Laying a Framework for Arabo-Greek Studies: The Translation of Arabic Scientific Texts into Greek between the Ninth and Fifteenth Centuries

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This collection of articles is the culmination of a fruitful two-day workshop on « The Translation of Arabic Scientific Texts into Greek between the 9th and 15th Centuries » (26–27 February 2021). The conference was organized under the auspices of the Gutenberg International Conference Center at Mainz as part of the Mainz History Talks, with support from Princeton University's Committee for the Study of Late Antiquity and Program in Medieval Studies. We heard not only a number of fascinating papers, but also, especially in the discussions, an emerging consensus regarding the need for hitherto scattered research impulses to coalesce into a more concrete framework for the development of what might be termed Arabo-Greek Studies. We hope to model Arabo-Greek Studies on the established field of Graeco-Arabic, especially in its dual usage of philological and historical approaches in analyzing the Greco-Arabic translations produced in ʿAbbasid Baghdad and elsewhere.

Our conception of Arabo-Greek Studies is dedicated to the medieval translations of Arabic works into Greek, a phenomenon that we can begin to trace from the ninth century, and which continued through the fall of the Byzantine Empire. In the contributions in this issue, dedicated to scientific translations from Arabic to Greek, we see that Arabo-Greek translation was built on Graeco-Arabic foundations. Arabo-Greek translation occurred in many of the same subjects in which translations from Graeco-Arabic translations had already occurred and on subjects, like astrology, medicine, and alchemy, where the Greek tradition formed

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a cornerstone of the Arabic discipline. Thus, once Arabic scientific works were translated into Greek, they could easily be incorporated into medieval Greek manuscripts and read side-by-side with ancient and medieval Greek texts.

We were fortunate to have a strong array of papers presented in our workshop, substantially edited, altered, and reviewed for publication here. As will be clear, these papers use a number of distinct methodologies from the codicological to the philological to the historical. We think that these diverse approaches together model some of the many ways in which Arabo-Greek Studies can and should be done as it develops in the future.

Our collection of articles is inaugurated by Alexander Treiger's contribution, which paints a rich picture of the Graeco-Arabic translation movement in ʿAbbāsid Baghdad from the perspective of competition between the caliphate's various Christian confessions. These groups used their expertise in Greek, which had suddenly become much in demand in the context of the need to translate classical texts into Arabic, as an asset to enhance the status of their respective communities. Though the Melkites, with their strong connections to the Greek culture of the Byzantine Empire, were well-suited to take advantage of this new situation, several figures belonging to the 'Nestorian' Church of the East were also very active in the movement, and thereby hoped restore the privileged position their community had enjoyed under the Sasanian Empire. Yet, as Treiger demonstrates, the role of the caliphate's Christians in the translation movement was not exclusively marked by confessional competition, but also, at least in some cases, by cooperation.

The second contribution, by Joe Glynias, provides context to the large-scale Middle Byzantine translation of Arabic astrological texts into Greek by analyzing the manuscript evidence. Glynias analyzes three Greek astrological manuscripts whose compendia can be dated to the Middle Byzantine period: Vatican gr. 1056, Paris gr. 2425, and Paris gr. 2506. He argues that a large number of Arabic astrological texts were translated into Arabic in an intellectual phenomenon likely connected to the Melkite Greco-Arabic translation movement of eleventh-century Antioch, a movement which resulted in the formation of a Byzantine Christian patristic corpus in Arabic. These compilations show that by the twelfth century, Arabo-Greek astrological translations were being incorporated into the Byzantine tradition, often excerpted side-by-side with ancient, late antique, and medieval Greek texts. The integration of Arabo-Greek translations was aided by the fact that Byzantine and Islamic astrology had a shared heritage of ancient Greek texts. Glynias considers the evidence provided in these manuscripts for which Arabic authors were translated into Greek by this time, whether excerpts or complete texts of theirs were translated, and the ways in which they became a part of Byzantine science of the period and led to further Arabo-Greek scientific translations.

