Alexandria Antiqua

A Topographical Catalogue and Reconstruction

Amr Abdo

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Cover:

Front cover illustration
Background: Alexandria in a 5th-century AD mosaic from Σέπφωρις (Sepphoris, Galilee)
Insets: AutoCAD extracts
Strabo (1st century BC)
Gratien Le Père (1769-1826)
Mahmoud el-Falaki (1815-85)

He (Ptolemy Lagides) made his residence, 'the Fortress of the King of Upper and Lower Egypt, [Meri-Amun, Setep-en-Re]: Beloved of the Ka-Spirit of Amun, Chosen of Re, Son of Re, Alexandros' – a priestly epithet for the city of Alexandria – on the shore of the great green sea of the Hau-Nebu (the Mediterranean); (it was) formerly called Râ-Kedet (Rhakotis).

Excerpt from the Satrap Stela (311 BC)

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Preface

Amr Abdo, the author of this book, represents a new generation of Egyptian scholars blooming in the context of the revived interest in Alexandria's ancient heritage. The period between 1990 and 2010 witnessed impressive archaeological discoveries, both terrestrial and underwater, contemporary with the re-establishment of the Library of Alexandria in its home city. Stimulated by such an enthusiastic atmosphere, Abdo would find his way to Alexandria upon the completion of his undergraduate 'journey' in the Mediterranean. Hence, in 2013, he attended the postgraduate programme in the Alexandria Centre for Hellenistic Studies, an academic research unit of the revived Bibliotheca Alexandrina. Since then, the topography of ancient Alexandria has been the course of study that apparently stroke the attention of Abdo, who, as many before him, found inspiration in the cultural eclecticism intrinsic to the Alexandrian cosmopolis in antiquity, where the millenary urban fabric bears traces of coexistence and interplay between various traditions and their demographic representatives, mainly Greeks and Egyptians. He would be further intrigued by the fact that this Graeco-Egyptian model of cultural symbiosis expands beyond antiquity. Indeed, in the first half of the 19th century, Mohamed Ali Pasha, the Ottoman *wāli* of Egypt, would create the right conditions for the Greeks to return by thousands to the city founded by their ancestors and to subsequently contribute to the transfiguration of Alexandria into a modern metropolis.

The revival of Alexandria, however, would ironically signify the gradual burial of her ancient remnants under the concrete foundations of the modern city. Archaeological investigation and documentation in the past couple of centuries had thus taken place under the most adverse conditions with the continuous growth of an ever-developing town. In a context as such, a topographic reconstruction of the ancient city has become a foremost challenge confronting those studying Alexandrian urbanism in antiquity. As a matter of fact, it could have been a nearly lost case by the time the local archaeological institutions were established, in the 1890s, had it not been for the critical works of two forerunners of Alexandrian studies, namely the Egyptian civil engineer Mahmoud el-Falaki (1815-85) and the Greek physician and epigraphist Tassos Demetrios Neroutsos (1826-92). Mahmoud el-Falaki provided the first reliable reconstruction of the grid plan of ancient Alexandria. Whereas Tassos Neroutsos, the father of modern Alexandrian scholarship, led the systematic documentation and publication of antiquities that were still visible in his time, providing a critical supplement to el-Falaki's cartographic repertoire. The significance of their contribution to the field of Alexandrian studies is emphasized by the fact that almost all subsequent research were to be based on the work of these two pioneering figures.

As a classical archaeologist, Amr Abdo may well have drawn inspiration from earlier scholars such as el-Falaki and Neroutsos, following their paradigm in the course of his doctoral research at the Universitat Autònoma de Barcelona (Catalonia). This monograph comprises the outstanding outcome of a backbreaking scholarly inquiry into the topography of ancient Alexandria, aiming at tackling the ever-growing need for an exhaustive, up-to-date catalogue of the city's archaeological heritage, complemented with a reconstruction of its topographical constituents through a millenary range of occupation. Not many would have had the courage, the persistence, and the knowledge, after all, to materialize such a demanding project, tracing evidence spanning over 220 years of continuous archaeological discoveries. Amr Abdo approached this multifaceted task through a thorough investigation not only of what is still visible but also of what is not discernible anymore and survives merely in archaeological reports, publications, and other references scattered in the 'ocean' of Alexandrian bibliography.

