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THE LOCATING OF PARADISE IN PHILOSTORGIUS'S *ECCLESIASTICAL HISTORY*: GREEK SCIENCE AND CHRISTIAN GEOGRAPHY

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Abstract. One of the important questions of Christian geography was the location of Paradise on the inhabited Earth. Among the various theories provided by Christian authorities, none is as sophisticated as that of Philostorgius. Philostorgius put forward the proposition that Paradise was located in the eastern part of the inhabited world, on the equator, with a demonstration that was largely based on the classical non-Christian *paideia*.

THE LOCATION OF PARADISE: QUESTIONS AND CONTROVERSIES, FROM THE OLD TESTAMENT TO PHILOSTORGIUS'S EXPOSITION

The book of Genesis commences with God's creation of the world, the first chapter of which deals with how Man was brought to life on the sixth day, together with the animals. However, some discrepancies arise in the second chapter, where God is said once again to have created Man from the earth while also creating for Man a garden, understood to be the Garden of Eden (Gen. 2.8-14):[1]

> Yahweh God planted a garden eastward (*miqqedem*) in Eden (*Gan-be Eden*); and there he put the man he had formed. And out of the ground made Yahweh God to grow every tree that is pleasant to the sight, and good for food; the tree of life was also in the midst of the

[1] For more information on this discrepancy, see Scafi 2006, 32-33, 36-37.

> garden, and the tree of knowledge of good and evil. And a river went out of Eden to water the garden; and from thence it was parted, and became into four heads. The name of the first is the *Pishon*; it winds through the entire land of *Havilah* [or *Evilat*], where there is gold. And the gold of that land is good: there is *bdollah* and the *sham* stone. And the name of the second river is *Gihon;* it winds through the entire land of *Kush*. The name of the third river is *Hiddeqel*; it runs along the east side of *Ashur*. And the fourth river is the *Prat*.[2]

The first Christians knew this passage not from its original Hebrew version but rather by its Greek translation, known as the Septuagint.[3] The translators were compelled to make certain choices in order to make the text intelligible to their Greek audience.[4] *Gan* was rendered as παράδεισος, a term which evoked for the Greeks the enclosed wooded gardens of the Achaemenid kings, inhabited by animals and fed by streams.[5] *Eden* became a toponym;[6] *miqqedem* was interpreted in a

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[2] Trans. Hiebert 2007. The Garden of Eden is mentioned in other books of the Old Testament and described in different terms (in particular, as a garden enclosed by a wall of precious stones where the trees always bear fruit and the leaves remedy illnesses). See Delumeau 1992, 11-13.

[3] According to the apocryphal *Letter of Aristeas*, a translation of the Pentateuch (the first five books of the Bible) was performed by 72 Jewish scholars in Alexandria in the first half of the 3rd century B.C. They had been summoned by the Macedonian ruler Ptolemy II (285-246 B.C.). This translation was intended for the Greek-speaking Jews resident in Egypt. They completed a perfect Greek translation of the Hebrew text (the so-called Masoretic text) in the space of 72 days, which was stored in the Library of Alexandria. The Jewish diaspora, however, preferred other revised Greek translations after the Christians adopted the Septuagint. Other Greek translations were made in the 2nd century A.D; see Scafi 2006, 41, n. 3.

[4] See Alexandre 1988, 192-193.

[5] The name is of Persian origin (avestan: *pairidaeza*) and is attested to for the first time in Greek literature by Xenophon (*Oec.* 4.13-14, 4.20). See Alexandre 1988, 193; Scafi 2006, 34-35; Briant 1996, 98-99, 245-251, 456-459.

[6] *Gan-be Eden* ("a garden in Eden") defines Eden as the place where God placed his garden. However, Eden in Hebrew is also a common noun meaning "delight," hence Jerome's translation: *paradisum voluptatis*. Contrary to this, the *Vetus Latina* (see n. 7) remained consistent with the Septuaginta; see Scafi 2006, 34.

spatial way (κατὰ ἀνατολάς: "in the east") and not in the temporal sense ("at the beginning") – Jerome incorporated the latter temporal sense in his Vulgate[7] (*a principio*). *Kush*, *Hiddeqel* and *Prat* were replaced with their well-known Greek equivalents: Αἰθιοπία,[8] Τίγρις and Εὐφράτης respectively;[9] *bdollah* and *sham* stone became ἄνθραξ ("carbuncle") and λίθος πράσινος ("green stone");[10] the other names having no adequate substitutes, they were simply transcribed directly into Greek (Φισών, Γηών, Εὐιλάτ, occurring in several variants).[11] In the final quarter of the 1st century A.D., the Jewish historian Josephus made some additional remarks about the four rivers, whose Hebrew etymology was also enlightened.[12] With regard to the *Pishon*, he said that it was the river known as the Ganges to the Greeks and that it flowed to the sea after having reached India (allowing an identification of that land with *Evilat*); he explained that the Tigris and the Euphrates emptied into the Erythraean Sea, a term well known to the Greco-Roman world.[13] Finally, he equated the *Gihon* with the Nile which flows through Egypt and, without Josephus judging it necessary to remark, through Αἰθιοπία.[14]

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[7] Latin translations (collectively named *Vetus Latina*) were used until in the late 3rd century A.D. Jerome, returning to the original Hebrew text, compiled a new translation (the *Vulgata*). Augustine made use of the *Vetus Latina;* see Metzger and Coogan 1993, s.v. translations.

[8] Αἰθιοπία here is Nubia (or Kush, a name commonly mentioned in the Old Testament). The history of the Kingdom of Kush spans several centuries, from the 9th century B.C. until the 4th century A.D. (Napatan period: late 9th century – *ca.* 270 B.C.; Meroitic period: *ca.* 270 B.C.-A.D. 350).

[9] The Euphrates and Tigris were terms familiar to the Jewish translators and commonly known among their Greek-speaking audience.

[10] See Alexandre 1988, 193. The Latin translation of the *Vulgata* rendered *sham* as *lapis onychinus* and *bdollah* as *bdellium* (an aromatic resin gum).

[11] On the transliteration of Hebrew words, see Harl, Dorival, and Munnich 1988, 261-262.

[12] Joseph. *AJ*. 1.37-40.

[13] This term (in Latin: *mare Rubrum*) referred to the whole Western Indian Ocean, but it could equally apply to certain parts of it (here the Persian Gulf is referred to).

[14] Note that the Jewish tradition recognized other Paradises and not exclusively

How to interpret the passage on the Garden of Eden was a source of much controversy in the early period. There were, on the one hand, those who perceived it as a real, tangible location which was accessible to the senses ("corporeal") and, on the other hand, those who perceived it as an "intelligible" place (i.e., accessible to mind only) – in other words, an allegory with symbolic significance.[15] It was a member of the Jewish diaspora in Alexandria, Philo, who around the mid-1st century A.D. formulated the first allegorical interpretation of the story of Genesis. His interpretation of this book, himself an adherent to Platonic philosophy, had him conceive the Garden of Eden as an allegory for the rational human, with the trees planted in the garden being emblematic of the virtues instilled in Man by God and with the four rivers being representative of the four cardinal virtues.[16] This perspective was supported by certain Fathers of the Church, notably Origen of Alexandria (during the first half of the 3rd century), for whom the literal interpretation of the text carried so many incoherencies that the only possible reading had to be a symbolic one. "Who would be so foolish," he wrote, "to think that as a man farms, so would God plant a tree in Eden eastward and erected in this garden a visible and corporeal tree of life?"[17] Origen also shared Philo's interpretation of Paradise being a symbol of the soul and its virtues.

Contrary to this, the majority of the theologians of the Christian East believed that Eden, rather than being theoretical in nature, i.e., being beyond space and history, had an actual presence on Earth.[18] Their suppositions were substantiated, among other things, by the fact that

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Eden: in particular, there is a Paradise which serves as a waiting place for those awaiting the Day of Resurrection – a Celestial paradise. The distinction between these Paradises and Adam's one was not always clear. See Delumeau 1992, 37-52, 47; Bockmuehl 2010, 195-196; Meyer 2011, 109, n. 90.

[15] For further details, see Scafi 2006, 36-41.

[16] Scafi 2006, 36.

[17] Origen, *De princ.*, 4.3.1. See Delumeau 1992, 27-28; Bockmuehl 2010, 201-206.

[18] In opposition to those locating it in the sky (above, n. 14), see Alexandre 1988, 201; Delumeau 1992, 28-30.

these four rivers flowing out of Paradise were authentic, observable phenomena. As Hippolytus of Rome noted (*Fr. in Gen.* 4):

> Some maintain that Paradise is in the heavens and that it is not among created things. Yet, when one sees with one's own eyes the rivers which originate from there and that one is still free to contemplate, everyone must conclude that it is not in the Heavens and must be here, among us, in creation. It is a place in the east, in a chosen region.[19]

In a similar vein, John Chrysostom stated that God created Paradise in the East and planted trees there "pleasant to the sight and good for food."[20] The Latin West was also more inclined towards the theory of earthly, "corporeal", Paradise, all the more so after Augustine made his position in the debate: cutting through "the Gordian knot of accumulated controversy,"[21] he stressed that the Book of Genesis was referring to a real place on Earth. In his treatise *De Genesi ad litteram* (8.1), he defined Paradise in terms of being both a spiritual and corporeal reality. In *De Genesi contra Manichaeos*, however, he clarifies that, no matter which allegorical interpretation one may form, one must nonetheless recognize the primacy of the perceptible reality of the Garden of Eden (August. *Gen. Man.* 2.2.3):[22]

> We must therefore be warned to also take at face value all the rest of the story of the origins, not to see here a figurative way of speaking, but the account of real facts that both took place and mean something else ... A river had its source in Eden, that is, in a place of delights, and watered Paradise, that is, all those beautiful trees laden with fruit that shaded the entire soil of this land.[23]

As one reads in Augustine's works, this "perceptible" and "earthly" Paradise was endowed with all the qualities of an idyllic garden, a *locus*

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[19] My translation. See also Theoph. *Ad Autol.* 2.28.

[20] John Chrys. *Homil. in Gen.* 2.3 (*PG* 53, col. 108).

[21] Scafi 2006, 36. To doubt the historicity and reality of the events narrated in the Bible implied that the Word of God could be scrutinized by human reason; see Scafi 2006, 39.

[22] See Delumeau 1992, 30-32.

[23] My translation.

amoenus. Likewise, in his homily on Paradise, ps.-Basil described it as a place possessing all the riches of creation, bathed in purest light, enjoying a constant and agreeable temperature, fed by plentiful waters, possessing all manner of fruits, etc. According to Lactantius, Eden was a garden located in the East where all fruits grow so that man may sustain himself without toil.[24]

As far as the location of this garden was concerned, most of the authors contented themselves with the piece of information provided by the biblical text, namely "in the east" (the identification of *Pishon* with the Ganges could reinforce this idea). As a matter of fact, for an extended period of time, Christians did not seem to have shown much interest in searching for a more precise location of this place. However, after the legalization of Christianity between the years 311-313, the situation must have undoubtedly changed. Christians began concerning themselves more with "les traces concrètes du sacré biblique."[25] While some were focusing on the geography of the Holy Land, others were expanding the debate regarding the issue of locating this perceptible Eden.

