Great Library of Alexandria

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The Great *Library* of Alexandria?[1]

> From its Gate of the Sun to its Gate of the Moon, temples and palaces lined its spacious streets. Marbled columns and glittering statues dazzled visitors. Alexandria witnessed not only the romance of Julius Caesar and Cleopatra but also the genius of the greatest mathematicians and boasted the world's first and greatest public library, a library whose aim was to contain a copy of every book ever written.[2]

Though it was Alexandria's Pharos lighthouse that was counted among the Seven Wonders of the World,[3] Ancient Alexandria – a city founded by Alexander the Great as a showplace "metropolis linking Greece and Egypt"[4] – was a city in which wonders abounded. The city featured wide boulevards laid out in a grid, and buildings constructed of granite and marble.[5] Some say that Alexander himself had a hand in planning this great city. One of the most notable wonders of the city was the Great Library of Alexandria (hereinafter Great Library or Library), an institution which has assumed legendary proportions in the mythos of western civilization. However, institutions which assume mythological proportions are often obscured by the very legends they generate. While the Great Library's cultural and intellectual achievements resonate to this day, many do not and cannot separate the true nature and history of the Great Library from the fog of legend that surrounds it.

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[1] The author would like to thank the following people for their invaluable assistance with the research and editing of this paper: Michael Kantro, Amanda Brite, and James Moldovan.

[2] Watson

[3] Rollin p 19

[4] Lawler

[5] Lawler

Was the Great Library a library in the modern professional sense of the word, or perhaps it was a kind of proto-library containing a large collection of texts? In order to explore these questions and to bring clarity to the topic of the Great Library, this paper will examine the founding and history of the Great Library and illustrate its purpose and philosophy. Finally this paper will then analyze the Great Library according to established library criteria. Section I will provide an overview of the founding, intellectual achievements, and fall of the Great Library. Section II will review the characteristics of the Great Library according to modern professional criteria.

Section I: Foundation and Description

The Great Library of Alexandria has assumed legendary qualities in the centuries since its creation and demise. The concept of a universal library, an institution containing all the intellectual works of the world, is one that has enchanted scholars for centuries. But where did such a concept originate? While there are indications of earlier attempts,[6] the first lasting attempt, and the one that has become fixed in the cultural consciousness of western civilization is that of Alexander the Great.[7] Old Persian and Armenian traditions indicate that Alexander the Great, upon seeing the great library of Ashurbanipal at Nineveh,[8] was inspired to combine all the works of the

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[6] Notable among these are the libraries assembled by certain kings of Assyria. The Great Libraries pp 12 - 14 (Because Staikos wrote both *The Great Libraries* and *The History of the Library in Western Civilization*, these works will be hereinafter footnoted to the book title instead of the author of the work)

[7] For a brief, accessible biography of Alexander, see Norman F. Cantor's book, *Alexander the Great: Journey to the End of the Earth*.

[8] The Neo-Assyrian King Ashurbanipal (669 – c.627 BCE) was not the first Mesopotamian king to have a library. Tiglath-Pileser I, King of Assyria (1114 – 1076 BCE) assembled a library in the city of Assur. Earlier Neo-Assyrian Kings Sargon II (721 – 705 BCE) and Esarhaddon (680 – 669 BCE) also had

various nations he conquered, translate them into Greek, and collect them all under one roof.[9] While this inspiration was certainly prompted at least in part by a desire to consolidate information, and thereby power, under Greek authority, it is also an indication of Alexander's desire for his empire to be a multicultural empire[10] -- albeit one unified under the influence of Hellenism.

Alexander died before he was able to create his universal library,[11] but his friend and successor[12] Ptolemy I, known as Ptolemy Soter,[13] was to begin the creation of Alexander's Library in a new Hellenic city which Alexander founded, and one in which his remains were to be ultimately interred[14]-- Alexandria.[15]

The presence of a natural harbor and a nearby supply of fresh water combined with an already existing colony of Macedonians made the selection of the site, in the conquered territory of Egypt, an easy choice for Alexander's new capital and center of Hellenism.[16] Given Alexandria's position as a center of world trade and polyglot nature,[17] it was vital for the Ptolemaic dynasty to unify their city and people so that

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libraries. See Wiegand p 26 and 27. Note that all dates are taken from the Assyrian King List as reconstructed and discussed by Jean-Jacques Glassner. See Glassner p 203-250. For a review of the excavations at Nineveh, see chapters 1 – 4 of *The Buried Book: The Loss and Rediscovery of the Great Epic of Gilgamesh* by David Damrosch.

[9] The History of the Library in Western Civilization p 14 and 159-161

[10] The Great Libraries p 59

[11] Alexander the Great lived from 356 – 323 BCE. He died at age 33 during the 13th year of his reign. Wilcken p 240, 328.

[12] Ptolemy was one of Alexander's *somatophylakes* -- a group of high-ranking military officers who formed the inner circle of the Companion Cavalry and acted as Alexander's personal bodyguard. Ellis p 8

[13] 305 - 283 BCE. Walbank p 482

[14] The History of the Library in Western Civilization p 164

[15] El-Abbadi pp 36-40

[16] El-Abbadi pp 36-40

[17] El-Abbadi pp 42-46

Alexandria was not merely a place where many different people lived and through which trade passed. Alexandria and Alexandrians needed to have an identity and a uniqueness of their own. As the Greek culture encountered and was changed by others, it became not just Hellenic, but Pan-Hellenic.[18] This new Pan-Hellenism played a vital role in accomplishing a kind of unification. The Ptolemaic dynasty[19] set about making Alexandria the center of learning and culture in the Pan-Hellenic world – containing the intellectual works of all the newly Hellenized nations.[20] In this way, Alexandrians would not only find unity in a common Pan-Hellenic culture but they would, in a very specific sense, be at the very core of that culture. The creation of the Great Library and its attendant institutions were indispensable contributions toward making Alexandria into this intellectual and cultural center.