There is no doubt to my mind that the new topographical catalogue and reconstruction of ancient Alexandria, presented here by Amr Abdo, will accompany all current and future readers of Alexandrian archaeology – including his once tutor – providing a comprehensive, accurate, and most reliable resource.

Kyriakos Savvopoulos
Research fellow and tutor at the Faculty of Classics,
University of Oxford (UK)
March 2021

Introduction

I. Theoretical Framework

The Hellenistic period is marked by a shift in urban culture away from the Classical ideals of the Greek city-states (πόλεις). Certain uniform institutions and infrastructural norms are attested throughout the annexed lands of the Hellenised East. Concurrent changes in the urban landscape seem to have been fostered by the socio-political developments occurring in the course of the second half of the 4th century BC (Owens 1992: 74). At the time, scores of new cities were founded or remodelled on the orthogonal pattern in consequence of a rapid expansion of Macedonian colonialism eastwards, from Asia Minor to the trans-Tigris regions of Media and Bactria, through the Levantine coast, Egypt, and Mesopotamia (Chamoux 2002: 12-30). Besides their principal role as focal points for international trade and metropolitan disseminators of the Hellenic culture, the founded cosmopoleis served as administrative centres in securing the political unity of the newly established kingdoms of the Διάδοχοι, i.e. the rival successors of Alexander the Great (Wycherley 1951: 178). The physical and cultural sophistication of urban development within the Hellenistic inhabited world (οἰκουμένη) thus hints at far more intricate intercity-mercantile relations between increasingly globalized societies. A cosmopolitan commercialism as such is well manifested in the eventual dominance of a Hellenistic common dialect (κοινή) over local (Ionic, Aeolic, Doric, etc.) dialect forms of the 5th-century BC Classical πόλεις (Billows 2005: 196). In this context, the capital of Graeco-Roman Egypt, Alexandria, exemplifies one such prototype of a series of Hellenised urban hubs established across the Macedonian-controlled Afro-Asiatic East.

American geographer Carl Ortwin Sauer (1889-1975) maintains: 'the works of man express themselves in the cultural landscape. There may be a succession of these landscapes with a succession of cultures. They are derived in each case from the natural landscape, man expressing his place in nature as a distinct agent of modification. Of especial significance is that climax of culture which we call civilization' (Sauer 1925: 307). Accordingly, cultural landscapes are subject to change either by the development of a culture or by a replacement of cultures. In studying such interrelationship between natural landscapes and cultural groups, the grandiose cosmopolis of Graeco-Roman Egypt offers a case in point of the ways in which the topographical components of alien (foreign or colonial) civic life, religious practices, and funerary rites are on display in concurrence with the indigenous tradition, hence the attempt to piece together the fragmentary material evidence towards a clearer view of the city in antiquity.

II. History of Research

a) Earlier Maps of the Renaissance

One of the Renaissance earlier surviving scenes of Alexandria is the 15th-century 'Veduta d'Alessandria' by French copyist Hugues Commineau de Mézières aka Ugo Comminelli de Maceriis (Figure 1) (Bibliotheca Apostolica Vaticana, Codice Urbinate Latino 277: 'Cosmografia di Claudio Tolomeo' – date of issue: January 5th, 1472). A c. 16th-century derivative of Commineau's 'Veduta d'Alessandria', drafted before 1605 by Álvaro de Bazán, Marqués de Santa Cruz, is deposited today at the Archivo General de Simancas in Valladolid, Spain (Figure 2) (Machinek 2018: 9, Footnote 80; Tzalas 2000: 27-28, Figure 5; 2018: 27, Figure 22). Back in 1493, a picturesque view of the late mediaeval town appeared in *Liber Chronicarum*, a book edited by German physician and historian Hartmann Schedel (Figure 3) (Schedel 1493: LXXVIII). In 1521, following the Ottoman conquest of Egypt (1516-17), the cartographic catalogue of the geographer and navigator Ahmet Muhittin Piri aka Piri Reis, *Kitāb-ı Baḥrīye*, featured a portolan chart showing the Mediterranean port of the recently annexed *eyālet*: Egypt as an Ottoman governorate (Figures 4-5) (Bacqué-Grammont and Tuchscherer 2013: 45, Figure 1; Piri 1525: 295). During his voyages to the Orient (1546-49), in 1548, French traveller and naturalist Pierre Belon du Mans produced a 'Vray Portraict de la Ville d'Alexandrie en Egypte', which was published in *Les Observations de Plusieurs Singularitez et Choses Mémorables Trouvées en Grèce, Asie, Judée, Égypte, Arabie et Autres Pays Estranges* (Figure 6) (Belon 1553: 206). At least three derivatives of Belon's *carte* were released subsequently: (i) *Civitates Orbis Terrarum*, an illustrative volume edited by Georg Braun and lavishly engraved by Frans Hogenberg (Figure 7) (Braun and Hogenberg 1575: 56); (ii) Johann Helffrich's travelogue *Kurtzer & Warhafftiger Bericht von der Reis Aus Venedig Nach Hierusalem, von Dannen in Aegypten, Auff den Berg Sinai, und Folgends Widerumb Gen Venedig* (Figure 8) (visit to Alexandria: c. 1565-66; Helffrich 1582); (iii) *Naukeurige Beschrijvinge der Afrikaensche*

