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Arabic scientific manuscripts go live in Qatar Digital Library

The British Library Qatar Foundation Partnership has launched the [Qatar Digital Library](#), a new bilingual, online portal providing access to previously undigitised British Library materials on two major themes: Gulf history, and the history of the sciences in the Arabic-speaking world. The portal hosts content ranging from archives, maps and manuscripts to sound recordings, photographs and much more. All of the content will be complemented with explanatory essays in both Arabic and English.



An early 13th century illustration of the horse's good points from *Kitāb al-baytarah* by Aḥmad ibn 'Atīq al-Azdī (Or 1523, ff.22v-23r)



A key part of this project is the digitisation of a selection of Arabic

manuscripts from the British Library Collections dealing with scientific subjects such as medicine, mathematics, astronomy, engineering, chemistry and many others. It was by no means an easy task to prioritise the manuscripts for digitisation. With over 500 Arabic scientific manuscripts in the British Library, there were just too many to choose from!

Our rationale in the selection below was to digitise important seminal texts and authors within a continuous narrative that spans from the late 8th century to the 19th century and from Islamic Spain to the Indian subcontinent. To provide the groundwork for the scientific advancements made within the Islamic world, we have digitised representative manuscripts containing all the Arabic translations of Greek scientific texts. For particularly important texts, like the *Almagest* of Ptolemy ([Add MS 7474](#) and [Add MS 7475](#)), we have digitised all our copies.

Beyond these early translations, we have digitised scientific treatises that reflect scholarly activity down to the 17th century, such as astronomical texts by Bahā' al-Dīn al-Āmilī. We have also digitised scholars' notebooks, which offer a glimpse into the research interests of individual Arabic-speaking scholars, while providing a snapshot of the texts they found most interesting or useful (see for example this notebook on physics and mathematics [Add MS 23570](#), and this one on alchemy and chemistry [Or 13006](#)).

Other scientific manuscripts were chosen for digitisation not just because the texts they contain are so significant within the history of science, but because the manuscripts themselves are objects of beauty and masterpieces of Islamic book arts. The British Library collections boast such treasures as 'Abd al-Rahmān al-Ṣūfī's *Book of Constellations* ([Or 5323](#)) and an Arabic translation of Dioscorides' *Materia Medica* ([Or 3366](#)).

To help contextualise these manuscripts, short essays are also available on the portal. You can find articles (and even [videos](#)) on such diverse topics as [early translations into Arabic](#), ['Islamic' bookmaking techniques](#), [wonders of engineering](#), and [manuscript collectors](#).

Below you will find a list of the first 40 manuscripts. Over the coming weeks we will be adding more fascinating manuscripts and treasures. Please keep an eye on the [Qatar Digital Library](#).

[Add MS 6903](#): Hippocrates, *Aphorisms*. 18th century.

[Add MS 7474](#): Ptolemy, *Kitāb al-Majisī*, books 1-6 of the *Almagest*, heavily illustrated by diagrams and tables. 28 Jumādā I 686 (11 July 1287).



Astronomical diagram from the *Almagest* of Ptolemy (Add MS 7474, f.11v)



Add MS 7475: Ptolemy, *Kitāb Baṭlamyūs fī al-ta'lim al-ma'rūf bi-l-Majisṭī naqala Ishāq ibn Hunayn*, books 7-13 of Ptolemy's *Almagest*. Dated 3 Sha'bān 615 (25 October 1218).

Add MS 7480 : *Sharḥ Mukhtaṣar fī ma'rifat al-taqāwīm*. Dated 29 Dhū al-Qa'dah 1174 (2 July 1761).



Diagram of the spheres (Add MS 7480, f. 39v)



Add MS 7481: Quṭb al-Dīn al-Shīrāzī, *Fa'altu fa-lā talum*. Dated 14 Jumādā I 826 (25 April 1423).

Add MS 7511: Aristotle, *Kitāb fī ma'rifat ṭabā'ī' al-ḥayawān al-barrī wa-al-baḥrī*, a compilation of translations of three treatises on zoology by Aristotle. 13th-14th century.

Add MS 9602: Ibn al-Naṭṭāḥ and Ibn al-Samḥ, two technical treatises on the use of the flat northern astrolabe. 14th century.



