

## *Alexandria between Antiquity and Islam:*

### *Commerce and concepts in First Millennium Afro-Eurasia*

Among the great urban centres of the Roman Empire, Alexandria yielded place only to the imperial capital itself.<sup>1</sup> Constantinople overtook Alexandria by 400. But Antioch, fourth of the quartet of top cities as viewed from mid-fourth-century Rome,<sup>2</sup> was less populous and served a less wealthy hinterland. A fortiori, second-rank places like Carthage or Ephesus. And while all shared an intensely Latin or Greek, in any case Mediterranean character, that of Ἀλεξάνδρεια ἡ πρὸς Αἰγύπτῳ/Alexandrea ad Aegyptum, ‘Alexandria next to Egypt’, was thrown into dramatic relief by contrast with the Nile valley’s exotic antiquities and gods. Visitors were fascinated by a promiscuous mingling of Greek with Egyptian styles even in the downtown areas.<sup>3</sup> Although the Alexandria of its great founder and the poet Callimachus, of the astronomer Ptolemy and the theologian Origen, of the mathematician Hypatia and the philosopher John Philoponus was undeniably a citadel of Hellenism, much in its markets and even its schools hinted at other worlds, in Egypt but also far beyond. With its mid-seventh-century conquest by the armies of Islam, Arabia finally re-orientes Egypt, and Alexandria too, away from the Mediterranean. At this point ancient historians lose interest, even while recognizing certain continuities.<sup>4</sup>

Recently, though, study of later Antiquity has begun to broaden out from its Mediterranean and pre-Islamic focus, to embrace Eurasia and the First Millennium.<sup>5</sup> This spatial and chronological re-contextualization under the banner of ‘global’ or at least large-scale history benefits our understanding of connectivity. But if our re-contextualization is not to suffer from the superficiality and homogenizing tendency of some globalizing historiography, it needs to be tested and where necessary adjusted, not only in the wider territories now being claimed – the northern steppe, for example, Central Asia or Arabia – but also in the traditional heartlands and at the local level. Alexandria offers a good test case. Having been founded by Alexander during the Macedonian take-over of the Achaemenids’ huge Asiatic empire, it was a tricontinental city from birth – European by heritage, African by location, Asian by association. And besides standing where Asia meets Africa, it is also where the Mediterranean touches

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<sup>1</sup> Dio Chrysostom, *oration* 32.35; Galen, *On the parts of medicine (De partibus artis medicativae)* 2.3 (Lyons); cf. C. Nicolet, ‘Alexandrie et Rome: Peut-on comparer?’, in *Alexandrie: Une mégapole cosmopolite* (Paris 1999) 113-27.

<sup>2</sup> K. J. Shelton, *The Esquiline treasure* (London 1981) 86-88.

<sup>3</sup> R. S. Bagnall, ‘Archaeological work on Hellenistic and Roman Egypt, 1995-2000’, *American journal of archaeology* 105 (2001) 229-30; A.-M. Guimier-Sorbets, A. Pelle, M. Seif el-Din, *Renaitre avec Osiris et Perséphone: Alexandrie, les tombes peintes de Kôm el-Chougafa* (Alexandria 2015) (1<sup>st</sup>/2<sup>nd</sup> c. CE).

<sup>4</sup> Z. Kiss, ‘Alexandria in the fourth to seventh centuries’, in R. S. Bagnall (ed.), *Egypt in the Byzantine world, 300-700* (Cambridge 2007) 187-206. C. Haas, *Alexandria in late Antiquity: Topography and social conflict* (Baltimore 1997), touches on early Muslim Alexandria in his Epilogue: 338-51. There is a good brief account by C. Haas, R. Darley, ‘Alexandria’, in O. Nicholson (ed.), *Oxford dictionary of late Antiquity* (Oxford 2018) 47-49.

<sup>5</sup> G. Fowden, *Before and after Muhammad: The First Millennium refocused* (Princeton 2014); N. di Cosmo, M. Maas (eds), *Empires and exchanges in Eurasian late Antiquity: Rome, China, Iran, and the steppe, ca.250-750* (Cambridge 2018).

on the Red Sea and Indian Ocean world. It is the city of three continents and two seas. How, then, does Alexandria look when viewed in these broader contexts? How consciously and effectively did it respond to its unique position at the hinge-point between Africa and Eurasia? Was it, at least in late antique terms, a global city, if we define that as commercially and intellectually connective, diverse in population, aware of and interested in the whole world as then known, recognized as global by significant parts of that world, and productive of new knowledge and technology (e.g. in the spheres of cartography, shipbuilding or navigation)?<sup>6</sup> And what does a longer chronological perspective – whether the First Millennium or even a bit more – reveal about Alexandria that goes beyond its modern poet Cavafy’s evocation of an eclectic Greek tradition abruptly severed in the mid-seventh century, and restored only when Greeks returned in the nineteenth century after long and (to him) uninteresting centuries of Muslim rule?<sup>7</sup>

In 31 BCE Augustus dispossessed Cleopatra the last of the Ptolemies, with whose treasure, and Egypt’s continuing revenues, he was able to pay his soldiers without whom the new regime could not survive. Egypt became Rome’s granary too. In the ensuing centuries Alexandria was to play a strategic role within the only state in history to embrace the whole inland sea, control of which had been sealed by the acquisition of Egypt. So what were Alexandria’s spheres of influence and most distant horizons under Roman rule; and how did the Arab conquest affect these, until approximately the end of the First Millennium?

#### *Commerce*

The Ptolemaic capital had been well networked overseas; but Rome’s Mediterranean empire imparted it a more western outlook than before. Culturally, the Nile now debouched directly into the Tiber; and that intensified a mania, long predating Augustus, for Egypt’s aesthetics and certain of its gods. Thanks to ritual requirements of their temples to Isis, Osiris, the quintessentially Alexandrian Serapis and others, surrogate Niles flowed at the heart of many Greek and Roman cities.<sup>8</sup> Among less agreeable exports, the Justinianic plague first reached the Mediterranean world at nearby Pelusium in 541.<sup>9</sup> Alexandria’s busy harbour will have ensured its rapid

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<sup>6</sup> I here follow A. J. Gschwend, K. J. P. Lowe (eds), *The global city: On the streets of Renaissance Lisbon* (London 2015) 34, Lisbon being as central to the Atlantic and circumnavigatory world evolving from the 1490s as Alexandria was to the Indian Ocean/Mediterranean complex in Antiquity.

<sup>7</sup> The late Alexandrian blend of Egyptian and Greek sensibility is captured with subtlety and empathy in ‘Για τον Αμμώνη που πέθανε 29 ετών, στα 610’ (translated by D. Ricks, ‘Cavafy’s Alexandrianism’, in A. Hirst, M. Silk (eds), *Alexandria, real and imagined* (Aldershot 2004) 348-49). But Islam is, for Cavafy, another matter. For the demise and re-emergence of Greek Alexandria see ‘Αιμηλιανός Μονάη, Αλεξανδρεύς, 628-655 μ.Χ.’ (<http://www.kavafis.gr/poems/content.asp?id=24&cat=1>), and the recently discovered incomplete poem, ‘Του έκτου ή του εβδόμου αιώνας’: R. Lavagnini, K. Π. Καβάφης: *Ατελή ποιήματα 1918-1932* (Athens 2006<sup>2</sup>) 251-55. Hellenocentric or more generally ‘cosmopolitan’/colonial writing about Alexandria (E. M. Forster, L. Durrell), and its dismissal of the Arab population, has been much criticized of late: e.g. H. Halim, *Alexandrian cosmopolitanism: An archive* (New York 2013).

<sup>8</sup> Cf. e.g. L. Bricault, M. J. Versluys, P. G. P. Meyboom (eds), *Nile into Tiber. Egypt in the Roman world* (Leiden 2007).

<sup>9</sup> Procopius, *Wars* 2.22.6.

spread. As late as the early seventh century, merchant ships belonging to the Greek patriarchate of Alexandria traded in the Adriatic, Sicily and even the British Isles.<sup>10</sup>

The Ptolemies had developed ports on their east coast too, while by the late second century BCE Greek sailors learned from their Arab and Indian counterparts (or ‘discovered’ as it is usually put) how to harness the monsoons and travel, without getting becalmed, from the Gulf of Aden to the Malabar coast and back. Nonetheless, the geographer Strabo observed that the size of fleets sailing from Red Sea ports to India increased spectacularly after Augustus annexed Egypt.<sup>11</sup> Spices, frankincense, myrrh, gold, precious stones, ivory and slaves flooded the Mediterranean. By the land route, southern Arabian incense reached the Mediterranean at Gaza, but we hear of it being processed in high-security facilities in Alexandria because of its great value.<sup>12</sup> Archaeological discoveries have abundantly illustrated not only the import trade with Arabia and India, but also the export of Egyptian (Alexandrian?) ‘brilliant glassware’ via the Red Sea and Indian Ocean and up the Indus valley into what is now Afghanistan.<sup>13</sup> The canal dug by order of the Emperor Trajan (98-117) between Babylon (Old Cairo) and the head of the Gulf of Suez further facilitated access to the Red Sea, where Aksum (Ethiopia) was an important African trading partner supplying slaves and ivory in return for textiles including silk, glass, metalware and pottery, often no doubt of Egyptian provenance.<sup>14</sup> Across the western desert there were links with Saharan and sub-Saharan Africa too, a source of slaves and gems for example: these routes are the subject of on-going investigation.<sup>15</sup> But even without them, there is no mistaking why Strabo called Alexandria ‘the greatest emporium of the inhabited world’,<sup>16</sup> while later writers hailed it as ‘the crossroads, so to speak, of the whole earth, of even its remotest nations’,<sup>17</sup> or indeed ‘the crown of all cities’.<sup>18</sup>

### *Concepts philosophical and theological*

A city was, of course, nothing without its scholars. Building, again, on its Hellenistic advances, and on the Ptolemaic Museum’s famous library or whatever

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<sup>10</sup> Leontius of Neapolis, *Life of S. John the Almsgiver* 8, 11, 28 (Festugière). Degrees of scepticism have been expressed; but see E. Wipszycka, *The Alexandrian Church: People and institutions* (Warsaw 2015) 215.

<sup>11</sup> Strabo, *Geography* 2.5.12, 17.1.13.

<sup>12</sup> Pliny, *Natural history* 12.32.59-60.

<sup>13</sup> M. A. Cobb, *Rome and the Indian Ocean trade from Augustus to the early third century CE* (Leiden 2018) 231-36. The quotation is from a panegyric preserved on a 2<sup>nd</sup>-c. papyrus: I. H. M. Hendriks, P. J. Parsons, K. A. Worp, ‘Papyri from the Groningen collection I: Encomium Alexandriae’, *Zeitschrift für Papyrologie und Epigraphik* 41 (1981) 71-83.

<sup>14</sup> D. W. Phillipson, *Foundations of an African civilisation: Aksum and the northern Horn 1000 BC – AD 1300* (Woodbridge 2012) 195-200.

<sup>15</sup> A. Wilson, ‘Saharan trade in the Roman period’, *Azania* 47 (2012) 412, 435.

<sup>16</sup> Strabo, *Geography* 17.1.13. Cf. Josephus, *Jewish War* 4.5.615: ‘To this port are carried all the commodities which the country lacks for its welfare, and from it the surplus local products are distributed to every quarter of the world’, and the late fourth-century Latin paraphrase, Ps.-Hegesippus, *Histories* 4.27 (Ussani), annexed in late 7<sup>th</sup>-c. Iona by Adamnán, *On the Holy Places* 2.30 (Meehan).

<sup>17</sup> Dio Chrysostom, *oration* 32.36.

<sup>18</sup> Ammianus Marcellinus, *History* 22.16.7, and cf. 12. For recent, largely Romanocentric approaches to the global economy c.500 see A. Harris (ed.), *Incipient globalization? Long-distance contacts in the sixth century* (Oxford 2007), esp. K. Dark, ‘Globalizing late Antiquity: Models, metaphors and the realities of long-distance trade and diplomacy’.

remained of it,<sup>19</sup> Alexandria maintained a leading position for study of mathematics, engineering, medicine and philosophy. A fourth-century observer called it ‘the workshop of every branch of learning’.<sup>20</sup> A first- to early second-century orator detected in his Alexandrian audience students from all over the Afro-Eurasian world: Greeks, Italians, Syrians, Libyans, Cilicians, Ethiopians, Arabs, Bactrians, Scythians, Persians and Indians.<sup>21</sup> In late Antiquity the city attracted students especially from Egypt, Palestine, Syria, Asia Minor and Greece.<sup>22</sup> Material evidence for this latest physical phase of the Alexandrian schools includes a luxury papyrus folio found elsewhere in Egypt, containing a philosophical text defending the material unity of the sensible world, and assigned by some to the Christian John Philoponus (d.c.570). It has been variously dated between (originally) the early eighth and (most recently) the late sixth century – its majuscule is ‘Alexandrian’, so too perhaps its place of production.<sup>23</sup> A recently excavated, centrally located academic complex consisting of an odeion and at least twenty lecture halls accommodating up to six hundred students was found to have been started in the later fifth century and abandoned c.650-700 after the disruption caused by the Sasanid and Arab conquests.<sup>24</sup>

When students returned home, they took Alexandria with them in their hearts and, more tangibly and enduringly, in their books, of which more below. Alexandrian habits of thought were planted in alien climes where they might bear more various fruits. These were the city’s invisible exports, but no less part of its commerce, and more enduring in their impact, than grain shipments. One of late antique Alexandria’s most catalyzing intellectual contributions, rooted in the work of the later third-century philosopher Porphyry, was its ‘harmonization’ into one single doctrine of the discrepant teachings of Plato and Aristotle,<sup>25</sup> paralleled in medical instruction by the harmonization of Hippocrates and Galen. Moreover its teachers accepted Christians into their circles, and eventually were themselves Christians, harmonizing philosophy

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<sup>19</sup> See below, n.47.

<sup>20</sup> Gregory of Nazianzus, *oration* 7.6; cf. *Expositio totius mundi* 34-37.

<sup>21</sup> Dio Chrysostom, *oration* 32.40.

<sup>22</sup> J.-L. Fournet, ‘L’enseignement des belles-lettres dans l’Alexandrie antique tardive’, in T. Derda, T. Markiewicz, E. Wipszycka (eds), *Alexandria: Auditoria of Kom el-Dikka and late antique education* (Warsaw 2007) 99-102.

<sup>23</sup> PSI (Papiri della Società Italiana) XIV 1400 (<http://www.psi-online.it/documents/psi;14;1400>); cf. P. Radiciotti, ‘Una nuova proposta di datazione per il PSI 1400 con alcune osservazioni sulla maiuscola alessandrina’, *Studi di egittologia e di papirologia* 5 (2008) 117-28. Alexandrian majuscule was little used outside Egypt. Against the Philoponus attribution: C. Wildberg, ‘Neoplatonic philosophy of nature in PSI XIV 1400: An impression’, in *Papiri filosofici: Miscellanea di studi* 4 (Florence 2003) 143-48.