Gewesten, an ethnographic survey of Africa compiled by Dutch physician and historian Olfert Dapper (Figure 9) (Dapper 1668: 74-75). Preceding the Belon derivatives, in 1570, Flemish geographer and cartographer Abraham Ortelius included 'Aegyptus Antiqua', with an inset map of Alexandria, in *Theatrum Orbis Terrarum* (Figure 10) (Ortelius 1587: 107). Later, towards the end of the 17th century, four *cartes* were made for King Louis XIV: first by Étienne Gravier (Marquis d'Ortières; Gravier 1685-87) and Joseph Razaud (Ingénieur du Roy – 1687; Jondet 1921: Planche VIII), then by Christian Melchien (Pilotte Entretenu de Sa Majesté à Toulon – 1699; Jondet 1921: Planche IX) and Antoine Massy (Pilotte des Galères de Sa Majesté – 1699; Jondet 1921: Planche X) (Figures 11-14).

b) The Eighteenth Century

Early in the 18th century, another French *carte* was issued by Marquese de la Garde in 1713 (Figure 15) (Jondet 1921: Planche XI). An earlier attempt to illustrate the ancient city was made by Pierre-Nicolas Bonamy, the prominent French historian (1694-1770), as part of his 'Description de la Ville d'Alexandrie, Telle Qu'elle Estoit du Temps de Strabon': an article written around 1731 and published later in Tome IX of *Histoire de l'Academie des Inscriptions et Belles-Lettres* (Figure 16) (Bonamy 1736: 416-431). In 1755, the Royal Danish Academy of Sciences and Letters, by order of King Frederick V of Denmark, released a first edition of Frederick Ludwig Norden's *Voyage d'Égypte et de Nubie*, with two maps of the city in attachment. Both maps were republished in Tome Première of the Nouvelle Édition of 1795 (Figures 17-18) (visit to Alexandria: June 1737; Norden 1795: Planches I-II). The latter is preceded by Richard Pococke's anthropological account *A Description of the East, and Some Other Countries* of which volume I (Observations on Egypt) features a plan of the city (Figure 19) (visit to Alexandria: September-October 1737; Pocock 1743: Plate II). A derivative of the Gravier-Razaud maps along with another showing Alexandria's environs (the coastline, lakes Edku, el-Maadiya, and Mareotis, Abu Qir Bay, and the Rosetta Nilotic outlet) complement Jacques-Nicolas Bellin's Tome III of *Le Petit Atlas Maritime: Recueil de Cartes et Plans des Quatre Parties du Monde* (Figures 20-21) (Bellin 1764: Planches 85-86). In the same year, 1764, Joseph Roux (Hidrographe du Roy à Marseille) released the so-called 'Alexandrie Barbarie' together with an atlas of 121 harbour plans published under the title *Recueil des Principaux Plans des Ports et Rades de la Mer Mediterrane* (Figure 22) (an extended edition with 163 harbour plans dates to 1804; Roux 1804: Planche 65). Another French cartographer, Jean-Baptiste Bourguignon d'Anville, was, in turn, influenced by the Gravier-Razaud maps, as evident in his version of Alexandria in *Mémoires Sur l'Égypte Ancienne et Moderne* (Figure 23) (Bourguignon d'Anville 1766: 53). In 1785, the landscape-painter Louis-François Cassas created a view of the city during his visit to Egypt. It was published later in volume III of *Voyage Pittoresque de la Syrie, de la Phénicie, de la Palestine, et de la Basse Égypte* (Figure 24) (Cassas 1799: Planche 47).