There is some debate as to which ruler, Ptolemy Soter, or his son Ptolemy II, known as Philadelphius,[21] built the Mouseion Academy (which housed some of the books of the Library) and the Library. The earliest source extant, the *Letter of Aristeas*,[22] dates from the second century BCE and seems to indicate that the actual building took place under Philadelphius.[23] Later sources assert that it was Soter who first undertook the building of these two intertwined institutions. However, given that

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[18] Used in this sense, the term 'Hellenic' denotes only the culture(s) of Greece and 'Pan-Hellenic' denotes the amalgamation of cultures contacted, conquered or otherwise greatly influenced by the Greek Empire of Alexander the Great. The term 'Hellenized' refers to cultures that were brought into the Pan-Hellenic world.

[19] Lawler

[20] The Great Libraries p 58

[21] 283 – 246 BCE. Walbank p 482

[22] Also known as the *Letter to Philocrates*, the *Letter of Aristeas* is a part of the Pseudepigrapha. Its author is thought to have been a Hellenized Jew, possibly writing for a Pagan audience. See Tcherikover.

[23] El-Abbadi p 79

Demetrius of Phalerum[24] was very influential in the initial creation of the Great Library, and given that he was close to and admired by Soter, but despised and banished by Philadelphius, most modern scholars are inclined to believe that it is Ptolemy Soter who first undertook the building of the Library.[25] Whoever began the construction, it is unquestionable that an institution of the size and influence of the Great Library would necessarily require the support of more than one ruler to complete. If it was Soter that began the Library, Philadelphius must certainly have played a role in its continued growth.[26]

The Ptolemaic Mouseion Academy (sometimes called the Museum and hereinafter referred to as the Mouseion) was conceived of as a cultural center serving the muses – a concept with deep roots in the Greek world.[27] Originally, a Greek mouseion was a purely religious establishment – a temple to the Muses.[28] It was only later that these institutions took on an intellectual, rather than a religious cast. Still, the connotation of a mouseion was of a place sacred to the Muses, and strictly speaking, the Mouseion remained a religious establishment.[29] Combining the Egyptian tradition of housing libraries within religious temples[30] and the Greek religious and intellectual tradition of the mouseion created a uniquely Pan-Hellenic variation. The Alexandrian

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[24] Demetrius of Phalerum (c. 350-280 BCE) was an Athenian orator and statesman who governed Athens for about 10 years before being forced into exile. He was also a student of Theophrastus (discussed below). Demetrius was an early devotee of the Perapatetics. See Algra, p 49-50.

[25] El-Abbadi pp 81, 82

[26] El-Abbadi p 42

[27] The History of the Library in Western Civilization p 165

[28] Casson p 33

[29] El-Abbadi p 84

[30] El-Abbadi p 74

Mouseion combined the religious and intellectual attributes of similar Greek institutions with the religious and bibliophilic attributes of analogous Egyptian institutions.[31]

In practical terms, the Mouseion was the physical campus of a self-contained community of scholars,[32] complete with living quarters.[33] As such, the Library was a part of the Mouseion,[34] which was located on the grounds of the royal palace.[35] The Library and the Mouseion cannot be discussed separately. They are institutions so intertwined that the history and influences and characters of one are in many cases identical to the other. They are institutions inextricably tied to each other, with the Library being an integral part of the Mouseion.

Ptolemy Soter initially wanted Theophrastus,[36] Aristotle's favored pupil and leader of the Peripatetic School,[37] to organize and administer the Mouseion.[38] It seems to be no secret that Soter wished to create the Mouseion, at least in part, by transplanting Aristotle's Peripatetic School from Athens to Alexandria.[39] The prestige of doing so would have been enormous, and would have made attracting other scholars much easier. In addition, by transplanting Aristotle's school, Ptolemy Soter would be reinforcing Alexandria's cultural ties to Alexander the Great; not only was the city

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[31] The Great Libraries p 62

[32] The Great Libraries p 63

[33] El-Abbadi p 84

[34] The Great Libraries p 59

[35] The History of the Library in Western Civilization p 166

[36] Theophrastus was Aristotle's chosen successor in the Peripatetic school. He presided over the Perapatetics for 36 years. Theophrastus wrote on a wide variety of topics, ranging from Botany to Metaphysics. See Zeyl p 552.

[37] The Great Libraries p 62

[38] The History of the Library in Western Civilization p 166

[39] The Great Libraries p 62

founded by the great king, but it would also partake of his intellectual tradition by continuing the famed institution of his beloved tutor. Though the Peripatetic School did not actually move to Alexandria, it was to be highly influential on the Mouseion and the Great Library. Not only was Demetrius of Phalerium, devotee of the Peripatetic school,[40] influential in the creation of the library,[41] but the Great Library actually obtained some of the private library of the Peripatetic school's founder, Aristotle himself.[42]

The private library of Aristotle took a circuitous route into the Great Library. First, upon going into voluntary exile, Aristotle left many, if not all of his books to Theophrastus.[43] Theophrastus, in turn, left his library; both those books he collected himself and those left to him by Aristotle, to a man named Neleus.[44] Then, in the reign of Ptolemy Philadelphius, it is said that Neleus sold some of these books to the Great Library.[45] Some of the library of Aristotle was left to Neleus' heirs, who hid them in a cave near Scepsis[46] in order to avoid turning them over to King Eumenes II[47] when he was organizing his library at Pergamum.[48] According to tradition, the hidden books

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[40] The Great Libraries p 61. See also note 20 above.

[41] El-Abbadi pp 81, 82

[42] According to some, the Great Library was begun with the personal library of Aristotle. Whether or not this is true, Aristotle's ideas influenced both the creation and practices of the Great Library – a point that will become more important later in this paper. Wright p 70

[43] The Great Libraries p 46. See also note 32 above.

[44] The Great Libraries p 46

[45] The Great Libraries p 47

[46] The History of the Library in Western Civilization p 123

[47] (197-159 BCE) Rider p 50.