Beginning of a treatise on the use of the astrolabe by Muḥammad ibn ‘Alī ibn Yahyá ibn al-Naṭṭāḥ (Add MS 9602, f. 1v)



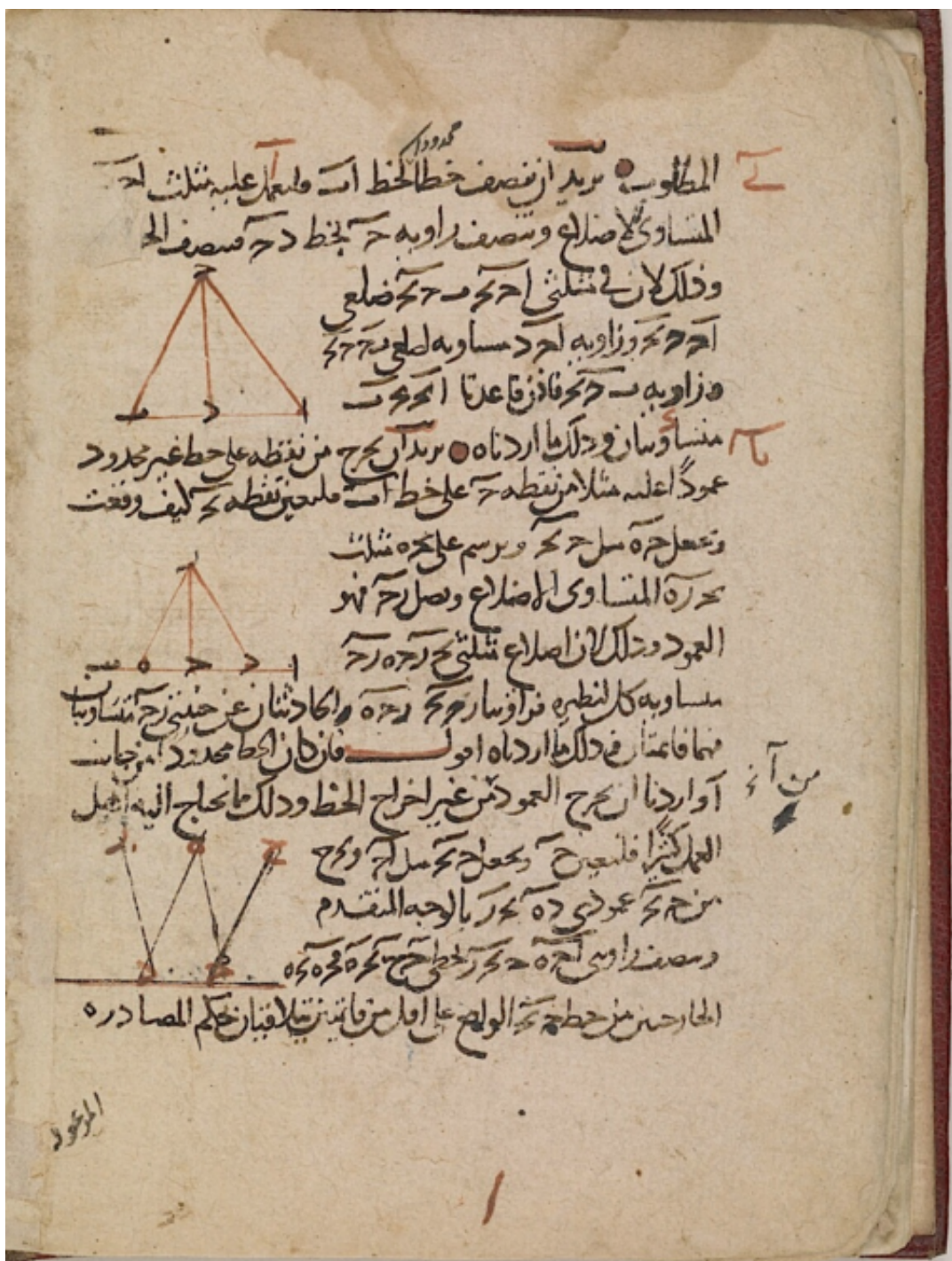
Add MS 14055: Ibn Mankalī, *Kitāb al-ḥiyal fī al-ḥurūb wa-faṭḥ al-madā’in wa-ḥifẓ al-durūb*, described as ‘the Book of War Machines found amongst the Treasures of Alexander Son of Dārāb the Byzantine (al-Rūmī), known as the Two-Horned (Dhū al-Qarnayn), translated from Greek into Arabic’. 16th-17th century.



