Pascal-Xavier Coste (1787-1879): A French Architect in Egypt

by
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SUBMITTED TO THE DEPARTMENT OF ARCHITECTURE IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE DEGREE OF DOCTOR OF PHILOSOPHY IN THE FIELD OF ARCHITECTURE, ART AND ENVIRONMENTAL STUDIES AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY FEBRUARY 1992

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ABSTRACT

The purpose of this dissertation is to examine the life of a Marseilles architect, Pascal-Xavier Coste (1787-1879), his architectural work in Egypt, and his subsequent historical publications on his return to France. In Egypt, Coste served as the chief architect of the Ottoman Viceroy, Muhammad Ali, during the early portion of his reign. Coste worked on modernizing Lower Egypt through various architectural and engineering projects. I plan to show that Coste was not only responsive to the needs of progressive design but was also sensitive to the Egyptian culture, creating a stylistic synthesis of European and Islamic forms. Unfortunately, due to Muhammad Ali's military expenditures, much of Coste's work was sidelined, to be built later in the governor's reign. Coste's original designs and realized buildings, however, continued to have a great impact on the design of Egyptian architecture throughout the nineteenth century.

Through a narrative of the life of Coste concluding with his publication of *Architecture Arabe ou Monuments du Kaire* in 1837, I will illustrate Coste's attitude toward the Muslim world, his reasons for compiling the study of Egypt's monuments, and the ultimate reception the book received in mid-nineteenth century France. Coste greatly admired the Islamic architecture of Egypt and through his work hoped to share this love with his European audience. In addition, he wished to contribute to the pursuit of Islamic architectural history. Ultimately, Coste's work had little impact on nineteenth century historical studies because of the change in European politics and Europeans' attitudes toward the Middle East during the later part of the nineteenth century. By discussing Coste's life in the context of contemporary historical developments, I will argue that Coste's innovative objectivity led to the neglect of his work during the nineteenth century and the renewed appreciation of it by historians of Islamic architecture in the early twentieth century and beyond.

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In addition, I am grateful to other professors who have advised me during the course of my work, notably Zeynep Çelik, Denise Jasmin, and Nasser Rabbat. I would also like to thank Denise Jacobi and André Raymond who facilitated my studies in Marseilles, in particular at the Bibliothèque municipale. The Aga Khan program provided support for my five years of studies at M.I.T. I also received a summer travel grant to Egypt from the Aga Khan program which allowed me to study the Islamic monuments that Coste had documented and to examine buildings constructed in Cairo at the same time as Coste worked. I would like also to thank the Fulbright-Hays Foundation for a generous fellowship to France for the academic year 1989-1990.

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To my parents.
Introduction

During the nineteenth century, Europe moved from relative isolation to the colonization of much of the world, including many of the former Ottoman territories. By the end of the eighteenth century, Europe had far surpassed the social and political developments of the Ottomans who had previously ruled the world's strongest empire. Throughout nineteenth-century international politics, the fate of the Ottoman empire, the so-called “Sick Man” of Europe, dominated European diplomacy. The “Eastern Question” which concerned the outcome of the Ottoman possessions, focused the debate in the early nineteenth century among four European powers, France, England, Austria, and Russia, over the acquisition of the now tenuously held Ottoman provinces. During the century, the Ottoman empire continued to lose military battles, political and economic security, and authority over its territories, gradually leading to a loss of its possessions. This gave more leeway to the individual territories which resulted in the unique phenomenon of Egypt's strive for autonomy through its governor Muhammad Ali. Although the Ottoman sultan, Mahmud III (ruled 1808-39) attempted to modernize and reform his empire, it could not catch up to Europe. European experts were used in the transformation of the non-western countries. Many Europeans made their fortune in this time of exploitation through expanded trade and modernization projects. Some profited working within the countries as advisors on modern methods and some through trade. The focus of this study will be one of these enterprising Europeans, Pascal Xavier Coste (1787-1879), his role in
transforming Egypt for the governor Muhammad Ali, and his contributions on his return to his native France.

Due to the diversity of interests he had during his lifetime, the knowledge of Coste is splintered into numerous camps. To the Islamicists, such as K. A. C. Creswell and André Raymond, his documentation of Islamic architecture in Egypt and Persia is invaluable. To the French architectural historians, he is known both for his wealth of designs and students that he produced in Marseilles; and as a historical source through his memoirs for tracking the goings-on of the fashionable Paris architectural circle. Finally, Coste is acknowledged as a nineteenth century “international consultant” to use a modern term, travelling throughout the world as architect, engineer, and historian. This thesis combines these different personas in an attempt to capture a man trained in Marseilles (the provinces) educated briefly in Paris, and then quickly integrated into one of the most dynamic governmental programs of the nineteenth-century. Through the life of one man who was concurrently, architect, engineer, consultant, professor, and historian, we can study the historical development of the European attitude toward the Middle East, in addition to Coste’s impact on this cultural growth.

The conquest of Egypt by Napoleon was an extraordinary event, equalled only by England’s presence in India. Although France’s stay in Egypt was brief, it foreshadowed the position France would play as an imperial power in North Africa. By 1830, France had annexed Algiers and was gaining control over the rest of Algeria and Tunisia, both former Ottoman lands. France’s
attempts to govern Egypt through Muhammad Ali failed, however. Muhammad Ali (appointed as Vice-roy by the Ottoman sultan in 1805) strengthened his autonomy, expanding his rule over a large portion of the Middle Eastern territories, while indebting the Sultan to his favor by quelling rebellions. Ultimately Britain was forced to help contain Muhammad Ali’s exploits in an attempt to preserve the Ottoman empire, a necessity for British diplomacy with Russia. By 1882, Britain was occupying Egypt.

Although Europeans were familiar with common motifs like the pyramids, obelisks, and Sphinx, knowledge of Egypt in France was sketchy before Napoleon’s expedition. In the eighteenth century, the exotica of the Middle East appeared through Turkish costumes and Arabic decorations filling processions and parties.1 But after the conquest and with the publication of the Description de l’Egypte written by savants appointed to the French expedition, Egypt, both ancient and Islamic, became accessible to the European eye. Travel books about Egypt had existed for centuries, but the Description de l’Egypte was the first to document pictorially and in great detail the many aspects of Egyptian society. In keeping with the scholarship of the Enlightenment, the savants pursued a scientific method of research in which

the diversity of Egypt's past and present could be discovered, described, classified, and documented. Man, his works, and the natural environment were all treated uniformly as parts of the universe, governed by laws that were shared and definable. It was due to one of the savants, Edmé Jomard, who contributed to this enormous twenty-three volume collection, that Coste was offered the chance to work in Egypt in the employ of the renowned Muhammad Ali.

The publication of the *Description de l'Egypte* resulted in a proliferation of documents about ancient Egypt but little in the field of Islamic architectural history. Like those savants, Coste pursued a method of describing and capturing the Islamic monuments of Cairo in a coherent, precise manner, but his work served a personal quest for comprehension and historical scholarship, untainted by the political agenda of Napoleon's campaign. This dissertation will focus on Coste's life and his place at a time of great change in the European attitude toward the Muslim world. Coste's *Monuments du Kaire* can be seen as at a turning point. Published in 1837, the book appeared after the majestic images by Gros of Napoleon triumphant in Egypt, yet, before the salon showings of Gerôme's great Orientalist paintings. While Coste inadvertently had a hand in the Orientalism that was to come near the end of his life, it will become apparent that Coste's attitude toward the Muslim world was very different from that of the artists that followed him.

The period we will discuss is framed on one side by France's brief stay in Egypt, the French neoclassicism of the first decades of the nineteenth century, and the production of the *Description de l'Egypte*. It is framed on the other side
by the colonization of North Africa, solidification of Orientalism in the arts, and the proliferation of illustrated lithographic publications depicting these new colonized areas. This move from the genuinely unknown Middle East to the Middle East as merely picturesque and exotic, strongly affected the European view of the Muslim world. Although there were precursors to the Orientalists such as Ingres and Hugo\textsuperscript{2}, the phenomenon did not really blossom until the second half of the century, demonstrated by colonial expositions and world fairs. It was during this latter period that what is known as "Orientalism" thrived, producing the academic paintings of Gerôme and his school, exposition pavilions, erotic literature, and exotic interior design.

During his long life, Coste partook in both periods, having an impact on the cultural transition in attitudes from the scientific, rational exotica of the *Description de l'Egypte* to the romantic exoticism of the colonial period.

With the advent of colonialism, a new era was begun of one land documenting another. Recent scholarship has been concerned with the historical studies of Eastern countries by the West. A critical assessment of these studies, as found in Edward Said's seminal book *Orientalism*, has questioned many of the practices of European historians in their documentation of Islamic cultures, in particular in areas concerned with generalizations regarding the diversity of the geographic and cultural area, and

\textsuperscript{2}J.-A.-D. Ingres *Grande Odalisque* in the Louvre dates from 1814 and V. Hugo published *Les Orientales* in 1829.
in the political motivations behind the historians’ scholarship. The travelogues’ detailed descriptions, like the photo-realism of the Orientalists images, convinced the Europeans that these were realistic portrayals of the Muslim world. Erotic exoticism haunted the imagination of the European. Images of the Islamic world became codified: focused on sexuality and violence. Coste felt the need to be truthful to his subject matter, working against inherited “oriental” stereotypes to produce representations concerned with the Islamic world in its physical reality rather than the Orient of the European imagination. No coherent study has been done of any of these architects/writers, resulting in serious research of their projects, intentions, successes, and the attention garnered during their lives, although some of these artists have recently gained attention through the publication of their work as picturesque postcards and posters.

Coste lends himself to a study of this type because of the depth and uniqueness of his career as an architect from Provence, working in both Egypt and Marseilles during periods of tremendous modernization, and because he was an architectural historian of Islamic architecture in a period when virtually no such studies existed. In pursuing the life of Coste, I had expected to find a man who typified the insensitive Orientalist stereotype, compiling publications

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without any care or concern with understanding the native culture. Instead I
found Coste to be a man of character and integrity, his acts as an architect and
historian singularly more innovative and more modern than most Europeans
before and after him during the nineteenth century. Through an examination
of his life, I realized how coherent and consistent his principles were with an
analysis of every aspect of his life clarifying his next decision. The best way to
exemplify Coste's ideology is through a narrative of his life, emphasizing his
early period in Egypt which began his career as architect and historian, and
culminating in his greatest contribution, Monuments du Kaire which is the
creation of a mature man recording a wealth of experience in a country he truly
loved and admired. I have chosen to treat his life selectively, summarizing his
work in Marseilles and his books on Persia to better emphasize Coste's most
insightful and most innovative work in and about Egypt.

The only studies on Coste consist of a few short articles, and a
Marseilles exhibition catalogue and subsequent symposium. These studies are
insufficient in their study of Coste's work in Egypt and his role in the
historiography of Egyptian architecture. For this study, I have depended
primarily on Coste's published and unpublished writings, in particular his
memoirs posthumously published in 1878 as Memoirs d'un artiste. Notes et
souvenirs de voyages. Coste gave his personal collection of sketchbooks to the

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4 Le Regard du Voyageur: Pascal Coste (1787-1879), Bibliothèque Municipale de
Marseille, (Marseilles, 1987); and Pascal-Xavier Coste ou l'Architecture cosmopolite (1787-
Bibliothèque municipal de Marseille. These sketchbooks from Egypt, France, North Africa, and his European travels contain thousands of drawings in pencil, pen, and watercolor and include numerous notes which have aided my study of his time in Egypt, since there is more information in the sketchbooks than was compiled in his final published memoirs. I believe that Coste did not carry a journal with him in his travels in Egypt, and instead, noted facts in his sketchbooks, his constant companions, which served later as the basis of the chapter on Egypt in his memoirs. After Egypt however, Coste appears to have kept his journal with him during all of his later travels, since they are filled with a much more detailed account of his various trips. I have extensively used the archives in Marseilles and Paris, although the most important correspondence of Muhammad Ali has been published by the Société Geographique. The most valuable historical base for my research on Egypt, other than Coste, was travel journals which are plentiful. These descriptions betray, however, a bias on the part of the authors against Islamic and modern

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5These sketchbooks are cataloged as follows: MS 948 (the Marseilles designs); MS 1306 (Basse Egypte, 1817-27); MS 130-7 (Haute et Basse Egypte, 1817-27); MS 1308 (Basse Egypte); MS 1309 (Egypte, Le Caire); MS 1310 (Le Caire); MS 1311 (Basse Egypte, Alexandrie, Le Caire, Rosette); MS 1312 (Tunisie, 1835); MS 1313 (Algerie, Maroc, Espagne, 1848); MS 1284-1294 (Monuments de l'Europe); and MS 1295-1305 (Monuments de la France). In the Archives du Bouches-du-Rhône, Marseilles, the documentation on Coste's churches and Bourse is classified as: AD-BDR 70V32 (St. Joseph); AD-BDR 70V33 (St. Lazare); AD-BDR 70V29 (St. Barnabé); AD-BDR 4T26 contains additional Coste watercolors; and AD-BDR XIV M2/38 additional material on the Bourse. The only publication of these drawings is in the Marseilles exhibition catalogues.
architecture in Egypt; still, they prove extremely useful in documenting dates of construction and design.

I have used local accounts by al-Jabarti for additional information, but by and large the greatest base of writing done on Muhammad Ali post-dates Coste’s departure and thus would be of limited usefulness. It was not my purpose to document which of Coste’s designs now stand and their alterations. That is a project that could be done at a later date. Instead it is my intention in discussing Coste’s life to show his scholarly and respectful attitude toward foreign cultures, exemplified through an analysis of his work.