<sup>24</sup> J. McKenzie, *The architecture of Alexandria and Egypt c.300 BC to AD 700* (New Haven 2007) 207-08, 212-16; G. Majcherek, ‘Academic life of late antique Alexandria’, in M. El-Abbadi, O. M. Fathallah (eds), *What happened to the ancient library of Alexandria?* (Leiden 2008) 191-206; id., ‘Discovering Alexandria – Archaeological update on the finds from Kom el-Dikka’, in D. Robinson, A. Wilson (eds), *Alexandria and the north-western Delta* (Oxford 2010) 75-89; E. Watts, ‘Translating the personal aspect of late Platonism in the commentary tradition’, in J. Lössl, J. W. Watt (eds), *Interpreting the Bible and Aristotle in late Antiquity: The Alexandrian commentary tradition between Rome and Baghdad* (Farnham 2011) 137-40; R. Sorabji, ‘The Alexandrian classrooms excavated and sixth-century philosophy teaching’, in P. Remes, S. Slaveva-Griffin (eds), *The Routledge handbook of Neoplatonism* (Abingdon 2014) 30-39. Some scholars have here sought both the site and the final phase of the Ptolemaic Museum: A. Caruso, ‘Ipotesi di ragionamento sulla localizzazione del Mouseion di Alessandria’, *Archeologia classica* 62 (2011) 77-126.

<sup>25</sup> I. Hadot (English tr. M. Chase), *Athenian and Alexandrian Neoplatonism and the harmonization of Aristotle and Plato* (Leiden 2015).

with the scriptures.<sup>26</sup> Hence the schools' longevity and the exportability of their doctrine: contrast the committedly polytheistic Platonism propagated in fifth- to sixth-century Athens.

Here is not where to examine the emergence of Alexandrian Christianity, only to note the Church's role in redefining and promoting the city up to the Arab conquest, particularly as a theological powerhouse. Just as Alexandria had been 'the holy city' as home to the great god Serapis, and seemed to the worshippers of the old gods like 'a sacred *oikoumenē*' unto itself,<sup>27</sup> so too for Christians a city so wealthy and famous, and host to so large and vibrant a Jewish community, must assume a special role. This is precisely the world-view the bishops of Alexandria fostered. Starting in the third century they established their dominance over Egypt and Cyrenaica. They competed in the following centuries for authority, or at least influence, with the other major Greek sees, Antioch, Constantinople and the rather more pliant Jerusalem.<sup>28</sup> And they propagated the notion that the Evangelist Mark himself had founded their Church, which treasured not only his relic but also those of many other saints and martyrs. If for many the Pharos defined Alexandria, for pious Christian visitors it was also the graves of the saints, witness the Piacenza Pilgrim c.570 or 'Epiphanius the Monk' two centuries later.<sup>29</sup>

From Clement (d.215) and Origen (d.c.254) the earliest exponents of its philosophical Christianity, via Athanasius (d.373) the leading opponent of Arianism and defender of the faith defined by the first 'ecumenical' council held under Constantine's patronage at Nicaea in 325, to the controversial understanding of the god-man Jesus advanced by Cyril (d.444) and the bitter debates over the Christological formula promulgated by the fourth ecumenical council at Chalcedon in 451, Alexandria's doctrinal positions could never be ignored by the other Churches, even Rome.<sup>30</sup> A tradition of theological reflection centered on Antioch and represented by Theodore of Mopsuestia (d.428) saw Christ as the divine Logos incarnate, but also as fully and distinguishably man. Cyril of Alexandria rejected Theodore's teaching as inconsistent with John's Gospel, and spoke forcefully and insistently of 'one incarnate nature of God the Word (*μία φύσις τοῦ Θεοῦ Λόγου σεσαρκωμένη*), worshipped with his flesh in a single worship'. Cyril did not deny that Christ possessed a human mind and rational soul as well as being the Logos. But he taught that any duality is a matter for the detached reflective mind, not the worshipping soul. Theodore's heir and Cyril's

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<sup>26</sup> E. Watts, *City and school in late antique Athens and Alexandria* (Berkeley 2006) 232-61; id., 'The enduring legacy of the iatrosophist Gessius', *Greek, Roman and Byzantine studies* 49 (2009) 113-33; M. Griffin, "Pliable Platonism?" Olympiodorus and the profession of philosophy in sixth-century Alexandria', in R. C. Fowler (ed.), *Plato in the Third Sophistic* (Berlin 2014) 73-97.

<sup>27</sup> Julian, *letter* 60.378cd, 379c, and cf. 111 (Bidez); Eunapius, *Lives of philosophers and sophists* 6.104 (Goulet).

<sup>28</sup> See the useful 'geo-ecclesiological' maps in P. Blaudeau, *Alexandrie et Constantinople (451-491): De l'histoire à la géo-ecclésiologie* (Rome 2006) 777-84.

<sup>29</sup> C. D. G Müller, 'Alexandrien I', in G. Krause, G. Müller (eds), *Theologische Realenzyklopädie* (Berlin 1977-2007) 2.258-60; Piacenza Pilgrim, *Itinerary* (ed. P. Geyer, *Itinera Hierosolymitana saeculi IIII-VIII* (Vienna 1898)) p.189; H. Donner, 'Die Palästinabeschreibung des Epiphanius Monachus Hagiopolita', *Zeitschrift des Deutschen Palästina-Vereins* 87 (1971) 73 (text), 86 (tr.). As an introduction to the pilgrim literature J. Wilkinson, *Jerusalem pilgrims before the Crusades* (Oxford 2002<sup>2</sup>) is beyond price.

<sup>30</sup> See e.g. *Codex Theodosianus* 16.1.2 (380 CE); S. Klug, *Alexandria und Rom: Die Geschichte der Beziehungen zweier Kirchen in der Antike* (Münster 2014).

chief opponent was the Antiochene theologian Nestorius, briefly (428-31) bishop of Constantinople, who went so far in distinguishing the natures as to deny Mary the title of 'God-bearer' (Theotokos).

Chalcedon aimed to resolve these tensions by defining Christ as perfect God inseparably united, in one person but 'two natures', to perfect man, like us in everything save our sin. This 'dyophysite' (two-nature) definition many Egyptians and Syrians opposed implacably, equating it with Nestorius's doctrine that had been declared heretical. Instead they proclaimed Cyril's teaching, hence modern scholars call them 'miaphysites'. Alexandria evolved into the main political and intellectual centre for enemies of Chalcedon, proclaiming instead Nicaea, Athanasius and Cyril as sufficient guarantors of the faith and indeed the empire, in which they believed as fervently as their opponents.<sup>31</sup> Syrian miaphysite leaders often took refuge in Egypt (especially in monasteries around Alexandria), where their doctrine was more widely accepted and their brethren better able to protect them from the imperial authorities.<sup>32</sup> But advocates of Chalcedon, far from rejecting Cyril, took his doctrine to be consistent with the Chalcedonian formula, and proclaimed him one of the Church's pre-eminent teachers. Alexandrian theology, in other words exegesis of Cyril, therefore remained at the heart of the Christological debates that raged after Chalcedon until the end of the seventh century, provoking chaos within the Church and the contempt of many outside it, reflected in sundry passages in the Qur'ān.<sup>33</sup> Indeed, an important stimulus to the emergence of Islam was the sequence of schisms that Chalcedon, and its attendant variations on Alexandrian theology, induced in the Church. The Piacenza Pilgrim had already been struck by Alexandria's distinctly sectarian milieu.<sup>34</sup> A century later, a Christian writer in Mesopotamia could observe that the Roman Empire, in which 'each year they made a new creed', had been punished by God through the Arab invasions and Muḥammad's proclamation of strict monotheism.<sup>35</sup>

#### *Advantages of the Alexandrian Church*

But in earlier and better days, when the Roman world was still in the process of embracing Christianity, Alexandria had known how to turn this new development to its advantage. For example, Athanasius was quick off the mark, probably during the 340s, in fostering mission to Aksum, which eventually fell into the habit, abandoned only in 1959, of looking to Alexandria – the 'Coptic' miaphysite rather than the Greeks' Chalcedonian patriarchate – as its Mother Church.<sup>36</sup> Nubia's later conversion to Christianity, in the sixth century, marked the beginning of a still closer dependence on the Coptic patriarchate for appointment of its hierarchs, as late as the fourteenth

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<sup>31</sup> Blaudeau, *Alexandrie et Constantinople* 249-58.

<sup>32</sup> Blaudeau, *Alexandrie et Constantinople* 301-04.

<sup>33</sup> Qur'ān 2.253, 3.19, 5.14, 19.34; cf. M. Debié, 'Les controverses miaphysites en Arabie et le Coran', in F. Ruani (ed.), *Les controverses religieuses en syriaque* (Paris, 2016) 137-56.

<sup>34</sup> Piacenza Pilgrim, *Itinerary* p.189 (Geyer).

<sup>35</sup> John bar Penkāyē (John of Fenek), *Book of salient points (Ktābā d-rīsh mellē)* 2.15, p.144\*-47\* (Mingana; tr. S. Brock, 'North Mesopotamia in the late seventh century: Book XV of John Bar Penkāyē's *Rīš mellē*', *Jerusalem studies in Arabic and Islam* 9 (1987) 59-61).

<sup>36</sup> Phillipson, *Foundations of an African civilization* 91-99; P. Dilley, 'Along the Nile: From Alexandria to Aksum', in J. Lössl, N. J. Baker-Brian (eds), *A companion to religion in late Antiquity* (Hoboken, NJ 2018) 198-99.

century.<sup>37</sup> Such influence was reinforced by Alexandria's commercial punch, and in particular its luxury industries, witness the notorious catalogue of bishop Cyril's bribes (ivory furniture, textiles, gold) sent to Constantinopolitan officials and their wives to back up his theological formulations.<sup>38</sup> Archaeology has confirmed both the Alexandrian provenance – at least until the ninth century – and the widespread export of such luxury objects.<sup>39</sup> Both patriarchates attracted considerable wealth. That of the Copts endured for a time under Arab rule.<sup>40</sup> The Constantinople-aligned Chalcedonians went into steep decline after the conquest; but just before that, their patriarchate's merchant vessels may have been trading as far away as Britain, as already noted. The profits helped suffering fellow-Chalcedonians in Jerusalem during the long war with Sasanid Iran (603-28).<sup>41</sup> In the later sixth century, anti-Chalcedonian ship-owners could stick up for their beliefs, even under pressure from the Constantinopolitan court, because they controlled the wheat supply.<sup>42</sup>

Not just Alexandria's wealth but its science too might advantage the Church. Their mathematical skills gave the city's architects, engineers and master builders a competitive edge whatever they set their hand to. There has been speculation that Alexandrian construction techniques, notably of domes, inspired Justinian's Hagia Sophia.<sup>43</sup> It is certain that mathematical and astronomical learning, manifest for example in Bishop Theophilus's influential Easter Table, facilitated the Alexandrian Church's mid-fifth-century triumph over Rome in fixing the date of Easter – just one of many factors in the constant jockeying between the major sees.<sup>44</sup>

#### *Books: Trade and circulation*

Books merit more than passing mention as media of Alexandrian cultural dissemination. The Alexandrian book trade has not been much investigated. There was also private, non-commercial circulation of books, and their consultation even if not

<sup>37</sup> M. S. A. Mikhail, *From Byzantine to Islamic Egypt: Religion, identity and politics after the Arab conquest* (London 2014) 194-203.

<sup>38</sup> E. Schwartz (ed.), *Acta conciliorum oecumenicorum* 1.4 (Berlin 1922-23) 224-25 (tr. J. I. McEnerney, *St. Cyril of Alexandria, Letters 51-110* (Washington, D.C. 1987) 151-53); cf. W. F. Beers, "Furnish whatever is lacking to their avarice": The payment programme of Cyril of Alexandria', in N. S. M. Matheou, T. Kampianaki, L. M. Bondioli (eds), *From Constantinople to the frontier: The city and the cities* (Leiden 2016) 67-83.

<sup>39</sup> E. Rodziewicz, *Ivory and bone sculpture in ancient Alexandria* (Alexandria 2016).

<sup>40</sup> C. Foss, 'Egypt under Mu'āwīya 2: Middle Egypt, Fustāṭ and Alexandria', *Bulletin of the School of Oriental and African Studies* 72 (2009) 272-73.

<sup>41</sup> Anonymous, *Life of S. John the Almsgiver* 9 (Festugière); Leontius of Neapolis, *Life of S. John the Almsgiver* 18 (Festugière).

<sup>42</sup> John of Ephesus, *Ecclesiastical history* 3.1.33. At the same period the Piacenza Pilgrim remarked on the piety and wealth of the Alexandrian ship-owners, observed by him at the site of Christ's baptism: *Itinerary* p.167 (Geyer).

<sup>43</sup> N. G. Wilson, *Scholars of Byzantium* (London 1996<sup>2</sup>) 45-46; McKenzie, *Architecture of Alexandria and Egypt* 233-35, 327-50, but also L. Haselberger, 'Rediscovering the architecture of Alexandria', *Journal of Roman archaeology* 21 (2008) 703-12. McKenzie's ch. 14 argues impressionistically and inconclusively for impact of Alexandrian architecture on decorative schemes of 4<sup>th</sup>- to 8<sup>th</sup>-c. buildings in Thessalonica, Ravenna, Jerusalem and Damascus, and on manuscript representations of round structures (tholoi).