According to H. Inglebert, Ephrem the Syrian (*ca*. 306-373) was the first to provide a coherent geography of Paradise. This instance of Paradise was to be found on a mountain (and as such, it was sheltered from the Flood), beyond the ocean encircling the whole inhabited world (οἰκουμένη). The land of Paradise surrounded the οἰκουμένη in a ring-like manner, and the four rivers converged on the inhabited world by flowing under the ocean.[26] Contrasting with Ephrem's theory, Epiphanius of Salamis (*ca*. 315-403), a stalwart critic of the allegorical reading of Biblical text, developed the notion of Paradise being in the East, in the οἰκουμένη. His geographical presentation – set against the arguments formulated by Origen – focused on the courses of the four rivers. He methodically laid out which lands were crossed by these rivers,

[24] Ps.-Basil. *De Par. Or.* 4 (*PG* 30, col. 68); Lactant. *Div. inst.* 2.13. See Delumeau 1992, 23, 30.

[25] Inglebert 2008, 81-82. In the Latin West, one was less concerned with this question; see Inglebert 2008, 89.

[26] Inglebert 2008, 82-84.

explaining that in the case of the Tigris and the Euphrates, a partial underground coursing of the rivers was featured.[27] In the 6th century, Cosmas Indicopleustes put forward in turn his own ideas. For him, Paradise was inaccessible, not to be found in the inhabited world but instead in another land situated to the East and separated from the former by the ocean – Man used to inhabit this land prior to the Flood.[28] He also attributed a certain importance to the description of the four rivers whose abundant swells were, in his opinion, a clue to determining the dimensions of Paradise.[29] Nevertheless, none of these authorities presents us with an account as original nor as in-depth as that of Philostorgius. Indeed, this writer provides us with a comprehensive geographical account which goes beyond those made by his predecessors and successors (in particular Cosmas), who generally limited themselves to commenting on the four rivers.

Philostorgius was a native of the province of Cappadocia Secunda where he was born around A.D. 368. His father had been a proponent of the ideas of Eunomius, a bishop of Cyzicus who died around A.D. 394, to whose teachings Philostorgius's father had converted his entire family. The Eunomian branch of the Church, named after the eponymous Eunomius, posited that there was no Divine Unity between the Father, who was not begot, and the Son, who was a product of conception; in other words, the Son was not of the same susbtance as the Father (in Greek: ἀνόμοιος τῇ οὐσίᾳ τῷ πατρί; the adjective ἑτεροούσιος was equally used). There was therefore a conflict with the doctrine stemming from the Council of Nicaea in 325, according to which the Son was ὁμοούσιος (*consubstantialis*) to the Father, which is to say of the same "substance."[30] The Eunomian branch is also known as the Neo-Arian branch, which differs from the Arianists due to the belief

[27] Epiph. *Ancoratus* 58.1-6 (*PG* 43, col. 117-120); see also *Panarion*, 2.64.47-48 (*PG* 41, col. 1147-1150).

[28] Cosm. Indic. *Topogr. Christ.* 2.24.

[29] Cosm. Indic. *Topogr. Christ.* 2.81-82.

[30] The Council of Nicaea was convened by Constantine in reaction to the theories of Arius, according to which the Father, born without a beginning, and the Son, the Word made flesh, were not of the same nature.

that God was available to human knowledge.[31] It went into decline after 381, mainly following its repression by Theodosius I. Outside of these scant details noted above, the specifics of Philostorgius's life remain unknown for the most part.[32] It is known that from 388, Philostorgius, established in Constantinople, wrote a history of the Church, which is essentially a history of the Eunomian Church, beginning in 325. His death occurred sometime after 425. His work must have been published sometime between 425 and 433.[33] Only citations and fragments remain, most of which come from Photius, a 9th-century Byzantine scholar.[34]

Being a history of the Church from the Eunomian perspective, the *Ecclesiastical History* was written with a notable theological orientation in mind. Philostorgius puts forward the principal doctrinal elements of the Heterousian branch of thought.[35] However, his work is also simultaneously a secular history as the author also takes an interest in the reign and actions of Emperors from Constantius II to Theodosius II.[36] Not only does secular history feature more prominently in Philostorgius's works than in those of the other Church historians (namely Socrates of Constantinople, Theodoret or Sozomen), but Philostorgius also distinguishes himself from them "par sa technique artistique de l'histoire, très proche des modèles de l'art historiographique profane."[37] It is doubtless as an inheritor of this secular historiography that Philostorgius offers to his readers information relating

[31] For further details on the Anomean/Eunomian doctrine, see, e.g., Amidon 2007, xiii-xx; Stachura 2004. On the situation of the Eunomian church under the rules of Theodosius I and Theodosius II, see Van Nuffelen 2011, 307-313.

[32] For further details on Philostorgius's life, see, e.g., Bidez and Winkelmann 1981, cvi-cxiii; Prieur 2013, 9-11.

[33] Bidez and Winkelmann 1981, cxxxii-cxxxiii. See also, e.g., Ferguson 2005.

[34] For information on the compilation of the *Ecclesiastical History*, see Bidez and Winkelmann 1981, xii-cv; Bleckmann 2013a; Bleckmann and Stein 2015a, 1-36. For more on the structure of the work, see Bidez and Winkelmann 1981, cxxv-cxxviii; Prieur 2013; Bleckmann 2013(b). Photius's interest in this work was noted by Bidez and Winkelmann (1981, xiii), whose opinion is supported by other commentators.

[35] See Prieur 2013.

[36] On this topic see, e.g., Marasco 2003, 287-283.

[37] Bleckmann 2013b, 55.

to geography, ethnography, zoology, astronomy, and even medicine through his numerous digressions.[38] For instance, it is during his recounting of Theophilos the Indian's mission that he digresses by commenting on terranean and subterranean river courses (*Hist. eccl.* 3.9). To give another example, it is the mention of a solar eclipse during the reign of Theodosius II that leads to a digression on the cause of earthquakes (*Hist. eccl.* 12.8-10). The point is that Philostorgius's erudition is on display in these digressions,[39] the most emblematic of which is his exposition on the location of Eden.

Much like the Creator's plotting of the rivers' courses is a manifestation of his wisdom, the creation of and location of the Garden of Eden are manifestations of his will.[40] However, writing at a time of controversy among Christians with relation to the interpretation of the Book of Genesis, Philostorgius does not content himself with simply praising Divine wisdom. In fact, being himself an adherent to the idea that Paradise is an existent reality somewhere on Earth, he had to solve the enigma of its geographical location. It is Greek scientific sources and methods which provide him with the rationale for his argument. Of course, Philostorgius's use of "pagan" knowledge is not unique and was in fact widespread among Christian authors[41] – pagan science was not seen to be in conflict with Scripture so long as the physical causes explaining natural phenomena were interpreted as the workings of God.[42] However, what distinguishes Philostorgius from others is the degree to which he masters Greek science, which was a trait seldom to be found among other Christian

[38] Comparisons with pagan historians are countless. See, e.g., Hdt. 4.2-32 (Scythians); Polyb. 4.38-40 (the Bosphorus straits); Diod. Sic. 19.33-34 (the Indian *sati*, or the burning of a widow with her deceased husband).

[39] On Philostorgius's culture and education, see Marasco 2005, 71-94; Meyer 2011, 21-24; Meyer 2013, 70-81, 87-96. On the importance of rhetoric in the conducting of his demonstration, see Meyer 2013, 65-66.

[40] Philostorg. *Hist. eccl.* 3.9.

[41] Marasco 2005, 43. Cf. Basil. *De leg. gent. lib.*

[42] For more on this, see Meyer 2015, especially 194-205.

authors.[43] As Marasco writes: "La cultura di Filostorgio, come si è visto, era basata sopratutto sull'ottima conoscenza della tradizione classica pagana, non solo sul piano letterario, ma anche su questo delle conoscenze scientifiche."[44]

The purpose of this article is to analyse Philostorgius's use of this pagan understanding of geography. Such an investigation has not thus far been carried out in an exhaustive manner.[45] The one that I undertake here is, in reality, somewhat incomplete. I was required to leave aside certain questions so as not to overburden my exposition. For exampIe, I have not formulated a detailed commentary on the zoological presentation. In addition, I have not examined the status of proof in the geographical reasoning (σύμβολον [*Hist. eccl.* 3.10]). Neither could I analyse the role played by paradoxography (marvels – θαυμαστόν [*Hist. eccl.* 3.11]) as a scientific tool.[46] I will accordingly limit myself to the most important elements of Philostorgius's geographical knowledge, which was so remarkable that it raised Photius's interest for an historian for whom he simultaneously bore a strong dislike.[47]

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[43] We can remark nonetheless that Origen, despite being an adherent to the allegorical interpretation, mastered Greek science. See, for example, his noteworthy exposition on the formation of sea pearls (*Comm. Matt.* 10.7-9 [*PG* 13, 853b]).

[44] Marasco 2005, 43; Bidez and Winkelmann 1981, cix: "Philostorgius scheint für seine Zeit ziemlich umfassende Kenntnisse gehabt zu haben." So, it is not a case, as Zecchini (1990, 594) contends, of an ostentatious display of his education ("ovunque egli trovi un plausibile pretesto per ostentare la propria cultura").

[45] The reader can refer to: (1) notes by Bleckmann and Stein (2015b, 216-225) and notes by Lauber (2017, 142-157); (2) the excellent analyses by Marasco (2005, 71-94), and Meyer (2013). However, these remarks do not constitute a thorough commentary on the pagan geography that Philostorgius employed.

[46] Indeed, even if the *mirabilia* may have an aesthetic value, they nonetheless also play a role in the scientific argument.

[47] Bidez and Winkelmann 1981, cxi, cxviii; Marasco 2005, 42; Bleckmann 2015, 232, 240-241.

PHILOSTORGIUS'S ACCOUNT ON THE LOCATION OF PARADISE (*Hist. eccl.* 3.10-11)

Philostorgius's account is the fruit of a long digression, as previously mentioned. In the course of his narrative, he relates the story of a certain Theophilus the Indian, who acting on behalf of Emperor Constantius II (*r.* 337-361) led a Christian mission in Arabia and in the Horn of Africa.[48] In his account of Theophilus's mission, he mentions the ocean which encompasses the Earth. This leads to a first digression dedicated to the courses of the Tigris and the Euphrates, which flow into the Persian Gulf – which is itself a gulf belonging to the outer ocean.[49] This first digression entails a second, considerably longer excursus. Since according to Scripture, the Tigris and the Euphrates have their sources in Eden, Philostorgius expands on this by now proposing a location for Eden. The immense scope of this digression, rich with evidence of Philostorgius's understanding of geography and zoology, appears to suggest that Philostorgius intended to make a lasting impression on his readers.[50]

Rather than reproduce the entirety of his long text here, it seems to me more pertinent to instead conduct an analytical presentation of his account, the purpose of which will be to underline the coherent organization of his demonstration, for it is exactly a demonstration that Philostorgius offers to both his readers and his (potential) detractors, in his own incisive and scintillating style[51] – this virtuosity is without doubt proof that Philostorgius was following in the footsteps of his master, Eunomius, who had been familiar with the art of reasoning and of controversy.[52]

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[48] On the possible link between Theophilus's missions and the issue of Paradise's location, see Meyer 2015, 198.