I plan to provide an essentially chronological history of Coste’s life, concentrating on his work in Egypt and his subsequent study of Egyptian Islamic monuments. The first chapter will briefly discuss Coste’s education and life prior to his time in Egypt. The next three chapters will concern Coste’s numerous projects for Muhammad Ali and the implications of these commissions in reference to Muhammad Ali’s administration. In the next two chapters, a short summary of Coste’s life after Egypt will be given, followed by a case study of his most well known architectural commission, the Marseilles Bourse. Finally, in the conclusion, I will examine Coste’s Monuments du Kaire, its place in history after the Description de l’Egypte, and before the decorative studies of Prisse d’Avennes and Bourgoin. Through the Monuments du Kaire, I will discuss Coste’s attitude toward the study of Islamic architecture and his place in the field of Islamic architectural history that was growing in nineteenth-century France.
Chapter 1: Coste's Education and the École des Beaux-Arts

In character with the book *Mémoires d'un artiste. Notes et Souvenirs de voyages* as a whole, Coste began the description of his career drily and matter-of-factly. He wrote simply, “Je dois commencer par vous exposer succinctement que je suis né le 26 novembre 1787”.6 In Marseilles, Coste’s father directed an important atelier in carpentry and raised his son with the intention of having him as his replacement. There is little in Coste’s childhood that gives an indication of the restlessness that was to characterize the rest of his life. The young Coste began his early education in a conventional fashion. Being groomed to replace his father, Coste toed the line and dutifully carried out his studies in Marseilles. At the completion of his primary levels in 1802, Coste was placed in a school of general design in Marseilles under Professor Lequin de Latour who had previously studied under Claude-Nicolas Ledoux in Paris. Coste noted in his journal rather succinctly that Ledoux was the architect of the *barrières* and used an architectural character, known as *architecture parlante*, quite appropriate to its structural destination.7 Although no drawings or

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7 Ibid.
records exist from this early period of Coste’s life, it is probable that the atelier was conducted with a strong adherence to many of Ledoux’s neo-classical, formal designs which would influence Coste’s projects throughout his career and in particular his commissions in Egypt.

Recognizing his son’s preference for architectural design, Coste’s father renounced his initial intention and placed the young Coste in the Marseilles atelier of Michel-Robert Penchaud in 1804 where Coste took classes in geometry, mathematics, and design. Coste also studied under a Professor Bosquet, “ancien officier du Génie en retraite,” whose instruction was undoubtedly valuable in Coste’s later engineering designs in Egypt. In the first pages of Coste’s memoirs, the architect gives one of the rare glimpses of his personality when he wrote in an animated manner about his pursuit of an architectural education. This writing emphasizes the exhilaration and reverence Coste felt for the process of architectural design, in particular his respect for the work of Penchaud whom he assisted, writing “Je suivis avec ardeur, comme dessinateur et comme inspecteur, les travaux que dirigeait M. Penchaud.”

All that survives of Coste’s student work is his drawings of other architects’ designs. An 1808 drawing by Coste housed in the Archives municipale depicts a fountain designed by Lequin Latour, Coste’s professor (fig. 2). The fountain was destined for Marseilles’ Allées de Meilhan—the beautifully landscaped boulevards for which the city was famed. Coste’s drawing shows the figures, trees, and fountain overly elongated, in adherence

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8 Ibid.  
9 Ibid.
to the classical style of the time. Coste's later drawing from 1814 also exhibits this refined classicism in its handling of "Banquet Offert par la Garde Nationale au Comte d'Artois, 4 Octobre 1914". This image captures the celebration of the Comte's appearance with spectators pointing, horses rearing, and flags waving in the festival's decorative gateways and pavilions. Coste meticulously captures all the details of the spectacle, from depicting each soldier in line formation around the proceedings, to the different costumes and picnics of the spectators. In these drawings, Coste's love of exact depiction can already be read in his rich, precise detailing of the architecture and its surroundings.

Michel-Robert Penchaud

Little has been written about Coste's professor Michel-Robert Penchaud (1772-1832).\textsuperscript{10} Penchaud had been a student of Percier and Fontaine in the 1790s and worked additionally as a draftsman at the Conseil des Batiments Civils. His academic education would certainly have had a strong emphasis on classical architectural history, while his experience at the Batiments Civils stressed function and efficiency in building design. Such well-rounded training

is reflected in Penchaud’s designs which, while maintaining the classical canon, also suggest an interest in searching for the appropriate use of stylistic form in the building’s function.

Returning to the provinces, Penchaud became architect of the city and of the département of Bouches-de-Rhône for which he designed the arc-de-triomphe at the Porte d’Aix in Marseilles, numerous religious and public buildings throughout the department, and completed the construction of the palais de justice at Aix-en-Provence after the designs of Ledoux. Penchaud was the architect entrusted with the transformation of Marseilles from a provincial harbor to a national center, creating large boulevards, gardens, monumental public buildings, and redesigning the old city’s urban pattern. Coste would later hold this position.

Bergdoll wrote in a footnote of his dissertation11 about Penchaud’s interest in Roman civilization and in the Romanesque architecture of Provence. Throughout his career, Penchaud documented the Roman structures in the area and worked on their restorations, including proposing a restoration for the Maison Carrée at Nîmes.12 “His personal collection of fragments and drawings formed a rich ‘cabinet archéologique’ exploited by his pupils and a requisite part of any visiting architect’s tour of Marseilles.”13 A “convinced

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classicist”, Penchaud was one of the original figures who emphasized the importance of Provence in the development of French culture, an important phenomenon in Marseilles’ history which will be discussed in a later chapter. One can hypothesize that Penchaud’s antiquarian research and interests were probably a great influence on Coste and could perhaps be one of the reasons Coste had the study of historical documentation as such a primary focus. On his arrival in Egypt, Coste immediately began making architectural sketches of all the antiquities he encountered, a trait which he would have been learned from his beloved master.

Much of Coste’s career mirrors that of his teacher. Coste, too, modernized a city searching for its own cultural identity. In this quest, Coste also became immersed in the study of the architecture of past inhabitants and the appropriateness of early forms in a regional style. The relationship between Penchaud and Coste was very strong. The two worked together during Coste’s studies, after Coste’s year in Paris, and again on his return from Egypt. Ultimately Penchaud recommended Coste to replace him in his Marseilles position of architect of the city and département.

The École des Beaux-Arts at the Time of Coste’s Studies

In 1814, Coste left Marseilles for Paris to complete his architectural studies. Coste’s exact reasons for attending the École des Beaux-Arts are unclear but it is not surprising that a young Provençal architect would want to experience the famed Beaux-Art ateliers. An education from the École was considered prestigious and could refine the skills Coste had developed in his
Marseilles training. Having been educated at the École, Coste could have hoped that his credentials as an architect would be respected and could help him to receive important commissions. Perhaps Coste simply valued the educational opportunities garnered from attending this prestigious institution, stating only that he went to Paris “pour compléter mes études d’architecture.” 14 His brief stay of one year however suggests that either his wishes were modest or that, being confronted with the prospect of the numerous years of training then usual at the École, and the politically charged atmosphere in which they studied, Coste was put off by the prospect. Coste had been admitted to the École des Beaux-Arts under the direction of A.L.T. Vaudoyer, a close friend of both Percier and Fontaine, professors who controlled the École in the first quarter of the century and were favorite architects of Napoleon. 15 Coste wrote little of his studies in Paris. “Je suivis l’étude de projets d’architecture d’après le programme et j’obtiens quelque succès.” 16

During the first quarter of the nineteenth century, the École des Beaux-Arts was in a developing stage. In his discussion of the École des Beaux-Arts, David Van Zanten considers the progression of the academy to develop through three chronological phases, with the second being the most successful. To Van Zanten, the second period stretches from the turn of the nineteenth century and the neoclassical patronage of Napoleon; to the 1860s which are

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characterized by the innovative instruction by such figures as Charles Percier, Henri Labrouste, Charles Garnier, and Viollet-le-Duc. The traditional architectural program of the time usually consisted of twelve to fifteen years of formal training.\(^{17}\) Coste’s arrival in Paris was just after the commencement of the Bourbon restoration with the arrival of Louis XVIII in Paris on the 31st of March 1814. Thus all governmental departments were scrambling for renewed recognition and funding.

The École des Beaux-Arts in the early nineteenth century offered a conservative, classical course of studies in which an emphasis was placed on coherent, symmetrical planning. This tendency often resulted in vast elaborate plans which exemplified a strict symmetry dependent on classical judgement. Enrollment increased sixfold from 1803 to 1818 as the institution’s authority and repute increased. As Van Zanten stated in his discussion of École training in the nineteenth century, “Composition was the French academic system’s term for what it considered the essential act of architectural design. What composition signified was not so much the design of ornament or of facades, but of whole buildings, conceived as three-dimensional entities and seen together in plan, section and elevation.”\(^ {18}\) In monthly competitions, students were judged on a range of criteria including overall design, the design’s coherence to the project and site, and complexity of the conception. These competitions culminated in the yearly competition for the Grand Prix de Rome. Due to the


\(^{18}\)Ibid., p.112.
brevity of his studies in Paris, Coste never competed in the Grand Prix competition.

As evidenced by Coste’s complex, modular plans in Egypt, Coste learned much from his training in Vaudoyer’s atelier at the École. Although an influence of Egyptian architecture can be seen periodically in Coste’s later decorative work, Coste adhered strictly to the French system of regularity taught to the students in Paris. As Van Zanten said about the design process, “The manner in which the student arranged these spaces and volumes was to group them along axes, symmetrically and pyramidally. The basic solution for the composition of a monumental building on an encumbered site (the sort of building and site usually specified at the École) was discovered almost at once: two axes embodied in two enfilades and intersecting at right angles at a major central space, the whole compressed inside a circumscribed rectangle.”

Stressing a strong directional progression, Coste’s designs arose from these axial compositions in which he used interlocking rooms which surrounded a forecourt or cour d’honneur to pull the visitor through a series of different-sized spaces into the palace’s heart.

This information is necessary to better understand Coste’s later work in Egypt, as well as his work in Marseilles. Coste’s designs always emphasized an overall symmetrical plan, even when the site and commission made such plans impossible, such as in his palace designs for the Cairene citadel. Tensions in design were often incurred in the attempt to retain strict symmetrical planning.

19Ibid., p. 118.
while recognizing the difficulties which came about because of factors such as site location, practical functions of the facility, and the expression of those functions. Success at the École was awarded to those who could attain a marriage of these compositional incongruities into a coherent and unified whole.

In 1814 and 1815, Coste’s brief time at the École was situated during a transition between two different periods of teaching. At the turn of the century, there was the impact of the visionary architects, Ledoux and Boullée, and the grandiose Napoleonic projects; who were replaced by the Romantics and their break from the classical canon. At the École, Coste’s placement in the atelier of A.L.T. Vaudoyer (who stood in the first camp) was an advantageous position and led him to invaluable work and social friendships throughout his life.

The Atelier of A.L.T. Vaudoyer

In his dissertation on A.L.T. Vaudoyer’s son Leon, Bergdoll wrote of the elder Vaudoyer, “the patriarch of the Profession”\(^\text{20}\) that: “He was... to be one of the most influential teachers and administrators of the early nineteenth century. Assuring a personal continuity in the academic tradition through Revolution, Empire, Restoration, and July monarchy, A.L.T. Vaudoyer was one of a handful of men who controlled simultaneously the formation of architects and the administration of public works which were the mainstays of

\(^{20}\text{Bergdoll, “Historical Reasoning...”, vol. I, p. 3.}\)
practice.”21 Vaudoyer continued the tradition of designing grand projects of increasingly intricate forms, emphasizing geometric plans of interlocking spaces which in their most perfect state would also be related to the building’s emotional impact. While his teaching did not break dramatically from the Academy’s principles of design, Vaudoyer and some of his contemporaries believed a shift to beliefs with more latitude for personal ideas was needed to counter the strictly conservative theories of Quatremère de Quincy and his followers. Conservative governmental patronage, limited funding, and the instability of leadership restricted the realization of most these professors’ projects. In the hope of future political and academic change, these architects focused on innovative possibilities through teaching and believed that through their theoretical instruction, the designs of their students would enrich future architecture.

Historically, at the École, Coste would have been taught the architecture of ancient Greece and Rome, with ancient Egyptian architecture taught only as a precursor to the Greeks. The classical vocabulary was key. Studies of architecture at this time revolved around historical intercourse, the appropriate use of classical forms, and the ability of architecture to communicate to the viewer, eliciting an emotional response, termed architecture parlante. In this historical scholarship, architectural evolution became important as historians searched for true architectural purity. Travel and historical studies became essential to the French architect in his attempt

21Ibid.
to relate past and present form. Archaeological discourse reached new heights as architects endeavored to recreate the classical prototypes in their original form. This pursuit led to heated debates about academic theory and values, most notably in the area of polychromy.

Egyptian architecture mattered little in these debates, Islamic architecture not at all. Archaeology, a term used for the study of ancient architecture, played a tremendous role in the arguments of Greek and Roman architecture, but architecture that was not classical figured little in their discussions. Reinterpretation of past theory was encouraged by Vaudoyer. “Antiquity would no longer be viewed as an abstract, an immutable ideal against which to measure all later achievements, but simply as one highly developed style intimately linked with a particular set of cultural conditions and a particular time on a longer historical timeline. Architecture was to be based on a new understanding of its historical bases and its relation to its models.”