[48] The Great Libraries p 47

were never recovered.[49] So according to tradition, the entire surviving library of Aristotle went into the holdings of the Great Library of Alexandria.[50]

In order to attract scholars to the Mouseion, the Ptolemies offered scholars free board, lodging, servants, tax exemptions, and handsome salaries – for life.[51] They were able to continue such attractive perquisites because the Mouseion had been gifted with a handsome endowment by Ptolemy Soter in the institution's early years.[52] Some of the scholars that these measures enticed to the Mouseion were Strabo,[53] Zenodotus,[54] Aristophanes,[55] Eratosthenes,[56] Herophilus,[57] and Euclid.[58] Even Archimedes was a scholar of the Mouseion for a time.[59]

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[49] The History of the Library in Western Civilization p 124

[50] There is another story, that indicates that during the second century BCE, a wealthy Athenian named Apellicon obtained the books that had been hidden in that cave near Scepsis. At that time Asia Minor had come under Roman rule, and the descendants of Neleus, learning that the danger of having their valuable possessions seized had passed, reportedly disinterred the books they had hidden and put them up for sale.[50] Apellicon bought them and brought them back to Athens. However, when Athens rose against Rome in the First Mithradatic War, and was defeated in 86 BCE, the remaining library was taken by Sulla back to Rome as spoils of war. The fate of Aristotle's library becomes somewhat obscure at this point, but it does not seem that, according to this recounting, the remnants of Aristotle's library made their way to the Great Library of Alexandria. The Great Libraries pp 48-49, History of the Library in Western Civilization pp 123-128

[51] The Great Libraries p 62 & Casson p 33

[52] Casson p 33

[53] Strabo was the author of *Geographica,* a 17-volume compendium of geographical knowledge. See generally Dueck, and Jones.

[54] The Great Libraries p 63. Zenodotus was regarded as one of the first great scholars of Homeric literature. See Pfeiffer p 105–22.

[55] Aristophanes was a poet and playwright. See Boardman p 176.

[56] The History of the Library in Western Civilization p 166. Eratosthenes was a mathematician, poet, geographer and astronomer. See Gillespie p 388-393.

[57] Casson p 33. Herophilus was an anatomist and physician, who founded one of the first medical schools in Alexandria. He is widely credited for the invention of the scientific method. Von Staden p.158

Not everyone thought the Mouseion a good thing. Timon of Phlius[60] once scorned the scholars of the Mouseion, contemptuously referring to them as people who wasted their time, "scribbling endlessly and waging a constant war of words with each other in the Muses' birdcage".[61] And indeed, being a scholar of the Mouseion was not a wholly unmixed blessing. Even when they left the grounds of the Mouseion, they were still on the grounds of the palace complex, which they were rarely allowed to leave.[62] The Mouseion was in some ways a gilded prison and not a place without danger. Though modern Western culture thinks of scholars as having academic freedom, and though the scholars of the Mouseion enjoyed more academic freedom some of their contemporaries, there is evidence that indicates that this was not always the case. Sotades of Maroneia[63] was imprisoned and executed for satirizing Ptolemy Philadelphius and his sister Arsinoë, on the occasion of their marriage.[64] And Aristophanes[65] was arrested and imprisoned when it was learned that he planned to leave the Mouseion for the court of a rival king, Eumenes II.[66] In a very real sense, the Mouseion was a royal academy. At first, it was an intellectual center in service to the

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[58] El-Abbadi p 86. Euclid was a mathematician, who is often referred to as the "Father of Geometry". His *Elements* is one of the most influential works in the history of mathematics. See Ball p 50–62 and Boyer, p 100-119.

[59] Casson p 33. Archimedes was a Greek physicist, engineer, inventor, and astronomer. He is widely regarded as the greatest mathematician of antiquity. See Calinger p 150.

[60] Timon of Phlius was a Greek Skeptic and satirist. See Long p 204.

[61] The History of the Library in Western Civilization p 166

[62] The History of the Library in Western Civilization p 167

[63] Sotades was a comic poet who was known for his lascivious satire. See Smith p 887.

[64] El- Abbadi p 87

[65] See note 52 above.

[66] The History of the Library in Western Civilization p 167. Eumenes II was the aforementioned King of Pergamum, which housed a rival library. See footnote 40.

Ptolemaic dynasty.[67] Later, when Alexandria was ruled by the Romans, the Mouseion fell under the protection of the emperors.[68]

Physically, few descriptions of the Mouseion grounds have come down to us. However we do know that the physical structure of the school not only reflected Aristotle's division of knowledge into observational and deductive topics, it was also laid out in a way that reflected and encouraged Aristotle's peripatetic ideal of scholarship.[69] The main academy building and the Library building were connected by and surrounded with a network of paths, colonnades, and courtyards.[70] There were botanical gardens and zoological displays for the edification and delight of the scholars.[71] There was even an outdoor amphitheater called the *exedra*.[72] In time, there were two library sites. The original was housed in the library's original space in the Mouseion and held between 400,000 and 700,000 scrolls.[73] This was the more important of the two sites, and is what most people refer to when they use the term Great Library.[74] However, by the time of Ptolemy III, known as Eurgertes,[75] a secondary "daughter" library was housed in the Serapeum, a temple devoted to the god Serapis,[76] which was located in the Rhachotis district,[77] a poor neighborhood[78] in the southwest of Alexandria.[79] It is believed that the

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[67] El-Abbadi 87

[68] El-Abbadi 90

[69] Wright p 70

[70] The History of the Library in Western Civilization p 168

[71] The History of the Library in Western Civilization p 168

[72] The Great Libraries p 63

[73] Amodeo

[74] Thompson p 23

[75] The Great Libraries p 65. Ptolemy Eugertes ruled 246 - 221 BCE. Walbank p 482

[76] Casson p 34

[77] The Great Libraries p 65

library housed in the Serapeum (hereinafter referred to as the Serapeum) contained copies of literary works intended for general use by people who did not have access to the library on the grounds of the Mouseion.[80] It has been estimated that the number of parchment scrolls contained in the Serapeum totaled 42,800.[81] There is evidence to indicate that the Serapeum continued as a viable institution into the fourth century CE.[82] But though the Serapeum served a different group of patrons and was in a different location than the Library on the grounds of the Mouseion, the two libraries fell under the same authority.[83] The same staff and policies served both, and therefore they are properly referred to as one institution, albeit an institution with two branches.

The Collection

One of the major endeavors of any library is the collection of materials. The Library of Alexandria is no exception. The 400,000 to 700,000 rolls attributed to its collection did not simply appear by magic; they must have been acquired through some means. The bibliomania of the first three Ptolemies was influential in building the Great Library's collection, and it cannot be understated.[84] They did not want only books[85], they wanted the best, most original, most authoritative copies[86] of, "if possible, all the

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[78] Sly p 43

[79] Haas p 49

[80] The History of the Library in Western Civilization p 176

[81] Casson p 36

[82] The Great Libraries p 66

[83] El-Abbadi, pp 92, 93

[84] Thompson p 23

[85] While the materials collected were generally scrolls, and therefore not "books" in the sense of having leaves and stiff covers or endpapers, the term book is widely used because of its colloquial currency. I have maintained this use here.