Diagram of a mechanical device from a manual on the military arts supposedly discovered in the tomb of Alexander the Great at Alexandria and translated from Greek into Arabic. 16th-17th century (Add MS 14055, f.152r)



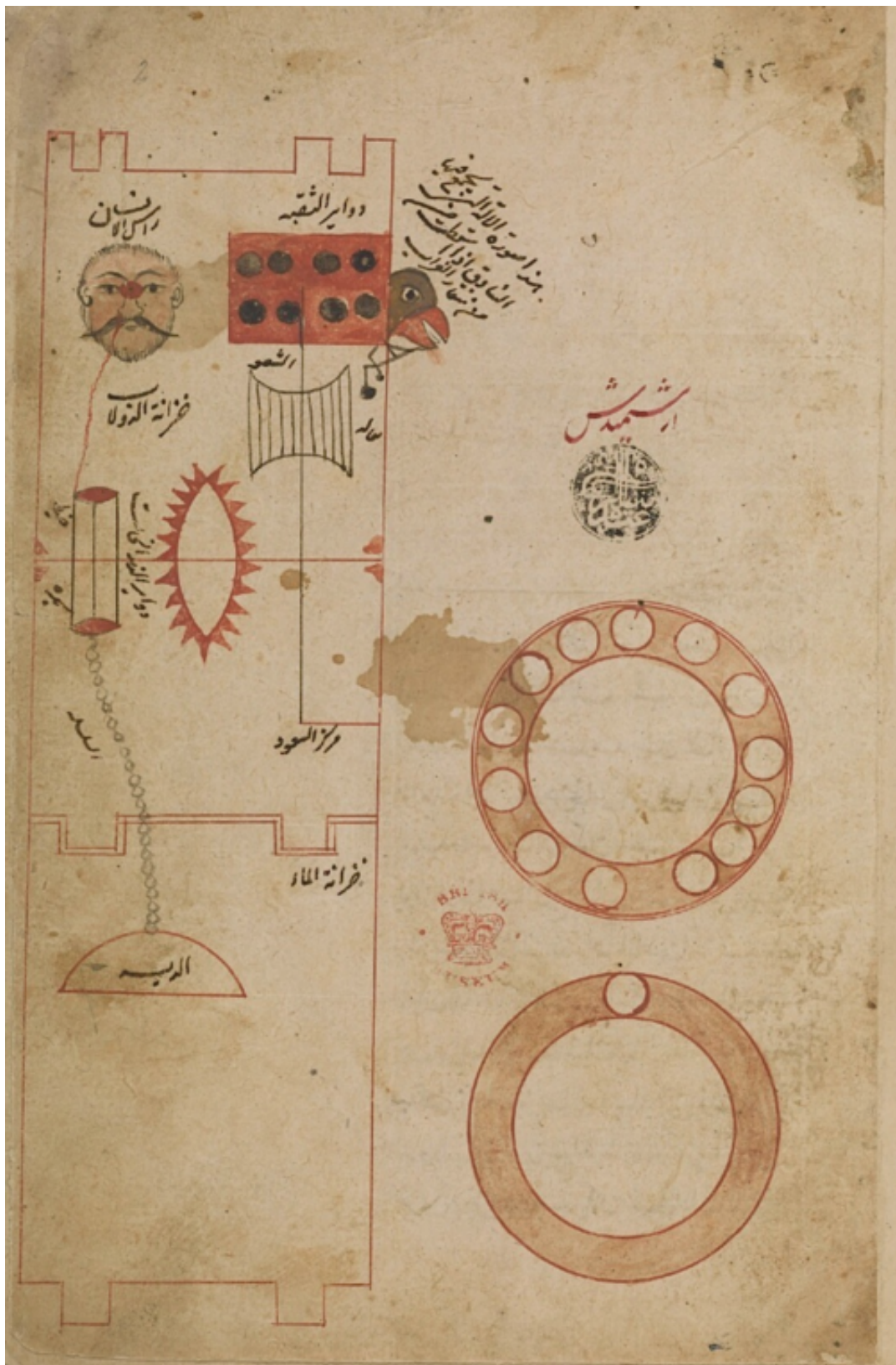
Add MS 23387: Naṣīr al-Dīn al-Ṭūsī, *Taḥrīr kitāb uṣūl al-handasah wa-al-ḥisāb*, an Arabic version of Euclid's fundamental introduction to geometry. Dated 15 Rabī' II 656 (21 April 1258).