[49] Philostorg. *Hist. eccl.* 3.7-9.

[50] It is possible that this brilliant display of knowledge was aimed at supporting the cause of the Eunomians, who were in great difficulty during the reign of Theodosius II; see Meyer 2015, 204-205.

[51] Bidez and Winkelmann 1981, cxli; Meyer 2013, 70.

[52] According to the historian Sozomen (*Hist. eccl.* 6.26.3), Eunomius was a specialist in discourse (τεχνίτης λόγων), a polemicist (ἐριστικός) and a man skilled in syllogism. See Prieur 2013, 34.

i. Opening

In the opening, Philostorgius briefly details: (1) the aim of his demonstration, namely proving that Paradise is located in the eastern part of the world where "the passing of the equinoxes" can be witnessed (κατὰ τὰς ἰσημερίας τῆς Ἠοῦς), i.e., at the equator[53] – in effect, the circle made by the sun during the spring and autumn equinoxes is also that of the equator;[54] (2) the principle supporting his demonstration, i.e., that of conjecture (εἰκασία). Then he develops his ideas in a three-step process.

ii. First part of the demonstration: the habitability of the equatorial region

Philostorgius wants firstly to show that his locating of Paradise at the equator does not imply that it is scorched by the sun and therefore uninhabitable, like a desert. To support this, he reminds the reader that the parts of the world extending southwards are inhabited as far as the "Outer Sea" (i.e., the Indian Ocean), even though the burning rays of the sun beat down on its surface in a perpendicular manner.[55]

iii. Second part of the demonstration: the courses of the Pishon and the Gihon upon leaving Eden

The question of the course followed by the rivers emanating from Paradise was unavoidable: no demonstration on this matter could be taken seriously if it did not adequately solve the geographical problems relating to these rivers which were known to every reader. Philostorgius was therefore obliged to explain how the *Phêson* (a variant of Latin *Pishon*)[56] and the *Gihon* arrived in the inhabited world after having left this eastern equatorial paradise. Here he did not deal with the Tigris and the Euphrates, which he had previously discussed (see above).

Philostorgius identifies the *Phesôn* as the Indian river whose "contemporary" (νῦν) name until then is *Hyphasis* (on this unusual

[53] Philostorgius conceived the world as being spherical (Inglebert 2001, 84). Elsewhere he uses the expression "central zone" (ἡ διὰ μέσου ζώνη), which is a cognate of κατὰ τὰς ἰσημερίας (Lauber 2017, 142, n. 876).

[54] See Gemin. *Isag*. 5.6.

[55] The text of the manuscripts (κατ'ἔτος) is problematic: Bidez corrects it to καθέτως; see Lauber 2017, 142, n. 875; 145, n. 886.

[56] Lauber 2017, 143, n. 877.

identification and on this river, see below pp. 145-146), flowing from north to south and emptying into the ocean opposite *Taprobane* (Sri Lanka) – thus can we surmise that the humanly visible part of the *Phesôn* / *Hyphasis* begins in *Emôdus* [Himalayas],[57] even though Philostorgius does not explicitly say so. An inhospitable, barren land separates India and Paradise,[58] from where it rises,[59] which prevents Man from reaching the Garden of God.[60] Flowing through this intermediary space to reach the inhabited world, the *Phesôn* / *Hyphasis* is the only river of the four which does not flow underground at any point. Philostorgius substantiates his statement by providing two pieces of evidence. Firstly, along the banks of the *Hyphasis*, the *karophyllon* – a misidentified plant[61] – grows, which the native inhabitants (οἱ ἐκείνη) believe to originate from Eden. Therefore, it would be improbable for this plant to have colonized this part of India should the river flow underground. Secondly, local people suffering from fever who immersed themselves in the waters of the *Hyphasis* are healed by doing so, which no doubt attests to the river's terrestrial link to Eden (τῆς περὶ τὸν Παράδεισον γεηρᾶς ἐπιμιξίας)[62] – for an underground passage for

[57] Compare with Dionys. Per. 1146. See also Bleckmann and Stein 2015b, 218.

[58] Philostorgius is perhaps relying on Hdt. 3.98 (ἔστι τῆς Ἰνδικῆς χώρης τὸ πρὸς ἥλιον ἀνίσχοντα ψάμμος) and 3.106 (τοῦτο μὲν γὰρ πρὸς τὴν ἠῶ ἐσχάτη τῶν οἰκεομενέων ἡ Ἰνδική ἐστι).

[59] It must be assumed that the river makes a loop between the equatorial zone and India, in the northern parts of which it is visible to humans.

[60] The subterranean courses of the three other rivers prevent humans suffering from *hubris* from wanting to go to Paradise; see Meyer 2015, 199.

[61] Some scholars think of cloves (see, for example, Marasco 2005, 83). Pliny (*HN* 12.30) depicts this plant as follows: "There is also in India a grain resembling that of pepper, but larger and more brittle, called the *caryophyllon*, which is reported to grow on the Indian lotus-tree; it is imported here for the sake of its scent" (trans. Rackham 1960). Paulus Eginetus (*Epit. med.* 7.3.10) offers a different description: it is the black flower of a tree.

[62] Interpretating this expression is not an easy matter – and on the problem posed by the text, see Bleckmann and Stein 2015b, 218-219. I render ἐπιμιξίας here as meaning "link, connection." In contrast, Meyer (2015, 199) renders it as "mixture," which produces a much different interpretation: "L'expression tech-

this river would strip it of all its regenerative powers.[63] In other words, the Hyphasis can be characterized by the presence of "Edenic" *mirabilia*, evidence of a direct and uninterrupted link with the Garden of Eden.[64]

As for the *Gihon* / Nile, Philostorgius conjectures that it leaves Paradise and then flows underground as soon as it reaches the inhabited world. Then it flows beneath the Indian Sea, about which it circles before it continues its journey by flowing under an intermediary land. Then it arrives in the Erythraean sea under which it flows until it reaches its western shore. Finally, it surfaces in two strong springs at the base of a mountain known as the "Mountain of the Moon." From there, it crosses Ethiopia and arrives in Egypt by passing through the Cataracts.

iv. Third part of the demonstration: the fecundity of the south-eastern regions of the inhabited world

Until now, Philostorgius has defended his conjecture on the location of Paradise by employing two arguments. Firstly, he states that the equatorial zone is not devoid of life. Secondly, he posits that it is possible to explain how the four rivers reach the inhabited world. In the last part of his demonstration, Philostorgius focuses on Paradise as a magnificent garden. In this section, he develops extensively his ideas. The reasoning is as follows: although the southern and eastern parts of the *oikoumenê* are strongly exposed to the sun,[65] they are nonetheless

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nique de γεηρὰ ἐπιμιξία a ici un double sens: sur le plan géographique, il indique le rapport de la terre avec le paradis; pris dans un sens médical, il désigne le mélange d'un élément terreux avec un liquide, mélange rafraîchissant qui pouvait, selon les médecins anciens, être utilisé contre la chaleur et la fièvre." On this subject, see also Meyer 2005, 440-441.

[63] Such properties are evidently the work of the Creator, comparable to the waters of the Jordan which cured leprosy: "… although it was not their natures that enabled them to do so; it was rather their Maker, who has the great and ineluctable power to remake each created thing for whatever use he wants" (Philostorg. *Hist. eccl*. 12.10, trans. Amidon 2007).

[64] Cf. Jer. *Ep*. 125.3: … *Gangen fluvium – quem Phison sancta Scriptura cognominat –, qui circuit omnem terram Evilat et multa genera pigmentorum de Paradisi dicitur fonte evehere*.

[65] With certain exceptions, Philostorgius does not give the names of the lands he

very fertile lands; this fact justifies that Paradise cannot be found elsewhere than where Philostorgius locates it. Here, rather than focusing primarily on the flora, which would be expected in the case of a garden, Philostorgius instead mostly writes about the fauna[66] – perhaps to make the best use of the principle of *autopsia* (below, pp. 150-154). Whatever the reason, this zoological demonstration of the fertility of Eden is unique in the ancient Christian tradition.

The account on animals appears to be divided into two parts: the fertility of southern and eastern lands is evident due to either the enormity (a) or the variety (b) of species found there.

(a) The largest and mightiest terrestrial and marine species can be found in these parts of the inhabited world. He mentions in succession the κήτη (Indian Ocean whales and sperm whales),[67] elephants, ταυρελέφαντες ("bull-elephants"),[68] giant snakes[69] and μονόκερως (unicorns),[70] the latter being identifiable with difficulty from his description based on a sculptural representation (ἐκτύπωμα).

(b) These lands give life to unique and amazing animal species not found anywhere else in the inhabited world. He mentions the giraffe (which possesses features similar to those of stags, camels, and leopards),[71] a species of ape known as *pan* (which possesses simian features crossed with those of a goat), another known as a *satyros* and another known as a

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is thinking about. We can guess that the lands mentioned are the Horn of Africa, *Arabia Felix* (Southern Arabia), India, and Sri Lanka.

[66] The animals mentioned by Philostorgius occupy an area extending from East Africa to India, but those to which he pays special attention come from the Horn of Africa. As previously stated, it is not possible here to give a detailed zoological commentary. Useful material is to be found in Bleckmann and Stein 2015, 220-225; Lauber 2017, 147-157. A comprehensive commentary of this passage is being compiled by Jean Trinquier.

[67] Kitchell 2014, 197-199.

[68] See below, pp. 151-152. On the alternative spelling ταυρέλαφος, see Lauber 2017, 147, n. 905-906.

[69] Kitchell 2014, 61, 173-174.

[70] Kitchell 2014, 189, 161-162.

[71] Kitchell 2014, 75.

sphinx.[72] Then, he mentions the zebra and its unique coat.[73] Philostorgius finishes his list by mentioning winged animals such as the very famous phoenix, parrots and birds known as a *garamantes* (guinea fowls).

In the final lines, Philostorgius describes other aspects of the fecundity of these regions. He lists off in succession a type of high-purity gold and the fruits produced in abundance in these lands – such as coconuts.[74] Finally, he details the exceptional fertility of *Arabia Felix* (Yemen) where the harvest takes place twice a year.

v. Closing words

On the one hand, in the inhabited world, the eastern lands have superiority over all others. On the other hand, Paradise has superiority over the rest of the world, as it alone possesses unequalled attributes: an ideal climate, pristine waters, and unique fecundity.[75] Consequently, it must be found in the farthest east[76] – all the while beyond the reach of Man[77] –, where the sun rises, and on the shores of the Outer Sea.[78]

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[72] About the sphinx, see below, p. 152; the satyr may be the patas monkey (*Erythrocebus patas*). The pan is unidentifiable. I would like to thank my colleague Jean Trinquier for his help.

[73] Kitchell 2014, 204.

