scale, the annotations seem to be equivalent to book marks for the annotations could not be read as reactions of Postel to the contents of the text.

The annotations become a little more sporadic when the text moves to discuss the planetary motions and the number of spheres, deferents and epicycles each planet requires. But when such concepts as the ones that could be used for calendrical purposes are mentioned, he goes back to annotating and to translating the contents of the text. For example, on fol. 16r, where the text discusses the motion of the apogee at the rate of 1°/66 years, Postel notes: *66. ā [=annus?] motus augies uno gradu*. Words such as apogee and perigee, on fol. 17r, are also annotated, this time in Greek, as if to determine the original Greek equivalents.

While up to fol. 17r, almost every page was annotated the following seventeen folios are completely free of annotations. Then by folio 35r, the annotations begin to appear again, first in Greek, and then mostly in Latin. And when he notices that there was a discrepancy between the number of the fifty constellations in this text and the forty-eight given by Ptolemy, he adds on fol. 45r: *quinquagintas sunt coeli imagines apud hu~c [for hunc] authorem; quini Ptole[maus] sint 48*.¹³⁸

Fol. 61r, which is left blank in the original and marked as such *bayād*, Postel adds, in Greek this time: *w&den leipoi*. Was he practicing his Greek at this point, or was he learning the new Arabic word *bayād*?

But by fol. 74r, when the text moves to the discussion of the inhabited world, and the various divisions of the climes, the annotations reappear in full. He even begins to make connections between the material in the text and the Ptolemaic geography upon which the text is based. Concepts such as dimensions of the inhabited world, numbers and names of seas and

¹³⁸ Interestingly, when he gets around to write his own text on the constellations, *Signorum coelestium vera configuratio aut asterismus, stellarumve per suas imagines aut configurationis dispositio* ..., Paris, 1553, p. 3 he only mentions 36 constellations.

water bodies are heavily annotated in both Greek and Latin. This should not be surprising when we remember that Postel was inserting these annotations just at the dawn of the so called age of discovery when the European mania for “discovering” the world was at its peak. Such geographical information would be very useful for the purpose, when we also remember that the Islamic world from which these texts were being annotated had not yet collapsed to the enterprise of “discovery”.

The fact that Postel’s interest was limited to the plain geographical names and directions is obvious as he stops annotating this section of the Arabic text when it moved to mathematical geography, and how astronomical phenomena would appear to an observer on the earth.

The annotations pick up again when the text moves to matters of chronology and calendars on fol. 112r. Here Postel begins to be interested in beginnings of the various eras mentioned in the text, and would even mark down the number of days separating their beginnings. Eras of the Deluge, Adam, etc, with the sources that mention them are clearly annotated by Postel. And like his note of the rate of precession, or the motion of the apogee, that he marked before, these eras are very useful for calendar constructions. And that should not be surprising either as we know that Postel’s life coincided with the intense interest of the calendar reform that started in the early part of the sixteenth century and culminated in the famous Gregorian reform in 1582, just one year after Postel’s death. Astronomers of that period, including Copernicus himself, were either consulted for the reform project or were involved in proposing reforms of their own.

The only personal remark Postel introduces in this section is the one that he made next to the text that speaks of the translation of the Septuagint which was, according to the text, undertaken by Ptolemaeus Philadelphius who had gathered for it thirty six different pairs of people to complete it. The Arabic word for pairs in this context is *firqa*, meaning group as well, and stresses the idea of isolation from one another. At this point, Postel seems to have noted the parallel with his disunited Gauls and simply writes on the margin: *parq’t gall* [for *pariterque galli*]. Almost all the legendary biblical eras, as well as the historical ones are annotated in this section.

His close reading of the text climaxes on fol. 124r. There he notes that the text includes a table for the month’s names of the various calendars, starting with the Islamic, the pre-Islamic, the Seleucid, the Persian, and ends with the Hebrew, and the list of Hebrew months was in error for it progressed directly from *Shebat* into *Nisan*, jumping over *Adar*, and

slightly garbling the remaining months. Here Postel intervened into the text and added two columns to the left of it correctly listing the Hebrew months in vowelless cursive Hebrew script, and adding next to them a similar list of the same months, but this time in Arabic script with simple Arabic vowels inserted as a guide on how to pronounce the Hebrew names. Next to the missing month Adar, he correctly added that this month would be intercalated in the third year: *hic tertio quoque anno fit intercalates*.¹³⁹

Postel's interest in calendars in general, and in ecclesiastical ones in particular is obvious from his extensive notes on this section of calendars in the text, and from the next section that deals with religious feasts of the various nations as is the custom to include in Islamic astronomical texts. In the ecclesiastical calendars sections, and especially the section dealing with the Christian calendar, he annotates with great care all the technical terms for crucifixion, resurrection, fasting, ascension, Paraclete (which he reconnects with the original Greek *παράκλητος*), annunciation, transfiguration, feast of the cross, and nativity among others. The feasts of other religions are of no interest to him, and thus they are barely annotated. The whole sections on the Hebrew and Persian feasts are simply annotated, next to the title, with *hebreiorum fasti* and *persarum fasti* respectively.