c) Bonaparte and Mohamed Ali

As the case with the Italian Renaissance in Europe, the landing of the French expeditionary forces in Egypt on July 1st, 1798, marks another turning point in mapping the city of Alexandria. Three *cartes* were produced by the engineers accompanying Bonaparte's Armée d'Orient: (a) 'Alexandrie', a regional view of the city and its environs (Figure 25) (*Description de l'Égypte*. Imperial Edition 1809-22. Carte Topographique de l'Égypt, 1818: Flle 37), (b) 'Carte Générale des Côte, Rades, Ports, Ville et Environs d'Alexandrie' (Figure 26) (*Description de l'Égypte*. Imperial Edition 1809-22. Antiquities V, Planches, 1822: Planche 31), and (c) 'Plan Général des Deux Ports, de la Ville Moderne, et de la Ville des Arabes' (Figure 27) (*Description de l'Égypte*. Imperial Edition 1809-22. Etat Moderne II, Planches, 1817: Planche 84). The three maps are published in the 19th-century enterprise entitled *Description de l'Égypte* (Imperial Edition: 1809-22; Panckoucke Edition: 1821-29), where they are listed as 'Flle 37' (Carte Topographique de l'Égypt, 1818), 'Planche 31' (Antiquities V, Planches, 1822), and 'Planche 84' (Etat Moderne II, Planches, 1817) respectively. At the time of the expedition, wide-scale scientific studies of the ancient and modern city were undertaken by Gratien Le Père (Ingénieur en Chef au Corps Royal des Ponts et Chaussées; 'Mémoire Sur la Ville d'Alexandrie', 1813, Etat Moderne II, IIe Partie) and Alexandre de Saint-Genis (Ingénieur en Chef des Ponts et Chaussées; 'Description des Antiquités d'Alexandrie et de Ses Environs', 1818, Antiquités II, Descriptions). Shortly after, in 1802, Pierre-Jean-Baptiste aka Publicola Chaussard's Tome Première of *Histoire des Expéditions d'Alexandre, par Flave Arrien de Nicomédie* featured a 'Plan Comparative d'Alexandrie Ancienne, Moderne et du Temps des Arabes' (Figure 28) (Chaussard 1802: Planche VI).

Following the British victory in the Battle of Alexandria (1801), a map was published with supplementary narratives by Captain Thomas Walsh in the *Journal of the Late Campaign in Egypt* (Figure 29) (Walsh 1803: Plate 24). Henry Salt, the British Consul General in Alexandria, then carried out a geometric survey of the city around 1806. The results were plotted and later released in volume III of George Viscount Valentia's *Voyages and Travels to India, Ceylon, the Red Sea, Abyssinia, and Egypt, in the Years 1802-1806* (Figure 30) (Valentia 1809: Plate III).

In consequence of a rapid urban and demographic growth towards the end of Mohamed Ali's lengthy rule as *wāli* (Ottoman governor: 1805-48), several contemporary maps began to display the expansion of

the Ottoman village, built earlier in the 16th century on a silted-up isthmus, back into the enclosure of the mediaeval town. The Arab walls were erected in the 9th century (267 Hijri, AD 881) by order of Ahmed ibn Tulun – restoration works: the Fatimid caliph el-Mustansir Billah (11th century); the Burji Mamluk el-Sultan el-Ashraf Qaitbay (15th century); Caffarelli du Falga, L'Expédition Française d'Égypte (1798-1801); Barthélémy Gallice (19th century) (De Vaujany 1888: 79-80). An urban expansion southwards is, therefore, seen in the charts of (1) Captain William Henry Smyth, R.N. (the Hydrographical Office of the Admiralty – 1825, 1833; Jondet 1921: Planche XXXI; Wilkinson 1843: 120), (2) Le Saulnier de Vauhello (1834; Jondet 1916: Planche I), (3) Lieutenant-Colonel E. Napier, R.N. (1841; Jondet 1921: Planche XXXIII), (4) Barthélémy Gallice (1845; Bibliothèque Nationale de France – Gallica), and (5) Charles Müller (1855 – issued under *Wāli* Saīd Pasha; Jondet 1921: Planche XXXV) (Figures 31-36).