The focus of the third contribution, written by Luca Farina, likewise remains on astrology. At the center of the examination are the Greek textual witnesses of the astrological works, written in Arabic, of Māšāʾallāh ibn Aṯarī al-Baṣrī (d. 815) and Abū Maʿšar al-Balḫī. The most important manuscript for the Greek translations of their works is Vat. gr. 1056, which Farina argues was written in the thirteenth century, rather than the fourteenth, as previously assumed. Like the contribution of Marie Cronier and Antoine Pietrobelli below, redating plays a key role in the study. In addition to a comprehensive list of the mentions in Greek manuscripts of these two astrologers, Farina also provides an edition of texts attributed to them in Vat. gr. 1056.

The fourth contribution in our special issue is authored by Marie Cronier and Antoine Pietrobelli. While Treiger's study focused on Baghdad under the ʿAbbāsids, the authors here concentrate on one of the principal milieux of Arabo-Greek translation activity, namely Antioch in the eleventh century. The key figure in this study is Symeon Seth, and much of the contribution is devoted to an attempt to establish his intellectual links with the Islamicate world, in particular to the person of Ibn Buṭlān. By presenting a reevaluation of the chronology of Seth's life, they shift his main period of intellectual productivity into the last quarter of the eleventh century, roughly three decades later than earlier scholarship had assumed. This redating also would allow the possibility that Seth could have been a disciple of Ibn Buṭlān during the 1060s, during his extended stay in Antioch, or at least influenced by the intellectual climate engendered by the polymath's presence. This would account for the strong influence of contemporaneous medicinal knowledge from the Islamicate world – evident, for instance, in Ibn Buṭlān's texts – in Seth's own works.

In the fifth article, Thibault Miguet gives a taste of what can happen as scholars begin to look for Arabo-Greek translations, many of which remain waiting to be discovered in manuscripts easily accessible in European libraries. Miguet introduces the unicum of a previously unknown Palaiologan translation of a large portion of ʿAlī b. al-ʿAbbās al-Majūsī's « Royal book », found in Paris suppl. gr. 638. He identifies the translator, a certain John *dioiketes* of Constantinople, and proves that this manuscript is actually the translator's autograph, and delves deeply into the history of this manuscript, using its codicology and information on how it came to the BnF to scrutinize the context in which the codex—and the autograph of the translation it contains—was produced. This article sets the stage for Miguet's edition of the text, his further study of the manner in which it was translated from Arabic to Greek, and for future study on the translation of Arabic medical works into Greek, a topic of which scholars are only beginning to scratch the surface.

In the final piece of this thematic section, Christine Roughan provides a foundation for studying Palaiologan Arabo-Greek astronomical translations by

investigating the context where many Islamic texts that were translated were composed and taught; that is, the thirteenth/fourteenth-century Ilkhanid capital of Tabriz and at the nearby famous astronomical observatory of Maragha. Roughan investigates how the astral sciences were taught, studied, and written about there. She looks at the multicultural authors, teachers, and students associated with both places, a large list of figures including Naṣīr al-Dīn al-Ṭūsī, Gregory Chioniades, and Bar Hebraeus, and analyzes uses students' writings to show what texts were being taught. Roughan demonstrates that even as teachers were composing new *zījes* (astronomical handbooks), they were still predominantly teaching an older, established curriculum based on ancient Greek authors, in addition to newer manuals written in Persian. This article provides a remarkably comprehensive introduction to the efflorescence of Ilkhanid astronomy, makes key observations about the specifics of Arabo-Greek scientific translation, and displays the large influence of the observations and teaching of astronomers in Maragha and Tabriz in the Greek, Syriac, Arabic, and Persian traditions.

Seeing as Arabo-Greek Studies is still in its infancy, we present here on the basis of the papers and the ensuing discussion at the conference, the following catalogue of some salient issues that merit further consideration as the contours of the field of Arabo-Greek Studies are delineated.

Because most Arabo-Greek translations are anonymous, we are led to question when they were translated, in what context, and by whom. Our information about most Arabo-Greek translation comes from late medieval manuscripts, giving us a terminus ante quem for many translations from the thirteenth to sixteenth centuries. The Palaiologan era was rich in Arabo-Greek translations and we can identify a number of figures associated with Arabo-Greek translation in the period, like Gregory Chioniades or John Dioiketes. Some Arabo-Greek translations, like those associated with Symeon Seth, were made much earlier. As manuscripts of Arabo-Greek translations are catalogued – an effort that has already begun at Mainz – it will be a challenge of the field in the future to determine when certain texts were translated and in what contexts.