Students were prepared to study the monuments of antiquity carefully, noting details, making precise measurements, and suggesting restorative possibilities. In Vaudoyer’s atelier students were encouraged to draw from the past renewed by the truths they themselves had construed from history.

The impact of this teaching can be easily seen in the work of Coste. The meticulously precise drawings, measurements and detailing of Coste’s historical studies characterize all of his work. The clarity of design and scrupulous study

23Ibid., vol. I, p. 76.
of monuments enrich the quality of the beauty of his sketches. It's interesting
to note Vaudoyer's emphasis on historical reinterpretation. Coste's only
attempts to design in a more traditional Islamic vocabulary, his two mosque
plans for Cairo and Alexandria, are simply attempts to develop a modern style
drawn from the historical models he was studying, however inappropriate
Coste's interpretations of the truths of Mamluk architecture may have been.
Coste's endeavors to link past and present in his Egyptian designs will be
discussed later in direct reference to the buildings themselves. In a
reconstruction of Coste's background and his early interest in historical study,
his teacher Penchaud, an avid buff of classical antiquities himself, cannot be
ignored.

Although Quatremère de Quincy wrote *De l'Etat de l'Architecture
Egyptienne*, delivered in 1785, the content of the essay concerned the role, or
lack of a role, of ancient Egyptian architecture in the formation of Greek
architecture. Referring to this essay, Bergdoll writes, "In precisely the same
year 1785, Quatremère de Quincy was awarded first prize for an essay proposed
by the Académie des Inscriptions et des Belles lettres on Egyptian architecture
(De l'Architecture Egyptienne), in which he argues for a contrary
interpretation of the hieroglyph in architecture. It was precisely, he claimed,
the hieroglyphic and canonical aspects of Egyptian architecture that rendered
it sterile and unchanging. Antique architecture he argued was able to realize a
flexible system of expression and accommodation precisely because it was freed
from any overly evident religiously-dictated linguistic system. Antique
architecture was thus able to achieve a more abstract symbolization of nature's forms."\textsuperscript{24} This study of architectural history served to reaffirm the classical beliefs of the École by establishing the supremacy of Greek and Roman architecture in its rational, symmetrical purity. About Arabic architecture, he simply wrote that it had the Gothic style's "capriciousness."\textsuperscript{25}

Durand also published a diversity of historical styles in his \emph{Parallèle des édifices de tout genre anciens et modernes} in 1800. In addition to ancient Egyptian architecture, Durand included examples of Islamic architecture but his study was extremely eclectic and did not contribute to the study of Arabic architecture nor did it prompt his students to pursue the field more fully. Most of the interest in ancient Egypt sprung from the examination of classical authors and their repeated references to the ancient Egyptian culture. This culture was seen as a part of European heritage as the Greeks drew from the wealth of this earlier civilization.

But with the less conservative instructors at the École gaining power in the 1810s, the field of architectural history had turned to a more social, utilitarian approach in the role of architecture to its environment. Downplaying the architect's part in aesthetic innovation, historians began to analyze the natural and social impact of the physical world on the architecture produced, believing that all artists react to their environment but only a few

“apprehend Nature’s ideal harmonies.” In her discussion of Vaudoyer’s dissertation on architectural beauty, Alice Friedman quotes A.L.T. Vaudoyer’s writings in reference to this theory of architectural expression. In reference to the superiority of classical forms over non-Western styles, “Vaudoyer maintains that ‘experience, taste and comparative analytical study’ have shown that the Greek, Roman, and Egyptian styles are preferable to ‘Gothic, Chinese, Persian, Moorish, Arab, etc.,’ but he quickly returns to his discussion of the importance of responding to nature’s effects, leaving this point unstressed.” Vaudoyer’s reference to an Egyptian style refers to ancient Egypt as a precedent to Greek architecture. Egyptian architecture was admired for its simplicity of design and testament to the origins of architectural form.

Coste remarks that during his stay in Paris, he attended “l’exposition des envois des pensionnaires des architectes de Rome” where he remarks on only two works: that of a restauration of the ancient palace of Praeneste by Huyot (who was to become a close friend to Coste) and a restoration of the Pantheon in Rome by Achille Leclère. Coste adds that these works are commendable and that he made a few detailed sketches of the works. Huyot’s restoration of the Temple of Fortune at Praeneste from 1811 is one of the most well-known archaeological studies of the period. Admired for its meticulous

27Ibid., p. 120.
29Ibid.
rendering, the drawing traces the long procession up the hillside to the sanctuary at its height. Huyot's skillful handling of the progression of ramps and stairs in both his detailing and elevation, and precise reconstruction of its plan must have made a strong impression on the young Coste. The other student Coste admired, Leclère, later taught a successful atelier in Paris in which one of his pupils was Jules Goury, the architect who conducted the extensive study of the Alhambra with the British architect Owen Jones.

Possibly the most important aspect of Coste's stay in Paris was not his training but the acquaintances he made, many of whom became close friends for life. Coste made lasting friendships through his fellow students with architects who became the luminaries of the architectural field in Paris later in the century. These friendships gave Coste a constant lifeline to the architectural work in Paris, and provided him with many contacts in the city for his many subsequent visits, enabling him to keep track of the historical work being done on non-Western countries. Historically, the most interesting friendships Coste developed was with the Romantic pensionnaires: Henri Labrouste, Leon Vaudoyer, Louis Duc, and Félix-Jacques Duban. These four architects, all Grand Prix winners, retained close personal ties with each other, yet had different attitudes toward reform of the classicism of the École. Questioning the classical canon of the École, these architects explored new possibilities in the interpretation of the classical ideal. One of the more popular areas of reform was in the classical tradition's approach to ornamentation. Using more ornamentation whether through active surface decorations,
polychromy, or a synthesis of styles, their architecture led many young students to question the academic establishment.

Although Coste was only an acquaintance of Labrouste, he retained very close ties to Vaudoyer, Duban, and Duc. In his memoirs, Coste noted many discussions with Leon Vaudoyer and his son, in particular pertaining to the Marseilles Cathedral. Duc encouraged Coste to publish his sketches of Egypt and Duban suggested that Coste publish a book on the modern monuments of Persia. Coste was approximately fifteen years older than these architects, yet he served as an inspiration for these younger men, introducing them to the foreign architecture of Egypt and Persia, and prompting an interest in the utilization of these colorful, stylistic forms.

Edme Jomard

During his stay in Paris, Coste made the acquaintance of Edmé François Jomard (1777-1862), a geographer, engineer, and archaeologist who accompanied Napoleon during his campaign in Egypt. While in Egypt, Jomard aided in the surveying of the country which resulted in his well-consulted map of Egypt. Jomard also made an enormous number of sketches of Egyptian architecture, both ancient and Islamic, that were redrawn for the pages of the Description de l'Egypte. Jomard was also a founder of the Société de géographie which later published much of the correspondence between the French government and the administration of Mohammed Ali. Coste wrote
that Jomard on his return to France had kept relations with Muhammad Ali Pasha, the viceroy of Egypt.\textsuperscript{30}

After the defeat of Napoleon's forces occupying Egypt, Jomard brought his sketches back to France where he completed final prints for publication. In 1807, Jomard became commissioner of the project for the \textit{Description de l'Egypte}, a position which necessitated full-time employment.\textsuperscript{31} Jomard lasted until all the volumes were completed twenty years later. Published in 1809, the first volume of plates for the \textit{Description de l'Egypte, Etat Moderne}, included many studies by Jomard of profiles and plans for canals which were to have been built by the French in Egypt. In addition to these plans by Jomard, this volume contains detailed studies of the monuments of Sultan Hasan, Ibn Tulun, Qala'un, and other domestic and civic structures. Coste probably had not seen this study before he left for Egypt since when he visited, Jomard was in the process of completing a volume of plates. Coste writes, "Il dirigeait en ce moment la publication du grand ouvrage sur cette expédition aux frais du gouvernement."\textsuperscript{32} Jomard must have been working on the second volume of the \textit{Etat moderne} which was published in 1817. Jomard was to retain relations with the Egyptian government throughout his life. In 1826, Jomard accepted a group of forty Egyptians as students in Paris, founding a school, under the supervision of the French government, to train Egyptians in the sciences.

"Here they were taught French mathematics, geography, chemistry, agronomy,

\begin{itemize}
\item \textsuperscript{30}Ibid., vol. I, p. 10.
\item \textsuperscript{32}Ibid., vol. I, p. 8.
\end{itemize}
physics, zoology, medicine, engineering, navigation, and civil and military administration. The instructors, and the language of instruction, were French. The first contingent was followed by others, with the result that the first cadres of European-trained technicians and administrators absorbed French methods, in the French language, from French text-books and from French instructors."33 These trained Egyptians then returned to assist in teaching at Egyptian schools, assisting the many French instructors employed there. One of Jomard's students was the noted Egyptian scholar, Rifā' al-Tahtāwī.

Marseilles in the early Nineteenth Century

On the 20th of June 1815, Coste returned to Marseilles having completed his degree in under two years. At the time, Marseilles was in the stage of a second growth spurt. Founded in 600 B.C. by the Greeks, Marseilles was originally a trading city which controlled the trade of the Mediterranean, including all of the Levant. This "granddaughter of Athens" or "civilizer of the Gauls" (as proclaimed by its citizens) was a center for the arts and enjoyed prosperity in commercial and artistic endeavors. Since its inception, the citizens of Marseilles had fought for the ability to retain a state of autonomy. After a long struggle against the Romans, the city became part of the Roman empire but kept its autonomy as an independent republican state. Sustaining two attacks by Charles V, Marseilles continued its independent status, finally being joined to Provence by Charles of Anjou in the mid-thirteenth century.

Added to the French kingdom in the fifteenth century, the city remained semi-autonomous with staged rebellions for any attempt to nationalize the city. Louis XIV increased the city's commercial prospects and dampened some of the rebellious spirits by giving the city in all practical terms, a monopoly on the trade between France and the Levant. Thus with this new-found prosperity the middle class grew and fattened, their minds focused on financial growth rather than political rights.

By the eighteenth century, Marseilles had quickly grown in size, competing with France's leading port Bordeaux, and accounting for a fifth of the country's overseas commerce. It was Marseilles that controlled the Levant trade not Versailles. Some of this new found prosperity was due to industrial expansion, producing soap, sugar, and tanned goods. Even with this new found affluence, Marseilles was a dirty and unhealthy city, continually beset by plagues due to the lack of an organized hygiene program and its susceptibility as a world port. Its state was such a surprise to some of its fellow Frenchman that one traveller compared the city to the ruinous state one expects to find among the Arabs in Egypt or Persepolis. Its population was composed of a large merchant class whose money was made from maritime trade. The wealthy bourgeoisie composed the true aristocracy due to their greater numbers and their importance in political affairs. These men governed the commerce on the Mediterranean through the organization of the Chamber of Commerce of

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Marseilles whose status allowed them to regulate both commercial and political interests in the city.\textsuperscript{36} This merchant “aristocracy” lived an ostentatious existence, dressing in elaborate costumes, driving gilded carriages, and constructing lavish homes.

This new love of presentation led to a continual neglect of the city’s autonomy and antagonized many of the townspeople. This was one of the factors that led to the intensity of Marseilles’ participation in the Revolution. Marseilles was seen as a foreign land, with a different language, remote from the capital, more a part of the East than of the West. A popular expression in the eighteenth century was “Aix-en-Provence, Marseille en Turquie, Toulon en Barbarie”.\textsuperscript{37} Many of these comments arose from the obvious difference between the old elegance of Aix-en-Provence, home of the university and capital of Provence, and the boisterous commercial atmosphere of Marseilles. During the next year, Coste, assisting Penchaud, aided in Marseilles’ attempt to modernize and regularize the chaotic city. Although many reforms began at this time, it was not until the mid-nineteenth century, on Coste’s return, that most of the rebuilding occurred.

\textbf{Coste’s Return to Marseilles and the Saltpeter Factory Offer}

On his return to Marseilles, Coste resumed his work at the side of his old professor Penchaud as inspector and designer for the \textit{département} Bouches-

\textsuperscript{36} Alfred-Chabaud, “Essai sur les classes bourgeoises dirigeants à Marseille en 1789” \textit{Documents relatifs à la vie économique de la Révolution}, (Besançon, 1942), p. 51.

de-Rhône. At the time, Penchaud was extremely busy with numerous public commissions. It was in Marseille after less than two years time that Coste received notice from Jomard that Mohammed Ali was searching for an architect to conduct the construction of a saltpeter factory. The call to work from Mohammed Ali did not interest the older Jomard, but he remembered Coste. It is unclear why Jomard would have thought of Coste, perhaps Coste had mentioned an interest in travelling to Egypt, or maybe Jomard just took a liking to the young Marseilles architect. As has been discussed, Coste would have learned little about Egypt at the École but perhaps Jomard’s drawings had piqued his interest. The saltpeter factory commission was conceived by an Italian chemist, Baffi, who had developed a system of producing saltpeter without the use of heat or fire. The chemist had promised the Egyptian ruler that his establishment would be able to produce three thousand quintaux (660,000 pounds) of purified saltpeter per year. An agent from Egypt had been sent to France to find an architect, subsequently contacting Jomard since he had contacts with engineers and architects. Jomard, remembering Coste, contacted him in Marseilles and Coste accepted with “une vive reconnaissance.”

Coste listed the terms as follows: “Dans les conditions du traité passé avec l’argent, je devais reconnaître M. Baffi directeur général des travaux à construire. Mes horaires furent fixés à 18,000 piastres d’Egypte; 7,200 francs, à charge de mener avec moi un maître maçon, pour former des ouvriers.”