[74] The Greek text stands as follows: καρποὶ δὲ καλλιστοί τε καὶ μέγιστοι, ὧν γνώριμα καὶ τὰ κάρυα. Bleckmann and Stein (2015b, 235) and Lauber (2017, 156) translate κάρυα into "Nüsse"; Bleckmann, Meyer, and Prieur 2013, 277: "noix." Amidon's (2007, 50) translation ("kernel") must be ruled out. Coconuts appear in literary evidence as early as the 3rd century A.D.: Philostr. *V A*. 3.5; ps.-Palladius, *De gent. Ind.* 1.6; Cosm. Indic. 11.10-11. For an alternative interpretation, see Bleckmann and Stein 2015b, 225, n. 14 ("die nussartigen Fruchten der Karyota; die Walnüsse").

[75] Contrary to what Meyer (2015, 198) asserts, Philostorgius does not state that these animals or gold can be found in Paradise.

[76] Note here that, provided that Photius's paraphrase is faithful, Philostorgius no longer speaks of the equatorial position of Paradise.

[77] For Jerome (above, n. 64), Paradise cannot be reached due to it being located so far away; for Cosmas Indicopleustes (*Topogr. Christ*. 2.43), Paradise cannot be reached as it is located on the other side of the ocean, itself impassable.

[78] The Greek text reads as follows: τῆς ἔξωθεν θαλάσσης κατ' ἀνίσχοντα τὸν ἥλιον αὐτῷ παρακλυζομένης (for the participle παρακλυζομένης, see Bleckmann and

THE PAGAN ROOTS OF PHILOSTORGIUS'S GEOGRAPHY (1): THE BODY OF KNOWLEDGE

With Christianity came the development of a culture based on the teachings of the Bible, which nevertheless accepted and integrated the teachings of the non-Christian classical *paideia*. This expression designates the intellectual education shared by the social elite in both the Hellenistic and Roman worlds. This education was based on acquiring the principles of grammar and rhetoric as well as gaining general simplified knowledge of the world (in history, geography, zoology, botany, ethnography, etc.). The classical *paideia* was, of course, in service of Christian *paideia*.[79] Yet the mobilization of "pagan" knowledge in service of Christian scholarship became highly necessary with the development of the literal interpretation of the Bible in response to allegorical interpretations, as noted above (pp. 118-120).[80]

This is precisely what we witness in Philostorgius's account. On the one hand, as he states, the scripture (ἡ γραφή) and the words inspired by

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Stein, 2015b, 225). The translation of this passage is not straightforward. Amidon (2007, 50) proposes: "washed as it is by the outer sea toward the rising of the sun"; Bleckmann, Meyer, and Prieur 2013, 277: "lui [i. e. Paradise] que la mer extérieure baigne au lever du soleil"; Bleckmann and Stein 2015a, 235: "während im Osten das äussere Meer dagegen (d. h. gegen das Paradies) anbrandet"; Lauber 2017, 157: "weil das äussere Meer in der Nähe der aufgehenden Sonne von ihm bespült wird." Lauber (2017, 157, n. 963) adds the following comment to his translation: "'ihm': D. h. vom Paradies bzw. natürlich dessen vorgängig in *hist. eccl.* III, 7-10 erwähnten Strömen: Tigris, Euphrat, Hyphasis und Nil. In dieser 'Bespülung' liegt denn auch die Pointe, besteht denn auch das, was 'erwiesen/offenbar' ist: Das Paradies übertrifft die gesamte Erde die östliche Erde aber den Rest, da die Paradiesflüsse, die das äussere Meer 'bespülen', auf ihrem Weg einen Abglanz des Paradieses in diese Gegend tragen. Die bisherigen Übersetzungen haben allerdings den Sinn dieses (Teil-) Satzes ausnähmlos enstellt." This remark seems unnecessary. In addition, it should be noted that the Nile flows into the Mediterranean and not into the outer sea.

[79] See Inglebert 2008, 202. These elites belonged to the group of *pepaideumenoi* or *litterati*, i.e., those who possessed poetic and rhetorical expertise but also a certain level of knowledge which was a marker of social distinction.

[80] Inglebert 2008, 209-212.

Moses[81] (ἡ Μωσέως ἐπίπνοια) contain the literal truth with regard to the "perceptible" Eden. In other terms, nothing in the book of Genesis may be questioned. On the other hand, if one desires to explore further and demonstrate the veracity of the Holy text, or more specifically to align the realities of the *oikoumenê* with Biblical truth,[82] he must resort to Greek geographical tradition and, in particular, to "theoretical geography."[83] This expression designates general considerations on the earth being spherical, on the terrestrial forces which hold sway over her, on the physical organization of the world, etc. — in other words, the matter Strabo deals with in his two introductory books.[84] It was this kind of science upon which Philostorgius depended for crucial parts of his demonstration.

Before commencing, it must be noted that Philostorgius does not name any of his sources.[85] This absence begs the question of the origin of his knowledge of geography and, possibly, of cartography.[86] The process of determining his sources varies depending on the type of information. In certain instances, the origin of the data cannot be identified. We do not know, e.g., whence Philostorgius procured the information that the *karophyllon* grows along the banks of the Hyphasis, or that the gold in fibre form (χρυσιτίδων οίονεὶ τριχῶν αὐτοφυῶν) is found in the eastern

[81] Moses was regarded as the author of the Book of Genesis (see, e.g., John Chrys. *Homil. in Gen.* 2.3 [*PG* 53, c. 108]). Cf. *Hist. eccl.* 3.10, about the Tigris and the Euphrates: "…the truest account is given by our sacred scripture, when it says that their source is in Paradise" (trans. Amidon 2007).

[82] To demonstrate this conformity to the wording of the Bible was a central element of Philostorgius's debate with his theological opponents. See Meyer 2013, 72.

[83] Jewish teaching is not to be found in Philostorgius's passage (see Alexandre 1988, 4-5; Inglebert 2001, 74-77), except when referencing the equivalent names of rivers (and even here, Philostorgius does not follow Josephus's suggestion on the *Pheison*).

[84] For a brief overview of the question, see Dueck 2012, 68-99. There are connections here between geographical theory and "meteorology" in its ancient meaning; see Meyer 2013, 71, n. 1.

[85] The Christian sources are of no use here (on these sources, see Prieur 2011).

[86] It is impossible to establish whether maps were used or not. The fact that Philostorgius mentions cardinal directions, continents, climatic zones does not mean that "il connaissait des mappemondes et des *itineraria*" (Meyer 2013, 88).

regions of the world. In other cases, certain information refers back to identifiable sources without us being able to definitively know their origin. For example, the Mountains of the Moon make one consider Ptolemy's *Geography* to be the origin, although we do not know whether Philostorgius had direct knowledge of that author. The same can be said of the Hyphasis, which may allude to the work of Dionysius Periegetes. Additionally, we find in his work common knowledge such as that of the bi-annual harvest in *Arabia Felix*, the existence of the phoenix bird or of marine monsters in the Indian Ocean. These remarks, which are somewhat banal in nature, do not necessarily originate from any author in particular.[87] What we just know for certain is that Constantinople, being a place of immense intellectual and cultural significance, no doubt offered a rich corpus of material for Philostorgius.[88] Finally, there were data not stemming from literary knowledge, such as the observations of animals that Philostorgius made himself (see below, pp. 151-152) or the goods that he could witness circulating around Constantinople, such as coconuts which perhaps arrived in Constantinople from the East.[89]

i. The equatorial zone

The pivotal role of Philostorgius's knowledge of Greek geography makes itself manifest from the very first few lines when he defines the location of Paradise. Its location as given by the Genesis – "in the east" – is insufficient for one wishing to provide Paradise's precise location in the world.[90] Philostorgius, therefore, puts forward the hypothesis, as previously seen, that Eden is to be found in the extremities of the east, and near the equator.

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[87] *Contra:* Meyer 2013, 76-80; Bleckmann and Stein 2015a, 85.

[88] For more on the library of Constantinople, see Bidez and Winkelmann 1981, cxxxiv; Lemerle 1971, 56-57; on Greek culture in Constantinople, see Lemerle 1971, 43-73; on Philostorgius's education while in Constantinople, see Marasco 2005, 13-42.

[89] See Them. *Or*. 4.61a (ed. Dindorf), although this passage may be a rhetorical device (according to the author, merchandise arrived in Constantinople from all over the world).

[90] One must remember that Philostorgius does not locate Paradise out of the inhabited world, unlike Ephrem and Cosmas; see Inglebert 2001, 84-87.

Let us expand on this secondary element which is not mere happenstance. The climate in the Garden of Eden is noted as being constantly pleasant (see, e.g., ps.-Basil's description above, p. 120). The equatorial zone, where the changing of the seasons is not as marked, respects this criterion. Incidentally, this is the reason why Diodorus of Sicily (in the 1st century B.C.), describing an utopian society living on an island situated somewhere in the Indian Ocean, insisted that the climate was temperate there and that its inhabitants suffered neither excesses of heat nor extreme cold as they lived "under the line of the equinox" (κατὰ τὸν ἰσημερινόν, i.e., at the equator).[91] On the other hand, Philostorgius was not unaware of geographical facts. Consequently, he perfectly knew that all lands situated at the equator, which he also calls the "central region" (see n. 53), received perpendicular (καθέτως) rays of sunshine and were exposed to the fire of the heavens. Thus, he had to address the question of the habitability of the equatorial zone in order to refute possible objections.

The debates on the zones of the earth date back, for the most part, to Hellenistic times.[92] The details can be briefly summarized as follows. The five fundamental circles of the celestial sphere were projected onto the terrestrial globe – for this theory, in essence, posits the existence of a spherical Earth: the equator (the circle determined by the sun's equinoxes), the two tropics (circles determined by the sun's solstices) and the two arctic circles, so called due to the presence in the northern one of the constellation *Arktos* (the Bear).[93] These five circles permitted the demarcation of five zones, defined by "climatic" qualifiers: in a nutshell, these qualifiers are adjectives signifying the quantity of heat received by each zone in

[91] Diod. Sic. 2.56.7, who adds: "And with them the day is always the same length as the night, and at midday no shadow is cast of any object because the sun is in the zenith" (trans. Oldfather 1967).

[92] Some trace the theory of terrestrial zones back to Parmenides of Elea (5th century B.C.). See Dueck 2012, 85-86. The division into five zones was fully developed upon Aristotle's *Meteorologica* (below, n. 95).

[93] Unlike other circles, defined by the path of the sun, the arctic circles vary according to the position of the observer. For a Greek, the temperate zone was between 24° and 54° N. See Aujac 1974, 195; Hübner 2001, 13-15.

accordance with the degree of inclination of the sun relative to the horizon – it is unnecessary here to differentiate between the theory of zones and that of *klimata.* The two zones located between the tropics and the arctic circles were known as "temperate"; between the arctic circles and the poles were two "glacial" zones; between the two tropics (between 24° north and 24° south) there was the "torrid" zone.[94] According to this zonal theory, the criterion concerning habitability was linked to that of temperature. More precisely, the part of the inhabited world where the sun's rays shine down vertically, being subsequently exposed to more heat, was therefore thought to be more "burnt" than the zones where the sun never reaches its zenith; the "burnt" zone was thus considered by some scholars to be uninhabitable.[95]

However, this purely theoretical system, grounded in both reasoning and in observation of the stars, was not immune to criticism.[96] In particular, it was known from the 3rd century B.C. that, in the northern hemisphere, the world was inhabited well beyond the Tropic of Cancer – the foundation of Ptolemais of the Hunts, south to the summer tropic circle, by King Ptolemy II between 270 and 265 B.C. had been a pivotal. Following the navigation of the Red Sea organized by King Ptolemy II and Ptolemy III,[97] the geographer Eratosthenes was able to delineate the meridian of the inhabited world at the latitude of a land known as *Kinnamômophoros* in the Horn of Africa (at approximately 11°N). It is one of the reasons for which he had put into question the idea of uninhabitability of the torrid zone.[98] In the 2nd century B.C., Polybius composed a treatise (entitled *On the Inhabited Parts of the Earth under the [Celestial] Equator*) refuting the idea that the equatorial zone was an empty space.[99] Polybius's theory was as follows: given that the sun

[94] Strabo 2.3.2.