[86] The Great Libraries p 66

books in the world",[87] and they were willing to buy, borrow, or steal in order to get them. During the reign of Ptolemy Eurgertes, the Library borrowed Athens' official versions of the plays of Aeschylus, Sophocles, and Euripides, giving Athens an enormous amount of money; the modern equivalent of millions of dollars, as surety for their return.[88] The scribes of the Library made fine copies of these books on the highest quality of parchment. The originals were kept for the Great Library and the copies were returned to Athens, causing the Alexandrians to forfeit their bond.[89] Other ethically dubious means for procuring materials were also employed. It is said that during a famine in Athens, ambassadors from the Great Library forced the sale of valuable original manuscripts owned by that city in exchange for food.[90] A more conventional technique employed by the Ptolemies was to send people out to buy books, looking especially for rare texts and libraries which might be bought *en masse*.[91] In addition to buying books, the Ptolemies acquired books through plunder. It is widely reported that upon entering the Alexandrian harbor, ships were inspected, and any books they were carrying were seized.[92] A copy was made and given to the original owner, but the original was kept for the Great Library.[93] It was though such means that the Great Library amassed its large

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[87] El-Abbadi p 95, Blum p 102

[88] Casson p 35

[89] The Great Libraries p 70

[90] Cowell

[91] Canfora p 88

[92] When one considers that the harbor at Alexandria attracted ships from all over the Mediterranean as well as from India and points east (arriving via the Red Sea), the regional diversity of materials available to the library in this fashion was astonishingly large, especially for the ancient world. See Lawler.

[93] Thompson p 23

collection.[94] Once obtained by the Library, any works written in a different language were subsequently translated into Greek.[95] This allowed the reconstruction and creation of standard texts of Greek classics, which heretofore had not existed.[96]

Tales of Destruction

The destruction of the Great Library of Alexandria is a part of history that has taken on many of the trappings of myth. Th e utter destruction of the western world's deepest and broadest repository of learning surely seems, psychologically, to demand an appropriately apocalyptic dénouement. This section will detail, in chronological order, several stories that recount the Great Library's destruction.

The first, and perhaps most known story, at least partly in thanks to Hollywood,[97] is one that lays the responsibility for the Great Library's destruction upon the head of Julius Caesar. Caesar had gone to Alexandria in 48 BCE in his pursuit of Pompey during the Roman Civil War.[98] Upon his arrival in Egypt, he learned that Pompey was dead. Despite this, he quickly found himself in the midst of another civil war, that

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[94] Interestingly, King Ashurbanipal of Assyria, mentioned above at note 6, used similar means to add to his library's collection. "In a letter (almost certainly from Ashurbanipal) the king orders the scribe to gather tablets, especially those bearing omen texts, from both private houses and temples for his palace collection" Wiegand and Davis p 27

[95] Canfora p 24

Possibly the best known example of this is the Septuagint legend, which states that the Pentateuch was translated by seventy Hellenized Jews and included in the Great Library as a sign of friendship and reconciliation between Ptolemy Philadelphius and the Jews of Alexandria. The Great Libraries 64

[96] Casson p 36, Blum p 15, 113

[97] "No amount of dueling scholarship can upstage Elizabeth Taylor in her overblown 1960s vehicle Cleopatra, assaulting Rex Harrison, a beleaguered Caesar, with the news of the disaster." Alexandria's Great Library

[98] El-Abbadi p 146

between Ptolemy XII[99] and his legendary sister, Cleopatra VII[100] for the throne of Egypt.[101] Though invited by Ptolemy,[102] Caesar sided with Cleopatra.[103] Ptolemy's army then proceeded to besiege Caesar and Cleopatra within the city of Alexandria. In his defense of the city, Caesar is said to have set fire to some of the ships in the harbor.[104] The fire spread to the docks, then to the districts of the city surrounding them.[105] Alternately, it is said that a burning arrow shot during the confrontation caused the destruction.[106] According to this recounting, it is this conflagration that destroyed the Great Library, though some say that the Great Library was only partially destroyed, claiming either that only the dockside storage and the books contained within were destroyed,[107] or that only the Library contained within the Mouseion was burnt.[108] Descriptions by contemporary writers seem to bear out the fact that about 40,000 scrolls were lost.[109] However, given the volume of the Great Library as a whole, with reliable estimates of its holdings hovering between 400,000 and 700,000 scrolls[110] and reports that the library held 900,000 scrolls at its peak,[111] a loss of 40,000 scrolls could not account for the loss of the entire institution. Also, given the fact that the Great

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[99] 55 - 51 BCE. Walbank p 482

[100] 51 - 30 BCE. Walbank p 482

[101] Casson p 46

[102] Canfora p 66

[103] Zoch p 201

[104] El-Abbadi p 146

[105] The Great Libraries p 76

[106] Cowell

[107] Casson p 46

[108] Thompson p 23

[109] The History of the Library in Western Civilization p 201

[110] Amodeo

[111] Alexandria's Great Library

Library was housed in two separate places in different parts of the city[112] - the Mouseion's portion of the Library on the palace grounds and the majority of the Library in the Temple of Serapis - it seems unlikely that one fire, unless it was to engulf very nearly the entire city, could destroy the entire collection. This was not the case, as it is clear that Alexandria survived the siege largely intact. It is also important to consider that each of these locations possessed a certain eminence, and word of their destruction would have been widely recorded. This is not the case. Though widely storied, it seems that Julius Caesar is not to blame for the destruction of the Great Library of Alexandria, although it seems clear that his actions may have damaged or destroyed some of its holdings.