39 Ibid.
Coste’s voyage was paid for until his arrival in Egypt, where he received an additional two thousand francs for instruments and surveying equipment. Coste’s agreement was for one year. He signed the document in September which left him one month to prepare since the work in Egypt was considered urgent. For the trip Coste found himself a master mason named Barielle. Coste wrote that he left Penchaud with “un vif regret” as he did his father, parents and friends. Departing on the Bella-Nina, a corvette of Mohammed Ali, outfitted with canons, Coste was surrounded by Turks, Greeks, Maltans and Italians. Bunked with Barielle, he found his hammock quite comfortable. Thus commenced the life of Coste as world traveller, designer, and ultimately *bon vivant*, known to the most fashionable circles in Paris.

What kind of a man was this young French architect as he departed for Egypt? We know little of him personally. Coste was something of a workhorse throughout his life. As a “voyageur,” Coste would utilize his extensive travels to aid him in his career. Coste was intelligent and well-liked. In Egypt, he wore his beard close-cropped and adopted traditional costume as was the norm for Europeans working in the region. Viollet-le-Duc described him as being as modest as he was accomplished. He continued his description noting that Coste was a small man, appearing almost timid. Viollet-le-Duc’s description is interesting considering Coste’s life as a world traveller, often surviving horrendous conditions and out-maneuvering theives and fundamentalists.

Coste was partially lame, Viollet-le-Duc later wrote, due to a break, but more likely it was the imperfect healing of his scorpion bite in Egypt. But in spite of this handicap, Coste thrived on travels to difficult places and worked continually.

Coste was career-minded, well-connected, loyal to his friends, and appears to have been appreciated by his friends due to the continual invitations he received to travel or stay with acquaintances. His only close personal relationships were with his father and his male colleagues. His soft gaze made him look far more like a man who would be content gazing at lithographs in a library than cantering across the desert on a camal: Coste looked more like a cleric than a trail-blazer. Coste lacked the funds and political connections to demand a position early in his career, so instead he made the decision to create one on his own, breaking new ground straightaway, and ultimately playing a major role in Egypt’s modernization.
Coste in Egypt

The excitement of the arrival in Alexandria and the novelty of everything connected with the landing can never be repeated. In one moment the Orient flashes upon the bewildered traveler; and though he may travel far and see stranger sights, and penetrate the hollow shell of Eastern mystery, he never will see again at once such a complete contrast to all his previous experience. One strange, unfamiliar form takes the place of another so rapidly that there is not time to fix an impression, and everything is so bizarre that the new-comer has no points of comparison. He is launched into a new world, and has no time to adjust the focus of his observation. For myself, I wished the Orient would stand off a little and stand still so that I could try to comprehend it. But it would not; a revolving kaleidoscope never presented more bewildering figures and colors to a child, than the port of Alexandria to us. C.D. Warner. *Mummies and Moslems*. 1876.

Chapter 2: *The First Projects, 1817–1819*

On November 1st 1817, Coste set foot on the docks of Alexandria where the French forces had victoriously entered nineteen years earlier (only to leave a mere three years later defeated by English and Ottoman forces). Coste entered Egypt at thirty years old, which, coincidentally, was the same age as Muhammad Ali upon his arrival. By Coste’s arrival, Muhammad Ali had already ruled Egypt for ten years, establishing himself through force and guile. Both foreigners were to ultimately achieve success: Muhammad Ali and his family were to rule Egypt for a century and Coste was to be his chief architect.

Like the Napoleonic Savants before him, Coste entered Alexandria sketching everything: buildings, ruins, shorelines, boats, and people. From the beginning, Coste’s hand was never at rest. On the ship, he sketched the crew as they worked. One drawing (fig. 3) from a manuscript housed in the Bibliotheque municipale de Marseille depicts the lower deck of the ship, complete with a guitar player and other passengers in Turkish dress smoking.
pipes and drinking tea. In the image, Coste sits on one of the giant coils of rope drawing the scene before him. If this early glimpse of his voyage is any indication, Coste seems to be quite delighted with this new life, capturing the new costumes and customs before he even stepped on shore. In this sketch, his hand is a bit crude; the sketch is not as refined as his later work in the beautiful lithographs of Egypt for which he is famed. Coste drew pages of ships and feluccas docked and sailing in the harbor, a popular motif in nineteenth-century Orientalist images. During the trip he brags in his journal that he only became seasick one day, even though the passage was particularly rough. Coste’s life seems to have been rather mundane and undirected before his trip to Egypt and even on his arrival he professes no intention of securing a permanent position, nor does he indicate that he intends to follow a schedule. He simply wants to complete the saltpeter factory for which he was sent. Unbeknownst to Coste, he was entering Egypt at one of its most dramatic times in modern history and he was to play an important role in its change.

A Summary History of Egypt under the Ottoman Empire

In 1517, Egypt became a province of the Ottoman Empire. Prior to the Ottoman conquest, the Mamluks had ruled Egypt “officially” starting in 1250.42 Beginning as a group of foreign slaves, the Mamluks were brought to

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Egypt to strengthen the power of the ruling princes and to aid in sustaining their dynastic legacy while protecting the rulers from the wants of other aspiring Arabs. Although the term Mamluk means “owned”, the Mamluk’s position became one of kinship rather than servitude. Ultimately the Mamluks usurped the authority of their masters and ruled Egypt themselves. Keeping separate from the local Egyptian population, the Mamluk troops formed strict allegiances to their commander and to whichever sovereign he followed. Rites of succession often resulted in bloody battles between armies of highly trained soldiers with the strongest or most ruthless force the victor. Thus this feudal organization formed a “militarized oligarchy par excellence.”

Prior to the Ottoman invasion, Egypt prospered under the Mamluks as a cultural center, supplanting the previous Islamic artistic capitals of Baghdad and Cordova. Architecturally, the Mamluks were to build some of the greatest structures in Egypt, such as the tomb of Sultan Qala’un, the madrasa of Sultan Hasan and the tomb of Kaitbay, all of which Coste included in his Monuments du Kaire. In the sixteenth century however, when Egypt became an Ottoman province, the political capital of the empire became Istanbul. The Ottoman Empire drained Egypt of some of its intellectuals and depleted Cairo


44Ibid., p.24
financially by means of heavy taxes on all properties, resulting in despondency toward land improvement inside Egypt. While the Ottomans claimed their share of land-taxes, Mamluk leaders (still powerful under the Ottoman empire) often imposed additional taxes to finance their feudal wars within the country. Thus Egypt became pressed economically from both sides and the country fell into decay. In addition to the taxes brought upon Egypt by the Ottoman empire after the sixteenth century, Egypt continued to suffer from a decline of trade with European powers due to the West’s thrust toward the exploration of the Atlantic Ocean and its discoveries in the Americas.

Egypt in the Eighteenth Century

In the eighteenth century, Egypt's economy was centered on trade as part of a “world market” within the Ottoman territories. Europe however was actively seeking new markets for its products and the Ottoman government needed to diversify its trading practices. During the nineteenth century, an imbalance was continually increasing as Europe exported finished goods and the Ottoman Empire simply sold the raw materials. Lacking the technical ability to compete with the modernizing world, the Ottoman empire provided an open market for the finished goods industrializing Europe was rapidly producing, resulting in an increasing Ottoman trade deficit which was particularly felt in Egypt. This process continued through the reign of Muhammad Ali when Europe was Egypt’s leading trade partner.\(^{45}\)

Arguing in her history of nineteenth-century Egypt, Afaf al-Sayyid Marsot holds that Muhammad Ali did not alone modernize the Egyptian economic and trade system but that he simply continued a process begun in the eighteenth century by the previously ruling Mamluk rulers, such as Ali-Bey "al-Kabir". In 1760, Ali-Bey wrested control of Cairo from the Ottomans and imposed his own government on the inhabitants. Taxing the citizens heavily to pay for his own military development, Ali Bey also set up a monopoly on the grain trade to pay for his military invasions of Palestine and the Arabian peninsula. At this time a rebirth of the arts began, prospering due to the patronage of Mamluk princes and the richer merchants who lived in opulent palaces and conducted literary salons which resembled those in Europe. While Ali Bey ruthlessly imposed his rule on the Egyptian populace, Egypt found a certain order in his absolutism.

Ali Bey was succeeded by his former officer Abu al-Dhahab who had earlier been sent to conquer Syria. Like his commander, Abu al-Dhahab also strengthened Egypt’s administrative separation from the Ottomans. Although these Mamluk beys did not establish a coherent system of succession from the Ottoman empire, they moved to centralize Egypt’s military power and financial resources away from the detrimental hold of the Ottoman empire which also initiated a revival of artistic and intellectual life. Immediately following al-Dhahab was the corrupt government of Murad and Ibrahim. Al-

46 Marsot, p. 42.
47 Vatikiotis, p. 51.
Jabarti has suggested that it was due to the corrupt and weak control of these rulers that Napoleon’s invasion was so easily accomplished.48

In addition to the growth of Egypt’s political autonomy, the inhabitants of Cairo also began to increase their economic interests in the city. During the eighteenth century, the Cairene merchants formed guilds in an attempt to control labor rebellions. Their efforts broke down during the 1790s due to the increase of violent instability in Egypt’s government. The historian André Raymond has written extensively about Egypt and its commerce.49 One of the more striking facts he emphasizes is the role of foreign merchants in Egypt at this time and the relatively quick rise of their power in Egypt’s commerce. These merchants, especially Syrian Christians, created a tension with Egyptian workers exacerbated in part due to religious conflicts. All of this culminated in the loss of livelihood for the local Egyptians and the securing of the place of Egypt in the European market. As the French and Syrian Christians worked together, the financial security of the local Egyptian populace became undone. This decline was greatly aggravated by the severe famines of 1784 and 1792, in conjunction with the plagues of 1785 and 1791. With this anarchy (as the Description de l’Egypte described it) due to Ali Bey’s death and these natural disasters, came an erosion of artistic, industrial, and commercial production due to a lack of strong management, an increase in taxes, and a lack

48 Ibid.
49 In particular, Andre Raymond, Artisans et commerçants au Caire au XVIIIe siècle, (Damascus, 1973).
of patronage. In spite of some economic innovations, the country was in dire need of a stabilizing force.

The French Occupation of Egypt

Despite the citizens' disillusionment with Egyptian life at this time, it was not until the French occupation began in 1798 that the Egyptian population truly broke from their Mamluk past. Disillusioned by the inability of the Mamluks to prevent the invasion of the French forces, their final test, the population was disinclined to trust any further rule by a Mamluk leader. A vast amount has been written about the French impact on the state of Egypt. Indubitably, French historians of the nineteenth century have written glowing histories of the kindness and the industrialization brought by Napoleon's occupying force.\textsuperscript{50} Recently, however, historians have questioned the true benefits brought to Egypt.\textsuperscript{51} As has been discussed, some of the supposed innovations of trade, commerce and land development were in place before the French arrived. Even the altruism of Napoleon with his wish to prevent a British occupation and hopes to improve the Egyptian state of life, have been overshadowed by the more recent knowledge that Napoleon was quite cognizant of Egypt's wealth of raw materials and wished to exploit this asset to France's advantage. Although Napoleon wanted to improve the poor lot of the masses, he also wanted to exploit Egypt's ready-available natural resources and

\textsuperscript{50}Charles-Roux, Sabry, Ghorbal, and Mengin.
\textsuperscript{51}Vatikiotis, Marsot, Rivlin, and Dodwell.
its trade, while benefitting from a strategic military base from which to strike at England’s cash cow, India.

As its ruler, Napoleon capitalized on his new position in Egypt in unpopular ways, such as registering all ownership deeds to property and then taxing it accordingly. Fines were placed on all properties that were not registered. Fines were also liberally handed out to those not registering deaths and successions. Not all of these acts were entirely successful with the population and led to uprisings and strikes. After a very quick and secretive departure, Napoleon left his general, Kléber, in charge. Kléber was later assassinated in 1800 replaced by Abdallah Menou, a Frenchman, converted to Islam, who served as the butt of many Egyptian jokes. It has been suggested that it was Menou’s plans for land reform which would serve as the basis for the successful reforms of Muhammad Ali.52

One of the greatest achievements of the Napoleonic conquest of Egypt, for this study, was the birth of the Institut d’Egypte. French Savants, brought with Napoleon’s troops, thoroughly documented the history of Egypt with a strong emphasis on Egypt’s ancient culture, including documentation of the many important archaeological discoveries made during the occupation. In addition to their work in natural history, industrial science, and history, the scientists also advised the government in respect to political policy and contributed to modern society by establishing an Arabic printing press and official national press organization. The scholar’s completed research ultimately

resulted in the twenty-three volumes of the Description de l'Egypte published in France which will be discussed in the final chapter.

After the defeat of the French by Anglo-Ottoman forces in 1801, an initial surplus of French intellectuals remained in Egypt. Egypt also continued to draw Europeans who served in numerous fashions in the hopes of capitalizing on the country's attempts at modernization. Coste, of course, was one of those who benefitted by being invited through the contact of Jomard, a scientist previously of Napoleon's entourage. These Savants also began the process of industrialization since their military analysis of Egypt was accompanied by plans to develop Egypt industrially. To the French scholars, agriculture seemed to have particularly rich potential and they advised in projects to improve the irrigation of fertile land through canals and waterwheels. Most of these projects were not realized until the reign of Muhammad Ali. The French did complete, however, a number of "factories in Cairo for gun-powder, beer, hats, arsenals for field guns, tanneries and windmills to make flour--all intended for the supply of the occupational troops."53 Thus the French were in the process of preparing Egypt as a base for providing practical and technical support for their forces. The army all these preparations were to serve, however became that of Muhammad Ali, not of Napoleon.