One more number that was needed for the construction of the calendar was the length of the solar year. Here in Kharaqī's text, fol. 105r, Kharaqī gives various lengths of the solar year, and attributes them to the various astronomers who determined them. But he singled out the length of the year which was determined by al-Battānī (d. 929), and cites as being 365 days 5 hours 46 minutes and 24 seconds. Postel leaves this whole discussion without any annotations. But when he gets to write his own astronomical work later on, *De Universitate*,¹⁴⁰ he used this number without citation, and lists it as 365 days 5 hours, 45 minutes, and 24 seconds, thus introducing a typographical error of 45 for 46 minutes. This could confirm what we said above that Postel was at times reading the texts in order to use their contents, without having to translate them, in

¹³⁹ Of course the intercalation does not occur every three years, but he at least knew that this was the month that would be intercalated when intercalation occurred.

¹⁴⁰ *De Universitate liber in quo astronomiæ ...*, Paris 1563, p. 10, see also E. Poulle, "L'Astronomie de Postel," in *Guillaume Postel (1581-1981)*, *op.cit.*, pp. 337-348, esp. p. 342.

lunar years earlier, then the date of completion will come out to 1237, which is slightly better but not exact.



BNF 2499 colophon

The date on the right is worse, for it seems to say that the date from the time of the Hijra to the time when he was in Damascus, i.e., 1537, was 946 years. Now $622 + 946$ solar years = 1568 AD, which is way off. But here again if he means that 1537 was 946 lunar years after the Hijra, then that would be wrong as well for the year 946 AH = 1540 AD, and not 1537. Again it is close but not exact. Is it possible that Postel could make such calculating mistakes in calendar correspondences? It is hard to tell.

4. Vatican Arabo 319, Ṭūsī's *al-Tadhkira fī 'ilm al-Hay'a*

The second manuscript that was also annotated by Postel has less annotations. Only few pages of it have Postel's comments. But few as they are they still shed a very important light on the character of Postel himself. One reason why there were such few annotations may have something to do with the date when this manuscript was purchased by Postel. We have seen before that this manuscript was bought by Postel during his second trip to the Islamic world, that is sometime between the years 1548 and 1551. And by then his knowledge of astronomy was already strengthened as a result of his studying the first manuscript, and thus had no need to annotate the elementary astronomical concepts he annotated in the Kharaqī manuscript. But there is something curious that should be highlighted at this point. The second manuscript contains one of the most important chapters of Ṭūsī's work, namely the chapter that

dealt with Ṭūsī's objection to Ptolemaic astronomy and his proposal of alternative models that included the introduction of the new theorem now called the Ṭūsī Couple. And yet, Postel did not add a single gloss to this chapter. This is curious, especially when we are informed in a modern article by Emmanuel Poulle that, in a treatise written by Postel in 1560, he apparently disapproved of the Ptolemaic as well as the Copernican systems and thought they were both in error.¹⁴¹ One would have expected a hint at this point. But no such hint exists.

All together, only ten pages of this manuscript are annotated. The annotations mostly deal with identification of particular words or places, and do not really inform us of Postel's thought at the time. Since they are not too numerous, and since this manuscript is of a great theoretical importance in Islamic astronomy, in terms of its daring argument against Ptolemaic astronomy, I shall quote here all the annotations so that they would serve as a contrast.

The title page of the manuscript, fol. 1a, is curiously annotated with the note "*Epitomi Almagest*" as if intended to characterize Ṭūsī's text as an abridged form of the *Almagest*, which is not exactly the case, especially when we know that Ṭūsī's intention in this text was to anchor in it the pivotal chapter in which he refuted the *Almagest* models.

On folio 9v, there is a note, very close to the spine, thus hardly legible, which annotates the discussion in the text about the various values for precession. This is in the context of Ṭūsī critiquing Ptolemy's value of $1^\circ / 100$ years and mentioning that the "moderns" had found it to be much faster, namely at a rate of $1^\circ / 66$ years or $1^\circ / 70$ years. As we have seen in the other manuscript, Postel was interested in making a note of that value, knowing that it will be very useful for anyone having to work on a reform of the Julian calendar which was being earnestly pursued at the Postel's time. Unfortunately, the present condition of the microfilm in my possession does not allow me to venture any guess to what was intended by that very poorly reproduced remark. But it does indicate that his interest was certainly picked.