d) The Maps of el-Falaki

Our knowledge of the topography of ancient Alexandria owes a great deal to the pioneer work of Mahmoud Pasha el-Falaki, whose recordings back in the 19th century had saved the last chance for attaining a rather coherent understanding of the city's ancient layout, which would have otherwise vanished in such oblivion of modern urbanization. His cartographic repertoire provides the basis upon which archaeological investigation strives today to piece together the fragmentary material evidence towards a relatively clear picture of Alexandria in antiquity. Perhaps Napoleon III (presidency: 1848-52, reign: 1852-70) should be as much credited (Kiepert 1872: 338-339). Indeed, el-Falaki's investigations were instigated by the literary ambitions of the French emperor in writing a biography of Julius Caesar: *Histoire de Jules César* (Tome Première: 1865, Tome Deuxième: 1866).

Hence, in need of a map displaying the urban layout of ancient Alexandria, Napoleon III turned to his friend Ismaīl Pasha, then Khedive (Ottoman viceroy) of Egypt (1863-79). In turn, the task was given to the khedivial court-astronomer Mahmoud Bey Hamdy, known by the title 'el-Falaki', which literary means 'the astronomer' in Arabic. Mahmoud Pasha el-Falaki (1815-85) was, in fact, a local engineer who held the traditional epithet for a scientist/technician operating in a 19th-century Ottoman court. The French-educated cartographer, an *alumnus* of Ecole des Artes et Metries in Paris, carried out a strenuous survey work around 1863-66. The outcome is a corpus of three maps published with supplementary text in *Mémoire Sur l'Antique Alexandrie: Ses Faubourgs et Environs Découverts, par les Fouilles, Sondages, Nivellements et Autres Recherches* (Mahmoud-Bey 1872). In addition to his 'Carte de l'Antique Alexandrie et des Ses Faubourgs' (1866) (Figure 37), there is one of the 19th-century contemporary town, 'Carte d'Alexandrie en 1865' (1871) (Figure 38), and another of its environs, 'Carte des Environs d'Alexandrie' (1866) (Figure 39). Relevant to the current topographical study would be the first *carte*: a contour map showing the circuit walls and street grid of ancient Alexandria along with some of its principal edifices as known primarily from classical literary sources. In 1872, German cartographer Heinrich Kiepert reproduced el-Falaki's map of the ancient city, under the title 'Plan der Alten Stadt Alexandria', to be published in volume VII of *Zeitschrift der Gesellschaft für Erdkunde zu Berlin*, which includes a concise contribution by Kiepert entitled 'Zur Topographie des Alten Alexandria. Nach Mahmud Beg's Entdeckungen' (Figure 40) (Kiepert 1872: Tafel V).

e) The Late Nineteenth Century

Urban expansion towards the south is on display in the maps of J. Millie (1867-68) (Jondet 1921: Planche XXXIX) and Commander A.L. Mansell, R.N. (1869) (De Bellefonds 1872-73: Planche VIII[b]), where modern constructions cover progressively the Tulunid enclosure of the mediaeval town (Figures 41-42). The British bombardment of the city on July 11th, 1882, is documented in Tome XX of *Revue d'Artillerie Française* (Figure 43) (Jondet 1921: Planche XLIV). In *Military History of the Campaign of 1882 in Egypt*, Major-General Sir John Frederick Maurice (British Royal Artillery) provides a state-of-the-art map showing the fortified position occupied by British troops on July 23rd, 1882, at el-Ramleh (Figure 44) (Maurice 1887: Map Number 3). Another panoramic view of Alexandria and its harbours dates to the 1880s. It was published in Paris as part of an *Atlas des Ports Étrangers* (Figure 45) (Direction des Cartes, Plans et Archives, et de la Statistique Graphique, Ministére des Travaux Publics: Planche XVII). A 'Plan Comparatif d'Alexandrie Ancienne et Moderne', with el-Falaki's orthogonal grid superimposed in red, is published in Henry de Vaujany's guidebook *Alexandrie et la Basse-Égypte* (Figure 46) (De Vaujany 1885: 27). In 1887, an official map of the city was issued by the 'Inspection de l'Ouest', which operated at the time under the 'Direction Générale du Tanzim' (Figure 47) (Jondet 1921: Planche XLVII). The influence of Strabo's descriptive narrative on ancient Alexandria (*Γεωγραφικά: Geōgraphiká*, c. the late 1st century BC) is evident in De Vaujany's plan of the Royal Quarter, supplementing his *Recherches Sur les Anciens Monuments Situe Sur le Grand-Port d'Alexandrie* (Figure 48) (De Vaujany 1888).