Chronologically, the next story of the destruction of the Great Library recounts its destruction during the Emperor Aurelian's[113] sack of Alexandria during his war with Queen Zenobia[114] in 272 CE.[115] Aurelian's troops met heavy resistance in the fight for the city.[116] During the course of the fighting, the areas of the city in which the Mouseion was located were badly damaged.[117] One report by Ammianus Marcellinus[118] recounts that the district was razed to the ground,[119] and one scholar, at least, is convinced that this is the event that destroyed the entirety of the Great Library.[120]

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[112] The Great Libraries map pp 78 - 79

[113] Aurelian ruled from 270-275 CE Zoch p 282

[114] Alexandria's Great Library. Zenobia was Queen of the Palmyrene Empire 240 - 274 CE. Stoneman p 201 - 204

[115] The History of the Library in Western Civilization p 208

[116] El-Abbadi p 158

[117] The History of the Library in Western Civilization p 208

[118] Marcellinus was a historian during the latter part of the Roman Empire. Gibbon p 295

[119] The History of the Library in Western Civilization p 208, El Abbadi p 159

[120] Canfora 195, see also Alexandria's Great Library.

Yet another story of the Great Library's destruction says that it was destroyed by religious riots in 391 CE. By this time, Christianity has been declared the official religion of the Roman Empire.[121] The holdings at the Mouseion and at the Serapeum were both on the precincts of pagan temples. While this had previously lent them a measure of protection, in the days of the Christian Roman Empire, it placed them in a certain amount of danger.[122] As one author put it, "Early Christians threatened Alexandria's scholarly culture; they viewed pagan philosophers and learning with suspicion, if not enmity".[123] In the days of the Emperor Theodosius,[124] when Alexandria was under the authority of the fanatic Bishop Theophilus,[125] their danger became critical. In 391 CE, Emperor Theodosius issued a degree sanctioning the destruction of all pagan temples in Alexandria.[126] Inspired by this decree, Theophilus lead a mob to the entrance to the Serapeum, where, reputedly, he struck the first blow against the temple.[127] His frenzied cohorts followed suit, eventually demolishing the entire Temple of Serapis.[128] When the devastation of the temple was complete, Theophilus ordered a church to be built on the site of the ruins.[129] It seems safe to assume that the collection of books housed within the Temple of Serapis would have met largely the same fate as the Serapeum itself, though there is some debate among scholars as to whether this is entirely accurate.[130]

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[121] This was done under the Emperor Constantine in 325 CE at the Council of Nicaea. Zoch p 283

[122] El-Abbadi p 160

[123] Lawler

[124] Theodosius ruled from 379-395 CE. Zoch p 283

[125] Casson p 138

[126] El-Abbadi p 161

[127] El-Abbadi p 161

[128] El-Abbadi p 161

[129] El-Abbadi p 161

[130] El-Abbadi p 161-164

However, given that Theophilus' crusade was not only against pagan temples, but also against pagan learning and ideas,[131] it seems inevitable that the Library collection, as well as the storehouses and other institutions associated with it would have been destroyed.[132] Indeed, the writings of Aphthonius seem to give support to this idea.[133] However, there are no clear references in this story to the Mouseion library. While this story accounts for the destruction of the Serapeum's library by Theophilus, the fate of the Mouseion collection is unclear.

Another story of the Great Library's destruction begins with strife between the sizeable Jewish and Christian populations of Alexandria. In 415 CE, violence broke out between the factions, and the Christian prefect of Alexandria, Cyril, directed the Jews to leave.[134] Renowned teacher, astronomer and mathematician[135] Hypatia,[136] who is often known as the last great scholar associated with the Great Library, protested.[137] Cyril ordered her execution.[138] The story recounts that she was then murdered by a mob of Cyril's followers,[139] who then sacked the Great Library and burned it to the ground.[140]

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[131] Alexandria's Great Library

[132] El-Abbadi p 167

[133] El-Abbadi p 162-163

[134] Cowell

[135] In addition to her fame as a teacher, mathematician and scientist, Hypatia was also the leader of the Neoplatonic School at Alexandria. Richeson p 79 - 80

[136] Often noted as being the daughter of "celebrated mathematician and neo-platonist" Theon, the last known member of the Mouseion, Hypatia was a celebrated scholar in her own right. Sandys p 107, The Great Libraries p 88

[137] El-Abbadi p 159

[138] Cowell

[139] Canfora p 87. Some accounts say that Hypatia was tortured and murdered by a group of Christian monks. See Lawler

[140] Cowell

It seems that whatever previous events may have occurred, there may have been some remnants of the Great Library's collection extant in Alexandria at the time of the Arab conquest. At the very least there is one story that lays the blame for the Great Library's destruction at the feet of Caliph Omar[141] during the Arabic conquest of Egypt in 639 CE.[142] Caliph Omar reputedly sent a letter to his general, Amr ibn al-'Aç, who had taken the city, a letter instructing that all the books in the Great Library, save for the works of Aristotle,[143] be destroyed. For, "if the writings of these Greeks agree with the book of God, they are useless and need not be preserved. If they disagree, they are pernicious and ought to be destroyed."[144] General Amr followed his orders and reputedly took the books to the bathhouses of Alexandria to be used as fuel for heating the water, where it is said that it took six months to burn them all.[145] However, this account must be called into question as it seems to have sprung up only in the thirteenth century[146] – more than five hundred years after the event supposedly occurred.[147]

Though it seems fitting that the destruction of so mythic an institution as the Great Library of Alexandria must have required some cataclysmic event like those described above – and while some of them certainly took their toll on the Library - in reality, the fortunes of the Great Library waxed and waned with those of Alexandria

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[141] Caliph Omar (Umar) ruled from 634 -644 CE. Akbar, pp 22,34, 232

[142] Alexandria's Great Library

[143] The History of the Library in Western Civilization p 215

[144] Alexandria's Great Library, The Great Libraries p 80

[145] The Great Libraries p 80

[146] That this story seems to have originated in the twelfth century was highly convenient timing for the crusaders of Europe, and a time in which many were spreading anti-Muslim propaganda. El-Abbadi p 172

[147] El-Abbadi p 167-168

itself.[148] Much of its downfall was gradual, often bureaucratic, and by comparison to our cultural imaginings, somewhat petty. For example, the Roman Emperor Marcus Aurelius Antoninus[149] suspended the revenues of the Mouseion, abolishing the members' stipends and expelling all foreign scholars.[150] Alexandria was also the site of numerous persecutions and military actions,[151] which, though few were reported to have done any great harm to the Mouseion or the Serapeum, could not help but have damaged them. At the very least, what institution could hope to attract and keep scholars of the first eminence when its city was continually the site of battle and strife?