The speed in which France mounted an attack against Egypt did not allow for time to research, plan, and prepare for invading the North African

53 Vatikiotis, p.63.
country. Ill-prepared for the heat of Egypt, the French forces struck out in their wool uniforms across the desert suffering from heat, thirst, and disease. On July 21, 1798, the French forces finally entered Cairo after their triumph at the Battle of the Pyramids which, interestingly, was not before the ancient ruins as documented by French artists. Declaring his sympathy for the Egyptian people and their need for a modern government, Napoleon set up a provisional council which began enacting tax and land reform. With the defeat of the feudal Mamluks, the French had hoped to establish a more stable, reliable government which the people would fully support. Under French direction, the Egyptian people were to be free to establish their own council and president.

The French, destined not to remain in power for long, were defeated in March 1801, by an Anglo-Turkish force, led by Abercrombie who successfully marched on Cairo and overwhelmed the French. With the departure of the last French soldier in September 1801, Egypt found itself once again in chaos searching for a strong ruler to save its declining economy and establish a viable new government order. The French were to leave the Institut d’Egypte, land reform, the Government Council, many French Savants, unemployed military personnel, the seeds of industrial development, and an empty seat waiting for a cunning, obdurate ruler, which Muhammad Ali quickly moved in to fill.

Muhammad Ali’s Early Years

Born in Kavala in Macedonia, Muhammad Ali's birthdate has been estimated to be between 1768 and 1771. Later in his life, Muhammad Ali claimed that he was born in 1769, the same year that Napoleon was born. Considering his immense admiration for the French general it is not inconceivable that he adopted this date as a way of equating himself with the successes of his hero. Muhammad Ali traded in tobacco as a sideline but was a soldier at heart like his father.

Reaching Egypt in 1801, Muhammad Ali was sent by the Ottoman military as an officer with a Turkish force to defend the Ottoman protectorate. Quickly gaining recognition for his ability as a leader, Muhammad Ali was promoted to second-in-command, rising deftly through the ranks. In conjunction with the ruthlessness he portrayed as a military man, he was also a politician who was extremely able at manipulating people and circumstances for his own gain. It has been reported that he was against the use of force and only used it when all other means proved futile. These qualities served Muhammad Ali well in his rapid rise in Egyptian politics.

After the French forces had left Egypt, the Egyptians were faced with two opposing groups, the Ottomans who were split between the Albanians and the Turks, and the Mamluks who were divided into many different factions. Unpaid Ottoman soldiers looted the city leaving houses destroyed, people attacked, and the city's functions in shambles. What the Ottomans did not plunder, the Mamluks did. Cairo was a war zone as the troops liberally paid

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56Ibid., p. 36.
themselves from the city’s shops and homes. In the midst of this chaos, the political picture was no more clear. Egyptian administration was governed by one bloodthirsty governor after another. The first Khusrev Pasha secretly departed the city after little more than a year, his successor lasted only three weeks, assassinated by his own men. The next governor never entered Cairo since he feared for his personal safety.

During this time Muhammad Ali benefitted from the instability by wielding the different factions to his own benefit. Promoting an uprise within the Albanian troops, he became a powerful voice in the city. Befriending the leader of the Mamluks, Uthman al-Bardissi Bey, Muhammad Ali used his influence by rallying the support of the Albanian forces as well as the Mamluks in al-Bardissi’s favor. After assuring the place of al-Bardissi, Muhammad Ali started to undermine the bey’s popularity with the Egyptian populace who he wooed with talk of new taxation policies. By playing the unpaid troops who Muhammad Ali urged to claim their payment rights against the over-taxed, over-burdened public, Muhammad Ali caught al-Bardissi in the middle. It has been debated how much of these political machinations were orchestrated by Muhammad Ali himself. Considering his cunning and uncanny ability to stay in power through turbulent times, it’s would be characteristic of Muhammad Ali to use such manipulative methods to gain power. By al-Jabarti’s account Muhammad Ali purposely provoked all the strife and the ultimate demise of his old friend, al-Bardissi.57

57 Al-Jabarti, Merveilles biographiques et historiques ou Chronique du Cheikh Abd el-Rahman et Djabarti, (Cairo, 1886-1896), vol. III, p. 283.
Whatever Muhammad Ali’s role in the shifting battles was, the fact remains that after only three years, entering as a junior officer from Kavalla, Muhammad Ali found himself leading the Ottoman forces and the Egyptian people. It was the people who were key for Muhammad Ali. Muhammad Ali was the only leader who took the initiative to at least appear to represent the populace and it was they who placed him in power. Drovetti, Muhammad Ali’s close friend and the French consul, wrote that Muhammad Ali could have seized power through his ties to the local leaders but that he wanted to “seem chosen ‘by the voice of the people.’”58 This does not mean that his position was immediately secured. The Porte and the English were against his placement and schemed toward his quick demise, while discord in Egypt continued to rise with the Ottoman soldiers unpaid and the city in financial crisis. In an attempt to separate Muhammad Ali from his increasing support, the Porte went so far as to appoint him governor of Jidda which he unceremoniously declined. Finally in June 1805, Muhammad Ali was officially appointed governor of Egypt by the Ottoman Sultan Mahmud III.

After Muhammad Ali was securely located in the citadel, the Mamluks continued to make minor attacks to regain power. England was also behind the beys which made them even more of a threat to the wali. Finally in March 1811, Muhammad Ali decided to resolve the constant distractions of the rivaling Mamluks and assure his centralized authority. Muhammad Ali called all the important beys to the citadel for a ceremony of investiture and departure

58 Marsot, p. 46.
for his son Tussun who was about to fight the Wahhabis. As his guests exited the citadel after the ceremony, they were led through a narrow passage. While they were confined in this enclosed area, Muhammad Ali ordered his troops to kill all present. Accounts differ as to how many were killed, Drovetti estimated 500.59 It is this episode in the pasha’s rule that shocked and revolted the European nineteenth-century writers above all other incidents and fills their histories of the governor. The Comte de Forbin in his portrait of Muhammad Ali decided to depict the wali at this moment reclining in his palace calmly smoking a pipe as all the firing happens behind him. Whatever the reality of the situation was and however bloody, the result was unquestionable that Muhammad Ali had secured his place as governor of Egypt.

In his discussion of the reign of Muhammad Ali, Vatikiotis emphasizes the governor’s concern with building his military force. He states that it is not in agriculture or industrialization that his priorities lay. In short, the pasha thought, according to Vatikiotis, of “civilization (at least, European civilization) as a set of devices to organize, arm, and maintain his army, which in turn, was his best guarantee of his independence.”60 Vatikiotis gives as an example the first medical school begun by Clot Bey since it was intended to serve the troops. While it is true that Muhammad Ali greatly emphasized the improvement of his army, there were many projects of the wali that were not concerned specifically with military improvement. In siting this example

59Ibid., p. 72.
60Vatikiotis, p.60.
Vatioski neglects the fact that Clot Bey was also directed to work with the populace in the area of eye treatment, hygiene, and general health.

Not all of Coste’s projects were specifically connected to the military. Of course his first two designs, the saltpeter and gunpowder factories, were military ventures but these projects were followed by numerous palaces, telegraph lines, canals, and two mosque commissions. This wide array shows an interest in modernization and in immortalizing his rule as much as in increasing military strength. While some of the canals and the telegraph lines aided in transportation and communication of the troops, they also aided in the modernization and eventual industrialization of Egypt in trade and commerce. His interest in creating enormous monumental buildings is quite in keeping with Muhammad Ali’s hope to create a hereditary dynasty in Egypt.

In addition, Muhammad Ali’s interest in opening schools was not limited to military training. As will be discussed, Coste helped open a school for engineering, which was one in a succession of specialized training areas. In Paris, Jomard agreed to supervise forty students in 1826 at the newly formed Ecole Egyptienne. The purpose of this school was, “c’est-à-dire soustraire ces jeunes esprits à l’influence d’une société énervée, ignorante, pour les transplante au dentre des lumières.”61 Merrau continued that the students on their return were not always placed in positions appropriate to their training but they at least had the benefit of “le germe d’une civilisation supérieure.”

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One way Muhammad Ali was so successful in his bid for absolute power (considering the continual rivaleries of the previous Mamluk beys) was by strictly centralizing the government under his complete control. His government held all authority and he filled it with those most faithful to him, his family. His three sons, Tussun, Ibrahim, and Ismail, were placed at the head of the armed forces. His youngest son later became commander of the navy and his grandson Abbas, head of the Cairo administration. In 1824, Muhammad Ali completely revamped the administration (whose power stretched from the cities to the countryside) and created a strict hierarchy with himself at the top. In addition to his family members, Muhammad Ali employed only Turks and other foreigners in the military and higher administration, thus forming a solid, tight group of displaced officials who were dependent on the administration for all social support. F. Robert Hunter points out that a large number of these workers were from the pasha's hometown of Kavalla, to give them an additional bond of loyalty.\textsuperscript{62} Hunter wrote that this was “household government in the purest sense.”\textsuperscript{63}

The Conquest of the Wahhabis and the Sudan

During Coste's ten year stay in Egypt, Muhammad Ali engaged in three military campaigns: with the Wahhabis, Sudan and Nubia, and lastly Morea. His participation in the quelling of the Wahhabi uprising was due to the request of the Sultan in Istanbul. More importantly the Porte wanted to

\textsuperscript{62}F. R. Hunter, \textit{Egypt under the Khedives}, (Pittsburgh, 1984), p. 23.
\textsuperscript{63}\textit{Ibid.}, p. 22.
protect their trade interests (as did Muhammad Ali) and their reputation by securing control over Mecca and Medina. In his history of Muhammad Ali, Clot Bey wrote that the Wahhabis wanted to plunge the Muslim world into the horrors of fundamentalism and that Muhammad Ali’s success had prevented that. The Wahhabis wanted religious reform and like Muhammad Ali, autonomy from the Ottoman Empire. From 1811 to 1823, the pasha’s troops fought in Arabia which allowed his troops to be tested in battle as well as conditioned for his later campaigns to expand his lands. Through the defeat of the Hijaz, Egypt “could divert much of the profit from the trade route to Egypt instead of sharing it with all the other commercial elements who traded there”. Thus the Wahhabi campaign, as all others, was part of Muhammad Ali’s plan to secure dominance of the trade routes of the territories surrounding Egypt. The Wahhabi campaign was led by Ismail, Muhammad Ali’s third son, who returned home victorious after defeating Dariyah (presently in Saudi Arabia) in 1819. Coste worked with Ismail on the Mahmudiyya canal and seemed to get along well with him despite his reputation for mistreatment of his soldiers, as will be evident in his treatment of the canal workers to be discussed. Charles Gaillardot Bey wrote that during his attack on the Wahhabis, Muhammad Ali had his troops destroy mosques and bazaars, and then following the Wahhabis defeat had an enormous fête in the citadel.

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65 Marsot, p. 199.
66 C. Gaillardot, *Revue d’Egypte*, p. 98. If this is true, these acts would have been carried out by Ismail, probably acting alone since Muhammad Ali had little control of his hot-headed son. Marsot documents in two letters from Muhammad Ali to Ismail, the wali’s
One of the reasons Muhammad Ali invaded the Sudan (lasting from 1820 to 1822) was to search for soldiers to recruit in preparation for his more extensive military exploits. By recruiting the Sudanese, the Egyptians would thereby be spared and could continue extensive agricultural work. In addition, Nubia was conquered in search of Mamluks who had escaped Muhammad Ali's coup in the citadel and could be a nemesis in his continual attempt to take control of all facets of the Egyptian government. Ultimately a failure, Muhammad Ali's capture of the Sudan provided him the opportunity to conscript twenty thousand Sudanese, a great majority of whom died of disease and the difficulties imposed on them by the new climate. Hence by 1823 the wali was forced to recruit from his own citizens, the Egyptians, for his new battle with the Greek uprising in Morea. In 1817, Muhammad Ali's ambitions were beginning to be realized financially and that only fed his desires to see Egypt transformed into a modern country. For this dream, Muhammad Ali needed a Western architect. Having never constructed a building on his own, Coste stepped onto the shores of Alexandria destined to become the governor's chief architect in three years.

attempt to get his son to treat his workers better and thereby gain their respect (p. 86). Ismail's brutality continued in his next campaign in the Sudan where he was killed in 1822 by a Sudanese ruler who was so incensed at the inhumanity of Ismail's actions that he burned him alive in his tent.
Coste’s Introduction to Egypt

In Alexandria, Coste was lodged in the French quarter with a Mr. Nardy, “négoiciant, correspondant de M. Baffi”.67 Was Coste dazzled by the new sights, smells and sounds? His account is mute of such interests. He simply described his first image of the city as follows: “L’aspect de cette ville et de sa population arabe, au langage guttural, me fit une impression.”68 Remaining in Alexandria for ten days, Coste took meticulous notes about the obelisk of Cleopatra and Pompei's pillar, writing that they were the most remarkable.69 In keeping with his training at the École, Coste was initially only interested in the classical Roman and ancient Egyptian ruins he found in the old city.