<sup>44</sup> S. Stern, *Calendars in Antiquity: Empires, states, and societies* (Oxford 2012) 402-09; cf. M. Lejbowicz, 'Les Pâques baptismales d'Augustin d'Hippone, une étape contournée dans l'unification des pratiques computistes latines', in I. Warntjes, D. Ó Cróinín (eds), *Computus and its cultural context in the Latin West, AD 300-1200* (Turnhout 2010) 1-39; Klug, *Alexandria und Rom*, Register 2, s.v. 'Osterfest'.

purchase by visitors to Alexandria. Examples of circulation are Origen's library, which he surely took with him when he moved from his native Alexandria to Caesarea Maritima on the coast of Palestine c.232,<sup>45</sup> and George of Cappadocia's library used by the future emperor Julian during his exile at Macellum. George later became bishop of Alexandria, and took his books with him. When he was mob-lynched in 361, Julian ordered that the local authorities send him, at Antioch, the whole collection, its many works on rhetoric and all the schools of philosophy, including commentaries, but also the Christian titles – did Julian want these for reference while composing *Against the Christians*?<sup>46</sup> The temple libraries of the Egyptian gods benefited from no such scholarly curiosity on the part of those who destroyed them a few decades later, hence their empty bookcases noted by the Spanish Church historian Orosius when he visited the city soon after 411.<sup>47</sup> We happen, though, to have a Greek horoscope dated 479 and delivered at Smyrna to a merchant anxiously awaiting a shipment from Alexandria that included books, leaves of papyrus, and medical instruments.<sup>48</sup>

Evidence for private libraries, and their circulation, becomes more abundant in the sixth century. In about 523 Mara, bishop of Amida (Diyarbakır), a man of considerable Greek culture, was exiled to Petra for opposing Chalcedon. From Petra he got to Alexandria, where he assembled a wonderful library. When he died, his books 'were transferred to the treasury of the church in Amida', and became the subject of obscure controversy presumably involving the Chalcedonian authorities.<sup>49</sup> At much the same period we encounter the aristocratic lady Caesaria of Samosata living an exaggeratedly ascetic life amidst her library of seven hundred tomes, apparently entirely patristic.<sup>50</sup> (For comparison, the earliest surviving catalogue of Cambridge University's library, from 1424, lists 122 volumes, while Duke Humfrey of Gloucester's collection bequeathed to Oxford in 1447 numbered 281 manuscripts.) Another of Mara's contemporaries, an Armenian named Thomas, desired to stock the libraries of two monasteries he had founded on his estates. To this end he visited neither Edessa nor Antioch but Alexandria, and returned home with five loads of patristic manuscripts including dogmatic works and commentaries.<sup>51</sup> Note too the sudden appearance of contemporary Alexandrian-style Platonizing Aristotelianism, firstly in the Syriac works of Sergius of Resh'aina (Ras al-'Ayn) (d.536), who studied there under Ammonius son of Hermeias (d. before 526) and also took an interest in theology (especially Origen),

<sup>45</sup> A. Carriker, *The library of Eusebius of Caesarea* (Leiden 2003).

<sup>46</sup> Julian, *letters* 106-07 (Bidez).

<sup>47</sup> Orosius, *History against the pagans* 6.15.32, probably alluding to the Serapeum's library facilities described by Aphthonius, *Progymnasmata* 40 (Rabe). There is no likelihood, let alone evidence, that any remnant of the famous Ptolemaic Museum library survived after the destruction of the Serapeum at the very latest: M. W. Handis, 'Myth and history: Galen and the Alexandrian library', in J. König, K. Oikonomopoulou, G. Woolf (eds), *Ancient libraries* (Cambridge 2013) 364-76.

<sup>48</sup> G. Dagron, J. Rougé, 'Trois horoscopes de voyages en mer (5<sup>e</sup> siècle après J.-C.)', *Revue des études byzantines* 40 (1982) 127-31.

<sup>49</sup> Ps.-Zachariah of Mitylene/Scholasticus/Rhetor, *Chronicle* 8.5 (tr. Greatrex, Phenix, Horn 301-02). J. Scarborough, 'Teaching surgery in late Byzantine Alexandria', in M. Horstmanshoff (ed.), *Hippocrates and medical education* (Leiden 2010) 236-42, reconstructs the medical library assembled by Aetius of Amida (fl. first half of 6<sup>th</sup> c.) probably while a student in Alexandria.

<sup>50</sup> John of Ephesus, *Lives of the eastern saints* 54 (*Patrologia orientalis* 19.185-88).

<sup>51</sup> John of Ephesus, *Lives of the eastern saints* 21 (*Patrologia orientalis* 17.290, 293).

medicine, astronomy and astrology;<sup>52</sup> secondly in the works of another, much obscurer sixth-century Syriac philosopher, Proba, also indebted to Ammonius;<sup>53</sup> and thirdly in treatises written by members of the School of Nisibis after one of the teachers there, Mar Aba (d.552), spent some time in Alexandria.<sup>54</sup> Export of significant book collections from the Egyptian metropolis to Syria surely lay behind these developments.<sup>55</sup> In the closing years of the sixth or opening years of the seventh century, John Moschus encountered another library ascetic, Cosmas, whose house was full to bursting with the largest book collection in Alexandria, from which he freely lent, and where he sat day-by-day writing tirelessly against the Jews.<sup>56</sup>

Like the episcopal library about which some indications survive,<sup>57</sup> the personal libraries mentioned in our mainly ecclesiastical sources were largely theological, though other collections will have included books on the liberal arts, philosophy, science and jurisprudence.<sup>58</sup> And while theological works will have consisted almost exclusively of text, scientific manuscripts might be illustrated, adding to their attractiveness and value.

<sup>52</sup> Ps.-Zachariah of Mitylene, *Chronicle* 9.19c (tr. Greatrex, Phenix, Horn 368-69); H. Hugonnard-Roche, 'Sergius de Reš'ainā', in R. Goulet (ed.), *Dictionnaire des philosophes antiques* (Paris 1994-2018) 6.214-27; E. Fiori, 'Un intellectuel alexandrin en Mésopotamie. Essai d'une interprétation d'ensemble de l'oeuvre de Sergius de Reš'aynā', in E. Coda, C. Martini Bonadeo (eds), *De l'Antiquité tardive au Moyen Âge: Études de logique aristotélicienne et de philosophie grecque, syriaque, arabe et latine offertes à Henri Hugonnard-Roche* (Paris 2014) 59-90; S. Aydin, *Sergius of Reshaina: Introduction to Aristotle and his Categories, addressed to Philotheos* (Leiden 2016).

<sup>53</sup> H. Hugonnard-Roche, 'Un cours sur la syllogistique d'Aristote à l'époque tardo-antique: Le commentaire syriaque de Proba (VI<sup>e</sup> siècle) sur les *Premiers analytiques*', *Studia graeco-arabica* 7 (2017) 105-70.

<sup>54</sup> A. H. Becker, *Fear of God and the beginning of wisdom: The School of Nisibis and Christian scholastic culture in late antique Mesopotamia* (Philadelphia 2006) 128-29.

<sup>55</sup> Ironically, we would know little about Syriac philosophy were it not for the library of 250+ codices assembled in Iraq, and as far afield as Resh'aina and possibly Ḥarrān and Edessa, by Moses of Nisibis, abbot of the Monastery of the Syrians (Dayr al-Suryān) in the Wādī al-Naṭrūn just south of Alexandria, and deposited there by him in 932: J. W. Watt, 'The Syriac Aristotle between Alexandria and Baghdad', *Late antique religion and culture* 7 (2013) 38-39; S. P. Brock and L. van Rompay, *Catalogue of the Syriac manuscripts and fragments in the library of Deir al-Surian, Wadi al-Natrun (Egypt)* (Leuven 2014) 164-77, 204-05, 359.

<sup>56</sup> John Moschus, *Spiritual meadow* 172. Papyri (non-Alexandrian) indicate the range of works a 7<sup>th</sup>/8<sup>th</sup>-c. Egyptian library might contain: E. Crisci, 'La produzione libraria nelle aree orientali di Bisanzio nei secoli VII e VIII: I manoscritti superstiti', in G. Prato (ed.), *I manoscritti greci tra riflessione e dibattito* (Florence 2000) 1.3-28 with excellent plates. Note dwindling secular content after the mid-7<sup>th</sup> c. Ecclesiastical libraries: R. Otranto, 'Alia tempora, alii libri: Notizie e elenchi di libri cristiani su papiro', *Aegyptus* 77 (1997) 101-24. ) 101-24. Between the 4<sup>th</sup> and 7<sup>th</sup> c. parchment replaced papyrus in production of codices (Jerome, *letter* 34.1 and *On illustrious men* 113, on the Caesarea library), though papyrus exports to Italy, for example, continued until c.900: M. McCormick, *Origins of the European economy: Communications and commerce, A.D. 300-900* (Cambridge 2001) 704-07; E. P. Kelly, M. Sikora, *Reading the Faddan More Psalter: An introduction* (Dublin 2011), on a manuscript of c.800 unearthed in Co. Tipperary in 2006 complete with papyrus-lined leather cover.

<sup>57</sup> Haas, *Alexandria in late Antiquity* 444 n.22; Blaudeau, *Alexandrie et Constantinople* 360-64; Wipszycka, *Alexandrian Church* 250-52. This library survives in Alexandria; contains 530 manuscripts from the mid-10<sup>th</sup> to mid-19<sup>th</sup> cs, but also folios from a 5<sup>th</sup>-c. porphyry codex; and was splendidly rehoused in 2007: Π. Τζουμέρκας, *Το Πατριαρχείο Αλεξανδρείας* (Athens 2007) 81-90 = <http://www.patriarchateofalexandria.com/index.php?module=content&cid=002004>.

<sup>58</sup> Cf. Ammianus Marcellinus, *History* 29.1.41, 2.4, on libraries of this sort delivered to the flames at Antioch in 371.

Such manuscripts were an Alexandrian speciality.<sup>59</sup> The most famous surviving specimen, mixing theology and cosmography, is the *Christian topography* by the mid-sixth-century Alexandrian merchant Cosmas Indicopleustes. Cosmas traded in the Red Sea, Persian Gulf and perhaps India, and took a strong interest in the physical world, which he believed was flat. He produced another illustrated treatise exclusively devoted to astronomy.<sup>60</sup> His theories reflected the controversies of the day between Aristotelians who believed matter is eternal, and Christians like John Philoponus who taught a creator God. He believed, for example, that the stars merely execute God's will, are moved by the angels, and will fall to earth when no longer needed after the Last Things and the resurrection of the dead.<sup>61</sup> There is no question, for him, of their independently influencing the fate of men. Various students have hypothesized availability of the *Topography* at Cassiodorus's monastery-school of Vivarium in southern Italy soon after its composition, and at Canterbury a century or so later. By way of a copy produced at Vivarium, Cosmas's illustrations also influenced the Codex Amiatinus produced before 716 in Bede's monastery of Wearmouth-Jarrow, but long considered Italo-Byzantine.<sup>62</sup>

Studying the book trade and the circulation of manuscripts generally is a reassuringly tangible way of tracking the dissemination and influence of Alexandria's intellectual culture, philosophical and scientific as well as theological. The sheer volume of the city's publishing industry was impressive. From Hellenistic times, Alexandria had been associated with editing classical texts and production of scholarly commentaries. The late antique commentaries on Aristotle alone – most of them Alexandrian – fill twenty-three thick volumes (some in several parts) in the Berlin Academy edition. But the city would never have attracted such crowds of students had introductory textbooks and summaries not been made available. From the fifth and sixth centuries we have

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<sup>59</sup> On diagrams in Alexandrian manuscripts see W. Wolska-Conus (ed. and tr.), *Cosmas Indicopleustes, Topographie chrétienne* (Paris 1968-73) 1.125 esp. n.4; M. Kominko, *The world of Kosmas: Illustrated Byzantine codices of the Christian topography* (Cambridge 2013) 217-26. On the illustrated 'Alexandrian world chronicle' in the 6<sup>th</sup>-c. Golenischev papyrus: V. Tsamakda, 'Historical writings', in eadem (ed.), *A companion to Byzantine illustrated manuscripts* (Leiden 2017) 116-19. Possibly of Alexandrian provenance were: 1) a lavishly illustrated manuscript of Ptolemy's *Geography*, attested in late 13<sup>th</sup>-c. Constantinople (A. Stückelberger, *Bild und Wort: Das illustrierte Fachbuch in der antiken Naturwissenschaft, Medizin und Technik* (Mainz am Rhein 1994) 62-63; id., 'Planudes und die *Geographia* des Ptolemaios', *Museum helveticum* 53 (1996) 197-205); and 2) the 5<sup>th</sup>/6<sup>th</sup>-c. Cotton Genesis (K. Weitzmann, H. L. Kessler, *The Cotton Genesis: British Library Codex Cotton Otho B.VI* (Princeton 1986) 30-34. On diagrams arguably a feature of Alexandrian medical textbooks: E. Savage-Smith, 'Galen's lost ophthalmology and the *Summaria Alexandrinorum*', in V. Nutton (ed.), *The unknown Galen* (London 2002) 121-38. On the 'Artemidorus papyrus': C. Gallazzi, B. Kramer, S. Settis (eds), *Il papiro di Artemidoro* (Milan 2008).

<sup>60</sup> Cosmas Indicopleustes, *Christian topography* prol. 2.

<sup>61</sup> Cosmas Indicopleustes, *Christian topography* 2.84-85, 96-99.

<sup>62</sup> Vivarium: F. Troncarelli, 'Una pietà più profonda: Scienza e medicina nella cultura monastica medievale italiana', in G. C. Alessio and others, *Dall'eremo al cenobio: La civiltà monastica in Italia dalle origini all'età di Dante* (Milan 1987) 705, 712; P. Meyvaert, 'Bede, Cassiodorus, and the Codex Amiatinus', *Scriptorium* 71 (1996) 848, 883. Canterbury: B. Bischoff, M. Lapidge (eds), *Biblical commentaries from the Canterbury School of Theodore and Hadrian* (Cambridge 1994) 209-11, 320-21, 451-52. Wearmouth-Jarrow: P. Meyvaert, 'The date of Bede's *In Ezram* and his image of Ezra in the Codex Amiatinus', *Speculum* 80 (2005) 1107-28. Note also evidence for connections (via Alexandria?) between S. Catherine's, Sinai, and the Latin world c.600 and in subsequent centuries: M. P. Brown, 'Imagining, imaging, and experiencing the East in Insular and Anglo-Saxon cultures: New evidence for contact', in J. D. Niles, S. S. Klein, J. Wilcox (eds), *Anglo-Saxon England and the visual imagination* (Tempe, AZ 2016) 74-84.

introductions to Plato and Aristotle.<sup>63</sup> There also survive Arabic summaries of the encyclopaedic medical writer Galen (d.c.216), apparently from (lost) Greek originals compiled in Alexandria for the use of students who came from all over the Roman world to study medicine there.<sup>64</sup> The physician al-Rāzī (d.925/35), who spent much of his career in Baghdad, told an anecdote about a Chinese man who visited the Abbasid capital, stayed with him, and learnt to both speak and write Arabic. A month before he was to leave he asked “to receive the sixteen books of Galen in dictation so I can write them down”. Al-Rāzī and his students obligingly dictated in relay, while the scribe wrote in Chinese shorthand.<sup>65</sup> Perhaps one day proof will turn up that Chinese doctors too were exposed to the characteristic Alexandrian pedagogy founded on definition, summarization, division and sub-division of categories into lists for mnemonic purposes, use of visual aids such as branch-diagrams, catechism-style question-and-answer sessions, repetition, and of course analysis of and commentary on the classics, Hippocrates and Galen.<sup>66</sup>

#### *Medicine and philosophy exported*

When, around the beginning of the sixth century, Sergius of Resh‘aina returned from his Alexandrian studies to his native Syria, he began to either translate or expound major parts of the curriculum, both Galenic medicine and Aristotelian logic, in Syriac.<sup>67</sup> Prefacing an exposition of the *Categories*, Sergius acclaimed Aristotle as the first to have united the scattered domains of human knowledge into a coherent whole, just as a wise doctor assembles the materials for his cures.<sup>68</sup> This simile reflects Alexandria’s intertwining of medical and philosophical instruction: there is no point in studying medicine – especially in the classificatory fashion it was taught at Alexandria – if one has not mastered logic. Sergius planned to write introductions to each of Aristotle’s works in their proper sequence: practical philosophy, physics, mathematics,

<sup>63</sup> L. G. Westerink, J. Trouillard, *Prologomènes à la philosophie de Platon* (Paris 1990) XLIII–LVI; P. Hoffmann, ‘La fonction des prologues exégétiques dans la pensée pédagogique néoplatonicienne,’ in J.-D. Dubois, B. Roussel (eds), *Entrer en matière: Les prologues* (Paris 1998) 215–22; S. Gertz (tr.), *Elias and David, Introductions to philosophy, with Olympiodorus, Introduction to logic* (London 2018).