[95] See Arist. *Mete*. 2.5, 362a33-b10. For Aristotle, the regions located beyond the tropics towards the equator were uninhabitable. See Berger ²1903, 81-90; Thomson 1948, 116-117, 153-168.

[96] For this point, see, e.g., Strabo 2.3.7, 2.5.7; Aujac 1966, 149-159.

[97] Systematic explorations of the Red Sea were organized by the first Ptolemies with the aim of capturing African elephants (see, e.g., Geminus *Isag.* 16.24).

[98] Strabo 2.3.2.

[99] Geminus *Isag*. 16.33.

was at its zenith for a longer period at the tropics than at the equator, the equatorial zone therefore had a more temperate climate than that of the tropical zones.[100] Later again, in the 1st century B.C., the astronomer Geminus wrote (*Isag.* 26.38): "Places situated beneath the equator, right at the heart of the torrid zone, are generally more temperate than those located at the fringes of the torrid zone, that is to say the tropics."[101] Finally, in the 1st century A.D., commercial exchanges with East Africa, South India and Sri Lanka had put Mediterranean merchants and travellers in contact with peoples living at, or close to the equator.[102] Therefore, there was ample proof that the equatorial zone was not averse to human habitation.[103] Such was the base of Philostorgius's reasoning: since the totality of the southern parts of the world up until the Outer Sea had been proven habitable,[104] it was possible to deduce that Eden was not an uninhabitable place.[105]

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[100] An alternative solution was suggested by Posidonius of Apamea, assuming that the equatorial zone was temperate because the sun moved faster there; see Roller 2015, 146.

[101] My translation.

[102] Due to the extension of long-distance trade to the latitude of Tanzania (see *Peripl. M. Rubr.* 15-16; Casson 1989, 138-142): Rhapta, the most southerly port named by the author of *Periplus of the Erythraean Sea*, was located at the same latitude as Dar es Salaam (6° 49'S). There was also extensive trading between the Mediterranean world and southwest India (for a good overview on Erythraean trade, see, e.g., Cobb 2018, 127-177).

[103] That is why certain individuals such as Strabo tried to resolve the problem by equating "temperate" and "inhabited": the boundaries of the boreal temperate zone were pushed southwards (see Aujac 1974, 197). See also Macrobius's point of view (*In Somn.* 2.5.10-17, especially §14: *sane quoniam pars illa perustae quae temperatae vicina est admittit habitantes*).

[104] Philostorg. *Hist. eccl.* 3.10: πρῶτον μὲν ἐξ ὧν τὰ πρὸς μεσημβρίαν δῆλά ἐστι πάντα οἰκούμενα σχεδὸν μέχρι τῆς ἔξω θαλάττης ("… first because it is evident that almost all the regions to the south are inhabited, all the way to the outer sea." Trans. Amidon 2007).

[105] As a consequence, there is no reason to adopt the position taken by Meyer (2004, 92) and Bleckmann and Stein (2015b, 216-217), according to whom Philostorgius's Paradise is to be found in the north of the central zone ("das Paradies weiter nordlich von der mittleren Zone liegt").

Yet Philostorgius could not limit himself to this alone, for he also had to demonstrate with ample evidence that God's "equatorial" Garden was indeed a magnificent place. The splendour of nature in the distant southern and eastern lands of the world helped him achieve this goal.

ii. The fecundity of southern and eastern lands

To begin with, let us recall the conclusion of Philostorgius's demonstration. Putting forward the fact that the lands situated "in the vicinity of the rising sun" have superiority over all other regions of the *oikoumenê*, he infers that, *a fortiori*, the Garden of Eden, situated in the east and close to the equator, is, by definition, superior to such lands, created as it was by God. As such, it possesses all that is best and purest (τὸ κράτιστον καὶ τὸ καθαρώτατον), it enjoys the most desirable and most prized climate (τοὺς ἀέρας ἀκραιφνεστάτους καὶ καλλίστους) and is nourished by the most crystalline of waters (τοῖς διαφανεστάτοις ὕδασι).[106] This statement, in reality, reiterates an idea Philostorgius had previously expressed. Indeed, at the beginning of his zoological account, he posited the principle that the south-eastern κλίμα – an equivalent term for "region"[107] – of the world possesses greater fertility than the rest:[108]

> He [Philostorgius] says that the whole region toward the rising sun and in the south, even though excessively torrid, contains the mightiest and greatest things that earth, and sea can nourish.[109]

Once again, Philostorgius does not content himself with the repetition of scriptural truth, namely that Eden is a magnificent garden. He wishes

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[106] On purity, see Meyer 2013, 85.

[107] This κλίμα includes East Africa – or Ethiopia, sometimes referred to as India – India proper and *Arabia Felix*. For the different meanings of the word κλίμα in geography during Antiquity, see Marcotte 1998 in general and more specifically, 272-274.

[108] Let us note that the Kingdom of Axum in East Africa was often perceived as being in the eastern part of the inhabited world (see Nonnosos, *FGrH* 673, F165; Malalas, *Chronogr*. 18.15 [ed. Dindorf, 433]).

[109] Philostorg. *Hist. eccl.* 3.11 (Ὅτι φησὶν ἅπαν τὸ πρὸς ἀνίσχοντα ἥλιον καὶ περὶ τὴν μεσημβρίαν κλίμα, καίτοι πέρα τοῦ μέτρου θαλπόμενον ὅμως τὰ κράτιστα καὶ μέγιστα φέρειν τῶν ὅσα γῆ καὶ θάλαττα δυνατὴ τρέφειν). Trans. Amidon 2007.

instead to corroborate this in a rational manner. To this end, he puts forward the idea that exposure to the heat of the sun is a major factor for fertility and for life, making use of well-developed theories dating from the Hellenistic period.

These theories stemmed from the question of the relationship between the latitude of the places of the inhabited world and the "climatic" conditions they experience – "climatic" refers to the degrees of exposure to solar heat. Prior even to the Hellenistic period, Greek thinking and more specifically what we would refer to as "Ionian geography" maintained that the position of places relative to the north-south axis determined certain characteristics of people, animals, natural products, etc.[110] This can be read, for example, in Herodotus, when he attributes the privilege of marvelous creatures or of unique physical human characteristics (e.g., the darker skin of Ethiopians and Indians) to lands located at the extremity of the known world (particularly Ethiopia, Arabia, and India).[111] We can observe an analogous manner of reasoning in a 5th-century B.C. Hippocratic treatise in which the author associates the differences between inhabitants of Libya and Egypt (southern) and those of Scythia (northern) to their geographical locations (Hippoc. *Aer.* 12-24). However, neither these authors nor the theories of Ionian geography established truly scientific theories, due to a lack of observations. It was not until Alexander the Great's time that verifiable observations of the south-eastern regions of the inhabited world were received. This explains why Alexander's expedition – and in particular the passage of the Greco-Macedonian armies through India and Nearchus's Erythraean sea voyage – gave new impetus to theories on "climatic determinism." Indeed, answers were already being sought by Alexander and his friends as to why many species of imposing, varied and hitherto unknown animals and plants were found in that land (for example, elephants, giant snakes, banyan fig trees).[112] By extension, they asked why India, Arabia and Ethiopia had the capacity

[110] Thomson 1948, 106-110; Jacob 1991, 51-54. See also Romm 1992, 82-120.

[111] Hdt. 3.97-114, especially 3.106, 4.29-30.

[112] See, e. g., Strabo 15.1.14, 15.1.21, 16.4.16, 17.3.4.

to produce exquisite plant-based products such as frankincense, myrrh, cinnamon spice, and nard – Strabo retained part of these theoretical debates in his work (15.1.20-24). We find the idea that the quantity of direct sunlight experienced by southern and eastern lands was a deciding factor. On the other hand, observation of the monsoon rains in India gave birth to the idea among Alexander and his companions that heat combined with atmospheric humidity (rain) and terrestrial humidity (rivers) must have been the source of the superior fertility of this particular land.[113]

The theory on how κλίμα (latitude of places), ἀέρες (atmospheric conditions), and κρᾶσις (temperatures, climate) conferred upon lands as well as people some of their characteristics was elaborated in a more scientific way during the Hellenistic period.[114] As D. Marcotte writes, it is during this period that "une mise en relation raisonnée et systématique de la latitude, des conditions atmosphériques et de la vie humaine, animale et végétale" emerged.[115] We have an excellent example of this evolution in the works of the scholar Posidonius of Apamea (*ca*. 135-51 B.C.). This learned man established an elaborate relationship between, on the one hand, latitude, and the quantity of sunlight and, on the other, living creatures (human, fauna, and flora) as well as with inert objects such as minerals.[116] A long passage from Diodorus of Sicily (2.51-53), using as his source Posidonius, explains why lands exposed to heat such as Ethiopia, Libya, Arabia, and India produced extraordinarily powerful, colourful and varied forms of life, "for it would seem that the land which lies to the south breathes in a great deal of the sun's intensity, which is the greatest source of life, and that, for that reason, it generates breeds of beautiful animals in great

[113] Strabo 15.1.19-20. See Leroy 2016, lxxxviii-xcii. Note however that there was also a theory according to which intense solar heat (the sort that Ethiopia was exposed to) could stunt the growth of creatures (Strabo 17.2.1).

[114] One must note that human societies avoid in some part the effects of climatic determinism (social and cultural factors were considered concerning the humans).

[115] Marcotte 1998, 267; Thomson 1948, 106-110.

[116] Strabo 2.3.7; Marcotte 1998, 273-274; Reinhardt 1921, 67-87.

number and of varied colour."[117] According to him, the heat of the sun could also explain the extraordinary colours of precious stones which were to be found in these lands:

> In these countries are generated not only animals which differ from one another in form because of the helpful influence and strength of the sun, but also outcroppings of every kind of precious stone which are unusual in colour and resplendent in brilliancy.[118]

The point is that this theory was largely accepted, not only in Hellenistic times but also long thereafter. Consequently, it was rather commonplace for authors of the Imperial period to mention the south-eastern lands as being particularly fertile. Here, I shall endeavour to cite a few instances. To begin with, it was Pliny the Elder (*HN* 6.187) who wrote, regarding the fringes of Ethiopia which were particularly drenched by the sun:

> It is by no means surprising that the outermost districts of this region produce animal and human monstrosities, considering the capacity of the mobile element of fire to mould their bodies and carve out their outlines.[119]

The idea that the fire of solar energy accounts for the diversity of human and animal forms recalls Posidonius.[120] Pliny the Elder also muses on the most extraordinary birds (one of which, the phoenix, is mentioned by Philostorgius) which are to be found in India, in Ethiopia, and in Arabia.[121] The fecundity of these lands is not limited to the terrestrial domain, as the Indian ocean, and even the Ganges, support gigantic creatures, according to

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[117] Diod. Sic. 2.51.3 (δοκεῖ γὰρ ἡ συνεγγίζουσα χώρα τῇ μεσημβρίᾳ τὴν ἀφ΄ ἡλίου δύναμιν ζωτικωτάτην οὖσαν πολλὴν ἐμπνεῖσθαι, καὶ διὰ τοῦτο πολλῶν καὶ ποικίλων, ἔτι δὲ καλῶν ζῴων φύσεις γεννᾶν). Trans. Oldfather 1967. Note that Posidonius does not bring "humidity" into the equation.