One major attempt to mapping the ancient city and its suburbs is that of Greek physician and epigraphist Tassos Demetrios Neroutsos. His map, based largely on Kiepert's 1872 reproduction of el-Falaki's *carte*, forms part of the monograph *L'Ancienne Alexandrie: Étude Archéologique et Topographique* (Figure 49) (Neroutsos

1888). A 'Plan de la Ville d'Alexandrie et du Marché de Minet-el-Bassal' was then drafted by Carlo Marchettini in 1890 (Figure 50) (Bibliothèque Nationale de France – Gallica). In 1894-95, British archaeologist David George Hogarth, renowned for excavating at Naukratis (section 1.1), investigated the city with the prime aim of assessing its archaeological potential (Figure 51) (Hogarth and Benson 1894-95). While finding very little of what was recorded earlier by el-Falaki (1872), Tassos Neroutsos (1875; 1888), and Henry de Vaujany (1885; 1888), Hogarth questioned the relevance of a 'future British expedition' in his *Report on Prospects of Research in Alexandria*. He even undermined any potential for Kom el-Dikka after excavating a few trenches there, a judgment proven wrong with the successive discoveries made in the central district since the early 1960s by the Polish Centre of Mediterranean Archaeology (PCMA, University of Warsaw; *Alexandrie I-VIII*, 1976-2010).

In 1897, the Italian founder and first director of the city's Graeco-Roman Museum, Giuseppe Botti (1892-1903; founded the museum on October 17th, 1892), published Georges Marichal's map of the Egyptian borough of ancient Alexandria, Rhakotis, in the Roman period: *Plan du Quartier 'Rhakotis' dans l'Alexandrie Romaine* (Figure 52) (Botti 1897c). In the following year, Botti attempted a reconstruction of the Ptolemaic city in *Plan de la Ville d'Alexandrie a l'Époque Ptolémaique; etc.* (Figure 53) (Botti 1898c). The century ends with a five-month excavation campaign (October 1898 – March 1899) directed by German archaeologist Ferdinand Noack. Its results were published in 'Neue Untersuchungen in Alexandrien' (Figure 54) (Noack 1900: Tafel IX). On the centenary of the Napoleonic campaign, German industrialist Ernst von Sieglin financed an archaeological expedition to Alexandria (1898-1902). Its members include Theodor Schreiber, Friedrich W.F. von Bissing, Ferdinand Noack, Ernst R. Fiechter, Siegfried Loeschcke, Rudolf Pagenstecher, Joseph Vogt, Carl Watzinger, Alfred Schiff, Victor E. Gardthausen, Jean-Paul Richter, August Thiersch, Hermann Thiersch, and Giuseppe Botti. The outcome was three volumes released under the title *Expedition Ernst Sieglin: Ausgrabungen in Alexandria* – band I: Schreiber *et al.* 1908a-b, *Die Nekropole von Kom-Esch-Schukafa*; band II: miscellaneous 1913-27, *Die Griechisch-Ägyptische Sammlung Ernst von Sieglin*; band III: unpublished, *Ausgrabungen im Königsviertel und im Sarapeion von Alexandria* (Figure 55) (Schreiber *et al.* 1908b: 1, Abbildung 1). Earlier, Ernst's brother, historian Wilhelm Sieglin, produced two maps of ancient Alexandria at different epochs in Karl Baedeker's *vierte auflage* of *Aegypten: Handbuch für Reisende* (Figures 56-57) (Baedeker 1897: Pläne IV-V).