Diagrams from Naṣīr al-Dīn al-Ṭūsī's work on Euclid's *Elements*, copied within his lifetime (Add MS 23387, f. 9v)



Add MS 23391 : *Kitāb Arshimīdas fī al-binkāmāt*, on the hydraulic and pneumatic machinery of water-clocks with thirteen diagrams, attributed to Archimedes and *Ṣan'at al-zāmīr*, on the design and construction of a hydraulic flute playing machine attributed to Apollonius the carpenter and geometer. 16th century.



Top section of water-clock, showing a man's head whose eyes change colour on the hour a bird's head that drops balls onto a cymbal, and the mechanisms that drive these devices (Add MS 23391, f2r)



Add MS 23393: Quṭb al-Dīn al-Shīrāzī, *al-Tuḥfah al-shāhīyah fī al-hay'ah*, a commentary on Naṣīr al-Dīn al-Ṭūsī's *Kitāb al-tadhkirah fī al-hay'ah*. Dated 22 Ramaḍān 737 (18 September 1356).

Add MS 23406: Ḥunayn ibn Ishāq, *Kitāb Jālīnūs fī 'amal al-tashrīḥ*, an Arabic version of Galen's major work on anatomy the *De anatomicis administrationibus*. Dated 887 (1482).

Add MS 23407: Ḥunayn ibn Ishāq, Alexandrian summaries of eight medical treatises by Galen. 17th century.

Add MS 23409: Ibn al-Quff, *Kitāb al-'umdah fī ṣinā'at al-jirāḥah*, a general introduction to the art of surgery. Dated 1052 (1642/43).

Add MS 23416: Ibn Akhī Hizām, *Kitāb al-furūsīyah wa-shiyāt al-khayl*, a treatise on hippiatrics, one of the earliest Arabic texts on veterinary medicine. 14th century.

Add MS 23570: Mathematical compendium. Copied in Jumādā II 1014 (Oct/Nov. 1605) at Yazd and Dhū al-Qa'dah 1018 (Jan./Feb. 1610) at Qom.

Arundel Or 17: *Kitāb ikhtiṣār al-sittat 'ashr li-Jālīnūs talkhīṣ Yahyá al-Naḥwī*, epitome of the sixteen books of Galen. Dated 25 Jumādā II 615 (18 September 1218).

Delhi Arabic 1926: Theodosius of Bithynia, *Kitāb al-ukar*, an Arabic version of the *De sphaericis*. 18th century.

IO Islamic 1249: Naṣīr al-Dīn al-Ṭūsī, Arabic versions of seven Greek mathematical treatises. Copied in 1784.

IO Islamic 924: *Kitāb Abulūniyūs fī al-makhrūṭāt Apollonius of Perga*. Dated Ramaḍān 1198 (July/August 1784).

Or 1523: Aḥmad ibn 'Atīq al-Azdī, *Kitāb al-bayṭarah*, a treatise on hippiatrics, discussing their good and bad points, training, diseases and treatment. Dated 10? Rajab 620 (9? August 1223).

Or 15643: Sulaymān ibn Aḥmad al-Mahrī, *Tuḥfat al-Fuḥūl fī tamhīd al-uṣūl fī 'ilm al-biḥār*, a manual on the principles of navigational theory. Dated at Ṣuḥār, 15 Jumādā II 1153 (7 September 1740).

Or 3366: *Kitāb Dīsqūrīdis fī mawādd al-'ilāj*, an Arabic version of Dioscorides *De materia medica*. Dated at Baghdad, 10 Rabī' I 735 (8 November 1334).

رَاحِيَةٌ وَلَيْسَتْ تَعْمَلُ فِي الْأَكْلَةِ وَلَهُ قُوَّةٌ مَسْحُونَةٌ وَبِزْرُهُ إِذَا
 شُرِبَ بِالشَّرَابِ وَاقْفُوقُ نَقَطِيْرِ الْبَوْلِ وَالْحَمِي وَالْحَمِي وَهُوَ لَيْسَ كُنْ
 الْمَعْضُ وَالْعَوَاقِفُ وَقَدْ تَضَمَّدَ بُوْرُقُهُ عَلَى الْأَصْدَاغِ وَالْجَيْهَةِ
 لِلصَّدَاغِ وَقَدْ تَضَمَّدَ بِهِ أَيْضًا لِلسَّعِ الزَّنَابِيْرِ وَالنَّحْلِ وَإِذَا
 شُرِبَ سَكَّرَ الْعَشِي وَالنَّحِي