<sup>64</sup> I. Garofalo, ‘I sommari degli alessandrini’, in I. Garofalo, A. Roselli (eds), *Galenismo e medicina tardoantica: Fonti greche, latine e arabe* (Naples 2003) 203–31; O. Overwien, ‘Medizinische Lehrwerke aus dem spätantiken Alexandria’, *Les études classiques* 80 (2012) 157–86; id., ‘Der medizinische Unterricht der Iatrosophisten in der ‘Schule von Alexandria’ (5.–7.Jh.n.Chr): Überlegungen zu seiner Organisation, seinen Inhalten und seinen Ursprüngen’, *Philologus* 162 (2018) 2–14, 265–90. See also B. Gundert, ‘Die *Tabulae Vindobonenses* als Zeugnis alexandrinischer Lehrtätigkeit um 600 n.Chr.’, in K.-D. Fischer, D. Nickel, P. Potter (eds), *Text and tradition: Studies in ancient medicine and its transmission presented to Jutta Kollesch* (Leiden 1998) 91–144.

<sup>65</sup> Ibn al-Nadīm, *Fihrist* 19 (Tajaddud)/1(1).39–40 (Fu’ād; tr. Dodge 31); A. George, ‘Direct sea trade between early Islamic Iraq and Tang China: From the exchange of goods to the transmission of ideas’, *Journal of the Royal Asiatic Society* 25 (2015) 612–14.

<sup>66</sup> A. M. I. Bio, ‘*Disiecta membra della scuola iatrosostica alessandrina*’, in Garofalo, Roselli (eds), *Galenismo e medicina tardoantica* 9–51; P. Pormann, ‘Medical education in late Antiquity from Alexandria to Montpellier’, in Horstmanshoff (ed.), *Hippocrates and medical education* 419–41. On diagrams see above, n.54. There was practical instruction too: see Scarborough’s article, above n.45.

<sup>67</sup> Fowden, *Before and after Muhammad* 141–42, 144–45; Aydin, *Sergius of Reshaina* 10–25.

<sup>68</sup> Sergius of Resh‘aina, *Commentary on Aristotle’s Categories, to Theodore of Karkh Guddan*, prologue (tr. H. Hugonnard-Roche, *La logique d’Aristote du grec au syriaque* (Paris 2004) 168); M. Roueché, ‘Did medical students study philosophy in Alexandria?’, *Bulletin of the Institute of Classical Studies* 43 (1999) 153–69.

and finally theology, in which context he also translated Ps.-Dionysius the Areopagite. He was deeply influenced by the teaching traditions of Alexandria,<sup>69</sup> still in the sixth century the world leader in science, philosophy and medicine. Our sources<sup>70</sup> call him ‘chief doctor’ of Resh‘aina and depict him as a man of the world involved in Church politics, an opponent of Chalcedon who collaborated with its supporters; avaricious, addicted to women, and dogged by unmentionable scandal.<sup>71</sup>

Scholars place Sergius at the head of the tradition of Syriac philosophy, especially Aristotelianism, which flourished notably in the monastic milieu (e.g. Qenneshre on the Euphrates),<sup>72</sup> and continued for another two centuries to be nourished directly from Alexandria by men who studied there.<sup>73</sup> Otherwise there were books and especially commentaries, notably those of Sergius’s teacher Ammonius son of Hermeias, among whose readers we number for example Severus Sebokht (d.667), probably of Qenneshre.<sup>74</sup> One also detects the imprint of the Alexandrian curriculum in Paul the Persian’s teaching, in either Persian or Syriac, at the court of Khusrau I (531-78/79);<sup>75</sup> in sixth- or seventh-century Armenian translations of Aristotle and his commentators;<sup>76</sup> in a commentary on Hippocrates’s *Epidemics* probably translated by Sergius but preserved in an East Syriac manuscript commissioned by a cleric from Shush (Susa) on the furthest fringe of Mesopotamia c. 700;<sup>77</sup> or in Greek at Constantinople still later.<sup>78</sup> In Italy, at Ravenna perhaps c.600, one Agnellus expounded Galen in Latin, in the summary Alexandrian style.<sup>79</sup> There are more distant

<sup>69</sup> Hunayn ibn Ishāq, *On Galen translations* §16, comments how Alexandria improved Sergius’s understanding of Galen.

<sup>70</sup> See above, n.52.

<sup>71</sup> Compare the ambiguous figure of Myrtias in Cavafy’s poem ‘Τὰ ἐπικίνδυνα’ (‘Perilous things’).

<sup>72</sup> J. W. Watt, ‘Von Alexandrien nach Bagdad: Ein erneuter Besuch bei Max Meyerhof’, in A. Fürst (ed.), *Origenes und seine Bedeutung für die Theologie- und Geistesgeschichte Europas und des Vorderen Orients* (Münster 2010) 213-26; id., ‘The curriculum of Aristotelian philosophy among the Syrians’, *Studia graeco-arabica* 7 (2017) 171-92; M. Debié, “‘La science est commune’: Sources syriaques et culture grecque en Syrie-Mésopotamie et en Perse par-delà les siècles obscurs byzantins’, *Travaux et mémoires* (Collège de France – CNRS, Centre de Recherche d’Histoire et Civilisation de Byzance) 21/2 (2017) 111-14.

<sup>73</sup> Debié, *Travaux et mémoires* 21/2 (2017) 100-05, 112. See above, 9, on Mar Aba in the 6<sup>th</sup> c. On John of Apamea, a monk who studied in Alexandria and spread a ‘heretical’ Platonist doctrine of God under Justinian, see Gregory Barhebraeus, *Ecclesiastical chronicle* 1.221-23 (Abbeloos, Lamy; tr. Wilmshurst 78); and cf. S. Brock, ‘A Syriac intermediary for the Arabic Theology of Aristotle? In search of a chimera’, in C. D’Ancona (ed.), *The libraries of the Neoplatonists* (Leiden 2007) 294-95. Jacob of Edessa (c.633-708) was one of the last Syrians known to have studied philosophy at Alexandria: Michael the Syrian, *Chronicle* 11.15 (Chabot, tr. 2.471-72).

<sup>74</sup> H. Hugonnard-Roche, ‘Questions de logique au VII<sup>e</sup> siècle: Les épîtres syriaques de Sévère Sebokht et leurs sources grecques’, *Studia graeco-arabica* 5 (2015) 53-104.

<sup>75</sup> Hugonnard-Roche, *Logique d’Aristote* 233-73; id., ‘Du commentaire à la reconstruction: Paul le Perse interprète d’Aristote (sur une lecture du *Peri hermeneias*, à propos des modes et des adverbes selon Paul, Ammonius et Boèce’, in Lössl, Watt (eds), *Interpreting the Bible and Aristotle* 207-24; id., ‘Paul le Perse’, in Goulet (ed.), *Dictionnaire des philosophes antiques* 5A.183-87; Aydin, *Sergius of Reshaina* 179-80, positing Sergius as intermediary.

<sup>76</sup> Fowden, *Before and after Muhammad* 140-41.

<sup>77</sup> G. Kessel, ‘The Syriac *Epidemics* and the problem of its identification’, in P. E. Pormann (ed.), *Epidemics in context: Greek commentaries on Hippocrates in the Arabic tradition* (Berlin 2012) (identifying the author as the late 5<sup>th</sup>-c. iatrosophist Gessius).

<sup>78</sup> Below, 20-21.

<sup>79</sup> N. Everett (ed. and tr.), *The Alphabet of Galen: Pharmacy from Antiquity to the Middle Ages* (Toronto 2012) 21-24.

Latin echoes in Theodore of Tarsus's teaching at Canterbury in the seventh century.<sup>80</sup> This global Alexandria was in the air wherever scholars gathered, as for example in Trebizond where – about the 630s – we glimpse the mathematician and brilliant extempore Greek-to-Armenian translator Tychikos, who had studied three years in the Egyptian metropolis, sitting amidst his library well stocked with 'books both known and secret [astrology and alchemy?], profane and scientific works, historical narratives, medical and chronographical works'.<sup>81</sup>

Part of the Alexandrian schools' success was, as already mentioned, their accessibility to Christians. Not only did Christians increasingly teach there, and mould the curriculum,<sup>82</sup> but the students and readers of Alexandrian books just enumerated, from Sergius to Tychikos, were all Christians too (whether or not Paul the Persian converted at some point to Zoroastrianism). At its peak from the mid-fifth to the mid-seventh century, the monastic complex at Enaton on the coastal road west of Alexandria purveyed a radically Christian 'philosophy' to students quite as cosmopolitan as those who frequented the city's more traditional auditoria. It coordinated an international, mainly anti-Chalcedonian network, and produced biblical scholarship enduringly influential in Syriac.<sup>83</sup> Contemplating Sergius and the Enaton, both purveyors of Alexandrian scholarship to the far-flung Syriac world, one wonders why almost no Greek medicine or philosophy was rendered into Coptic for more local consumption. Were all inquisitive Copts capable of reading such academic compositions in Greek or – later – Arabic?<sup>84</sup>

#### *After the Arab conquest*

By now we are well placed to understand how, despite gradually losing its economic and political role in the wake of the Arab conquest, Alexandria became a famous 'heritage city' and, still more importantly, a city of the mind whose dominance over Arabic intellectual discourse for the rest of the First Millennium is hard to overestimate.

<sup>80</sup> Bischoff, Lapidge (eds), *Biblical commentaries* 255-59. But perhaps none at all in Boethius, despite what has been argued: P. Hoffmann, 'Bibliothèques et formes du livre à la fin de l'Antiquité. Le témoignage de la littérature néoplatonicienne des V<sup>e</sup> et VI<sup>e</sup> siècles', in Prato (ed.), *I manoscritti greci* 2.627-28.

<sup>81</sup> J.-P. Mahé, 'Quadrivium et cursus d'études au VII<sup>e</sup> siècle en Arménie et dans le monde byzantine d'après le "K'nnikon" d'Anania Širakac'i', *Travaux et mémoires* (Collège de France, Centre de Recherche d'Histoire et Civilisation de Byzance) 10 (1987) 171 n.86; T. Greenwood, 'A reassessment of the life and mathematical problems of Anania Širakac'i', *Revue des études arméniennes* 33 (2011) 140, quoting Tychikos's Armenian pupil Ananias of Shirak.

<sup>82</sup> M. Roueché, 'A philosophical portrait of Stephanus the Philosopher', in R. Sorabji (ed.), *Aristotle re-interpreted: New findings on seven hundred years of the ancient commentators* (London 2016) 560-63.

<sup>83</sup> A. Juckel, 'The Enaton', in S. P. Brock, A. M. Butts, G. A. Kiraz, L. van Rompay (eds), *Gorgias encyclopedic dictionary of the Syriac heritage* (Piscataway, NJ 2011) 144-45.

<sup>84</sup> T. S. Richter, 'Toward a sociohistorical approach to the corpus of Coptic medical texts', in M. F. Ayad (ed.), *Studies in Coptic culture: Transmission and interaction* (Cairo 2016) 33-46. U. Pietruschka, 'Some observations about the transmission of popular philosophy in Egyptian monasteries after the Islamic conquest', in D. Janos (ed.), *Ideas in motion in Baghdad and beyond: Philosophical and theological exchanges between Christians and Muslims in the third/ninth and fourth/tenth centuries* (Leiden 2016) 81-108, mainly concerns Syriac and Arabic texts.

The early seventh century was tumultuous for Alexandria, as it passed from East Roman control to a decade of Sasanian rule, 619 to 628, then back into Constantinople's orbit until the Muslim general 'Amr b. al-'Āṣ took it over – twice, or perhaps progressively and messily, between 641/42 and 646. The city now embarked on an anxious and episodic relationship with the Mediterranean Sea, as the Arab conquests turned its southern and eastern shores inside-out strategically and commercially. What had been heartlands of the Roman Empire now became frontier fortresses and remote provinces of a caliphate extending from Afghanistan to the Atlantic but lacking a Mediterranean identity. These events confirm something important about the Mediterranean world, but hard to digest given the region's centrality to our view of Antiquity: namely its penetrability and fragility, as the Herul invaders of the Aegean had already briefly demonstrated way back in the 260s, or the Vandals of North Africa in the fifth century.

From being the eastern Mediterranean's premier city, and almost four times bigger than its nearest Egyptian competitor, with modern population estimates for c.200 running as high as four or even five hundred thousand, Alexandria had already decayed and contracted before the conquest to perhaps as little as a quarter of that figure: archaeology reinforces what common sense deduces must have been the effect of the Justinianic plague.<sup>85</sup> Umayyad and Abbasid Alexandria was gradually reduced to a frontier garrison by a hostile sea, a naval base and shipyard essential for campaigns such as that of 717 against Constantinople, yet exposed to East Roman or piratical attack.<sup>86</sup> When the Gallic bishop Arculf visited c.680 (Holy Land pilgrims being the most irrepensible of all travelers), he could still be struck by the city's walls and towers, extent, populousness, and church of S. Mark, while his Ionan editor Adamnán added the harbour and Pharos from his wide reading.<sup>87</sup> But the massive grain shipments that every year had passed through its harbour on their way to New Rome, except for the decade from 619, were now re-routed along Trajan's Babylon to Red Sea canal, re-dug

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<sup>85</sup> Population: W. Scheidel, 'Creating a metropolis: A comparative demographic perspective', in W. V. Harris, G. Ruffini (eds), *Ancient Alexandria between Egypt and Greece* (Leiden 2004) 1-31; L. de Ligt, 'The urban system of Roman Egypt in the early third century AD: An economic-geographical approach to city-size distribution in a Roman province', *Ancient society* 47 (2017) 255-321; C. Morrisson, J.-P. Sodini, 'The sixth-century economy', in A. E. Laiou (ed.), *The economic history of Byzantium: From the seventh century through the fifteenth century* (Washington, DC 2002) 174. Archaeology: P. M. Fraser, 'Byzantine Alexandria; decline and fall', *Bulletin de la Société Archéologique d'Alexandrie* 45 (1993) 91-105; M. Rodziewicz, 'Transformation of ancient Alexandria into a medieval city', in R.-P. Gayraud (ed.), *Colloque international d'archéologie islamique* (Cairo 1998) 369-86; B. Tczakow, 'Historical topography of ancient Alexandria', *Institut des Cultures Méditerranéennes et Orientales de l'Académie Polonaise des Sciences, Études et travaux* 26 (2013) 686-97.