One of the most important tasks for this nascent field of study will be to circumscribe a geography of translation: where were translations of Arabic works into Greek made? While the multilingual environment of Palestine and its monasteries is a likely candidate for some translations, the role of Syria, and in particular Antioch, was much less emphasized until recently, thanks to a number of scholars, including some in attendance at our workshop in February 2021. The eastern frontier of the Byzantine Empire in general appears to have played a pivotal part in this translation movement. Greek-Arabic bilingualism and knowledge of Arabic science was widespread there, and surprisingly rare elsewhere in the Byzantine Empire. This is particularly the case at an early stage

of Arabo-Greek translation, in the tenth and eleventh centuries, when these areas remained part of the Byzantine empire. Less well-understood is the role of Constantinople in this process: can we connect translations with the numerous Arabic-speakers who were to be found within the « Queen of Cities » and its mosque(s), embassies and trading communities?

Perhaps even more murky than the capital's role in the translation process is that of Anatolia. A number of factors connect the phenomenon of translation from Arabic into Greek to Anatolia, though its conditions were significantly different from those of Northern Syria. Most importantly, Arabic seems to have found little purchase in the rather Persianate context of Islamic Anatolia before the fourteenth century. Indeed, the first dated Islamic manuscript written in Anatolia, completed in 1116 at Erzurum, contained a Persian medical textbook, al-Akhawaynī Bukhārī's *Hidāyat al-Mutaʿallimīn fī al-Ṭibb*. As in the case of the Graeco-Arabic translation movement, which in reality was a multilingual movement in which Syriac and Persian played important parts, this situation calls us to consider the multilingual aspects of the context of Arabo-Greek translation, in which translation into and from Persian, Syriac, and Latin were all aspects of the larger story—as, in different instances, the contributions of Glynias and Roughan allude to. By the Palaiologan period, Trebizond appears to have played an outsized role in the Byzantine reception of Islamic science, at least to judge on the basis of well-known individuals like Chioniades.

As important as drawing the contours of a geography of translation is identifying the translators, their patrons and collaborators. Who were the translators themselves? Several times during the workshop it was posited that perhaps all translators of Arabic texts in the eleventh and twelfth centuries were Melkites, at least in the north Syrian context. These scholars benefitted from growing up in a bilingual Greek-Arabic environment, in which translation from Greek to Arabic for the sake of the Antiochene translation movement was already common. While Melkites and other Eastern Christians may have been the prime translators in the early period, it remains to be seen whether this continued to be the case in the late and post-Byzantine era, where there are examples of both native Greek-speaking scholars learning Arabic and Muslim Arabic-speaking scholars learning Greek.

What can we say about the motives of the translators? The texts translated were often aimed at professional practitioners and one must assume were deemed useful. It is clear that economic and practical interests played a part, for instance, in the translation of alchemical texts. Likewise, translations of medical and astrological texts in many cases filled gaps in practical knowledge and were integrated into scientific practices. Religious factors seem, by contrast, less fully explored: was the translation of scientific texts understood in some sense as a pious act or connected with specific religious or philosophical movements? How

were texts written in Arabic by non-Christians received by a Byzantine audience? The question of motives can also be extended to the translators' patrons: in the cases where translations were commissioned, what possible motivation can be discerned? In cases such as horoscopes, the motive seems relatively clear, but the benefit that patrons might acquire from the translation of more recondite tracts is perhaps more inscrutable.

As we compile the places and persons involved in the translation of scientific texts from Arabic into Greek, can we identify not just scholars, but environments in which the conditions for such translation were especially propitious? The city and monasteries outside of Antioch in the tenth and eleventh centuries seems to be one such time and place, but were there other key moments in history of these translations? Can we identify pedagogical environments, like the Circle of John Abramios, in which Greek and Arabic knowledge and Arabo-Greek translation were cultivated simultaneously?

We hope all of these questions and more will foster the growth of Arabo-Greek studies, as scholars develop it and further establish it as a scholarly discipline.