In his journal, Coste notes finding the “cité vraie” or the Islamic city between the old and new ports. To him, this section of the city is filled with “rues étroites et tortuesuses, non pavées, des maisons bâties en briques cuites, de un à deux étages, couvertes en terrasses, avec une population de 10-20,000 âmes.”70 The mosques that Coste saw, he felt were of little importance and instead sought the baths of Cleopatra at the edge of the sea. Interestingly Coste was to return five years later to sketch these same “uninteresting” mosques for his monumental examination of Islamic architecture. Examining the fortifications of the city, Coste wrote that the city was surrounded by walls flanked by large circular towers, all made by Arabs from the ruins of

67 Coste, Memoires..., vol. I, p. 10.
68 Ibid.
69 Ibid.
70 Ibid., vol. I, p.11.
antiquity. Coste noted a residence of the viceroy on the “presqu’île” and a fort with a lighthouse in the extreme northeast. The palace would have been Ras-al-Tin where Coste was to design an additional pavilion three years later. During his ten-day stay, Coste made many sketches of the city, most of which concern the ancient ruins and harbor views.

From Alexandria Coste traveled to the port city of Rosetta and then to “Téranéh” where Baffi had his residence. After relaxing a few days, Coste moved into the Baffi villa where he found the engineer surrounded by imported European luxuries. In his command, Baffi had twenty “Mamluks français” placed there by Muhammad Ali for the Italian’s security. Coste remarks that these French soldiers were originally in Napoleon’s forces and had stayed in Egypt to serve as the pasha’s honor guard. Coste states that only about one hundred still existed in Egypt and that their main purpose was to serve as authorized interpreters for European voyageurs, most being placed at the arsenal and the diverse factories in the region. Frederic Cailliaud who was travelling in Egypt at the same time wrote that “These men have kept up in the country the recollections of a memorable expedition, and have also indirectly tended to disseminate principles of civilization, the germs of which are daily expanding in a country, that, centuries ago, was the cradle of science

71 Ibid.  
72 Ibid.  
and the arts." Thus after eleven days, Coste's immersion into the Egyptian culture was greatly softened as he relaxed in a European villa surrounded by his fellow countrymen and their tales of French exploits.

Enveloped in European comfort, Coste became anxious to begin his work on the saltpeter factory. But at his request for the plans, Baffi bristled, reluctant to trust Coste with his technical blueprints. Baffi told Coste that he must become better acquainted with the architect before he could confide the secrets of his evaporation technique. This relaxed slowness in working schedules was to confront Coste continually. Through his ten-year stay in Egypt, Coste never became accustomed to the laxity of the work schedule with which he was surrounded. He continually drew plans for buildings, forts, and factories far before the commissions could be constructed. Muhammad Ali’s vast building dreams fed Coste’s hunger to complete dozens of his own designs, making plans for any commission given him. It was probably due to Coste’s abounding energy, frustrated by the regime’s reality of a lack of funds, that forced Coste to keep busy by documenting his Egyptian surroundings as much as he did.

Baffi required two months to become comfortably acquainted with Coste. Coste took advantage of this break to make many excursions, one of which was to Cairo through the invitation of an Armenian, Boghos Bey, to meet Muhammad Ali. Coste’s cultivation of the friendship with Boghos, the minister of foreign affairs, suggests a calculating spirit on Coste’s part. Coste

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had stated in his journal that he wanted to meet the viceroy himself. This wish was probably strengthened by the desire to take the construction of his designs into his own hands after the frustration of the wait under the employ of Baffi. Hence Coste seems to have actively pursued a friendship with the minister Boghos. P.N. Hamont, Muhammad Ali’s veterinarian described Boghos as a flatterer, “un courtisan habile” and extremely close to the ruler.75 Thus Boghos would be an advantageous friend to have in Muhammad Ali’s camp. This friendship between Coste and Boghos survived throughout Coste’s stay in Egypt, resulting in two commissions, one of which was for an enormous palace for Boghos in Alexandria in 1824 to be discussed later.

Coste was not the only Frenchman to have been aided by Boghos. The French geologist Cailliaud who made a number of admirable discoveries of Egyptian antiquities wrote of Boghos, “The stamp of softness and politeness is so impressed on his manners, that we quitted him with regret, but with a full persuasion of succeeding in our suit: his demeanor was noble his exterior brilliant and imposing. He seemed naturally inclined to favor Europeans and he was incessantly devising means to render me all the good offices that his official character would authorize.”76 The Comte de Forbin also was quite taken with the minister writing much about him in his journal. “He caresses all people with a soft, obliging air, and his address has a powerful effect upon all parties, producing on their minds an acquiescence with his measure.”77

76F. Cailliaud, Travels in the Oasis of Thebes, (London, 1822), p. 36.
Within a few months, Boghos arranged a meeting between the governor and the young French architect, a meeting that was to change Coste’s life.

Coste’s First Encounter with Muhammad Ali

Whatever the pretenses were for his visit to the pasha, Coste was received in the citadel palace where Muhammad Ali shared his divan, coffee, and pipe with the Frenchman. Describing the pasha as very friendly, Coste wrote that Muhammad Ali stated that it was always a pleasure to receive the Frenchmen who want to aid him in his projects of reform. It is surprising that a person with a reputation for constant government supervision and strong-hold government style would take the time to have a private lunch with an unknown, young architect for coffee. Historically, Muhammad Ali is described by foreigners as well-mannered and courteous to visitors, always taking the time to discuss any ideas of modern progress for his country. Unfortunately, Coste does not detail the content of the conversation nor whether he discussed any ideas for the vast projects he ultimately designed during his ten years of work.

Writing about his visit, Coste was not only impressed by the pasha’s kindly manner. In a footnote, he wrote that he believed that Muhammad Ali reads aloud to Boghos. At forty-five years old, just as his beard turned grey, Coste wrote, that the viceroy had a strong will to learn to read and “se rendre

79 Ibid.
 compte de son administration.”\(^8\)0 Having many volumes translated into Turkish, the pasha’s library included *Charles XII, Napoelen 1er*, and many translated European journals which he would read to Boghos for practice.

**The Impressions of Muhammad Ali by European Travellers**

Muhammad Ali is a popular figure in many of the travel journals of Europeans visiting the Middle East. He seems to have been quite available for amiable discussions with most of the well-known writers who remained for any length of time in the cities of Cairo or Alexandria, including J.L. Burckhardt, Cailliaud, and Edward Ward Lane. He was thought of alternately as cunning and intelligent; a modern genius who was seen as shrewd, gentle, or manipulative. Richard Trench, in his history of European travellers, described the reaction of one visitor, “William Turner, who travelled for a while with Burckhardt in the Levant and Egypt, describes Ali’s ‘dark and designing countenance and penetrating eyes’ which reminded Turner of Richard III’s power to ‘smile and smile and murder while he smiles’.”\(^8\)1

With an uncanny aptitude to judge the abilities of others, Muhammad Ali was able to surround himself with intelligent experts in all fields. He gained an unquestionable indication of loyalty from some of his European officers and ministers when they converted completely to the Islamic life, culturally and religiously. The pasha used these men in his march toward progress to train and educate his own populace. “Muhammed Ali believed in

\(^8\)0 Ibid.
the value of specialists. He searched them out, learned from them and made use of the knowledge. He tried to teach his sons the virtue of the expert, and every son who was sent out on a military expedition was given two tried and experienced men and enjoined to take no steps that these two had not approved.”

Not trusting the governments of the West, Muhammad Ali realized that it was only in training his own people that he could gain the progress needed to break from the Ottoman government.

Burckhardt himself is a perfect example of the cunning Muhammad Ali used with his scholarly friendships. Johann Ludwig Burckhardt left England in 1809 as an employee of the African Association. During his travels along the upper Nile and the Sudan, Burckhardt took meticulous notes of the people, their culture, and the geographic area. Reporting back to Muhammad Ali during his friendly visits, Burckhardt unknowingly provided the pasha with information which he later used strategically in his invasion of the Sudan which resulted in the ruthless slaying of thousands of Sudanese natives. Sadly, Coste never knew the brilliant Swiss scholar since he died less than one month before Coste’s arrival. Burckhardt died in Cairo of the plague at the age of thirty-three.

Burckhardt however was not blind to the inhumanity Muhammad Ali could inflict on the populace. During his stay in Egypt, he collected Arabic proverbs which were posthumously published. One states “He who is not

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82 Marsot, p. 75.
83 Trench describes Burckhardt as a “collector of intelligence,” rather an unofficial spy for the British government (p. 59).
satisfied with the government of Moses, will be satisfied with the government of Pharoah." Burckhardt explains that "This saying has latterly been often quoted to express that those who did not like the Mamelouks, must now submit to the still more tyrannical government of Mohammed Aly." In another proverb which is in reference to the wali’s “passion for building palaces and villas,” Burckhardt translates the phrase, “He builds a palace and ruins a city." Since this proverb pre-dates the huge building schemes of the 1820s and later, one can guess that its use became extremely frequent as time passed.

Considering the bloodiness and scheming of his original takeover of Egypt, it is realistic to believe that Muhammad Ali had deliberate reasons to open his court so courteously to strangers. About his attitudes to foreigners, Marsot writes:

Muhammad Ali was a pragmatist who made use of whatever talent was available; also he had no racial or religious prejudice. Being a clear-sighted man he realized the collaborators he needed could not be found among his own people and so he set out to educate his people, but in the meantime he made use of the abilities of the Greeks and Armenians who were co-nationals in the empire. The French had always traded in the Mediterranean so their activity was necessary, and after 1815 military and technical experts from France were readily available. His liking for French talent may also have stemmed from the tremendous admiration he had for Napoleon.

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85 Ibid., p. 279.
86 Marsot, pp. 30-31.
In addition to the French soldiers in his honor guard, the *wali* filled his military schools with French experts and had French officers fighting with his troops, more of whom were available after Napoleon's defeat and exile to Elba.

Muhammad Ali was cognizant of less than charitable wants of many of these specialists. Many of these experts seized the chance to work in Egypt not for progressive reasons of modernization of the people but in the belief that they could exploit the situation to make quick money by benefitting from the backward confusion they expected to find there. “As far as the Egyptian ruler was concerned, these men were tools in his hand: they were in Egypt to perform a function, to teach his bureaucrats their knowledge, and once that was done he wished to dispense with them, for he did not trust them to look after his interests in the same way as his retainers would, especially as many of the men were 'job hunters and adventurers’.”

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**Coste’s First Stay in Cairo**

Whatever the uses the *wali* saw for Coste is pure speculation, nonetheless Muhammad Ali must have approved of the young French man, since after Coste’s reception in the citadel his appointment was officially approved by Kaya-Bey, minister of the interior and Chérif Bey, minister of finances. In the office of the latter, Baffi registered Coste as an employee of the pasha. During his stay in Cairo, Coste met many well-known people, visitors and residences, of many different nationalities. One group passing through

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Egypt from Constantinople and Jerusalem included the “Comte de Forbin, directeur des musées de France, son cousin l'abbé de Forbin missionary et après évêque de Nancy, M. Prévol, auteur des Panoramas, avec M. Linant, son dessinateur, officier de marine.” 88 Coste accompanied these four on many excursions to see ancient and religious sights around Cairo. Coste tells the story of how the abbot attempted to say mass from the highest pyramid outside Cairo but was prevented by rain. Whimsically Coste wrote that the storm was “un cas extraordinaire.” 89

As part of the Forbin mission, Huyot (the author of the Grand Prix design that Coste noted in his journal) too arrives in Egypt. Coste states that he took many walks with the architect Huyot, having met him in 1816 when he passed through Marseilles at the start of his journey. Coste wrote that the two were impressed by the Arab monuments they found in the city, Huyot “m'engagea beaucoup à en faire des relevements.” 90 After a few more days, members of the party left for Southern Egypt or France, with Linant staying to become inspector of the construction of a cotton spinning machine designed by the Lyon engineer Jumel. Together with the French engineers and architects Jumel, Linant, and Coste, the Egyptian government had also employed a distinguished mechanic from Lyon, Gonon, to direct construction on an arsenal and another cotton spinning machine in the citadel, both of which Coste writes were completed by the end of 1817. 91

89 Ibid.
90 Ibid., p. 15.
91 Ibid.
The Saltpeter Factory

Finally in February of 1818, Baffi confided his technique to Coste and they began work. The saltpeter factory was to be located between Memphis and the Nile beside Bedrichen, a city of Giza twenty-four kilometers from Cairo. Located on a large flat plain, the evaporation factory was constructed on a rectangular site 126 meters by 110 meters. Coste wrote that the secret of the evaporation process without using heat or fire was in the grand scale of the superimposed basins which passed from one to the other, depositing the various salts as they moved—the means of evaporation being simply the heat of the sun.

Coste's design (fig. 4) consisted of a rectangular plan split by a central axis which had an arched gate on one side and a raised temple-like structure on the other. The design resembles a heavy fortress with small slits for windows along the front and raised sentinal type pavilions on each corner. Only the peaked, arched entrance gate is out of keeping with the heaviness of the structure. Each of the protruding corners and lavatories have wide bases which slightly taper toward the top, giving them an Egyptian pylon look. On the corners, these pylon bases are covered with amusing pavilions, complete with decorative edges which make the structures appear like delicate little Indian canopies although Coste had little knowledge of Indian architecture.

Due to the importance Muhammad Ali placed on projects for military progress and his desire to be self-sufficient in military supplies, Coste's plans were undoubtedly used as a model for other saltpeter works which the wali was
planning to build throughout Egypt. Thus like Ledoux and his plan for the salines at Chaux (of which Coste was certainly well-aware, having been trained by two architects who were great admirers of the master) Coste was designing a plan which could be used as a “type-form,” easily repeated in different locations throughout the country. In general, for his work in Egypt, Coste was given a clean slate and free rein to make his plans. Geographically, the sites were open areas or areas which were cleared for his designs. This would have been the case throughout Egypt with other saltpeter factories which were in all probability simply being dropped in any place deemed suitable. For the saltpeter works at Bedrichen, Coste had the freedom of an open desert to develop a plan which could then be reused in desert locations in other parts of Egypt.