<sup>86</sup> T. M. Muhammad, 'The role of the Copts in the Islamic navigation in the 7<sup>th</sup> and 8<sup>th</sup> centuries: The papyrological evidence', *Journal of Coptic studies* 10 (2008) 1-32; C. Picard, *La mer des califes: Une histoire de la Méditerranée musulmane (VII<sup>e</sup>-XII<sup>e</sup> siècle)* (Paris 2015) (English tr. N. Elliott, Cambridge, Mass. 2018). On early Muslim Alexandria generally, see P. Kahle, 'Zur Geschichte des mittelalterlichen Alexandria', *Der Islam* 12 (1922) 29-83; Haas, *Alexandria in late Antiquity* 338-51; G. Leiser, 'Alexandria (early period)', in M. Gaborieau and others (eds), *The encyclopaedia of Islam three* (Leiden 2007- ), <http://referenceworks.brillonline.com/browse/encyclopaedia-of-islam-3>; Foss, *Bulletin of the School of Oriental and African Studies* 72 (2009) 267-73; J. Bruning, *The rise of a capital: Al-Fuṣṭāṭ and its hinterland*, 18/639-132/750 (Leiden 2018), esp. chs 1-2.

<sup>87</sup> Adamnán, *On the Holy Places* 2.30 (Meehan). On the relation between Arculf's report and Adamnán's written sources, see R. G. Hoyland, S. Waidler, 'Adomnán's *De locis sanctis* and the seventh-century Near East', *English historical review* 129 (2014) 787-807; also above, n.16.

by ‘Amr in 643-44, to feed hungry pilgrims at Mecca and Medina.<sup>88</sup> East-west traffic no longer followed seaways from port to port, but inland caravan routes. The Levantine coastal cities – Antioch, Beirut, Caesarea – gave way to Damascus and Ramla, and Carthage to Qayrawān. So too, gradually during the eighth century, Alexandria ceded pre-eminence, even as harbour and shipyard, to Roman Babylon’s replacement, al-Fuṣṭāṭ (641) – for Arab settlement in Egypt overwhelmingly concentrated at this strategic point where the Nile Valley intersected with the east-west land route crossing the river on two pontoon bridges, to then widen out into the Delta.<sup>89</sup> Note also how the Coptic (anti-Chalcedonian) patriarch transferred his seat to al-Fuṣṭāṭ starting in the eighth century, though the process was not legally completed until the 1130s.<sup>90</sup>

Thanks to its combination of watery surrounds with intense summer heat, Alexandria lacks the papyrological documentation that elsewhere in Egypt continued as long as the centre of the caliphal world was Umayyad Damascus.<sup>91</sup> But once the Abbasids removed to Baghdad, the whole of Egypt slipped still further into provinciality, maritime expeditions against East Rome were no longer contemplated, and we lack even the occasional references to Alexandria that occur in the Umayyad papyri. By the time the Jerusalemite geographer al-Muqaddasī passed through in the later tenth century, there was little to remark besides the town’s cleanliness, its two mosques, and the prosperity of the surrounding countryside; other Arabic writers elaborated on the blinding whiteness of its old marble buildings.<sup>92</sup> The walls built in the late ninth century by the founder of the independent Tulunid dynasty, Aḥmad b. Ṭūlūn, were between a third and a half the extent of their ancient forerunners, though within them much of the old street grid persisted.<sup>93</sup> Foreign merchant ships often terminated their voyage 150 km. inland at al-Fuṣṭāṭ, the seat of Fatimid government and trade. The much-discussed mid-ninth-century Jewish Radhanite trading network, allegedly linking Francia to China, apparently by-passed Alexandria in favour of al-

<sup>88</sup> McCormick, *Origins of the European economy* 97, 104-05, 108-11; J. P. Cooper, *The medieval Nile: Route, navigation, and landscape in Islamic Egypt* (Cairo 2014) 95-99.

<sup>89</sup> Land routes through Alexandria: Bruning, *Rise of a capital* 80-81. Babylon-Fuṣṭāṭ-Cairo: P. Wheatley, *The places where men pray together: Cities in Islamic lands, seventh through the tenth centuries* (Chicago 2001) 283 (sketch-map) and Index s.vv.

<sup>90</sup> J. den Heijer, ‘Le patriarcat copte d’Alexandrie à l’époque fatimide’, in C. Décobert (ed.), *Alexandrie médiévale 2* (Cairo 2002) 2.84-87; Mikhail, *From Byzantine to Islamic Egypt* 204-13. The Chalcedonian patriarchate remained vacant from after the conquest until 727, and moved to Cairo under the Fatimids, while from the 13<sup>th</sup> c. onward the patriarchs frequently resided in Constantinople, though never entirely losing touch with their reduced flock: X. Παπαδόπουλος, *Ιστορία της Ἐκκλησίας Ἀλεξανδρείας* (62-1934) (Athens 1985<sup>2</sup>) 502-789; V. Christides, ‘The decline of the Melkite Church in Islamic Egypt and its revival by Patriarch Cosmas I (ca 727-768)’, *Pharos journal of theology* 98 (2017), [http://www.pharosjot.com/uploads/7/1/6/3/7163688/article\\_5\\_vol\\_98\\_2017.docx.pdf](http://www.pharosjot.com/uploads/7/1/6/3/7163688/article_5_vol_98_2017.docx.pdf).

<sup>91</sup> P. M. Sijpesteijn, *Shaping a Muslim state: The world of a mid-eighth-century Egyptian official* (Oxford 2013).

<sup>92</sup> Al-Muqaddasī, *The best divisions for knowledge of the regions* (*Aḥsan al-taqāsīm fī ma’rifat al-aqālīm*) 196-200 (de Goeje; tr. Collins 166-69), briefly on Alexandria, at length on al-Fuṣṭāṭ; Bruning, *Rise of a capital* 59 n.6.

<sup>93</sup> Haas, *Alexandria in late Antiquity* 339-40; C. Benech, ‘Recherches sur le tracé des murailles antiques d’Alexandrie’, in *Alexandrina* 3 (Cairo 2009) 401-45; Bruning, *Rise of a capital* XIX (map). Al-Fuṣṭāṭ knew no such constraints. P. M. Sijpesteijn, ‘Travel and trade on the river’, in eadem, L. Sundelin (eds), *Papyrology and the history of early Islamic Egypt* (Leiden 2004) 120, misunderstands Kahle, *Der Islam* 12 (1922) 29, to say the walls enclosed one eighth of ancient Alexandria’s area rather than population.

Faramā (Pelusium) on the east side of the Delta.<sup>94</sup> As for al-Fuṣṭāṭ, al-Muqaddasī waxes rhapsodic about ‘the most important of the cities of the Muslims, their greatest pride, and the most populous of their towns’, only gradually superseded by its new neighbour Cairo in the course of the eleventh century. From eleventh-century letters found in the Cairo Geniza it becomes clear that al-Fuṣṭāṭ not Alexandria was the place to go to the bank and do one’s shopping.<sup>95</sup>

### *Occult Alexandria*

If not as a major emporium and intellectual centre, then, how did Alexandria impinge on the consciousness of the generations that followed the Arab conquest? Though its present was unremarkable, its heritage from the past was not to be ignored, as is already apparent in Arculf’s account of the urban fabric. There was even an occult dimension to Alexandria’s reputation at this time, reflecting misunderstanding of past glories and lost technologies. Arabic travellers and geographers believed that the truncated but still conspicuous Pharos (which did not finally collapse until the mid-fourteenth century) had been intended as an astronomical observatory, while its mirror was a glass by which approaching enemies might be detected or the emperor of Constantinople spied on in his palace.<sup>96</sup>

Other mysterious energies emanating from Alexandria projected its Christian history and persona, especially the power of the saints in their tombs within the city, girdling its outskirts and dotting its hinterland. Some 45 km. to the south-west is Abū Mīnā, a late (but far from unique) example of a planned city, complete with classic colonnaded cardo theatrically narrowing as it approached the vast healing shrine of the Diocletianic martyr Menas, not finally abandoned until the ninth century. Fifth- to sixth-century pilgrim flasks designed for holy oil that had touched the saint’s bones have turned up as far away as Britain, the Danube and Ethiopia.<sup>97</sup> Another shrine, at Menouthis to the east of the city, housed the relics of SS. Cyrus and John, martyred in the same persecution. Cyrus and John owed much of their reputation to a dossier of miracles compiled c.610-20 by Sophronius, who as Patriarch of Jerusalem surrendered the Holy City to the Arabs (638). Sophronius emphasized the cult’s popularity throughout Egypt and Libya, but also among pilgrims from all round the eastern Mediterranean and even Rome. By the late seventh or early eighth century Cyrus and John were being honoured in Rome itself. Extracts from Sophronius’s dossier were

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<sup>94</sup> Ibn Khurrādādhbih, *Book of roads and kingdoms* (*Kitāb al-masālik wa’l-mamālik*) p.153, tr. p.114 (de Goeje); cf. P. Horden, N. Purcell, *The corrupting sea: A study of Mediterranean history* (Oxford 2000) 162-63.

<sup>95</sup> M. Frenkel, ‘Medieval Alexandria – Life in a port city’, *al-Masāq* 26 (2014) 6.

<sup>96</sup> On Alexandria’s ‘omnivoyance’ both vertical and horizontal: F. de Polignac, ‘Al-Iskandariyya: Œil du monde et frontière de l’inconnu’, *Mélanges de l’École française de Rome. Moyen-Age, Temps modernes* 96 (1984) 425-39. Also D. Behrens-Abouseif, ‘The Islamic history of the lighthouse of Alexandria’, *Muqarnas* 23 (2006) 1-14. Travellers (Muslim or Venetian merchants?) dined out on the Pharos as far away as China: T. Vorderstrasse, ‘Descriptions of the Pharos of Alexandria in Islamic and Chinese sources: Collective memory and textual transmission’, in P. M. Cobb (ed.), *The lineaments of Islam: Studies in honor of Fred McGraw Donner* (Leiden 2012) 457-81.

<sup>97</sup> P. Grossman, ‘The pilgrimage centre of Abū Mīnā’, in D. Frankfurter (ed.), *Pilgrimage and holy space in late antique Egypt* (Leiden 1998) 287, 297; A. Papaconstantinou, *Le culte des saints en Égypte des Byzantins aux Abbassides: L’apport des inscriptions et des papyrus grecques et coptes* (Paris 2001) 146-54, 459-62; S. Bangert, ‘Menas ampullae: A case study of long-distance contacts’, in Harris (ed.), *Incipient globalization?* 27-33.

translated into Latin, while John is depicted twice and Cyrus four times in frescoes datable between the early eighth and mid- to late-tenth centuries in S. Maria Antiqua in the forum, including in its Chapel of the Physicians possibly used for incubation. Then in 875 the whole Sophronius dossier was translated. By the early thirteenth century a new narrative was in circulation according to which, around the beginning of the fifth century, ‘Saracens’ overran Alexandria and the saints appeared in a vision to two monks demanding that they steal their bodies and take them to Rome!<sup>98</sup> Ado, bishop of Vienne (d.875), compiled a martyrology with about six hundred entries that focuses on Roman saints – some hundred of them – but also universalizes the city’s Christian appeal by recording martyrs from elsewhere, including twenty-six from Alexandria, more than any other city.<sup>99</sup>

The last twist of the Cyrus and John story reminds one, not least in its Saracenic setting, of Alexandria’s holiest and most famous relic, the body of the Evangelist Mark, which supposedly justified its bishop’s claim to precedence just after S. Peter’s see of Rome. In 828-29, in the immediate aftermath of the seizure of defenceless Abbasid Alexandria by Arab exiles from Cordoba in 818-27 (the same group went on to seize Crete from the East Romans),<sup>100</sup> the relic of S. Mark was stolen and taken to Venice. This theft cleverly exploited the prestige of the Alexandrian Church’s alleged foundation by the Evangelist, in order to establish the ecclesiastical pre-eminence of the emergent city-state – attaining economic take-off precisely at this time<sup>101</sup> – vis-à-vis Aquileia, and its independence from Constantinople. Apparently the relic was chaperoned by an Alexandrian monk and a priest, who will have conveyed something of their local tradition of piety, just as the city’s travelling scholars had purveyed oral exegetical traditions regarding the texts they carried in their bags. The glories of both pagan and Christian Alexandria, including the Pharos, still irradiate the Basilica of S. Mark, thanks to depictions in its twelfth- and thirteenth-century frescoes.<sup>102</sup>

*From Alexandria to Baghdad...*

As for Alexandria’s intellectual legacy, there is a heritage aspect to it in the sense that stories were told about its wise men and schools that might attain quite wide circulation. For the Abbasids, the pillars of Greek science were Aristotle for philosophy in its widest sense, Ptolemy for the stars, Euclid for mathematics, Galen for medicine.<sup>103</sup>

<sup>98</sup> For these and other manifestations of their Roman cult see M. Maskarinec, ‘Saints for all Christendom: Naturalizing the Alexandrian saints Cyrus and John in seventh- to thirteenth-century Rome’, *Dumbarton Oaks papers* 71 (2017) 337-65.

<sup>99</sup> M. Maskarinec, *City of saints: Rebuilding Rome in the early Middle Ages* (Philadelphia 2018) 160-61.

<sup>100</sup> V. Christides, ‘The odyssey of the Andalusian conquerors of Crete: From Cordoba via Alexandria to Crete’, *Graeco-Arabica* 12 (2017) 21-56.

<sup>101</sup> C. Wickham, *Framing the early Middle Ages: Europe and the Mediterranean 400-800* (Oxford 2005) 690-91.

<sup>102</sup> P. J. Geary, *Furta sacra: Thefts of relics in the central Middle Ages* (Princeton 1990<sup>2</sup>) 7, 88-94; D. Howard, *Venice and the East: The impact of the Islamic world on Venetian architecture 1100-1500* (New Haven 2000) 65-94. On the early extension of the cult to the influential Abbey of Reichenau see C. M. Thomsen, *Burchards Bericht über den Orient: Reiseerfahrungen eines staufischen Gesandten im Reich Saladins 1175/1176* (Berlin 2018) 128-129.