مَارْتٌ وَقَدْ يُسَمَّى أَيْضًا **الصُّوْرِيْنِ**
 عَشْبٌ مَعْرُوفٌ فِي مَقَادِرِهِ مَا يَصِلُ لِمِثْلِ الْفَسَادِ يَلِ كُهُ زَهْدٌ



Early 14th century botanical illustration from Dioscorides *De materia medica* (Or 3366, f. 35r)



Or 5323: al-Şūfī, *Kitāb ūwar al-kawākib al-thābitah*, an illustrated description of the 48 classical constellations discussed by Ptolemy in his *Almagest*. Dated, possibly at Maragha, between 1260 and 1279/80.



Ursa major (الدب الأكبر) as viewed on a celestial globe (upper) and as viewed in the sky (lower) (Or 5323, f.8v)



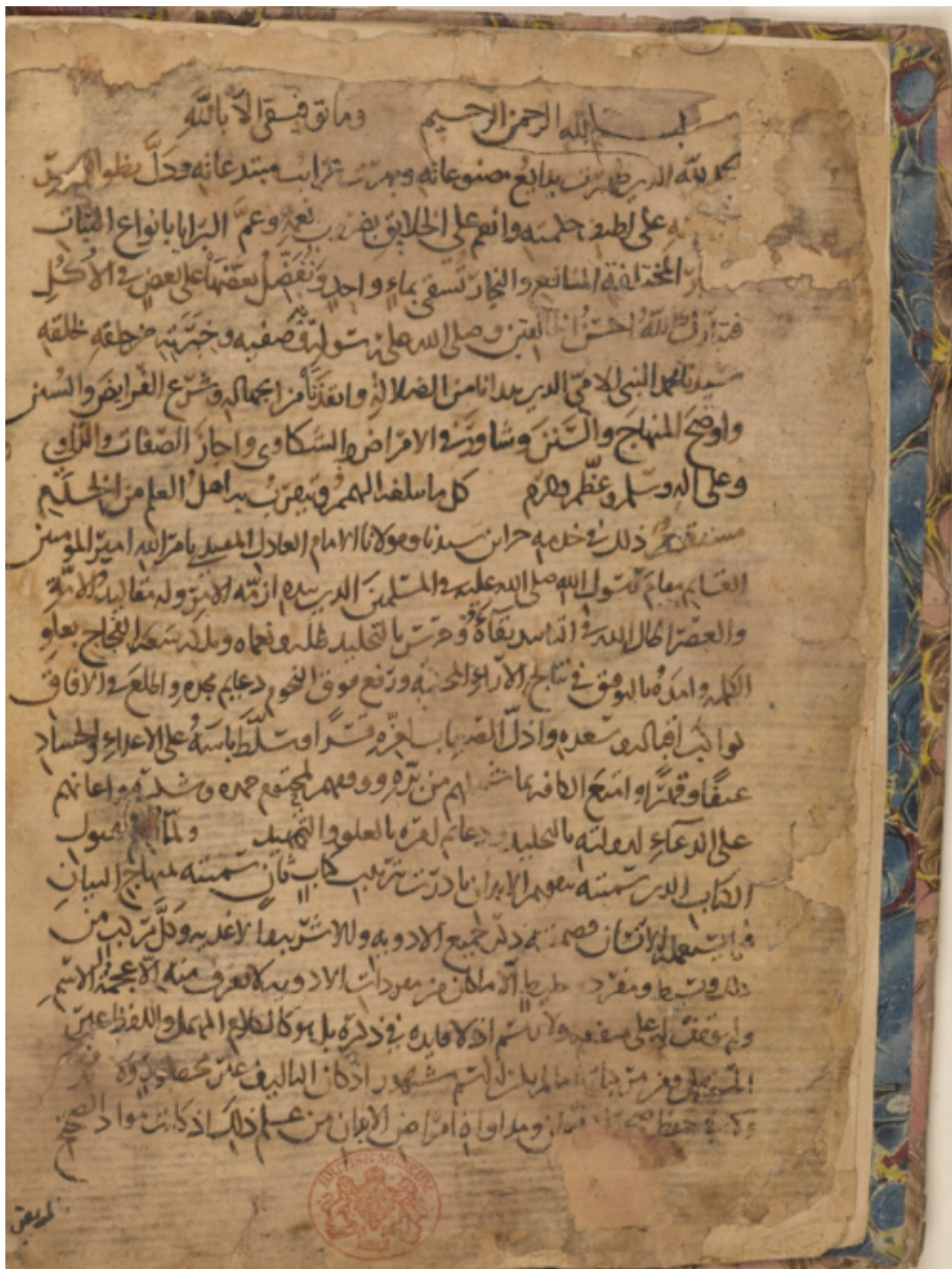
Or 5593: al-Bīrūnī, *Kitāb isti'āb al-wujūh al-mumkinah fī ṣan'at al-aṣṭurlāb*, One of only three recorded copies of an influential treatise on the construction and use of astrolabes, containing 122 diagrams. 14th century.