As at Chaux, the Bedrichen saltpeter plan “bears all the marks of typicality; centralized, symmetrical, strictly zoned according to function....” But unlike Ledoux with his famous radiating axes, Coste did not need to be concerned with the placement of his design, since it was encompassed by open desert. In his drawing, Coste romanticized the setting with caravans of camels traveling in lines from all directions. On the horizon, he drew a collection of pyramid types stacked as if on a museum shelf displaying their variety and sizes. Between the pyramids and the saltpeter works, Coste has drawn a small village punctuated with the stereotypical Islamic architecture of high and low domes with the ubiquitous towering minaret in the distance.

93Ibid., p. 57.
As a student of a Ledoux pupil, Coste was certainly given an education emphasizing the importance of spatial order and its link to labor management and effectiveness, principles dear to Ledoux. Experiments with improved working conditions were in vogue at the time. Ledoux himself designed his factories with a concern for creating a moral atmosphere of gardens and physical beauty which was believed to “engender happiness.” But in Egypt, Coste found himself in a society unconcerned with the welfare of its workers. Worker’s housing was not an issue. In his rendering of the working factory, Coste unrealistically places the structure in virgin sand with the neighboring village in the distance as if the factory was a distant caravanserai rather than portraying the geographic reality of its position in a suburb of Cairo.

Coste’s plan begins with an arched entrance gate which is flanked by quarters to hold camels used in transportation. Outside this wall jut two latrines. These more practical facilities are the only ones which are concerned with the exterior functions of the factory and are thus placed at the entrance, apart from the workings of the evaporation process. Coste clarifies the directional orientation by using an open arched gateway at one side which faces a raised pavilion on the opposite wall. Since the process was caused by the evaporation of the sun and not the use of large fires, Coste did not need to be concerned with burning facilities, or of wood and coal storage areas. Instead Coste used the theme of evaporation as the impetus for his design. As the salt

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is separated through levels of evaporation, Coste drew his plan to demonstrate the levels of purification with the purest being in the center.

In a U-like formation, the three outer walls of the factory were used to house the unrefined material. These storage containers reach the height of the factory's walls and serve as a filled barrier for the work inside. From this level of raw material the platform steps down to a storage area for the material after the first washing which is then separated from its deposits, a process carried out on all three sides. This new unpurified salt is then placed into long rectangular basins which pass into lower basins below. Continuing its movement down and toward the center, the purified substance is then moved into the final square basins where the salt is crystallized in a twenty-four hour period. Stepped in more gradual levels, the central basins purify the saltpeter to its usable form which is finalized in the center. Jutting out from the front side of the final basins are circular traps which hold the remaining residue. Thus the levels of the basins step down with each purification stage, taking advantage of the gravity.

Like the exterior, Coste has made the interior walls of heavy stone slabs, however, the level below the outer walls is lightened by the use of a gentle arcade of wide arches reminiscent of the aquaduct of al-Nasir Muhammad located nearby. In the design, the unrefined material is placed as far from the final purified substance as possible which makes it also serve as an extra layer of protection from the outside world. The use of the arcade is also two-fold. It not only lightens the architecture which corresponds to the lightened material passing above, now relieved of much of its heavy debris, but the aquaduct-like
arcade also signifies the introduction of water into the purifying process. The short passages between the wall tanks and the evaporation basins where water is transported are also articulated with two arches which resemble the aqueducts even more closely. At this time, Coste was interested in the fifteenth century aqueduct located in Cairo and made sketches of it which he later used for his final prints in *Monuments du Kaire*. Thus, the architectural forms used correspond to the more utilitarian aspects of the structure, unified in the simplicity of the various levels and the sheer mass of their size.

The focal point of Coste's plan is the central *noria* located opposite the arched entrance. *Norias* were used to elevate the water which was then flushed through the unrefined material, carrying off the purer substance with each washing. Coste placed the three *norias* under the most decorative elements of the structure: below the raised platform and under the two corner pavilions. With their water storage facilities, the corner pavilions seem to be a delightful resting place looking out over the desert, as well as integral parts of the evaporation process. Even more astounding is the *noria* placed at the center of the plan. Facing the incoming visitors with its series of steps, it towers above as a temple. Its heavy massing with only two thin columns resembles an ancient Egyptian temple. Coste has drawn the *noria* as a temple of water. Thus placed high above the ground level, the noria is highlighted with a flight of steps which lead to the temple that houses the most valued treasure in the desert, water. In his drawing, Coste mirrored these steps with the stepped pyramid of Saqqara in the background, as if his temple of technology reigns with the ages. Thus the steps of the basins, the levels of the walls and the frontal steps of the
noria temple all lead to the ultimate level of purity, water. The practicality of the water's usage has been supplanted by the importance of it as a natural necessity, the temple looming above the fortress as an oasis in the desert.

During the year and a half in which Coste worked with Baffi, he took time to visit many of the more famous ancient sites in Lower Egypt. He was especially impressed by Saqqara which was only one kilometer from his construction site. After his work was finished, he continued to visit other architectural monuments. In March 1819, Coste cloistered himself in his tent, hidden from a horrible wind with his first case of opthalmie, the first of seventeen attacks he suffered during his stay. One can imagine Coste sitting in a tent beside Saqqara, sick with opthalmie, listening to the sandstorms, and fearing the plague. In August, Coste took precise notes and measurements of the pyramids of Giza, the Sphinx, and the tombs of Memphis. This practice of meticulous rendering prepared him for his later work on the mosques of Egypt.

The work on the saltpeter works was finished in September 1819. Baffi sent Coste to Cairo by order of Muhammad Ali. At the meeting, Coste immediately accepted the request by the wali to design and conduct the work on a gunpowder factory to be constructed on Rhoda Island located in Cairo between Giza and the old city. Planat wrote in a letter from September 3, 1826 that Coste had completed two saltpeter works, one in Bedrichen and one in Hermopolis in old Cairo. But Coste gives no indication that there is

more than the one construction in Bedrichen. As suggested before, it is possible that Coste’s plan served as an example to other saltpeter factories and it is to one of these that Planat refers. In this same letter, he wrote that Coste completed a plan for a gunpowder factory in 1821.

In a note which appears later in his journal, Coste stated that he visited the saltpeter factory sometime later. It was still running quite successfully producing more than 3,000 quintals of pure saltpeter per year. About his former employer Coste wrote, “M. Baffi partit pour l’Italie, en costume oriental, et y dissipa cette somme [his payment for the factory] en deux années. Il retourna en Egypte où Mehemet-Aly l’employa à purifier le natron, produit des lacs, dans le désert, à 40 kilomètres de Terranéh.” Coste was not the only one to find Egypt the land of opportunity.

The Rhoda Gunpowder Factory

The powdery was designated to be located on the south end of Rhoda Island, its site encompassing the Nilometer which registered the depth of the river. In a footnote about the Nilometer, Coste wrote:

Colonne octogone divisée sur chaque face en coudée servant à mesurer les eaux du Nil pendant sa crûe, et faire juger d'avance si l'inondation sera favorable ou non à l'agriculture. L'étage des eaux du Nil arrive périodiquement en juin.

Les eaux s'élèvent ensuite progressivement de quelques centimètres jusqu’en octobre à la hauteur de 6 à 8 m. 50 c. La moyenne pour une bonne récolte est à 7 m. 70c.; au-dessous, les récoltes sont médiocres. Au-dessus, inondation à les compromettre par les ruptures.

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Extensively documenting the Nilometer, Coste decided later to include it in his *Monuments du Kaire*, giving both an elevation and plan. Coste believed in the importance of this monument and was sympathetic to its placement in his design.

The present Nilometer dates from 861 and is the oldest remaining Islamic monument in Cairo, probably taking the place of a previous nilometer of ancient times. Creswell wrote that Coste's gunpowder factory was built "on the very site of the palace of Sultan Salih as is shown by the word of Michaud and Poujoulat in their letter dated April 1831: 'au milieu des ruines du palais de Neggemedin, on a construit une pouprière'.” Strangely Coste does not note the presence of this Ayyubid palace in his journal or in his plans. Al-Salih Nagm al-Din al-Ayyub, the last ruler of the dynasty of Salah al-Din, died in 1249. He is as famous for his own rule as he is for the subsequent rule of his wife who secretly ruled for a short time then jointly ruled with her new husband Aybak, previously commander of the military guard.

At the time of Coste's stay, the Nilometer was housed in an Ottoman domed kiosk whose tiles shone colorfully on the river. The island was not developed until the late nineteenth century so Coste's design was highly visible, set in the midst of open meadows and orchards. In the *Description de*

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l’Egypte, Jomard noted that the location was particularly attractive due to “the avenue of sycamores leading to the Nilometer, and the grove of orange and lemon trees in which it stood.” A few years later Coste also designed a villa to stand on the island.

Working from 1819 to 1820, Coste designed the gunpowder factory in a very irregular form with a neat horseshoe-shaped court housed within the sprawling exterior (fig. 5). The site on Rhoda allowed for an entrance both from the land and the Nile. The shape of the grounds hugs the bow of the island with a slight nick in the horseshoe arch. Included in the walled-in site are the exterior functions: stables, lodgings for the porter and supervisor, enormous bins for storage, and a drying area which stretches along the edge of the river in two lines like rows of trees. Within the heart of the factory are the mortars turned by mules which fan out from the horseshoe-shaped “grand cour.” As in the saltpeter factory, Coste is concerned with a clean, geometric design which facilitates the processing by keeping a clean separation of the purification process from its support facilities. But unlike the first project, Coste was forced to adjust to the varying geography of the site which limited him to only one perfectly geometric element in its design. Even with the restrictions of the area, he insisted on creating a controlled space of radiating axes with the support facilities simply spread out in a random fashion on the rest of the site.

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For the powdery, Coste utilized workers who were Egyptian, Greek, Italian, and Maltan. The bronze work was forged in ateliers in the citadel under the Frenchman Gonon. While working on the powdery, Coste was periodically interrupted by investigations into other projects for Muhammad Ali. Coste appears exhilarated with his new-found responsibilities, continually emphasizing in his journal his hand in all areas of construction and his responsibility for the workers below him. "Le tout sous ma direction fut exécuté conformément à mes plans et détails. J'avais placé deux inspecteurs intelligents pour suivre les travaux pendant mon absence: un Arabe pour les maçonneries, et un Grec pour les autres travaux."100

The Mahmudiyya Canal101

In travel journals and historical studies, Coste is frequently mentioned for his work on the Mahmudiyya canal. Undertaken in 1818, Coste was asked during his overseeing of the Rhoda powdery to inspect the work done on the canal and offer suggestions for its design. Edwin de Leon relates a story of the time about Muhammed Ali and a French engineer who is asked to examine the plan of the canal during its construction, the Frenchman is most probably Coste. The Frenchman begins the conversation:

Your Highness must pardon my suggesting that your canal will be very crooked.

'Do your rivers in France run in a straight line?' abruptly responded the pacha.

'Certainly not,' answered the astonished Frenchman.

'Who made them? Was it not Allah?' again questioned the pacha.

'Assuredly, your Highness,' replied the Frenchman, who thought his questioner's wits were wandering, and could not comprehend what he was aiming at.

'Well, then,' answered Mehemet Ali, triumphantly, 'do you think that either you or I know better than Allah how water ought to run? I imitated him in my canal; otherwise it would soon have been a dry ditch, not a canal.'

The Frenchman was silenced, if not convinced; and the canal is certainly very crooked still.\textsuperscript{102}

Edwin de Leon however does not add that the Frenchman still had to straighten a section of the canal to make it flow properly.

Developed for water navigation through Egypt, the canal was designed to avoid "le passage difficile et dangereux du Bogaz, aux bouches du nil, à Rosette, si fécond en naufrages."\textsuperscript{103} The canal was to unite the country into a more coherent land mass with modern means of transportation for trade and commerce. Linant de Bellefonds who added to the canal in 1842, claims that Muhammad Ali in addition to wanting better movement, communication, and irrigation, also wanted water for gardens and the countryside around the Alexandrian canal.\textsuperscript{104} In consideration of the many garden palaces that Muhammad Ali commissioned from Coste at this time, this claim sounds

\textsuperscript{102}E. De Leon, \textit{Egypt under its Khedives}, (London, 1882), p. 44.


\textsuperscript{104}L. de Bellefonds, \textit{Mémoire sur les principaux travaux d'utilité publique exécutés en Egypte}, (Paris, 1872), p. 349. Linant de Bellefonds replaced Coste after his departure as engineer for Muhammad Ali.
quite plausible. Muhammad Ali was attempting to make Cairo and Alexandria comparable to the world capitals like Paris, London, and Istanbul. One of the ways he felt he could achieve this cosmopolitan atmosphere was by making a city that was as rich and wealthy-looking as those of his competitors.

This vast use of canals was more advanced than the use of waterways in many parts of Europe at the time. It furthered one of Muhammad Ali’s highest priorities: improving transportation for trade, and improving Egypt’s communication internally as well as with Europe and the Far East; capitalizing on the country’s geography as “Egypt is unique among Middle Eastern countries in having a navigable waterway which crosses the entire length of the country.”