[118] Diod. Sic. 2.52.1 (οὐ μόνον δ΄ ἐν ταύταις ταῖς χώραις ζῷα γεννᾶται ταῖς ἰδέαις ἐξηλλαγμένα διὰ τὴν ἀφ΄ ἡλίου συνεργίαν καὶ δύναμιν, ἀλλὰ καὶ λίθων παντοίων ἐκφύσεις διάφοροι ταῖς χρόαις καὶ ταῖς λαμπρότησι διαφανεῖς). Trans. Oldfather 1967.

[119] Trans. Rackham 1961.

[120] See also, for another aspect of the question, Plin. *HN* 2.189-190.

[121] Plin. *HN* 10.3: *Aethiopes atque Indi discolores maxime et inenarrabiles ferunt aves et ante omnes nobilem Arabiae phoenicem*.

the same Pliny;[122] for his part, Theophrastus remarked that the outer ocean sustained maritime flora as tall as trees.[123] Another author, Pausanias, reported that the remains of a creature eleven cubits in length (more than 5 m) had been discovered at the bottom of the Orontes, a river in Syria. He made the following comment:

> This corpse the god in Clarus, when the Syrians came to his oracle there, declared to be Orontes, and that he was of Indian race. If it was by warming the earth of old when it was still wet and saturated with moisture that the sun made the first men, what other land is likely to have raised men either before India or of greater size, seeing that even to-day it still breeds beasts monstrous in their weird appearance and monstrous in size?[124]

There is no shortage of citations that could be made here.[125] What we know for certain is that it was this type of knowledge (where zoology plays a key role) that Philostorgius exploited in order to establish his rational theory of the location of Paradise,[126] extrapolating from what was known about the fecundity of Nature in these parts of the oikoumenê.[127]

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[122] Plin. *HN* 9.4: *plurima autem et maxima animalia in Indico mari, ex quibus ballaenae quaternum iugerum, pristes docenum cubitorum, quippe ubi locustae quaterna cubita impleant, anguillae quoque in Gange amne tricenos pedes*.

[123] Theophr. *Hist. pl.* 4.6.1 (the existence of tropical mangroves justifies this remark).

[124] Paus. 8.29.4 (τοῦτον τὸν νεκρὸν ὁ ἐν Κλάρῳ ὁ θεός, ἀφικομένων ἐπὶ τὸ χρηστήριον τῶν Σύρων, εἶπεν Ὀρόντην εἶναι, γένους δὲ αὐτὸν εἶναι τοῦ Ἰνδῶν. εἰ δὲ τὴν γῆν τὸ ἀρχαῖον οὖσαν ὑγρὰν ἔτι καὶ ἀνάπλεων νοτίδος θερμαίνων ὁ ἥλιος τοὺς πρώτους ἐποίησεν ἀνθρώπους, ποίαν εἰκός ἐστιν ἄλλην χώραν ἢ προτέραν τῆς Ἰνδῶν ἢ μείζονας ἀνεῖναι τοὺς ἀνθρώπους, ἥ γε καὶ ἐς ἡμᾶς ἔτι καὶ ὄψεως τῷ παραλόγῳ καὶ μεγέθει διάφορα ἐκτρέφει θηρία). Trans. Jones 1935. See also Paus. 9.21.6.

[125] See, e.g., Polyb. 12.3 (Libya); Strabo 16.4.2, after Eratosthenes (bi-annual harvests in *Arabia Felix*); Dionys. Perieg. 931-940 (*Arabia Felix*); 1107-1126 (India).

[126] Additional remarks: (1) Philostorgius does not bring in the theory of the "fertile Orient," according to which the eastern regions of the *oikoumenê* were more favoured than the western parts (see Dihle 1962). Nevertheless, in concluding his demonstration, he speaks only of the fertility of the East *(Hist. eccl.* 3.11: καὶ ὅλως ἡ πρὸς ἀνίσχοντα ἥλιον ἅπασα γῆ); (2) he does not include water as a fecundity factor when it comes to "tropical" countries, but he alludes

iii. The course of the Gihon / Nile

We have seen previously that the question of the rivers' underground courses is a crucial one regarding the coherency of the demonstrative structure. The exception is of course the Hyphasis / *Phêson* which is not concerned as it never flows underground. As for this other element of theoretical geography, Philostorgius shows again that he is knowledgeable on the subject.

The Greeks had long since admitted that the source of a river could be in reality a resurgence of its course after an underground journey. Strabo, for example, gives a few examples: the Orontes River in Syria disappears down a chasm between Apamea and Antioch before reappearing 40 stades further away; the waters of Lake Stymphalia in Arcadia flow underground and resurge 200 stades later to form the Erasinos river; the Alpheus River in Elis not only disappears underground but then flows beneath the sea before emerging at Ortygia near Syracuse in Sicily (Strabo 6.2.9, 6.2.4). Such disappearances and re-emergences were attributed by Strabo to countries subject to earthquakes of which the land beneath them was thought to be "full of holes" (Strabo 12.8.16).[128] We can find numerous examples from a host of different others, which lends credence to the extent to which this idea was popular.[129]

Resorting to the theory of underground course for the Tigris and Euphrates and claiming that their sources in the mountains of Armenia were simply resurgences did not pose any particular difficulty in itself. However, it was a different issue for the Nile, as not only the location of its source but also its upper course remained shrouded in mystery

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to it for Paradise (in speaking of the purest waters). Also see Aujac 1966, 277-279.

[127] I do not share Meyer's (2013, 96) point of view, who writes that the south-eastern regions are favoured "by climate and by proximity to Eden" (emphasis is my own). This idea does not appear in the text. The only "benefits" present due to the proximity of Paradise are the *karophyllon* and the regenerative waters of the *Hyphasis*.

[128] Note that Philostorgius preferred to leave this ultimate cause to God's *pronoia* ("providence") and *sophia* ("wisdom"). On this point, see Meyer 2013, 73-76, 84, 86.

[129] See, e.g., Polyb. 12.4d = Timaeus, *FGrH* 566 F41b; Curt. 7.10.1; Paus. 8.20.1, 9.38.7, 10.12.4. See also, for other instances, Meyer 2004, 95-103.

throughout Antiquity. In order to align scientific geography with the Holy Scripture, Philostorgius was obliged to give a general east-west axis to the upper course of the Nile, from Paradise to Ethiopia, which was the last known location of the river's course. It appears that the hypothesis of the upper-eastern course had been formulated at least as early as the 5th century B.C. and not without some success:[130] in 327 or 326 B.C., Alexander the Great wondered if the Nile and the Indus were not in fact one and the same before promptly abandoning this idea when confronted with evidence.[131] Thereafter, this conception seems to have been made obsolete by another theory more compatible with the better knowledge of the inhabited world, namely that the Nile had a western origin in Libya[132] – a theory already well known from the 6th century B.C.[133] Yet, since nobody could establish beyond reasonable doubt the trajectory of this river, as Philostorgius recalls (τίς γὰρ ἀνθρώπων ἀκριβώσειε τοῦτο),[134] nothing could prevent him from conjecturing that the Nile / *Gihon* came from the East and, *in fine*, had its source in Eden. In reality, the most important thing was to lend credence to this statement so that it was beyond contestation. That is precisely what Philostorgius seeks to accomplish by detailing the points of passage of this "invisible" course.

Here, Philostorgius's skill is evident through his combination of conjecture with a solid geographical framework, which seems rather similar to that employed by Ptolemy. Let us recall the course of the river: the Nile, having left Paradise, penetrates underground before reaching the inhabited world. Next, it flows beneath the Indian Sea while following a curved trajectory. Then, it flows under an "intermediate" land (ὑπὸ πᾶσαν τὴν ἐν μέσῳ γῆν ἐνεχθεις); from there, it passes under the

130 Schneider 2004, 54-55.

131 Arr. *Anab*. 6.1. A link between the Nile and the Euphrates had also been put forward. See Paus. 2.5.3: "Further, there is a story that the Nile itself is the Euphrates, which disappears into a marsh, rises again beyond Aethiopia and becomes the Nile" (trans. Jones 1917); see also Arr. *Anab*. 5.5.5.

132 See, e.g., Vitr. *De arch*. 8.26-7.

133 Desanges 1978, 17-27.

134 An assessment already made by Hdt. 2.34.

Erythraean Sea before once again going under the land; finally, it surfaces close to the mountain of the Moon in Ethiopia. The name "mountain of the Moon" immediately brings to mind Ptolemy, who locates this mountain in Inner Ethiopia and adds that it is capped with snow that feeds the source of the Nile (Ptol. *Geog.* 4.8.2). There are other clues leading us to believe that Philostorgius's spatial conceptions correspond more or less to the Ptolemean framework. First of all, the mention of an "intermediary land" may refer to the unknown southern land whose existence rendered the Indian Ocean a closed sea.[135] Secondly, it is notable that Philostorgius divides the large body of water which he calls either "ocean" or "outer sea"[136] into two "basins": one which he calls "the Indian sea," located in the eastern part of the inhabited world while the other one, bordering Ethiopia, is given the name "Erythraean sea." This recalls Ptolemy who reserves the denomination "Erythraean" for the part of the ocean which borders Africa and the name "Indian" for the part of the ocean which borders India.[137] However, these similarities do not themselves prove definitively a direct knowledge of Ptolemy's geographical work, whose spreading is not well known.[138]

iv. Geographical names

To conclude this review of Philostorgius's geographical knowledge, we must briefly examine the names which he employs. Outside of those which evoke Ptolemy, we find a variety of terms which demonstrate the author's adeptness in geographical matters. While he uses (for what reason, we do not know) an archaic geographical term, *Aiguptos*, for the Nile,[139] he displays his knowledge of Hellenistic geography when he

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[135] See Ptol. *Geog*. 4.8.1, 7.3.1. Although the word *mesos* appears again, it does not appear that Philostorgius is referring to the "central" land he refers to at the beginning of his account (see n. 53).

[136] See Meyer 2013, 89.

[137] See, e.g., Ptol. *Geog*. 4.7.9, 7.1.1. It is however true that Ptolemy knows other sectorial names of the Indian Ocean (*Barbarikê* Sea, *Prasôdês* Sea, *Barbarikos* Gulf) that Philostorgius does not mention.

[138] Gautier-Dalché 2009, 23-71.