On folio 10v, in a note again close to the spine, Postel adds something that looks like: *capricornos ses cetauri sohel*, in connection with the text which reads at that point: "*wa-l jadiy mimmā sa-yantahī ilā al-quṭb al-shamālī wa-rijl qanṭūrus wa-suhail mimmā yaṣīrān abadīy [sic] al-khafā' fī al-iqlīm al-rābi*". Postel seems to be satisfied with his ability to

¹⁴¹ See Emmanuel Poulle, "L'Astronomie de Postel," in *Guillaume Postel (1581-1981)*, *op.cit.*, pp. 337-348, esp. p. 343.

identify Capricorn, Centaurus, and Suhayl, but does not have much to say about them.

The note on folio 14v is interesting for it demonstrates that Postel was still in the mode of learning astronomy, as he was doing when he annotated the Kharaqī manuscript. Here, next to the discussion about the technical terms “apogee” and “perigee” he has the following marginal note: “*Longitudo remotior in eccentrico dicitur Aux, longitudo propinquior appellatur Hadhidh*”. In addition to the elementary nature of the note, it demonstrates that he still did not have a Latin term for perigee and had to transliterate the Arabic word *ḥaḍīḍ*. The text to which this note is related is slightly more sophisticated. It tries to draw the attention to the distinction that should be made between the apogee of the eccentric which has its own technical term “*awj*” and that of the epicycle which is called “*dhurwa*”. It says that the same term *ḥaḍīḍ* (perigee) applies to both of them: *wa-l-bu'd a-ab'ad fī al-khārij al-markaz yusammā al-awj, wa-fī al-tadwīr yusammā al-dhurwa. Wa-l-aqrab fīhimā yusammā al-ḥaḍīḍ*.

Twice on folio 17r he found occasion to annotate the Arabic/Persian word *Jawzahr* for the lunar node, by simply transliterating it into Latin script thus “*Geuzohar*”. The same transliteration is used to identify the same term on the next page, folio 17v. The similarity in the sounds of the ending “*zohar*” and the ending “*zahr*” in the Arabic/Persian word seems to have attracted Postel’s attention. And since we know that Postel became interested in the *Zohar* first around the year 1547, and then around 1551, after his return from his second trip to the orient, we can posit that he was annotating this manuscript after that date, that is, at least ten years after he annotated the first manuscript in 1536-7. Furthermore, there is no such annotation in the earlier manuscript although the same word is used to designate the lunar node. This should confirm that his interest in the *Zohar* was to come later.

On folio 41v, next to the text where Ṭūsī identifies the beginning of longitudes in the west from the Fortune Islands, Postel adds the following remark: *Ferè eadem habet Abilfedea de initio longitudinum*, which is not surprising for we have seen that he bought *Taqwīm al-Buldān* of Abū al-Fidā’ along with this text of Ṭūsī and must have been obviously studying both of them. And on the same page, next to the division of the seven climes, he adds: “*septem climata*.” All these notes would become useful for his *Cosmographica*.

On folio 56r, where Ṭūsī discusses the conditions for the determination of the *qibla*, and gives the longitude and latitude of Mecca, Postel adds

the following note: *Nota memorabilis de longitudine et latitudine Mechh*, as if to just take note of the coordinates of Mecca.

On folio 57r, where Tūsī discusses the story of the determination of the length of one degree along the earth's meridian during the days of the caliph al-Ma'mūn (*fī 'ahd al-Ma'mūn*), Postel apparently thought that the word 'ahd' signals an "era" like the other eras he had learned from chronological discussions. He annotates that discussion with the simple remark: *historia de mamone*, on one margin and "*de ambitu terræ*" on the other.

Finally the book ends on folio 64r with a detailed Arabic colophon giving the exact date of the completion of the copy as being on Friday, the 5th of Muḥarram of the year 683 AH = 23 March, 1284 AD, and that it took place at the Niẓāmīya school in Baghdad. This time, Postel simply translates the date of the colophon with the remark: "*absoluta est eipitome Almagesti die congregationis, quinta mensis Muharam Anni Arabum 683.*"

5. Conclusion

Much can be learned from this quick survey of Postel's life and his marginal annotations of those two Arabic manuscripts. Both of the manuscripts dealt with astronomical planetary theory, which immediately reveals Postel's interest in the subject. But within the texts themselves we saw the repeated attempts to capture the technical terms of Arabic astronomical sciences. And although the annotations were written at least ten years apart the tendency to annotate the technical terms, either by transliterating them into Latin script, or by translating them into Latin, is easily noticeable throughout. That phenomenon can simply mean that Postel's interest in Arabic astronomy was of long duration and probably survived with him throughout his life.