f) The Twentieth Century and Recent Research

An ever-expanding metropolis is clearly depicted in the charts of the early 20th century. A case in point would be the one issued by the technical services of the Municipality of Alexandria (1902) (Jondet 1921: Planche L), and that of Rear-Admiral Sir Richard Massie Blomfield (1905) (Breccia 1907b: 3) (Figures 58-59). The next cartographic attempt pertains to Mariano Bartocci, the draughtsman of the Graeco-Roman Museum. His map supplements *Alexandrea ad Aegyptum: Guide de la Ville Ancienne et Moderne et du Musée Gréco-Romain*, the guidebook written by the second, Italian director of the museum, Evaristo Breccia (1904-16, 1918-31; Swiss orientalist Étienne Combe replaced Breccia as director of the museum in 1916-18) (Figure 60) (Breccia 1914a). In 1912, Gaston Jondet, then Chief Engineer of the Department of Ports and Lighthouses of Egypt, published a 'Carte de la Rade d'Alexandrie' on the occasion of the harbour works carried out in Alexandria from 1911 to 1915 (Figure 61) (Jondet 1916: Planche III). Another map of the city and its harbour infrastructure was issued by the Survey Department in 1917 (Figure 62) (Jondet 1921: Planche LIII).

Two maps of the ancient and modern city are featured in Edward Morgan Forster's iconic guidebook *Alexandria: A History and a Guide* (Figure 63) (Forster 1922: 84-85). About a decade later, the first cataloguing attempt was made by the third, Italian director of the Graeco-Roman Museum, Achille Adriani (1932-40, 1949-52; British archaeologist Alan Rowe took over the directorship of the museum in 1940-49). Adriani produced a map of the ancient Royal Quarter, including the archaeological sites registered to date, in his 'Saggio di una Pianta Archeologica di Alessandria': an appendix to the 1934 *Annuario del Museo Greco-Romano (1932-33)* (Figure 64) (Adriani 1934). The latter formed the nucleus of an exhaustive topographical catalogue of ancient Alexandria published under the title *Repertorio d'Arte dell'Egitto Greco-Romano* (Figures 65-66) (Adriani 1966a: 269, Tavola di Aggettivo A; 1966b: Catalogue Number 1, Tavola 1, Figure 1). The reference work of Adriani is followed by another monumental *opus* in three volumes: Peter Marshall Fraser's *Ptolemaic Alexandria* of which Chapter 1 (Foundation and Topography) features an outline map of the city with an informative legend (Figure 67) (Fraser 1972).

In 1993, Polish archaeologist Barbara Tkaczow created a repertoire of four maps, three displaying the configuration at different epochs, along with a fourth, collective one, in *The Topography of Ancient Alexandria: An Archaeological Map* (Figures 68-70) (Tkaczow 1993: maps A-D). A year later, German scholars Wolfram Hoepfner and Ernst-Ludwig Schwandner published their version in the second edition of an extensive study of classical urbanism entitled *Haus und Stadt im Klassischen Griechenland* (Figures 71-73) (Hoepfner and Schwandner 1994). The political and social developments of late antique Alexandria were then discussed by Christopher Haas,

relative to contemporary urban milieus, in *Alexandria in Late Antiquity: Topography and Social Conflict* (Haas 1997). At the turn of the century, Marjorie Susan Venit adopted a chronological-thematic approach to cataloguing the funerary remnants of antiquity in her thorough inquiry into the *Monumental Tombs of Ancient Alexandria: The Theater of the Dead* (Venit 2002: appendix A, 191-200). In 2007, Judith McKenzie released various plans of the ancient city in a topographic prelude to *The Architecture of Alexandria and Egypt, 300 BC-AD 700* (Figures 74-75) (McKenzie 2007: 21, 26, 38, 175).

Topographical studies of ancient Alexandria took a great leap forward with the publication of results from (i) the geophysical (bathymetric and magnetic) surveys and underwater excavations of the Institut Européen d'Archéologie Sous-Marine (IEASM; section 2.3.3) (Figure 76), (ii) the salvage excavations (both underwater and terrestrial) of the Centre d'Études Alexandrines (CEAlex; sites 43, 47j-k, 52, 54c, 74b, 95, 99-100, 103, 114, 118, 121, 122c, 149c, 166), (iii) the resistivity geophysical surveys conducted by the Centre de Recherche Géophysiques (CRG, France), Universités Paris VI and VII, the Centre d'Études Alexandrines, and the National Research Institute of Astronomy and Geophysics (NRIAG, Egypt; section 2.3.2), and (iv) the underwater archaeological surveys carried out to the east of the Silsileh headland by the Hellenic Institute of Ancient and Mediaeval Alexandrian Studies (HIAMAS; sites 142, 151, 163). Archaeological investigation yet continues in the compact city of today, whether by the Egyptian Supreme Council of Antiquities (SCA, Ministry of Tourism and Antiquities), or by foreign research institutions working under license from the government.