Or 5596: Ibn al-Nafīs, *Sharḥ Kitāb al-Qānūn lil-Qurashī*. Dated Dhū al-Ḥijjah 902 (July/August 1497).

Or 6888: Ḥunayn ibn Ishāq, *Kitāb fī al-'ayn mi'atān wa-sab' masā'il*, a medical treatise on ophthalmology. Dated 2 Sha'bān 891 (3 August 1486).

Or 7368: Avicenna, *Sharḥ al-Majisṭī*, a commentary on Ptolemy's *Almagest*. Dated at Damascus, Ramaḍān 628 (July/August AD 1231).

Or 7499: Ibn Jazlah, *Minhāj al-bayān fīmā yasta'miluhū al-insān*, an alphabetically arranged handbook on pharmacology, copied during the author's lifetime. Dated Rajab 489 (June/July 1096).



Opening of Ibn Jazlah's work on pharmacology, copied during his lifetime in 1096 (Or 7499, f. 1v)



Or 8293: Ibn al-Tilmīdh, *Aqrābādhīn madīnat al-salam*, a collection of pharmaceutical texts. Dated, possibly at Baghdad, 625 (1227/28).

Or 8349: al-Bīrūnī, *Kitāb al-tafhīm li-awā'il šinā'at al-tanjīm*, Comprehensive introduction to the principles of astrology. Includes numerous diagrams and tables. Dating from before 1436.

Or 9202: Hunayn ibn Ishāq, Alexandrian Summaries of three medical treatises by Galen, the second volume of a set of the treatises of the Greco-Roman physician Galen of Pergamon. 12th century.

Or 9587: Ibn al-Raqqām, two treatises on the construction and use of sundials. Dating from before 1315.

Or 9649: Mūrištus, three technical treatises on the construction of musical

organs. 19th century.

Or 11209: Naṣīr al-Dīn al-Ṭūsī, *Kitāb al-tadhkirah fī al-hay'ah*, a treatise on astronomy which summarises, rationalises and improves upon the system presented in the *Almagest* of Ptolemy. Copied at Ḥamāh, 11 Shawwāl 688 (28 October 1289).

Or 1198: Aḥmad ibn Yūsuf al-Tīfāshī, *Kitāb manāfi' al-ahjār wa-qīmatihā wa-usūlihā*, a treatise on precious stones. Dated 15 Jumādā II 799 (16 March 1397).

Or 12802: Sahl ibn Bishr al-Isrā'īlī, *Kitāb al-aḥkām 'alā al-nisbah al-falakīyah*, a treatise on interrogatory astrology. Dated 5 Dhū al-Ḥijjah 1093 (5 December 1682).

Or 13006: Compendium of alchemical treatises in Arabic, Persian and Ottoman. 16th and 18th centuries.

Or 13127: Aḥmad ibn Abī Sa'd al-Harawī, *Kitāb Mānālāwus fī al-ashkāl al-kurrīyah*, a revised edition of the Arabic translation of Menelaus of Alexandria's (fl. ca AD 100) Greek treatise on spherical trigonometry. Dated at Damascus, 4 Rabī' II 548 (29 June 1153).

Sloane MS 3032: Ḥubaysh al-A'sam, *al-Maqālah al-thālithah min Kitāb Jālīnūs fī ḥīlat al-burū' Jālīnūs*, an Arabic version of Book three of Galen's *De methodo medendi*. 14th century.

Colin F. Baker, Lead Curator, Middle Eastern Studies
Bink Hallum, Arabic Scientific Manuscripts Curator, British Library Qatar
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