<sup>103</sup> See e.g. al-Jāhīz, *Letters (al-Rasā’il)* (ed. ‘A. M. Hārūn) 3.314-15 (tr. D. Gutas, *Greek thought, Arabic culture: The Graeco-Arabic translation movement in Baghdad and early ‘Abbāsīd society (2<sup>nd</sup>– 4<sup>th</sup>/8<sup>th</sup>–10<sup>th</sup> centuries)* (London 1998) 87).

When Greek scientific and philosophical texts began to be translated into Arabic in the first decades of Abbasid rule, these were the writers mainly targeted. Moderns think only Ptolemy and Euclid were Alexandrians, but Abbasid scholars knew better. Conceivably they regarded Galenic medicine as ‘Alexandrian’<sup>104</sup> just because the Egyptian metropolis had been the main medical teaching centre up to the end of Antiquity. Galen had actually studied in the city for about five years, and took a characteristically jaundiced view of its teachers.<sup>105</sup> But there were also stories about Cleopatra (!) being one of these teachers, and about Galen’s supposed grave at al-Faramā (Pelusium).<sup>106</sup> Aristotle too was, as we shall shortly see, viewed as an Alexandrian at least by adoption, while the main sites of Aristotelianism were, from the Abbasid perspective, Alexandria, Syria and Iraq. There was also the question of how exactly Alexandria’s literary production was transmitted, after its schools closed, to Constantinople which was now by default the intellectual capital of Hellenism, but also, more importantly, to the emergent world of Arabic scholarship in Baghdad. We may begin with a tenth-century (Abbasid) literary account of how Alexandrian learning reached the Arabs, which has little documentary value but illustrates the Alexandrian tradition’s high standing, as well as providing a version of how the transition was achieved.

We are indebted to the eminent tenth-century philosopher al-Fārābī (d.948)<sup>107</sup> – and to others, notably the historian al-Mas‘ūdī (d.956)<sup>108</sup> – for a potted history of Aristotelianism according to which Aristotle died not at Chalcis in Euboea after leaving Athens, but in Alexandria. Philosophy had thrived in Ptolemaic Alexandria under a succession of twelve teachers ending with Andronicus of Rhodes. After the death of Cleopatra, the Emperor Augustus

inspected the libraries [in Alexandria] and the [?dates of?] production of the books, and found there manuscripts of Aristotle’s works, copied in his lifetime and in that of Theophrastus<sup>109</sup>. . . He ordered copies to be made of the books copied in the lifetime of Aristotle and his pupils, and

<sup>104</sup> Cf. the lucid, circumstantial treatise by Ḥunayn ibn Ishāq (d.873), *On Galen translations* (*Risāla ilā ‘Alī b. Yayḥā fī dhikr mā turjima min kutub Jālīnūs bi-‘ilmihī wa-ba‘ḍ mā lam yutarjam*) (ed. and tr. J. C. Lamoreaux, *Ḥunayn ibn Ishāq on his Galen translations* (Provo, Utah 2016)), e.g. §§6, 8, 10, 12, 16, 18, 22, 23 (noting the Alexandrian curriculum’s divergence from Galen’s own); G. Bos, Y. Tzvi Langermann (eds), *The Alexandrian Summaries of Galen’s On critical days: Editions and translations of the two versions of the Jawāmi‘* (Leiden 2015) 1-10.

<sup>105</sup> H. von Staden, ‘Galen’s Alexandria’, in Harris, Ruffini (eds), *Ancient Alexandria* 179-215.

<sup>106</sup> S. Swain, ‘Beyond the limits of Greek biography: Galen from Alexandria to the Arabs’, in B. McGing, J. Mossman (eds), *The limits of ancient biography* (Swansea 2006) 395-433.

<sup>107</sup> Al-Fārābī in Ibn Abī Uṣaybi‘a, *The best accounts of the classes of physicians* (‘Uyūn al-anbā’ fī tabaqāt al-aḥibbā’) 2.134.30-135.24 (Müller; tr. L. Kopf, [http://www.tertullian.org/fathers/ibn\\_abi\\_usaibia\\_00\\_eintro.htm](http://www.tertullian.org/fathers/ibn_abi_usaibia_00_eintro.htm), ch. 15, pp.773-74).

<sup>108</sup> D. Gutas, ‘The ‘Alexandria to Baghdad’ complex of narratives: A contribution to the study of philosophical and medical historiography among the Arabs’, *Documenti e studi sulla tradizione filosofica medievale* 10 (1999) 155-93, presents the versions in parallel – I use his translations. Cf. Fowden, *Before and after Muḥammad* 146-53. Note the asymmetry between modern fascination with this minute fragment of philosophical narrative, and the history of medicine context in which it is preserved.

<sup>109</sup> Whether any of Aristotle’s and/or Theophrastus’s library found its way to Ptolemaic Alexandria is the subject of irresolvable debate provoked by contradictory observations in Strabo, *Geography* 13.1.54, and Athenaeus, *Deipnosophists* 1.3ab. Cf. P.M. Fraser, *Ptolemaic Alexandria* (Oxford 1972) 2.473-74.

that the teaching be based on these, disregarding the rest. He appointed Andronicus [of Rhodes] to manage this task

and teach philosophy at Rome. With the coming of Christianity, instruction ceased at Rome while continuing at Alexandria.

By attributing to Augustus the rediscovery of Aristotle's lost works, al-Fārābī and the others curiously anticipate the conclusion of modern scholarship that Aristotle's teachings did not achieve wide dissemination until the edition undertaken by Andronicus in the latter half of the first century BCE.<sup>110</sup> These Muslim intellectuals also argue that Islam not Christianity seals the tradition, thus validating their own heritage and bringing us down – according to our reckoning, though not theirs – almost to the end of the First Millennium. They allege that philosophical teaching in Alexandria was investigated by the 'king of the Christians' and the bishops, who

assembled and took counsel together. . . They formed the opinion that the books on logic were to be taught up to the end of the existential figures [*Prior analytics* 1.7],<sup>111</sup> but not what comes after, since they thought that would harm Christianity, while that whose teaching they endorsed contained [material] that could be called upon for help in the [theological] defence of their religion. Of public teaching, then, this much remained, while whatever was examined of the rest remained private, until Islam came after a long period.

Given what we already know about the impact of Alexandria on Syrian scholarship in the sixth and seventh centuries, it comes as no surprise to be told that, once philosophy teaching died out at Alexandria, it was transferred to Antioch under the Umayyad caliph 'Umar II (717–20). It persisted there until only one teacher remained, with two pupils who eventually left 'taking the books with them'. (It is another story about a late, declining tradition focused on individuals rather than institutions, like the tale of the Athenian philosophers fleeing Justinian's Christian empire and seeking refuge at Ctesiphon.<sup>112</sup>) One of these last Alexandrians went to Ḥarrān in northern Mesopotamia, and the other to Marw far to the east in Khurāsān, now Turkmenistan. By these routes Greek erudition eventually reached Baghdad, where the scholarly caliph al-Ma'mūn (813–33) especially favoured it. Al-Fārābī's and al-Mas'ūdī's accounts both highlight the role of Christian teachers in disseminating philosophy. With one of them, al-Fārābī himself studied the fuller version of Aristotelian logic up to the end of the *Posterior analytics*.

In other words, al-Fārābī locates himself in a clearly articulated and reformed tradition of Aristotelian studies, ultimately derived from the Master himself, but to whose purification, organization and therefore perpetuation Augustus had personally contributed almost a millennium earlier. There is an ambivalence about the role of the

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<sup>110</sup> Fowden, *Before and after Muḥammad* 130. Note also Suetonius's statement, *Domitian* 20, that Domitian renewed fire-damaged library holdings at Rome by 'sending scribes to Alexandria to transcribe and correct them'.

<sup>111</sup> This is where Aristotle passes from assertoric syllogistic, entailing unavoidable conclusions, to modal logic and the much more perplexing realm of the contingent.

<sup>112</sup> Agathias, *Histories* 2.30-31 (Keydell).

Christian East Roman Empire – as distinct from individual Christian teachers – in this transmission, and al-Mas‘ūdī in particular made this point more bluntly than al-Fārābī, whose own teacher, Abū Bishr Mattā (d.940), had been a Christian.<sup>113</sup> But one thing is clear – that the tradition of Christian Aristotelianism is identified with Alexandria, not Rome or even Constantinople. From Alexandria, the teaching filters through Syria and round the Fertile Crescent to Baghdad, and further east to Marw, al-Ma’mūn’s capital before he moved to Baghdad. The message of what we may call the ‘Alexandria to Baghdad narrative’ is that Greek science’s true home is with the Muslims in the caliphate, not in the East Roman Empire that has betrayed it by espousing Christianity. Around the turn of the millennium, though, this Arabic version of the traditional Alexandrian curriculum founded on Platonizing Aristotle-commentaries that stayed close to the target-text, distilling it into commentaries, summaries and handbooks,<sup>114</sup> was used by Ibn Sīnā (Avicenna, c.970-1037) to launch a systematic and profoundly influential personal philosophical synthesis based on the map of knowledge implicit in the Aristotelian corpus, but no longer taking Aristotle’s as necessarily the last word in any particular area of research, or as above criticism. When in his later works Ibn Sīnā called this his ‘Eastern’ philosophy, he meant to honour his native Khurāsān and repudiate the old, ‘Western’ exegetical tradition of Baghdad and, behind it, of Alexandria.<sup>115</sup>

...and Constantinople

Long before Ibn Sīnā’s day Alexandria had, then, become a city of the mind, itself a backwater but enjoying tremendous cultural prestige like Roman Athens or post-Renaissance Florence. It was for its philosophical and theological tradition – and of course the Pharos – that Alexandria was remembered, however indirectly, at both Baghdad and Constantinople.<sup>116</sup> It is even arguable that the transmission of the Alexandrian learned tradition to Constantinople, rather than being just a matter of the circulation of books, can be partly associated with a particular individual moving from the one to the other.

Given Alexandria’s political vicissitudes during the first half of the seventh century, it was natural that some of its Greek-trained scholars should seek to transfer to Constantinople. We encounter one Stephanus of Alexandria as author of various alchemical, astronomical, astrological, medical and philosophical works in a range of manuscripts. We also find references to a Stephanus of Athens with similar interests.<sup>117</sup>

<sup>113</sup> F. W. Zimmermann, *Al-Farabi’s commentary and short treatise on Aristotle’s De interpretatione* (London 1981) cx-cxi.

<sup>114</sup> P. Adamson, O. Overwien, G. Strohmaier, ‘Alexandria, the School of’, in *Encyclopaedia of Islam three*, <http://referenceworks.brillonline.com/browse/encyclopaedia-of-islam-3>.

<sup>115</sup> D. Gutas, *Avicenna and the Aristotelian tradition: Introduction to reading Avicenna’s philosophical works* (Leiden 2014<sup>2</sup>) 138-44, 227-48, 323-34; cf. R. Wisnovsky, *Avicenna’s metaphysics in context* (London 2003).

<sup>116</sup> For the same reason it is prominent on the famous mappa mundi (Afro-Eurasia) made c.1025-50 possibly at Canterbury: British Library, Cotton MS Tiberius B V/1, fol.56v ([http://www.bl.uk/manuscripts/Viewer.aspx?ref=cotton\\_ms\\_tiberius\\_b\\_v!1\\_f056v](http://www.bl.uk/manuscripts/Viewer.aspx?ref=cotton_ms_tiberius_b_v!1_f056v)). The map’s Christian orientation renders it superfluous to depict al-Fustāt/Cairo – or even Antioch!

<sup>117</sup> P. Magdalino, *L’Orthodoxie des astrologues: La science entre le dogme et la divination à Byzance (VII<sup>e</sup>-XIV<sup>e</sup> siècle)* (Paris 2006) 17-23, 33-38; M. Martelli, ‘Stéphanos’, D. Searby, ‘Stéphanos d’Alexandrie’, and

Much of the contents of these works is redolent of the Alexandrian schools. Recent scholarship has created a career for a composite Stephanus that led him from Athens via Alexandria to Constantinople, where he taught under the patronage of the Emperor Heraclius (610-41), to whom one of the alchemical treatises is addressed. (And note also how, in the commentary on Ptolemy's *Handy tables* that is attributed to him, all the figures have been recalculated for the longitude and latitude of Constantinople, in the years 617-19.<sup>118</sup>) Despite lack of hard evidence, and perhaps too wide a range of scholarship for one individual on the strength of a shared name, there is nothing intrinsically implausible about this agreeable life-story. We might even imagine Stephanus disembarking in the capital accompanied by a pile of boxes containing valuable manuscripts.<sup>119</sup>

That possibility has indeed occurred to students of the so-called 'philosophical collection'. This is a group of eighteen Greek manuscripts, dating from roughly 850 to 875. They were copied in Constantinople, as part of the ninth- to tenth-century transition from majuscule to minuscule script, by nine different scribes some of whom interacted with each other, though no single patron has been identified.<sup>120</sup> Only about half the works are actually philosophical: there are also texts on patristics, geography, astronomy and astrology. Without them we would know very little about ancient Greek thought. Because several of the titles derive from late Alexandrian circles, the ultimate origin of the collection, or of part of it, has been sought in the Egyptian metropolis, specifically Stephanus.<sup>121</sup> If this Alexandrian provenance is ever confirmed, the historian of the city's role in cultural and knowledge flows even beyond the First Millennium will note that what remains of the philosophical collection has survived because at some point it reached western Europe rather than staying put in Constantinople,<sup>122</sup> or being exported to Baghdad for translation as some have thought was its original purpose.<sup>123</sup>

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V. Boudon-Millot, 'Stéphanos d'Athènes', in Goulet (ed.), *Dictionnaire des philosophes antiques* 6.557-88; Roueché, in Sorabji (ed.), *Aristotle re-interpreted* 541-63.

<sup>118</sup> J. Lempire, 'Le manuel d'astronomie attribué à Stéphanos (VIIe s.): Un texte héritier de l'enseignement scientifique d'Alexandrie', *Forum Romanum Belgicum* 2014 (6) ([http://kadoc.kuleuven.be/bhir-ihbr/doc/3\\_artikel\\_lempire.pdf](http://kadoc.kuleuven.be/bhir-ihbr/doc/3_artikel_lempire.pdf)).

<sup>119</sup> τὰς κίστας [σύν] τοῖς βιβλίοις: P.Oxy. (Oxyrhynchus papyrus) 1153, 1<sup>st</sup> c. CE, addressed by a father waiting for a book delivery from his son in Alexandria.

<sup>120</sup> Various approaches in D'Ancona (ed.), *Libraries of the Neoplatonists*. For a deconstructive treatment see F. Ronconi, 'La collection philosophique: Un fantôme historique', *Scriptorium* 67 (2013) 119-40, recognizing scribal interactions but incurious about what it means to posit three contemporaneous yet *separate* philosophical collections given the restricted sociology of mid-9<sup>th</sup>-c. Constantinopolitan philosophy. Further arguments for the collection's unity: D. Marcotte, 'La "Collection philosophique": Historiographie et histoire des textes', *Scriptorium* 68 (2014) 145-65.