Section II: Defining Characteristics of a Library

> "A library," I said, "may consist of six volumes, or it may contain six thousand; but any number of books brought together in one place, no more, of itself, constitutes a library than a pile of bricks can be called a house....Books are simply the material from which the library is fashioned.... Now a library is a structure, like a work of architecture, a composition, like a drama or a piece of music; like them it is the intelligible, conscious, and disciplined expression, in a concrete and disciplined expression of an idea."[152]

When researching the ways in which professionals have sought to define the term "library", the researcher cannot help but observe the truthfulness of an observation made in 1914, "Many answers have been given to this question: What is a library?"[153]

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[148] MacLeod p 9

[149] Better known by his nickname, Caracalla, he murdered his brother in 212 CE for sole control of the throne they inherited from their father in 211 CE. He was murdered in 217 CE. Zoch p 281

[150] El-Abbadi p 158

[151] El-Abbadi pp 157-158

[152] Holliday p 195-197

[153] Richardson p15

Answers to this question vary according to the time and place in which they were given, but there is a common thread that binds them all together; each defines a library as being something more than a collection of materials. The following are representative of the many definitions of the concept of a library generated by the world of library and information science.

One definition dating from 1915 asks and answers the question thusly, "What is a library? Not merely a collection of books, but a storehouse of information, a place to find reading for amusement or instruction."[154] This description goes on to note that the arrangement of materials and the presence of finding aids such as a catalog are functional components of a library. A more modern definition proclaims that, “the library is, at root, a collection of information selected for use of, and made useable for, a particular community”.[155] A definition by Dr. Christine L. Borgman, a noted scholar in the field of library and information science, says that, “Librarians tend to take a broad view of the concept of a library. In general terms, they see libraries that select, collect, organize, conserve, preserve and provide access to information on behalf of a community of users”.[156]

Examining these various representative definitions, we discover that each defines “library” in a way that implicitly or explicitly requires certain characteristics. The list that follows sets forth the characteristics that distinguish a true library from what is merely a collection of books.

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[154] Lewis

[155] Keller, et al

[156] Borgman p38

- First of all, each of the above definitions overtly mentions a “collection” the selection of information, or, in the case of the last definition, states that libraries are institutions that select and collect materials. The concept of “collection” implies that a library has a means of obtaining and keeping library materials.

- The second concept is that of organization. The first definition states that users “find” materials, and notes that materials are arranged, and finding aids provided to this end. The second definition states that the collected information is “made usable”, and the Borgman definition states outright that a library is an institution that organizes the information in its care. The characteristic of “organization” requires, at the very least, a means for those who run the library- and possibly those who use the library - to know what the library does and does not have. Moreover, it also implies the possibility of a teachable principle for the physical placement, location and status of materials.

- A collection of organized materials needs space in which to reside. This implicates the next characteristic, “maintenance”. The 1915 definition refers to “a place”. This definition dates from well before virtual spaces such as websites were current in the professional or popular parlance, so while the author was clearly envisioning a physical space, the evolution of technology and its effect on library science would countenance a virtual space as well. The second definition refers to maintenance only by

implication. Not only must the information be "made usable", which implies that the information is maintained in a usable state, but the concept of "a collection of information" implies that there is some type of locus of that collection – that it is, in some sense, gathered; and that the gathered material is maintained in some kind of space (virtual or physical). Borgman's definition refers to the conservation and preservation of materials. Not only must materials be gathered, but they must also be maintained. When damaged, materials need to be repaired or replaced.

- The last characteristic is the most vital because it is the motivation for including all of the other characteristics. This characteristic is that the library exists to serve a patron group. The 1915 definition alludes to the presence of patrons when it says that the library is "a place to find reading". Both "find" and "reading" are verbs cast in the active voice – the sentence is constructed so that there is an actor performing this task. Though the actor is never directly named, the definition clearly alludes to the fact that someone is doing both the finding and the reading. Both other definitions are more direct in their requirements for a patron group. The second definition notes that the library exists for the use of "a particular community". The Borgman definition states that the library engages in various activities "on behalf of a community of users". This characteristic informs all of the other characteristics.

Each individual patron group will have a different set of information needs and desires. Librarians must remain cognizant of the needs and wishes of their patron group so as to collect materials that are relevant and of interest to their patrons, both in terms of subject matter, but also in terms of format. For example, collecting materials in a language that the patron group does not speak, or in a format irrelevant to them (such as collecting audio books for a patron group consisting exclusively of people who are hearing impaired) would be a poor collection strategy (to say the least). The requirements of the patron group will dictate what materials are pursued for inclusion in the collection, and which are deemed to be of a lesser priority. Second, in order to use the collection, patrons will need to know what can be obtained at the library, and what must be sought elsewhere. This means that the organization of a library must be constructed with the idea of utility to a particular user group. Third, materials that are used will inevitably show signs of wear. In order to prolong the duration of time that these materials will be useful to the patron group, they must be maintained. Moreover, the materials must be housed in such a way that they are in some way accessible to the patron group. Stacks may be open or closed, but a patron must have a way to locate and use the materials in the collection. Housing the materials in such a way that they are inaccessible - for example, by physically constructing or situating the collection it so that patrons have a prohibitively difficult time accessing it, or by keeping the collection a secret so that patrons do not know that it is available for their use – would effectively render a collection pointless. Thus the characteristics of the patron group will at least partially dictate the manner in which the collection is maintained.

Application to Alexandria

We refer to the institution in Alexandria as a Great Library, and it has most assuredly taken on proportions of greatness in our collective consciousness. But is it, strictly speaking, a library, or just an agglomeration of documents (albeit an extremely historically and culturally important one)? This section of the paper contends that the Great Library is, in fact, a library because it not only collected, organized and maintained materials, but that it did these things for the benefit and use of a group of people.

Collection

Modern libraries refer to their acquisition of materials as Collection Development. The term denotes a process of obtaining materials according to a certain sense of priorities. In addition, the Great Library had a set of policies, goals, and procedures for doing so. This is what modern librarians would term a "collection development policy", which will be summarized and evaluated here along with the historical accounts of how the Ptolemies actually went about obtaining materials for the Great Library.