Knowing of his interest in chronological calendars, especially the ecclesiastical ones, and the care with which he annotated the eras, dates, and relationships among the various calendars can only be an expression of his interest in the debates that must have been going on at the time which finally led to the Gregorian Reform of the calendar in 1582, just one year after Postel's death. We said before that this period also inaugurated the so called "Age of Discovery" which may also explain Postel's interest in geographical coordinates and the like. Furthermore, we know that he also participated in enriching the Latin library of his time with works on geography, cosmology, history (especially that of the

Turks), as well as languages. His annotations on those two texts clearly reveal that he was also using them for his research as well. We have also seen that he was using them even when he was not annotating them as he did with the length of the solar year according to Battānī. But now that we know that he did lecture on Mathematics and Oriental Languages at the Institut Royal, this may also indicate that he was gathering those technical terms in order to use them in his lectures on the subject of astronomy. All this reveals to us a *bona fide* Renaissance man at work.

From his total disregard of the novelty in Ṭūsī's text vis a vis Ptolemaic astronomy, and from what we know of his later works on cosmography, we can easily tell that Postel could not even understand the contents of that chapter in a manner anywhere similar to, say, Copernicus's understanding of it. Had Copernicus had Postel's knowledge of Arabic one could easily imagine the dense notes he would have left on the margins of this chapter. But then we would be contrasting a genius with an ordinary learned man, and that is not fair. Still we could safely say that Postel was apparently accomplished in Arabic, and could read such difficult technical texts and make some sense out of them. And that is not a mean feat in itself.

Returning to the role played by people like Postel, Leo Africanus, and many others, who could read Arabic and did not need any translations to understand the intent of the texts, we can simply say that had Copernicus come across someone like Postel, he would have certainly found him interesting and would have certainly used his help in order to decipher the contents of the Arabic astronomical texts, or at least decipher the markings on the geometric diagrams. After noting that Postel's annotations did not particularly attest to Postel's sophisticated knowledge of astronomy we can surmise that Postel himself may not have been the right type of person to assist Copernicus. But others like him, or slightly more sophisticated than him would not have been impossible to find. The task at hand is to locate such persons not only to determine their relationship to Copernicus but to understand the intellectual climate of the Renaissance in slightly better detail.

Finally, whether Postel could have been the conduit of Arabic astronomical ideas to Copernicus or not pales in comparison to his role as a clear illustration of the manner in which scientific ideas could cross borders, and once they do how they become integrated into the new receiving culture. Knowing that Postel was probably reading the Arabic astronomical texts in order to prepare his Latin lectures, or to write his Latin books, and knowing that the Arabic texts themselves were

originally written as a reaction to the Greek astronomical theories, it becomes legitimate to raise the much more important theoretical question: Whose science was Arabic science in Renaissance Europe? With Postel's case it becomes abundantly clear that such linguistic, religious, or cultural adjectives that characterize science as Arabic, Greek, or Latin become meaningless as analytical terms. Historians of science should coin better terms to illustrate such complex crossings of scientific ideas.¹⁴²

Postel and his contemporaries are too late to have been the source from whom Copernicus could have received help with the Arabic material when he needed it as early as 1515, the date before which he produced his *Commentariolus* (Postel was then four years old). But by detailing Postel's life we find ourselves in the presence of tens of people who were interested in Arabic during Copernicus's life time. Their vigorous pursuit of that language must mean that they were heirs to an earlier generation of European orientalists, like Andrea Alpago (d. 1520) and Hieronimo Ramnusio (d. in Beirut in 1486), who could have easily fulfilled that function. In fact Andrea was even much more learned than Postel, for he was the one who competently translated almost all of the works of Avicenna, and apparently Ibn al-Nafis as well, and to whom we owe much of what is now known as Avicenna Latinus.

And even if we cannot tell which specific person managed to help Copernicus with his discovery of Arabic astronomy, we can still conclude that the scientists of the European Renaissance were consciously seeking scientific works from the world of Islam, and were incorporating their findings in their Latin works without having to translate those Arabic works into Latin as they did during the Middle Ages.

¹⁴² In fact I have raised this very theoretical question in an article I published several years ago on the World Wide Web at the following site: <http://www.columbia.edu/~gas1/project/visions/case1.html>