<sup>121</sup> For the possibility that part of the collection originated among the Athenian philosophers self-exiled at the Sasanid court after 529 (see above), see D. Marcotte, 'Priscien de Lydie, la géographie et les origines néoplatoniciennes de la "Collection philosophique"', *Journal des savants* (2014) 165-203.

<sup>122</sup> On H. D. Saffrey's hypothesis, 'Retour sur le *Parisinus graecus* 1807, le manuscrit A de Platon', in D'Ancona (ed.), *Libraries of the Neoplatonists* 3-28, that one of these manuscripts, the famous Paris Plato, reached the West (and Petrarch's library) via Armenia, see detailed criticism by I. Tinti, 'On the chronology and attribution of the Old Armenian *Timaeus*: A status quaestionis and new perspectives', *Egitto e Vicino Oriente* 35 (2012) 255-267.

<sup>123</sup> See various contributions to D'Ancona (ed.), *Libraries of the Neoplatonists*, e.g. 54-57, 145-48, 155-65, 167-75; Gutas, *Greek thought, Arabic culture* 181-86.

If Stephanus was an Alexandrian, his penchant for astrology was exactly what one would have expected. Alexandrian pagans, Jews and Christians were notoriously addicted to astrology<sup>124</sup> – another science (or art) for which some mathematical competence was a sine qua non.<sup>125</sup> Alexandrian astrological lore achieved impressive dissemination – at least as far as India. Until recently it was believed, on the authority of the American historian of science David Pingree (d.2005), that a major early Sanskrit astrological treatise, the *Yavanajātaka*, was a third-century versified rendition of a mid-second-century Sanskrit translation of a Greek treatise composed slightly earlier, probably in Alexandria. Discovery of a new manuscript in Nepal has led to re-assessment of Pingree’s often intuitive and radically emendatory approach. The *Yavanajātaka* is now assigned to between the fourth and sixth centuries, and recognized as an amalgam, composed originally in Sanskrit not Greek, of Greek and Indian astral sciences.<sup>126</sup> Still, an Alexandrian origin for some Indian planetary lore remains likely. A suggestive passage in Damascius’s life of the late fifth-century philosopher Isidore recalls conversations about sunstones and moonstones at the Alexandrian residence of Fl. Messius Phoebus Severus, consul in the West in 470, a philosopher and worshipper of the old gods who possessed a huge and varied library, and received learned visitors, among them Brahmins from India, who had their own tales to tell about the wonders of their native land.<sup>127</sup>

Ideas might travel from as well as to the subcontinent. According to Pingree, Indian books on astronomy and astrology (which was part of the equipment of any educated Indian whether Vedic or Buddhist) were translated into Pahlavi at the Sasanid court or in its environment. Pingree thought this was happening already in the third century, but our sources are post-Sasanid and recent opinion places such transmission towards or after the end of Sasanid rule, between the sixth and ninth centuries.<sup>128</sup> What is certain is that it seemed obvious to a seventh-century Syriac scholar, Severus Sebokht

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<sup>124</sup> G. Fowden, *The Egyptian Hermes: A historical approach to the late pagan mind* (Princeton 1993<sup>2</sup>) 178; Haas, *Alexandria in late Antiquity* 427 n.33; Magdalino, *L’Orthodoxie des astrologues* 29-32; Lempire, *Forum Romanum Belgicum* 2014 (6).

<sup>125</sup> S. Cuomo, *Pappus of Alexandria and the mathematics of late Antiquity* (Cambridge 2000) 10-14.

<sup>126</sup> B. M. Mak, ‘The date and nature of Sphujidhvaja’s *Yavanajātaka* reconsidered in the light of some newly discovered materials’, *History of science in South Asia* 1 (2013) 1-20; id., ‘The “oldest Indo-Greek text in Sanskrit” revisited: Additional readings from the newly discovered manuscript of the *Yavanajātaka*’, *Journal of Indian and Buddhist studies* 62 (2014) 1101-05. Cf. D. Duke, ‘Were planetary models of ancient India strongly influenced by Greek astronomy?’, in J. M. Steele (ed.), *The circulation of astronomical knowledge in the ancient world* (Leiden 2016) 559-75.

<sup>127</sup> Damascius, *Life of Isidore* 9, 64-68, 233 (Epitoma Photiana), frs 117-118 (tr. Athanassiadi 85, 145-47).

<sup>128</sup> K. van Bladel, ‘Eighth-century Indian astronomy in the two Cities of Peace’, in B. Sadeghi, A. Q. Ahmed, A. Silverstein, R. Hoyland (eds), *Islamic cultures, Islamic contexts: Essays in honor of Professor Patricia Crone* (Leiden 2015) 261 n.18; E. Cottrell, ‘“L’Hermès arabe” de Kevin van Bladel et la question du rôle de la littérature sassanide dans la présence d’écrits hermétiques et astrologiques en langue arabe’, *Bibliotheca orientalis* 72 (2015) 372-77; and cf. F. Grenet, ‘L’Inde des astrologues sur une peinture sogdienne du VIIe siècle’, in C. G. Cereti, M. Maggi, E. Provasi (eds), *Religious themes and texts of pre-Islamic Iran and Central Asia* (Wiesbaden 2003) 123-29. A similar conclusion has been reached regarding the import of South and East Asian spices, drugs etc. into the Iranian and Mediterranean worlds: A. King, ‘The new *materia medica* of the Islamicate tradition: The pre-Islamic context’, *Journal of the American Oriental Society* 135 (2015) 499-528.

(d.667) or one of his circle, that Indian astronomy was superior to that of the Babylonians and the Greeks.<sup>129</sup> Sanskrit astrology was already being translated into Arabic at the Abbasid court in Baghdad from the 770s. This may suggest rivalry with the Tang Chinese court, with which the Abbasids had diplomatic contacts especially from the 750s until the 770s, and where Indian astronomers were officially employed. Further impetus to assimilation of Indian astral science was offered by the Barmakid viziers between 786 and their fall in 803. They were former Buddhists from Balkh (northern Afghanistan), had strong cultural links with India, and encouraged translation of Indian scholarship.<sup>130</sup>

To go back to Alexandrian astrology: if it was to reach Baghdad directly and compete with Indian expertise, it had to go via the Fertile Crescent, in other words the Syriac world. We find Syriac Christians exercising astrological skills at the Sasanid court in the late fifth century and the Chinese court in the later eighth century.<sup>131</sup> One of the main early Abbasid authorities on astrology was Theophilus of Edessa (d.785), who wrote in Greek, Syriac and Arabic.<sup>132</sup> Among Theophilus's main Greek sources were the Egyptians Hephaestion of Thebes (early fifth century) and Rhetorius (sixth or early seventh century). Theophilus in turn heavily influenced Arabic astrologers such as Māshā'allāh who cast the horoscope of the new Abbasid capital in the year 762 and responded to the marked interest in astrology that can be documented among the early Abbasid caliphs. It is characteristic of the interlinked knowledge flows we are here examining, that the brief fashion for Indian astrology, whether originating in China or Balkh or both, may have not only influenced Theophilus possibly through Pahlavi translations, but also smoothed the way for the Abbasids' more enduring interest in Alexandrian astronomy and astrology (the data and practitioners of these disciplines overlapped<sup>133</sup>). This began with the translation into Arabic of the astronomical *Almagest* and the astrological *Tetrabiblos* by Ptolemy of Alexandria or Pelusium (as he is variously called by the Arabic writers), in the early 800s.<sup>134</sup> It has also been argued that, just as the Tang court's enthusiasm for astrology may have stirred Abbasid emulation, so too Abbasid interest sparked new work in astrology and other sciences at Constantinople in the early decades of the ninth century, where Theophilus was certainly known - in

<sup>129</sup> M. Debié, 'Sciences et savants syriaques: Une histoire multiculturelle', in É. Villey (ed.), *Les sciences en syriaque* (Paris 2014) 10-11.

<sup>130</sup> Van Bladel, in Sadeghi and others (eds), *Islamic cultures, Islamic contexts*; and cf. D. Wujastyk, 'From Balkh to Baghdad: Indian science and the birth of the Islamic golden age in the eighth century', *Indian journal of history of science* 51 (2016) 679-90; B. M. Mak, 'The transmission of Buddhist astral science from India to East Asia: The Central Asian connection', *Historia scientiarum* 24 (2015) 66-68.

<sup>131</sup> A. Panaino, 'Astrologi cristiani alle corti Sasanide e Cinese', *Bizantinistica* 18 (2017) 149-65.

<sup>132</sup> D. Pingree, 'From Alexandria to Baghdād to Byzantium. The transmission of astrology', *International journal of the classical tradition* 8 (2001) 3-37; D. Janos, 'Al-Ma'mūn's patronage of astrology: Some biographical and institutional considerations', in J. Scheiner, D. Janos (eds), *The place to go: Contexts of learning in Baghdād, 750-1000 C.E.* (Princeton 2014) 389-454; A. Borrut, 'Court astrologers and historical writing in early 'Abbāsīd Baghdād: An appraisal', in Scheiner, Janos (eds), *The place to go*, esp. 455-59; M. Debié, *L'écriture de l'histoire en syriaque: Transmissions interculturelles et constructions identitaires entre hellénisme et islam* (Leuven 2015) 139-43, 556-59.

<sup>133</sup> Janos, art. cit. 416 n.90.

<sup>134</sup> Gutas, *Greek thought, Arabic culture* 108-10; van Bladel, in Sadeghi and others (eds), *Islamic cultures, Islamic contexts* 263 n.22, 289. Note early Abbasid familiarity with the Greek astrologers Dorotheus of Sidon (1<sup>st</sup> c. CE) and Vettius Valens from Antioch (2<sup>nd</sup> c.), both called 'the Egyptian' in the Arabic tradition.

which case we would have a kind of Afro-Eurasian chain reaction. Dimitri Gutas drew up a table to demonstrate the coincidence in time of surviving Greek scientific manuscripts and the earliest Arabic translations of the same texts, showing strikingly abundant evidence for the period 800-850 and even, more specifically, for 800-830.<sup>135</sup> But the idea that secular learning was dormant during the ‘dark age’ after the Arab invasions seems less convincing nowadays. There is in fact evidence for East Roman interest in the astral sciences during the eighth century as well.<sup>136</sup>

*From Baghdad to Cairo – and Alexandria*

This is not the place, in an investigation focused on Alexandria, to delve any further into the well-researched movement to translate Greek philosophy and medicine as well as astronomy into Arabic, often via Syriac. Nor, indeed, is the translation movement mentioned in the ‘Alexandria to Baghdad narrative’. As already noted, we encounter a number of Syrian scholars trained at Alexandria between Sergius of Resh‘aina and the mid- or later seventh century.<sup>137</sup> Subsequently, Alexandria seems to have provided no direct input, though many of the commentaries, summaries and handbooks involved had been produced there, while the framework for studying them remained profoundly indebted to the Alexandrian curriculum. The tenth-century passing of Baghdad’s commercial and intellectual pre-eminence benefited al-Fustāṭ-Cairo, Qayrawan and Cordoba, but less so Alexandria. Iraq descended into anarchy; the Abbasid caliph became a figurehead controlled by Iranian Shiite generals, the Buyids; Baghdad saw bloody confrontations between Sunnis and Shiites. Commercial advantage transferred to Cairo after its foundation in 961 as the capital of the parallel but far more powerful Shiite caliphate of the Fatimids.<sup>138</sup> Especially with the foundation of the al-Azhar mosque as a centre of learning in 970, Cairo also became a focus for Shiite including Ismaili scholarship and missionary preaching projected, in due course, far into the Islamic east,<sup>139</sup> where Ibn Sīnā encountered it at an impressionable age.<sup>140</sup> Ibn Sīnā never visited Baghdad. Instead, he was a characteristic product of the emergent ‘Islamic Commonwealth’ of autonomous states such as those presided over by the Buyids and Fatimids, competing with each other in – among other things – offering asylum to wandering scholars.

The influential Jewish academies of Baghdad likewise went into decline. Al-Fustāṭ-Cairo acquired a flourishing Jewish community – merchants as well as rabbis – at Baghdad’s expense. The prevalent westward shift was also reflected in the emergence of rabbinic centres in Qayrawān, Fez, Cordoba (under another parallel caliphate, that of the Umayyads, from 929), and Latin Europe, new foci of Jewish learning for the Second Millennium. The Greek scientific and philosophical texts that had been translated into Arabic by Syriac scholars at Baghdad now began to be rendered into

<sup>135</sup> Gutas, *Greek thought, Arabic culture* 182-83; J. Signes Codoñer, *The Emperor Theophilos and the East, 829-842: Court and frontier in Byzantium during the last phase of iconoclasm* (Farnham 2014) 439-48.

<sup>136</sup> Magdalino, *L’Orthodoxie des astrologues* 50-51, 55-56; M. Mavroudi, ‘Greek language and education under early Islam’, in Sadeghi and others (eds), *Islamic cultures, Islamic contexts* 319-20.

<sup>137</sup> See above, 8-9, 12.

<sup>138</sup> T. Power, *The Red Sea from Byzantium to the Caliphate AD 500-1000* (Cairo 2012) 216-22.

<sup>139</sup> F. Daftary, *Ismailis in medieval Muslim societies* (London 2005) 62-88.

<sup>140</sup> Ibn Sīnā, Abū ‘Ubayd al-Jūzjānī, *Sīrat al-shaykh al-ra’īs* (ed. and tr. W. E. Gohlmann, *The Life of Ibn Sina* (Albany, NY 1974) 18-20; also tr. Gutas, *Avicenna and the Aristotelian tradition* 12-13).

Latin at Cordoba and Toledo with the help of Jewish as well as Christian scholars – a westward knowledge flow destined to be talked up by European scholars in a fashion no less political than the Abbasids’ claim to be closer heirs to Greek scholarship than the rival empire of East Rome.<sup>141</sup> Egypt was (or was believed to have been) a vital link in both processes of transmission, and the Cairo Geniza well illustrates the geographically vast range of contacts available to a community able to take advantage of both commercial and religious networks.