The early Ptolemies seemed determined to follow Alexander the Great's plans to create a universal library. The very fact that they defined their institution as a "universal" library immediately gives modern readers a sense of the scope and priorities the Ptolemies had for their institution; they wanted everything.[157] They conceived of their institution as one in which all written works could be found and accessed, a kind of repository for the accumulated knowledge of the human race. While modern librarians may smile, knowingly, at the (even then) impossible task the Ptolemies set for the Great

[157] El-Abbadi p 95, Blum p 102

Library and those who served it, it is still a statement of goals and priorities for obtaining materials, what modern librarians would term a 'collection development policy'.

The Ptolemies not only had a collection development policy, they put it into practice. They added materials to their collection by theft, by coercion, by force, and by actually buying them. There are countless stories that illustrate episodes of the Ptolemies' collection development, such as the 'borrowing' of texts from Athens and returning only copies.[158] The Ptolemies also acquired books through outright plunder. It is widely reported that upon entering the Alexandrian harbor, ships were inspected, and any books they were carrying were seized. A copy was made and given to the owner, but the original was kept for the Great Library.[159] Another story accounts for how ambassadors from the Great Library coerced the sale of valuable original manuscripts owned by Athens in exchange for food during a famine.[160] The Ptolemies also sent people to seek out and buy books.[161] Because older versions were preferred to newer copies (older versions were thought to be more authentic and less likely to contain mistakes), a miniature industry sprung up that manufactured "old" texts.[162]

Because the Ptolemies had a concept of policies, goals, and procedures for obtaining materials, then actually set that concept into practical motion and obtained materials for their Great Library, it seems indisputable that the Great Library of Alexandria demonstrates the characteristic of "collection".

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[158] The Great Libraries p 70

[159] Thompson p 23

[160] Cowell

[161] Canfora p 88

[162] The Great Libraries p 70

Organization

The principle of organization is indispensable to differentiating a group of books from a library. It provides a means both for those who run a library and those that use the library to know what the library does and does not have. Moreover, it also implies a useable principle for the physical placement, location, and status of materials. The Great Library not only had such a principle, the names of those who created the principle are known to history. They are Zenodotus and Callimachus of Cyrene.[163]

The sheer size of the Great Library posed a problem. How could scholars navigate this vast collection in order to use it in any sort of efficient way? Aristotle's influence over the Great Library might have been helpful, in that Aristotle is often credited as the first great taxonomist.[164] But while the Great Library may have had a conceptual 'leg up', so to speak, when it came to organization, this would not have been useful unless it were applied in some fashion.

The solution to this problem was the creation of a principle according to which the holdings of the Great Library would be ordered. Zenodotus, the Great Library's first librarian, introduced a rudimentary organization system whereby texts were assigned to

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[163] Casson p 38. While it has been suggested that an assistant to Callimachus named Hermippus was the actual author of the *pinakes*, authorship is generally attributes to Callimachus. This article will continue that practice. Norris p5

[164] While some believe that he relied heavily on the work of earlier scholars and folk taxonomies in his work, his taxonomic contribution was by no means a small one. He clarified and enunciated the folk taxonomies that were extant at the time of his work. His taxonomic approach categorized not only living things, but abstract thoughts as well. Aristotle's comprehensive approach was both systematic and cohesive. As one author notes, "In his categories, Aristotle enumerated a comprehensive set of classes and subclasses"; the same basic structure of organization that libraries use in modern cataloging systems. Wright p 68, 69

different rooms based on their subject matter.[165] Zenodotus first inventoried the Library's holdings,[166] which he then organized into three major categories. The first category included history books, edited and standardized literary works, and new works of Ptolemaic literature. The second included holdings used for comparison and in the creation of the standardized works mentioned above. Included in this category were also letters and maps. The third group comprised original writings in foreign languages, many of which had been translated into Greek, and which, in translation were included in the first group.[167] Within each of these divisions, Zenodotus organized the works alphabetically by the first letter of the name of their author.[168] The principle of alphabetic organization, so unremarkable in modern days, was introduced by Zenodotus.[169]

In addition, library staff under Zenodotus attached a small dangling tag to the end of each scroll,[170] which contained information on each work's author, title, and subject[171] so that materials could be easily returned to the area in which they had been classified, but also so that library users did not have to unroll each scroll in order to see what it contained.[172] Obvious and unimpressive though it may seem to those accustomed to modern libraries, this was the first recorded use of metadata, a landmark in library history.

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[165] Wright p 73

[166] Blum p 229

[167] Casson p 37

[168] Casson p 37

[169] Casson p 37

[170] Referred to as *sillyboi* The Great Libraries p 68

[171] Wright p 73

[172] Eliot p 86

Zenodotus' "subject/room" and alphabetization methods were a beginning, but as the collection grew, they became less and less effective. A more efficient system of organization was needed. So while Zenodotus made a good start at organizing the Great Library, in order to complete it, "one needed a scholar of encyclopedic knowledge and erudition as well as of infinite energy. Such a person was found in Callimachus.[173] Zenodotus' methods overlaid an ordering principle on the entire collection of the Great Library. While Callimachus did not deal with the entire collection, his work imposed a more specific order on the first, most heavily used and largest of Zenodotus' divisions. Callimachus divided this collection according to what were generally agreed at the time to be the main realms of literature.[174] Then within each of these divisions, he shelved all the authors in alphabetical order by the first letter of their name under their genres. Certain authors, of course, would be located under multiple genres. (Zenodotus had not physically placed them with such specificity).[175]

This took care of the shelving principle, but Callimachus went a step further. As a finding aid, Callimachus produced the *pinakes*,"[176] or "Tables of Persons Eminent in Every Branch of Learning Together With a List of Their Writings"[177] While the entire one hundred twenty scrolls[178] of the *pinakes* have not survived to this day, the pieces of it that have survived allow scholars to study it.[179] This was one of the first known

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[173] In spite of his revolutionary bibliographic innovations, Callimachus was never one of the official librarians of the Great Library. See Krevans p 173

[174] The Great Libraries p 67

[175] The Great Libraries p 67

[176] El-Abbadi p 101

[177] Wright p 73

[178] Cowell

[179] El-Abbadi p 102.