III. Objectives and Structure

The current study takes the previous scholarship (Introduction II. History of Research) into account jointly with a corpus of relevant chronicles from classical and late antiquity and the Renaissance in order to produce a comprehensive, up-to-date topographical catalogue and reconstruction of Alexandria in antiquity, from the time of the city's foundation in the 4th century BC to the Arab conquest of Egypt in the 7th century AD: a millenary range of occupation. To this end, the main line of research shall encompass:

(a) Setting the historical context of the Graeco-Macedonian foundation: geomorphology, location, orientation, and governance (Chapter 1).
(b) Tracing the urban layout: circuit walls (lines of defence), grid plan, waterways, and harbour infrastructure (Chapter 2).
(c) Contextualizing the principal civil, religious, and funerary edifices within predetermined urban and suburban sectors (Chapter 3). Chapter 3 is subdivided into (i) physical remnants corresponding to known historical narratives, (ii) physical remnants without known historical reference, and (iii) literary accounts pending physical evidence.
(d) Cataloguing the archaeological sites in Alexandria, from the recordings of the Napoleonic expedition at the end of the 18th century to the recent discoveries of the 21st century (chapters 2 and 3).
(e_1) Inferring the urban plan of the Graeco-Macedonian founders and the successive adjustments made through the course of classical and late antiquity, from the historical foundation of the city (331 BC) to the Arab conquest of Egypt (AD 641-42) (Chapter 2: Conclusion I).
(e_2) Identifying the distributional patterns of edifices across the Alexandrian metropolis to gain a deeper insight into the topographical configuration of the cityscape in the Hellenistic, Roman, and Byzantine periods (Chapter 3: Conclusion II).

Theoretical analysis of the topography of ancient Alexandria is constantly informed through a critical study of relevant literary sources from antiquity, where the historical record is calibrated to the results of archaeological investigation. This is approached by integrating the historical narratives with a full repertoire of material culture, including architecture, sculpture, mosaics, iconography, ceramics, inscriptions, and coinage. Text is supported with 346 illustrations. Whereas the featured maps (Figures 77-81) intend to serve as digital models of reconstruction and are drawn up using a conceptualization application software (AutoCAD) as a tool for visualizing topographic data. Five maps (V1-V5) are generated: four of the city, the adjacent Pharos Island, and the western suburbs (Ptolemaic: late 4th to 2nd century BC – Figure 77; late Ptolemaic-Roman: 1st century BC to 3rd century AD – Figure 78; late antique: 4th to 7th century AD – Figure 79; collective: late 4th century BC to 7th century AD – Figure 80) and one of the eastern suburbs (Figure 81). The study follows basically two interrelated approaches, descriptive and analytical, with the latter being dependent on the former. The descriptive discourse covers introductory sections on the historical foundation (Chapter 1), previous archaeological investigation (2.1.1, 2.1.2.1, 2.1.3.1, 2.1.4.1, 2.2.1, 2.3.3.1), and urban and suburban division (3.1.1-8). Analyses and proposals are either in separate sections (2.1.2.2, 2.1.3.2, 2.1.4.2, 2.2.3, 2.3.1-2), following prerequisite descriptive accounts, or together with the data in the same section (2.2.2, 2.3.3.2-6, 2.3.4-5) or site (3.2-9). All the hypotheses introduced here (urban layout: objectives b and e_1; cityscape: objectives c and e_2) are based on archaeological and/or historical evidence from the catalogue (objective d). The latter includes

168 archaeological sites structured in accordance with predetermined geographical and typological categories. Finally, the conclusion provides an integrated summary of all proposals, with the evidence shown between brackets as a reference number corresponding to the relevant site(s) from the catalogue. The three constituents of this study (text: part 1; illustrations: part 2; AutoCAD maps in digital format: an annex hosted online) should be considered together, as one unit, in order to attain an understanding of the content.