If developments in nearer Asia, specifically Iraq, decisively influenced the emergence of Cairo as the Muslim world’s leading city, Alexandria’s eventual – much lesser – change of fortunes came thanks to the revival of Mediterranean commerce, especially between the Fatimids and emergent Italian city states such as Amalfi, Pisa, Genoa and Venice.<sup>142</sup> The Crusades also played their part: Damietta, on the eastern side of the Delta, offered a tempting bridgehead, while the Alexandrians, in a less strategic position, were left in peace to do business profitable to the Latins as well. The Crusader bishop and chronicler William of Tyre (d.1186) could once more describe Alexandria as the place where east met west, and as a ‘forum publicum’ for both worlds<sup>143</sup> – worlds that now again reached, as in ancient times, simultaneously into the Sahara and eastward as far as India. From the late eleventh century the city also became, for a time, a major centre of Muslim scholarship.<sup>144</sup> The great Maliki scholar Abū Bakr al-Ṭurtūshī from Tortosa in Spain taught numerous students there from 1097 to 1126, walking with them in the city gardens and holding their attention with polemics against song, music and Greek cheese.<sup>145</sup> Another major figure was Abū Ṭāhir al-Silafī from Isfahan, a Shafīite and a particularly renowned transmitter of sayings of the Prophet (ḥadīth) who resided in Alexandria from 1118 to 1180. Thanks to these men and many lesser figures around them, Alexandria acquired something of the significance for Sunni learning that it had once boasted for Greek scholarship, even though the Fatimid rulers were Shiites. Fatimid viziers even patronized the foundation in Alexandria of the first two madrasas anywhere in Egypt, to accommodate the students who came from across the Muslim world to sit at the feet of these legal masters.

Did anything linger on from Alexandria’s old reputation for Greek science and learning? The great Syriac translator Ḥunayn ibn Iṣḥāq (d.873) once wanted to find one of Galen’s treatises on Aristotelian logic:

I traveled in its search in northern Mesopotamia, all of Syria, Palestine, and Egypt until I reached Alexandria. I found nothing except about half

<sup>141</sup> Gutas, *Greek thought, Arabic culture* 83-95.

<sup>142</sup> D. Jacoby, ‘Byzantine trade with Egypt from the mid-tenth century to the Fourth Crusade’, *Θησαυρισματα* 30 (2000) 30-47 (=id., *Commercial exchange across the Mediterranean: Byzantium, the Crusader Levant, Egypt and Italy* (Aldershot 2005) I); Frenkel, *al-Masāq* 26 (2014) 5-35; N. Christie, ‘Cosmopolitan trade centre or bone of contention? Alexandria and the Crusades, 487-857/1095-1453’, *al-Masāq* 26 (2014) 49-61; Cooper, *Medieval Nile* 201-03.

<sup>143</sup> William of Tyre, *History of deeds done beyond the sea* 19.27: ‘Sic ergo Orientalium et Occidentalium illic fit concursus populorum estque eadem civitas forum publicum utriusque orbi’.

<sup>144</sup> What follows derives from P. E. Walker, ‘Fāṭimid Alexandria as an entrepôt in the east-west exchange of Islamic scholarship’, *al-Masāq* 26 (2014) 36-48

<sup>145</sup> Cf. Frenkel, *al-Masāq* 26 (2014) 11-13 (gardens), 27 (Ṭurtūshī rejects foreign luxuries).

of it, in disorder and incomplete, in Damascus.<sup>146</sup>

Still, the idea had not seemed *prima facie* implausible. Much later we encounter a Spanish scholar, Abū al-Ṣalt (d.1134), who lived in Alexandria from 1096 to 1112 pursuing not Muslim law but ancient secular learning: medicine especially Hippocrates and Galen, geometry, astronomy, music, logic, and philosophy.<sup>147</sup> He viewed Galen as a particular adornment of pre-Islamic Alexandria even though he spent most of his career in Pergamum and Rome. At one point Abū al-Ṣalt fell into political disfavour and was confined ‘in the library of the sage Aristotle’. Whatever that may mean, he was particularly productive during his imprisonment. But judging from his brief and disillusioned memoir entitled *Egyptian letter*, Abū al-Ṣalt found little enlightenment from his Alexandrian peers, and regarded Egyptian culture as in decline under Islam – though had he lived earlier he would have found his fellow-polymath Ibn al-Haytham (d.c.1040) a congenial interlocutor on both Galen and the scholarly benefits of imprisonment. Other Cairene Galenists, though at daggers drawn, were the Christian Ibn Buṭlān (d. 1066) and ‘Alī b. Riḍwān (d.1061), who was a major source for the ‘Alexandria to Baghdad narrative’. Cairo was indeed the place to be; and once power passed from the waning Fatimids to the dynamic new dynasty of the Ayyubids, the city resumed the mantle of authority, in matters of scholarship as well, that had been hers previously.

#### *Return of the Mediterranean*

How then, to conclude this investigation, does late antique and early Islamic Alexandria look in the expanded framework offered by First Millennium Afro-Eurasia? In commercial terms, late antique Alexandria was an essentially Mediterranean city with a vibrant Greek heritage whose position, though, at the joining of Asia and Africa opened up huge ‘global’ horizons and markets east as far as India and Central Asia, and south as far as Aksum and no doubt across the Sahara too. Its European and to some extent its African orientation was disrupted by the Arab conquests, since they failed to engross either the Mediterranean’s northern shores or the Christian realms of Nubia and Ethiopia. On the other hand, Alexandria’s relations with Syria remained stable, while those with Arabia and Iraq strengthened, such was the political configuration of the caliphate. After getting on for four centuries of this new regime, an older pattern began to re-assert itself thanks to the shift of Islamic political authority and commercial activity from Baghdad to al-Fuṣṭāṭ-Cairo, but also to the flourishing of Latin Europe, the revival of Mediterranean trade and the launching of the Crusades. As for scholarship, the coming of the Arabs precipitated a break in the teaching of the Greek sciences in the city itself; but Alexandria lived on, very much so, as a city of the mind

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<sup>146</sup> Ḥunayn ibn Ishāq, *On Galen translations* §§71, 126, 133. Note the Umayyad Caliph al-Ḥakam II’s (961-76) assemblage of a huge library, and stimulation of scholarship at Cordoba, by systematic purchases ‘from Baghdad and Egypt’ (Alexandria as well as al-Fuṣṭāṭ?): Ṣā’id al-Andalusī, *Book of the categories of nations (Al-ta’rīf bi-ṭabaqāt al-umam)* 240-41 (Jamshīdnizhād, Tehran 1997; tr. Blachère 125); cf. M. Forcada, ‘Books from abroad: The evolution of science and philosophy in Umayyad al-Andalus’, *Intellectual history of the Islamic world* 5 (2017) 55-85, esp. 73.

<sup>147</sup> A.-L. de Prémare, ‘Un andalou en Égypte à la fin du XIe siècle: Abū l-Ṣalt Omayya de Denia et son *Épître égyptienne*’, *Mélanges, Institut Dominicain d’Études Orientales du Caire* 8 (1964-66) 179-208; S. Hamdani, ‘Worlds apart? An Andalusi in Fāṭimid Egypt’, *Journal of North African studies* 19 (2014) 56-67.

and the imagination. That has nothing to do with the fact that it eventually established itself as a centre for Islamic learning too, though that development can in part be attributed to the decline of Baghdad, where virtual Alexandria had most persistently and influentially flourished.

The three centuries during which a major city on the Nile Delta, whether Alexandria or al-Fuṣṭāṭ, did not play a hinge-role in the affairs of Afro-Eurasia, can now be seen as a rather eloquent silence. Just as the Arab conquest fully revealed the Mediterranean's penetrability and fragility, so the attempt to merge the already huge empires of Iran and Rome into a single Umayyad/Abbasid caliphate from Afghanistan to the Atlantic revealed that 'Afro-Eurasia' could work for trade and scholarly 'knowledge flows',<sup>148</sup> but not as a long-term foundation for political structures. Huge commercial, intellectual and cultural benefit accrued from the effort; but the imperial superstructure refused to 'stick'. Al-Muqaddasī pointedly remarks that al-Fuṣṭāṭ-Cairo 'has superseded Baghdad' to become 'the marketplace for all mankind'<sup>149</sup> – which brings us back to what Strabo and other Roman writers had written about Alexandria at the outset of the First Millennium. Yet this 'storehouse of the Occident and entrepot of the Orient' was the capital of a state that, though it called itself a caliphate, created great wealth and was at times very powerful, nevertheless controlled at its greatest extent only Egypt, North Africa, Syria and parts of Arabia's Red Sea coast. By the end of the First Millennium the caliphal continuum from Afghanistan to the Atlantic had reverted to the more manageable articulation, or realistic division of labour, that had prevailed in the fifth to seventh centuries: 1) the Iranian plateau, whose polities might or might not retain a foothold in Mesopotamia as the Sasanids had; 2) Greater Syria, and sometimes Mesopotamia, in close interaction with 3) the Levant and the eastern Mediterranean basin with its two major crossroads emporia of Cairo and Constantinople; 4) the western Mediterranean, with a third, Umayyad caliphate in the Iberian peninsula.<sup>150</sup>

#### *Last as ever – Africa*

The story of later First Millennium Alexandria is, then, about how it related to a world that was experimenting with new, at times more 'global' structures, but in the end returned to something more familiar. Rather more constant, though, was its failure to connect with sub-Saharan Africa, except back in the heyday of Rome's Red Sea and Aksumite trade. To call First Millennium Alexandria an 'Afro-Eurasian' city is something of an exaggeration since by Africa we, like the Romans, usually intend only

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<sup>148</sup> I have used such terminology sparingly. On the concept of 'flow' in analysis of contemporary global cultural phenomena, especially information technology, see S. A. Rockefeller, 'Flow', *Current anthropology* 52 (2011) 557-78. Given its emphasis on mobility, process and spatial disjuncture (e.g. electronic cash-flows between financial centres, with no benefit to zones between them), as against locality/stability, 'flow' needs to be applied sensitively to pre-modern situations: cf. J.-P. Ghobrial, *The whispers of cities: Information flows in Istanbul, London, and Paris in the age of William Trumbull* (Oxford 2013) 11-15, 159-63; J. Osterhammel, 'Global history and historical sociology', in J. Belich, J. Darwin, M. Frenz, C. Wickham (eds), *The prospect of global history* (Oxford 2016) 38-39.

<sup>149</sup> Al-Muqaddasī, *Best divisions for knowledge of the regions* 197 (de Goeje; tr. Collins 166).

<sup>150</sup> This point is well expressed, with reference already to Aḥmad b. Ṭūlūn's regime (868-84), by T. Bianquis, 'Autonomous Egypt from Ibn Ṭūlūn to Kāfūr, 868-969', in S. F. Petry (ed.), *Cambridge history of Egypt 1: Islamic Egypt 640-1517* (Cambridge 1998) 104.

its Mediterranean fringe. In a curious twist of history, the revival of modern Alexandria's fortunes came about, in the early nineteenth century, at the initiative of Mehmed Ali Paşa, a soldier of Konyan and possibly Kurdish descent from Kavala in Macedonia who ruled Egypt from 1805 to 1849.<sup>151</sup> Through this connection, numerous Greeks settled in the city, especially in the early days Greeks from Thrace, Macedonia and Epirus, while the Greek Chalcedonian patriarchate was able to re-establish itself there on a permanent and secure basis for the first time since the Arab conquest.<sup>152</sup> Today, few Greeks are left in Alexandria, but their Patriarch remains there, not in Cairo with his Coptic brother. He proudly maintains his throne 'of the Great City of Alexandria and of All Africa', and slightly sheepishly his ancient title of 'Thirteenth Apostle and Judge of the Whole World'. He presides over thriving Greek Orthodox bishoprics and missions in sub-Saharan Africa, so compensating for his city's marked preference, during the first two millennia and more of its existence, for an Asiatic or Mediterranean/European over an African orientation.<sup>153</sup>

Unless, of course, one sees Alexandria's physical and economic dependence on the Nile and Egypt as already constituting an African orientation. This perspective complicates the Greek and Roman view of Alexandria as a city 'next to' rather than 'of' Egypt, with which we began. Underlying this entirely exceptional, cosmopolitan Alexandria, a world to itself that followed its own ecumenical destiny, there has always been an Alexandria stifled by the desert that reached its western walls, stuck in its own Nile-borne mud,<sup>154</sup> sinking gradually beneath the sea. Its intimate relationship to the Nile Valley, to Egypt proper, bears further thought. Already by about 700 Alexandria was consuming more and more native rather than imported, especially Cypriot, pottery. The city was being bound closer to Egypt, in a single economic regime.<sup>155</sup> When the post-Umayyad centre of gravity shifted from nearby Syria to remoter Iraq, Egypt's previously close links with the caliphal power-centre gradually loosened. From 868 until 1517 it was ruled by autonomous dynasties – Tulunids, Ikhshidids, Fatimids, Ayyubids and Mamluks. All had Syrian and Red Sea aspirations, these being Egypt's natural bulwarks. And the first two dreamed of installing the Abbasid caliph at al-Fuṣṭāṭ. But Egypt was their main power base, as it had been for the pharaohs. After 1517, the Ottoman interlude made Alexandria again part of a Mediterranean empire, as it had been under Rome. Once the country reasserted its independence of the Ottomans, though, and eventually of the British too, while Alexandria shrugged off the fragile, nostalgic cosmopolitanism that bred Cavafy and his ilk, the city was absorbed back into

<sup>151</sup> H. W. Lowry, İ. E. Erünsal, *Remembering one's roots: Mehmed Ali Paşa's links to the Macedonian town of Kavala* (Istanbul 2011).

<sup>152</sup> Παπαδόπουλος, *Ιστορία τῆς Ἐκκλησίας Ἀλεξανδρείας 791-830*; Τζουμέρκας, *Το Πατριαρχεῖο Ἀλεξανδρείας*.

<sup>153</sup> Ancient sources disagreed whether Egypt belonged to Asia or Africa, but Alexandria or nearby Canopus was widely regarded as marking the divide: Ps.-Hegesippus, *Histories* 4.27 (Ussani); Isidore of Seville, *On the nature of things* 48.2 (*Patrologia Latina* 83.1016-17); Adamnán, *On the Holy Places* 2.30 (Meehan). Cf. J. Maritz, 'The face of Alexandria – the face of Africa?', in Hirst, Silk (eds), *Alexandria* 41-66, on Roman imperial coins personifying both Alexandria and Africa wearing elephant head-dress.

<sup>154</sup> Familiar to archaeologists and the bane of papyrologists. According to taste, allusions to Alexandrian mud can also be seen as an anti-Arab trope of European travel-writing: K. Fahmy, 'The essence of Alexandria', *Manifesta journal* 14 (2012) 71.

<sup>155</sup> Foss, *Bulletin of the School of Oriental and African Studies* 72 (2009) 271-73; Bruning, *Rise of a capital* 75-76.

Egypt as an industrial metropolis under a strictly nationalist regime. Only historians of the distant past can today get the measure of Alexandria's full potential. The city offers the ideal viewing-point onto the ancient world if we wish to venture beyond the inland sea yet not leave it entirely behind. For whether as commercial crossroads or city of the mind, Alexandria the tri-continental metropolis of the First Millennium condensed into a living reality an Afro-Eurasiatic world that viewed from Athens stirred mainly atavistic memories of threat and 'Persian Wars', while from Rome it might seem merely remote and exotic, the stuff of 'Egyptomania'.