documents that lists, identifies, and categorizes a library's holdings.[180] Within the *pinakes*, Callimachus listed works alphabetically by author and genre. He did what modern librarians would call "adding metadata" -- writing a short biographical note on each author, which prefaced that author's entry within his catalogue.[181] This helped avoid confusion in the works of authors with similar or identical names, but separating works of the original author and works of namesakes was often extremely difficult.[182] In addition, Callimachus noted the first words of the work, and the total number of lines in the document.[183] Later librarians were to make marginal notations in the *pinakes*, which provided even more information on the nature of the catalogued document.[184]

By consulting the *pinakes*, a library patron could find out if the library contained a work by a particular author, how it was categorized, and where it might be found.[185] The *pinakes* covered holdings in the Serapeum as well as the main Mouseion library.[186] It is important to note that Callimachus did not seem to have any models for his *pinakes*, and invented this system on his own.[187]

While the *pinakes* is very similar to what modern librarians would refer to as a library catalogue, it did not cover the entirety of the holdings of the Great Library. It dealt only with the largest and most often used portion of the collection. However, Zenodotus' organizational principle did cover the entire Library. And while his principle

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[180] In addition to the *pinakes*, Callimachus compiled a number of other similar "lists" on specialized topics. Witty p 237

[181] The Great Libraries p 67, Blum p 233

[182] Wellisch pp 231-233

[183] The Great Libraries p 68, Wellisch p 234

[184] The Great Libraries p 68

[185] Wright p 74

[186] El Abbadi pp 101-102

[187] Blum p 236

may seem rudimentary to modern eyes, it did provide a means to know what the library owned, and, by inference, what it did not own. It also allowed the users and staff of the Great Library to know, in general terms, where a certain document might be found. While basic, Zenodotus' organization does satisfy the basic requirements of organization, so it seems clear that the Great Library exhibited this characteristic of libraries. That Callimachus took this idea further only emphasizes the fact that the Great Library was an organized library.

Maintenance

The maintenance of a collection is an indispensable part of the workings of a library. Materials must be physically housed, but they must also be physically maintained. When damaged, materials need to be repaired or replaced. The maintenance is not only of the materials themselves, but there must also be a person or mechanism that maintains the cohesion and implementation of the organizational principle.

Physically, the Great Library was housed in two places -- at the Mouseion and at the Serapeum, both civil edifices of stature and importance. The details of each location are described above. But the Great Library did not only have physical locations, it had appointed caretakers as well. These were the directors of the Library.[188] Initially, Ptolemy Soter wanted Theophrastus to be the first director of the library.[189] However Theophrastus declined the honor,[190] and Zenodotus is regarded as the first director of

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[188] The term used was *Bibliophylax*, a term usually translated to mean 'keeper of archives' El-Abbadi 92

[189] The Great Libraries p 62

[190] The History of the Library in Western Civilization p 166

the Great Library.[191] The Director was appointed by the royal court and was also often tutor to the royal children.[192] He was in charge of the library, its maintenance, growth and staff.[193] In addition to his secular duties, the Director held a priestly position, which is perhaps a holdover from Egyptian traditions.[194] Given that an early Greek mouseion was also a religious establishment,[195] this duty seems to have held a felicitous cultural synchronism for the Ptolemies. In later times the Director was appointed directly by the Roman Emperor,[196] but the duties of the position remained largely the same. There are no agreed upon chronologies of the directorship, but it is clear that this was an ongoing appointment, with one director succeeding another.[197]

Since it had both a physical facility and a post charged with the care of that facility and the contents therein, it is seems evident that the Great Library also exhibited the characteristic of 'maintenance'.

Patron Group

The last, and perhaps most important characteristic of a library is that it exists for the use of a patron group. This means that the library has a group of users, who are the intended users of the library's services and materials. One patron group of the Great Library is evident from its physical location. The Mouseion Library was somewhat

[191] Casson p 37

[192] Casson p 38

[193] Casson pp 37-38

[194] The Great Libraries p 62

[195] Casson p 33

[196] El-Abbadi p 90

[197] El-Abbadi pp 93, 94

analogous to our modern academic libraries. The portion of the library housed within the Mouseion was intended for the use of the scholars associated with the Mouseion.[198]

But there was another part of the Great Library, housed in the Serapeum, which was not on the grounds of the Mouseion. What was the patron group of this component of the Library? Upon examining the nature of the Serapeum's holdings, we find a clue to the patrons it served. While the Serapeum held a number of scrolls, the collection of this 'daughter library',[199] as it was often called, held only copies of other works held within the Mouseion's library.[200] In addition, the Temple of Serapis was a public building – fundamentally open to all members of the public. One scholar notes plainly that, "[u]nlike the royal libraries that preceded it, the Alexandria library was open to the public."[201] Literate Alexandrians, then, were the intended user group of the Serapeum library.[202] As strange as it is to think of a public library existing within the Hellenic era, that is what the Serapeum was.[203] And as such, it had a user group defined very similarly to many public libraries in the in the western world today. It served all literate people who could physically access the precincts of the library. The Great Library, then, had two intended user groups that were served by the two different facilities that housed the collection. On this basis, it seems clear that the Great Library exhibited this characteristic of a library as well.

On the basis of the above discussion, we can now say that the Great Library exhibits all the characteristics of a library. It had a collection which was organized and

[198] The History of the Library in Western Civilization p 168

[199] The History of the Library in Western Civilization p 174

[200] Canfora p 63

[201] Wright p 70

[202] Canfora p 81

[203] The History of the Library in Western Civilization p 176

maintained, for the use of a defined group (or groups) of people. These are the characteristics that distinguish a true library from what is merely a collection of books, and the Great Library exhibits them all.

Conclusion

The great library of Alexandria was not one of the Seven Wonders of the Ancient World but it was a wondrous achievement. This paper began by asking if the great library, using an established definition, a true library. It first examined the founding and history of the library, as well as its purpose and scholarship, then went on to explore stories of its destruction as well as various legends about the library. It then examined the Great Library according to the criteria of collection, organization, maintenance, and user group. This paper concludes that, exhibiting all the necessary characteristics, the Great Library of Alexandria fits the established definition of library. And though the Great Library had clear historical predecessors, it was a remarkable achievement borne out of a bold vision.

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