[139] See, e.g., Hom. *Od*. 4.447; Hes. *Theog*. 338.

writes that the exceptional fertility of southwest Arabia (where harvests took place twice per year) justifies as to why it was called *Arabia Felix*.[140] Yet, Philostorgius being also a man of his time, he gives the appropriate name *Homerites* – i.e., Himyarites[141] – to the inhabitants of *Arabia Felix*, instead of, e.g., the outdated Sabaeans.[142] Also, conforming to contemporary usage, the Kingdom of Axum (from where animals, such as the "sphinx" and no doubt zebras, were sent to Constantinople) is considered to be an "Indian" kingdom. In effect, in spatial representation during Late Antiquity, it was commonplace to position the borders of India in East Africa.[143]

Finally, there remains a toponymic enigma, namely the identification – unique of its type – of the Biblical *Pheison* with the Indian river *Hyphasis* (a sub-tributary of the Indus today known as the Beas).[144] One may suspect that Philostorgius chose this hydronym due to an assonance (and therefore a possible etymological explanation)[145] which the names "Indus" and "Ganges" did not possess. Even more surprising is the assertion that the *Hyphasis* – which, for Philostorgius, is a river in itself and not merely a tributary – emptied into the Ocean opposite Taprobane / Sri Lanka. This strange course recalls a passage of a geographical poem by Dionysius Periegetes (2nd century A.D.), a book which was widely read and known in the Mediterranean world at the time:[146] we read here that the Hyphasis, which is not a tributary of the Indus, originates in the *Emodôn* (the Himalayas) before emptying into

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[140] See Strabo 16.4.2 following Eratosthenes of Cyrene (Eratosth. III B 48 [ed. Berger]).

[141] See also Philostorg. *Hist. eccl.* 2.9. The Ḥimyarites are a tribe of South Arabia whose name begins to appear in the 1st century A.D. Their kingdom had Saphar (Ẓafār) as its royal city, in the region of Yarim. The Ḥimyarites gradually established their rule over the neighbouring kingdoms of Qatabān, Sabaʾ and Ḥaḍramauṭ.

[142] See also Philostorg. *Hist. eccl.* 3.4.

[143] Schneider 2004, 23-35.

[144] See *RE* IX.1, 1914, col. 230-236, s.v. Hypasis (M. Kiessling).

[145] Marasco 2005, 85 ("una semplice assonanza dei nomi"); Bleckmann and Stein 2015b, 217.

[146] Greaves 1994, 5-7.

the ocean near to the Kôlias Cape.[147] Philostorgius was probably referencing this famous work with this piece of information.[148] As for Philostorgius's belief that the Hyphasis carried magnificent specimens, it is not an entirely original idea. According to the 2nd century A.D. writer Philostratus, the Hyphasis was a river along whose banks trees producing wonderous salves grew and where an animal that produced an oil with extraordinary properties could be found.[149] It is therefore not merely for its assonance that Philostorgius chose this river, but rather because he knew that this river was famed for its amazing characteristics; it thus corresponded perfectly to the river flowing out from Paradise which did not have a subterranean passage in its course.

THE PAGAN ROOTS OF PHILOSTORGIUS'S GEOGRAPHY (2): THE PRINCIPLES OF *HISTORIA*

It is obvious that Philostorgius had a refined grasp of geographical knowledge which permitted him to formulate an original exegesis of the Scripture and constituted a vital part of his argumentation.[150] Thanks to this, Philostorgius was capable of safeguarding his theory of the eastern-equatorial location of Paradise from considerable criticism. That was, however, not all. He was also aware of the principles which are the basis of a good geographical study so that any flaws in his demonstration could be avoided, depriving thus his critics of any counterarguments. To put it in other words, Philostorgius was skilled with the application of the methodology of *historia* (i.e., scientific inquiry) of which he made use in order to give scientific credence to his demonstration. It is beyond the scope of this paper to discuss all aspects of this issue (see above, p. 124).

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[147] Dionys. Per. 1144-1149 (using the name *Hypanis* instead of *Hyphasis*, see *RE* IX.1, 1914, col. 230-236, s.v. Hypasis [M. Kiessling]): "[The Gargaridae], who live where gold's bright source Hypanis and Magarsis bear, the brawling rivers. From Emodon's mount they rise and flow across the Gange's plain, stretched south as far as Colis's farthest reach, which juts into the ocean's eddying deep" (trans. Lightfoot 2014). Dionysius believed that the Kôlias Cape (Point Callimere, or Koṭikkarai) was close to Taprobane / Sri Lanka (Dionys. Per. 592).

[148] For a different opinion, see Bleckmann and Stein 2015b, 217.

[149] Philostr. *VA* 3.1-2.

[150] On this point, see Meyer 2013, 72.

Therefore, I shall consider only the following two points which seem to me to be most salient.

i. The principle of conjecture

There was a major difficulty with the question of the location of Paradise: since it was inaccessible to Man, it was an invisible place. This posed a serious dilemma if one desired to solve its mystery without resorting to allegorical interpretations. More precisely, how could one establish, using the appropriate methods, the location of a place which was (and had always been) beyond Man's lived experience? The only way to satisfactorily achieve this within the framework of a rational demonstration was to make use of "conjecture" (εἰκασία),[151] a term present from the beginning of Philostorgius's account.[152]

However, before proceeding any further, it is necessary to briefly discuss a problem associated with the interpretation of the Greek text. One must remember that the version of the account we possess is a paraphrased account compiled by Photius and not the original text from the *Ecclesiastical History*. It is, consequently, entirely possible that Photius inserted personal comments into his paraphrase, interfering with the original text. It is for this probable reason that the French editors of the *Ecclesiastical History* assume (though without justification) that the expression "resorting to conjecture" was added by Photius in order to question the historian's capacity for reasoning:

> Il est intéressant de constater que Photius souligne dès le début du paragraphe le caractère hypothétique de l'argumentation philostorgienne, comme s'il voulait mettre en cause la compétence de l'historien.[153]

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[151] According to the LSJ, *eikasia* holds three meanings: (1) a likeness, image, representation; (2) a comparison; (3) a conjecture.

[152] *Hist. eccl.* 3.10: "Resorting to conjecture, he [Philostorgius] states that Paradise lies in the eastern equinox, first because it is evident that almost all the regions to the south are inhabited, all the way to the outer sea" (trans. Amidon 2007).

[153] Meyer 2013, 71 ("It is interesting to note that Photius emphasizes the hypothetical character of Philostorgius's argumentation, as if he desires to question the historian's capacity for reasoning"). The French translator renders *eikasia* as "probabilité" (which seems to me questionable).

I am nevertheless inclined to believe that the idea of conjecture was formulated by Philostorgius himself and therefore that Photius's paraphrase kept an expression belonging to the original text. In fact, the word *eikasia* allowed Philostorgius to inform his reader of the demonstrative method that he was going to make use of.[154] It was indeed common that, under similar circumstances, non-Christian authors would proclaim that they were going to make use of conjecture (στοχάσμος / στοχάζομαι; εἰκασία / εἰκάζω; τεκμήριον / τεκμαίρομαι), that is to say, use known elements as the basis to better understand the unknown, even if only to understand the Homeric poems. Indeed, a large portion of the locating of Homer's places and people (for example, the Ethiopians, Calypso's cave, the Hippemolgoi, etc.) relied on the reasoning provided by conjecture. In order for the reader to understand this principle of reasoning in a more tangible manner, here are two examples from among many. The first comes from Herodotus (2.33) who, while digressing on a matter of the geography of Libya (i.e., the third part of the *oikoumenê*), dares to propose a trajectory for the upper course of the Nile, which his contemporaries were unaware of beyond the first cataract:

> For the Nile flows from Libya, and right through the midst of that country; and as I guess, reasoning as to things unknown from visible signs (τοῖσι ἐμφανέσι τὰ μὴ γινωσκόμενα τεκμαιρόμενος), it takes its rise from the same measure of distance as the Ister (i.e., the Danube).[155]

Herodotus's conjecture is based on the two following known facts: first, the Nile and the Ister are two "continental" rivers, that is to say, they both flow through the interior of two continental landmasses; second, their deltas are aligned along the same meridian and are to be found at an equal distance from an "equinoctial line" starting at the Pillars of Hercules (the Strait of Gibraltar) and stretching to the Taurus mountains in Asia Minor. From there, Herodotus conjectures that, in

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[154] This idea seems to me all the more preferable since the lexical field of the conjecture appears in the rest of the text (συμβαλεῖν; εἰκάσαι, about the Nile) – this time, these terms are in no way additions by Photius.

[155] Trans. Godley 1975.

symmetry with the Ister, the Nile flows from the west and crosses the entirety of Libya. In this example, conjectural reasoning is founded on the postulate that geographic realities may be identical on either side of a symmetrical axis. The second example comes from Strabo, who describes a part of Libya where a famous plant known as "silphium" grows. In the known areas of Libya, the author outlines, the silphium region forms an arid strip of land extending in length around 1,000 stades (approximately 185 km) and in width about 300 stades (approximately 55 km). Now, what about the parts of Libya that are still unexplored? For Strabo, this question presents no great difficulty, "for we may conjecture that all lands lying in unbroken succession on the same parallel of latitude are similar as regards both climate and plants":[156] in other words, the regions of Libya located on the same parallel of latitude and possessing the same climate will also be able to produce silphium. In this instance, the process of conjecturing is based on the principle of climatic similarity, i.e., regions situated along the same latitude possess similar characteristics.

To uncover the unknown by making use of the known in combination with certain principles of reasoning, such as analogy and symmetry, constituted a legitimate method of geographical inquiry which was rarely contested.[157] The issues discussed in this way, though few, were nonetheless of prime importance. For instance, reasoning by conjecture

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[156] Strabo 17.3.23 (εἰκάζειν μὲν γὰρ ἅπασαν πάρεστι διηνεκῶς τὴν ἐπὶ τοῦ αὐτοῦ παραλλήλου κειμένην τοιαύτην εἶναι κατὰ τε τοὺς ἀέρας καὶ τὴν τοῦ φυτοῦ φοράν). Trans. Jones 1967.

[157] To the best of my knowledge, only Polybius (3.38.1) seems reserved on this point: he considers that in the absence of observations, it is appropriate to suspend judgment, as he states in the following passage: "But as no one up to our time has been able to settle in regard to those parts of Asia and Libya, where they approach each other in the neighbourhood of Ethiopia, whether the continent is continuous to the south, or is surrounded by the sea, so it is in regard to the part between Narbo and the Don: none of us as yet knows anything of the northern extent of this district, and anything we can ever know must be the result of future exploration; and those who rashly venture by word of mouth or written statements to describe this district must be looked upon as ignorant or romancing" (trans. Paton 1922).

was applied to a mystery of geography: the cause of the summer flooding of the Nile. This case is of particular interest, because the unknown cause of summer flooding was determined by conjecture for a long time[158] until the mystery was solved thanks to first-hand observations, provided by the Ptolemaic naval explorations of the Red Sea.[159]

So then, in using conjecture to precisely locate Paradise in the eastern-equinoctial part of the world; in describing the course of the Nile from Eden to Ethiopia; in drawing the conclusion, inspired by the presence of *karophyllon*, that the *Hyphasis* did not burrow underground but instead flowed overland, Philostorgius was able to overcome geographical difficulties making use of a proven method which many renowned authors did not hesitate to implement before him.

ii. The principle of autopsia

The passage by Strabo quoted above (n. 159) shows that only eyewitness accounts could turn conjecture about the summer flood into established fact. Therefore, it demonstrates the value which ancient geographical inquiry accorded to first-hand observations undertaken by trusted witnesses. Similarly, it is the absence of serious observations which motivates Polybius to refuse to take a side on the question of whether the entirety of the *oikoumenê* forms an island or not (see n. 157). We find here the methodological idea – very widespread during Antiquity and still present at the end of Antiquity[160] – that direct observation (*autopsia*)

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[158] See, e.g., Hdt. 2.19.26.

[159] Strabo 17.1.5: "Now the ancients depended mostly on conjecture (οἱ μὲν οὖν ἀρχαῖοι στοχασμῷ), but the men of later times, having become eyewitnesses (οἱ δ᾽ ὕστερον αὐτόπται γενηθέντες) perceived that the Nile was filled by summer rains, when Upper Aethiopia was flooded. … This fact was particularly clear (τοῦτο δ᾽ ὑπῆρξε μάλιστα δῆλον) to those who navigated the Arabian Gulf as far as Cinnamon country and to those who were sent out to hunt elephants…" (trans. Jones 1967).

[160] See Schneider 2014, 232-236. It must nonetheless be noted that at least one scholar, Pausanias, does not consider autopsy to be an absolute principle. Indeed, he admits that we can accept that extraordinary animals live at the edges of the inhabited world, even if we have not witnessed them, as, by definition, these regions were suitable to produce such incredible creatures. (Paus. 9.22.5-6: "And I think that if one were to

collected by reliable observers is what gave geographical inquiry its true value in conjunction with quality written sources.[161] That is why, while always depending on quality geographical knowledge as seen previously, Philostorgius does not fail to make the reader aware of what he himself has witnessed in order to give weight to his demonstration. Actually, it seems that Philostorgius did not travel through the southern and eastern extremities of the world and so it is impossible for him to detail, for example, the luxuriant landscapes of India or *Arabia Felix*. However, animals do indeed travel. And, as his zoological account represents a sensitive topic for Philostorgius, it is in that part of his demonstration that he will put forward, as much as is possible, his own personal observations. So will he thus be able to confirm, with his own personal testimony, that the southern and eastern lands of the *oikoumenê* produce "a great number of clearly extraordinary creatures, the full tale of which is beyond this account" (πλεῖστα διαφανῶς ὑπερφυέστατα φύεται ὧν τὸ πλῆθος ἡ διήγησις ὑποστέλλεται),[162] which in turn justifies the location of a magnificent Paradise.

On at least three separate occasions, Philostorgius was able to witness extraordinary animals originating from the lands at the edges of the earth. The first animal observed was the *taurelephas* ("bull-elephant") probably a horned animal, almost equal in size to an elephant and sharing the same type of skin and colour: "In fact, I once saw the animal when it was brought to Roman parts (i.e., in the Eastern Roman Empire), and I describe what I saw."[163] It was perhaps a buffalo or a rhinoceros, given as a diplomatic

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traverse the most remote parts of Libya, India or Arabia, in search of such beasts as are found in Greece, some he would not discover at all, and others would have a different appearance. For man is not the only creature that has a different appearance in different climates and in different countries; the others too obey the same rule. For instance, the Libyan asps have a different colour as compared with the Egyptian, while in Ethiopia are bred asps quite as black as the men. So, everyone should be neither over-hasty in one's judgments nor incredulous when considering rarities. For instance, though I have never seen winged snakes I believe that they exist." (Trans. Jones 1935).

[161] See Jacob 1991, 116-120.

[162] Trans. Amidon 2007.

[163] Trans. Amidon 2007.

present to the emperor. The other animal "having been witnessed" by Philostorgius was the "sphinx" monkey (i.e., the gelada [*Theropithecus gelada*]). Contrary to the "bull-elephant," Philostorgius describes the sphinx monkey with exceptional precision, perhaps because this monkey was a very rare sight in Constantinople. This rarity leads one to believe that it, too, was a diplomatic offering sent by the King of Axum, who ruled over the territory which geladas inhabit. Finally, the lands on the extremities of the known world were also home to snakes "as thick as beams and up to fifteen fathoms in length [approximately 17 m]. I have in fact even seen their skins that had been brought to Roman parts."[164] Whether those skins arrived in Constantinople as diplomatic gifts or as common merchandise, they were witnessed all the same by Philostorgius and thus fall under the definition of *autopsia*. The same goes for, in a way, the figurative representations. The *monokerôs* ("unicorn") is described by Philostorgius using details from a representation that he had seen in Constantinople (apart from the sculpture that the author references, one can presume that the mosaics displaying representations of exotic animals, such as those still in existence in the present day,[165] were not rare in Constantinople).

The other animals that Philostorgius catalogues were not personally witnessed by him. Nonetheless, it appears that, according to the author's own words, these animals were seen by the inhabitants of Constantinople either in Philostorgius's time or before him. In other words, lacking recourse to personal observation (*autopsia*), Philostorgius refers to collective observations whose witnesses could still be living, or which remained within the collective memory of the inhabitants of the city. This is the case with the "pan" monkey, sent by the King of the Indians (i.e., the ruler of Axum) to Emperor Constantius II: even though it died en route, "its keepers stuffed it in order to give people something unusual to look at (θεάματος παρασχεῖν ἀσυνήθους εἰκόνα) and brought it safe and sound all the way to Constantinople."[166] We can im-

[164] Trans. Amidon 2007.

[165] We obviously think of the so-called "big game" mosaic of the Villa del Casale, at Piazza Armerina (Sicily).

[166] Trans. Amidon 2007.

agine that it must have been the same for the giraffe, which we know to have been a diplomatic offering, as well as for the zebra.[167]

The remaining case is that of all the other animals, many among which were extraordinary, yet all the same well known and somewhat mundane. Some were immensely famous and were known to everyone, either through iconographic representations or through written text (elephants, the very famous [πολυθρύλητον] "phoenix"), while others had been documented for centuries by generations of witnesses (cetaceans and large fish from the Indian Ocean which were encountered by those sailing this sea on business). Others were commonly imported into the Mediterranean world and were known to all, directly or indirectly (parrots "which we know whence they come" [τὴν σιτάκην ἐκεῖθεν ἴσμεν κομιζομένην] and the "Garamantes" bird). Since the added value of personal investigation was for such animals negligible, Philostorgius did not bother to mention that he had seen them.

On putting forward the principle of *autopsia*, be it personal or collective, Philostorgius evidently wished to preserve his geographical inquiry from being reproached: it was common at the time to criticize those who described exotic creatures and extraordinary phenomena in faraway countries as resorting to embellishment and falsehoods in order to better seduce their audience. This accusation was widespread for a long time and a certain number of authors carried with them a deplorable reputation for their propensity for dreaming things up.[168] Polybius (3.59), for instance, maintained that it was difficult for ancient writers choosing to document the outer regions of the world not to give in to the temptation to fantasize:

> … it was a difficult matter to see many things at all closely with one's eyes, owing to some of the countries being utterly barbarous and others quite desolate, and it was still more difficult to get information about the things one did see, owing to the difference of the language. Then, even if anyone did see for himself and observe the facts, it was even more difficult for him to be moderate in his

[167] For the giraffe, see Gatier 1996; a thorough inquiry into the zebra by Trinquier is in progress.

[168] E.g., Ctesias of Cnidus, Megasthenes (see Strabo 2.1.9). See Jacob 1991, 118-120.

> statements, to scorn all sorts of marvels and monsters and, preferring truth for its own sake, to tell us nothing beyond it.[169]

In contrary eyewitness accounts were a reliable way to safeguard oneself from methodical error. Philostorgius's position, in the (crucial) zoological section of his demonstration, was all the more coherent as he was not the only one to have witnessed the animals that he describes. To accuse him of falsehoods would be to accuse all the citizens of Constantinople of the same transgression. Proof that, from beginning to end, Philostorgius is not far from equalling the achievements of its brilliant "Greek" (i.e., non-Christian) predecessors.

CONCLUSION

Through his demonstration on the locating of Eden, Philostorgius evinces a remarkable mastery of Greek geographical knowledge as well as a genuine capacity for employing the methods of *historia.* The rigour with which he bolsters his reasoning renders criticism of his demonstration a rather onerous task. Another noteworthy feature of his writing is that, during his rather long digression, he does not engage in lengthy criticism of pagans. Philostorgius is only dismissive of the ancient Greeks when he references their identification of "satyr," "pan," and "sphinx" simians as he was critical of their classification as mythical or divine creatures. To this end, he accuses the Greeks of having, in their ignorance, deified these animals and invented fanciful stories about them. Beyond these critiques, motivated by the homonymy between these animals and mythical creatures, Philostorgius does not level any criticism against the rational approach of Greek science. This specific case regarding the locating of Eden is surprising when compared to his digression on the causes of earthquakes, where he rejects the rational explanations of the Greeks:

> He [Philostorgius] tries in various ways to show that earthquakes are caused neither by floods of water, nor by blasts of wind shut up within the hollows of the earth, nor even by any kind of shifting of the earth, but solely by the divine will for the correction and rebuke

[169] Trans. Paton 1922. Cf. Strabo 15.1.37: "But no author is very exact and either through ignorance or from its remote situation, everything relative to it is exaggerated or partakes of the wonderful" (trans. Jones 1930).

> of sinners. He says that he maintains this because none of the elements just mentioned could cause such impressive phenomena by their natural power. At God's will, however, even the smallest raindrop or lightest snowflake falling upon Olympus in Macedonia, or any other of the largest mountains, would move it easily. And God is often found using these things to chastise people.[170]

Contrary to this, regarding the locating of Paradise, the justifications for its location provided by pagan science fully satisfied the needs of the Christian apologetics: theories on the subterranean river courses, and especially on the fecundity of the south-eastern lands, far from being an obstacle to Christian theories, were indeed aligned in perfect harmony with them. Given that Greek science had decided that India was, so to speak, paradise on Earth,[171] the convergence between pagan ideas and the Christian faith was made possible and easy.

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[170] Philostorg. *Hist. eccl.* 12.10, trans. Amidon 2007.

[171] Diod. Sic. 2.35.3-2.36.2: "Now India has many lofty mountains that abound in fruit trees of every variety, and many large and fertile plains, which are remarkable for their beauty and are supplied with water by a multitude of rivers. The larger part of the country is well watered and for this reason yields two crops each year; and it abounds in all kinds of animals, remarkable for their great size and strength, land animals as well as birds. … The same is true of the inhabitants also, the abundant supply of food making them of unusual height and bulk of body; and another result is that they are also skilled in the arts, since they breathe a pure air and drink water of the finest quality. And the earth, in addition to producing every fruit which admits of cultivation, also contains rich underground veins of every kind of ore; for there are found in it much silver and gold, not a little copper and iron, and tin also and whatever else is suitable for adornment, necessity, and the trappings of war" (trans. Oldfather 1967).

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