The Mahmudiyya Canal was the first step in the process of creating an extensive network of waterways throughout Egypt by joining the Nile to the newly-developed city of Alexandria. By diverting the foreign trade and all military and industrial transactions through Alexandria, Muhammad Ali had contributed to an immense growth of population and commerce in the city. Previously, Rosetta had been the premier harbor and home of European factories. But after the completion of Mahmudiyya, Alexandrian custom revenues increased eight-fold and many European businesses relocated. “Thus Alexandria developed, during a relatively short time, from a small fishing village to the second largest town in Egypt.”

Coste's fellow Marseillan and Muhammad Ali's physician, A.-B. Clot-Bey wrote about his perceptions of the social and physical conditions of Egypt during his stay which is contemporary to that of Coste. In his chapter on the canals of Egypt, he emphasizes the importance that Napoleon placed on the Nile and its possibilities for irrigation and navigational projects. Due to Clot-Bey's close relationship with the wali, it is probable that these are subjects the two discussed. Clot-Bey wrote in 1840 “Les canaux sont donc aussi la vie pour l'Egypte; mais l'unité que réclame dans sa conception et dans sa pratique un système de travaux public aussi grandiose et dont toutes les parties sont unies entre elles d'une solidité aussi étroite que celle que réclame l'Egypte, ce système n'est pas au niveau de simples particuliers, d'agréagations d'individus, de villes séparées; il demande l'action d'un pouvoir qui représente toute l'Egypte, dans lequel tous ses intérêts comme toutes ses forces se personnifient.”

The importance placed on the canal system and, hence, on Mahmudiyya as the largest and most extensive canal, suggests the magnitude of this commission for Coste. After its successful completion, Coste became the premier architect for Muhammad Ali and was asked to design all projects of importance until his departure in 1828.

According to Ahmad Ahmad al-Hitta, the development of transportation in reference to internal waterways was a three step process. The first step was to free the canals of pirates. The second step was linking

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108 Clot-Bey, *Derniers Souvenirs et Clot-Bey aux Académies*, (Marseilles, n.d.), p.5.
Alexandria and the Rosetta branch al-’Aft which was completed by the Mahmudiyya canal. Due to the hazards of the Rosetta harbor, the canal “promoted the expansion of foreign trade and that of agriculture, especially cotton, and stimulated traffic on both the land route from Cairo to Suez and on the Nile and the canals.” 111 The final step would be the increase of boat traffic on the Nile. A process made complete by commissions of boats from local and international makers, in particular from Marseilles. The Mahmudiyya canal was the forerunner of the Suez canal, in that many experimentations were made in surveying and construction techniques.

The development of the canals facilitated military and commercial transportation and was also important in the extensive irrigation schemes of the pasha. Like most of the commercial transactions in Egypt, the foreign trade market was part of Muhammad Ali’s monopoly system. Purchasing the crops from Egyptian peasants at a fixed low price, the wali then resold the commodities to foreign buyers at a highly inflated price. Conversely, Muhammad Ali conducted the importation of all foreign goods and resold them again at great profits within his territories. 112

The wish to improve the canal of Alexandria and provide the city and surrounding villages with fresh water, began in 1798 under Napoleon. This first attempt was not navigable and was usable only during a fraction of the year. In her The Agricultural Policy of Muhammad Ali in Egypt, Helen Rivlin writes extensively in her chapter on irrigation about the Mahmudiyya canal.

111 Issawi, p. 409.
112 Vatikiotis, p. 65.
Rivlin dates Muhammad Ali’s first attempts at restoring the canal to 1811 but states that for military purposes including avoiding the possibility of invasion, the work was delayed until 1817. Excavation began before the governor’s Turkish engineers had had time to prepare the proper direction of the canal and its exact level measurements. This could be the reason that the engineers failed before Coste. Nonetheless even after Coste, the canal’s banks were never levelled correctly and it continued to silt up throughout the nineteenth-century. Rivlin stated that Coste supposedly made a proposal in 1833 to remedy the continual problem but this is unlikely due to Coste’s lack of interest in Egypt after his return to France and his occupation at the time with designing three churches in Marseilles. Coste mentions nothing of this matter in his memoirs.

According to Coste’s journal, Muhammad Ali discussed the canal with Coste in March 1819 asking him to undertake its direction. Coste wrote “il m’invita à me charger de terminer son canal, en me faisant observer qu’il ne voulait rien changer au tracé, qui était un fait accompli. J’acceptai.” Rivlin

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113 Rivlin.
114 Ibid., p. 219.
115 Ibid., p. 222.
116 In her account of its construction, Rivlin states that Coste undertook the direction of work on the canal in January 1819. (p.222) This contradicts Coste’s memoirs which state that his work was finished on the saltpeter works in September 1819 after which he was sent to begin the powdery in Cairo which was completed in 1820. (Coste, p. 27) Coste’s own date of September 1819 is given as a date for other projects outside the capital, making it impossible for him to have been in Cairo at that time. In all probability, the date should properly be September 1818 for his commencement of the powdery, with the canal commission resulting a few months later.
117 Ibid., p. 27.
recounts that the French architects Huyot and Lachaise were consulted in Cairo about the canal, with Huyot executing the construction of a dike which did not help to eliminate brackish water from the canal.\textsuperscript{118} This fact is improbable since Huyot was travelling in Upper Egypt at the time. Coste wrote that, in December 1821, Huyot arrived in Cairo with his sketches of the ancient monuments of the south which he showed to Coste. “Après avoir exploré et relevé par de beaux dessins, les monuments de la Haute-Egypte et ceux de la Nubie, je l’accompagnai à Alexandrie où il allait s’embarquer pour retourner en France.”\textsuperscript{119} In Alexandria, Huyot did examine the canal with Coste at the request of Muhammad Ali. Coste does not describe the outcome of the trip nor does he state whether or not Huyot made any suggestions. In all probability in such a quick trip little could have been ascertained. Whatever the reality, the canal continued to function imperfectly for decades.

Vaulabelle reports that the Mahmudiyya canal cost the equivalent of 7,500,000 francs.\textsuperscript{120} “Il assembla tous les gouverneurs des sept provinces de la Basse-Egypte, pour combiner les moyens d’execution.”\textsuperscript{121} Each governor provided supplies and workers in proportion to their region. The conditions in which Coste worked were difficult considering the limited amount of instruction the more than 360,000 workers had. Linant de Bellefonds speaking from experience of working as an engineer in Egypt wrote, “Les ingénieurs étaient très-peu instruits; je les ai connus plus tard et j’ai pu voir toutes les

\textsuperscript{118}Rivlin, p. 220. 
difficultés que l'architecte Coste, qui alors étaient l'ingénieur en chef, a dû eprover pour ce travail.”122

Many of the problems arose from the work of a Turkish engineer, Chakir-Effendi, who started the canal by tracing it with a defective line for the water levels and ignoring the operations of his surveying equipment.123 In addition to the technical troubles, Coste was confronted with many hardships ranging from weather, untrained workers, lack of technology, and sicknesses. “D'une part, l'Egypte ne possède pas encore les techniciens capables de seconder Coste dans ses opérations de nivellement et l'échec du percement du canal de la mahmoudieh par des ingénieurs turcs sans ordre, sans plans ni devis’ en est la preuve.”124 Coste stated that after he officially accepted the charge for the canal in March of 1819, he collected his students together for the work. “Je fis venir les élèves arabes que j'avais formés, pour pouvoir m'aider dans mes opérations et suivre mes travaux.”125 Coste follows this statement with a footnote saying that for this work he had now donned local clothes. “Ce fut à cette occasion que j’adoptai le costume turc dont l’aspect inspirait plus de sympathie au fanatisme musulman que le costume européen.”126

The main canal was finished in the month of December 1820. It was celebrated with an opening ceremony in which Muhammed Ali named the

122De Bellefonds, p. 349.
123Coste, vol. I, p. 26,
125Coste, vol. I, p. 27.
126Ibid.
canal Mahmudiyya in deference to the Sultan Mahmud III. It took two months for the waters to reach Alexandria. Work on the waterways continued:

Quant aux travaux, tels que la grande écluse à la tête du canal, à Atfeh, les ponts écluses, aux débouchés des eaux dans le port vieux et le port neuf d'Alexandrie; la pont de la porte de Rosette et autres, ils furent construits dans les années suivantes, d'après mes plans et détails d'exécution. 127

During the course of his work on the Mahmudiyya, Coste wrote on the canal plan in his sketchbook that while digging the canal they unearthed a catacomb. Forced to destroy it to complete the canal, the workers found a vast array of Roman, Greek, and Egyptian pieces. When Muhammad Ali was asked what he wanted done with the objects, he gave the better portion to his friend, the former French consul, Drovetti, and divided the rest between the other eager Europeans who were always found scavenging in Egypt. Coste, probably referring to himself, stated that the director of the work was thrown into the diplomatic division of the remaining antiquities. 128

128 Due to the excavations in Egypt during the conquest of Napoleon and its subsequent publications, Egypt became known as a country rich in antiquities. Although Muhammad Ali was not concerned in retaining the antiquities for the Egyptian state, the pasha did, however, use this resource as a bargaining chip either by trading pieces outright or by enticing scholars to Egypt in search of new discoveries. "One European visitor is supposed to have remarked to him that: 'I am convinced that one may not properly present oneself in Europe on return from Egypt without having a mummy in one hand and a crocodile in the other'." (P. Jordan, Egypt, (Oxford, 1976), p. 60)

Muhammad Ali was not particularly interested in the reputations of his archaeologists. Giovanni Battista Belzoni, who excavated many of the large sites during Muhammad Ali's reign, was reputed to have been a circus performer. One of his acts was as the base for a twelve man pyramid. He had solicited the pasha to hire him as a
The Working Conditions on the Mahmudiyya Canal

The fellah or workers for the canal were gathered from the seven different provinces as mentioned above. Housed according to province, the governors and their workers camped and ate together, returning to their villages when their work was done. The men from the villages were supplied with tents and food consisting of onions, beans, and bread of *dourab*. In cold, unemotional terms, Coste described the high mortality rate of these workers due to malnutrition, poor clothing, and the plague. Since the work took so much time, villagers often did not see the progress of the canals and became disillusioned by their work. Morale often sank low and workers became more difficult to find. On one occasion in Upper Egypt, an official wrote to Muhammad Ali about the difficulty of raising the manpower. The *wali* responded “if you say it upsets the fallahin when there is no need, then I say

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the boy does not willingly go to school but is forced by his parents until he
grows older and knows the value of learning, so driving all the men to dykes
and canals is difficult for them but is necessary.”

Britain’s former consul-general in Egypt, Edwin de Leon, wrote about
the Mahmudiyya Canal, “he is said to have sacrificed to it the lives of many
thousands of these poor wretches....The pyramid of skulls erected by the savage
Eastern warrior, was not a sterner memento mori, nor a more tragic record,
than the Mahmudiyya Canal.” But de Leon wrote elsewhere praising the
“mighty master” for his mighty exploits such as “the Mahmoudieh Canal,
connecting the waters of the Nile with the Mediterranean, to the fairy-like
pleasure gardens of Shoubra, near Cairo....” Much of the literature about
Muhammed Ali demonstrates the same dichotomy of emotions, immense
praise for his progress in Egypt, yet horror at his cruelty. Rivlin reports
estimates of deaths of 12,000 to 100,000 workers during the ten month
construction period. “So vivid was the recollection of the horrors of those
months that when years later the necessity for dredging the canal became vital
the government hesitated to call out the corvée for that purpose.”

130 Marsot, p. 151. Vatikiotis in a discussion of the guild system in Egypt points out that
since Muhammad Ali had the sole control over workers, the fellaheen had more freedom
choosing a profession and since his monopoly stabilized prices the workers were never
dependent on fluctuating market prices as the workers in England as an example.
Vatikiotis wrote however that this centralization could result ultimately in the abuse of
workers, as seen in the building of canals. p. 65.
131 De Leon, p. 43.
132 Ibid., p. 39.
133 Rivlin, p. 221.
In keeping with his less than generous attitude toward workers, Muhammad Ali also had no sympathy with deserters. Coste wrote in a footnote that during the course of the excavations the workers of a village near Belbèis slipped away during the night to return home. Ismail-Pasha, then supervising work on the canal, was given the orders to search for these men and punish them appropriately. "Un corps de cavalerie se dirigea sur ce village, le cerna pendant la nuit et s'empara de tous les coupables qui furent garrottés et tous eurent le nez coupé. Punition barbare, mais nécessaire pour intimider les autres travailleurs du canal."\textsuperscript{134} Coste flatly states that such acts, though savage, are appropriate to get the job done. This statement is in keeping with Vatikiotis's assessment of the rule of Muhammad Ali: "People to him were subjects who obeyed a forceful ruler who, in turn, ruled alone and absolutely without their participation."\textsuperscript{135}

In the course of completing the waterways, Coste was housed with Ismail Pasha at the column of Pompey in Alexandria. A severe attack of the plague claimed numerous victims during the work and the camp was put under quarantine under Coste's supervision. As always, Coste's work came first and he states that happily he could still supervise construction since few of the workers were infected.\textsuperscript{136} Each year of his stay, Coste wrote, the epidemic appeared in December until May or June. Taking some precautions to prevent

\textsuperscript{134}Coste, vol. I, p. 27.
\textsuperscript{135}Vatioski, p. 73.
\textsuperscript{136}Coste, vol. I, p. 28.
infection, Coste dryly states that he has lost one interpreter, three domestics, a young slave, and some students to the sickness.\textsuperscript{137}

While camped at Pompey's pillar, Coste received the French soldier Sève who stated his wish of serving under Muhammad Ali. According to Coste, he pushed his compatriot to present himself to the ruler who immediately saw the man's worth and gave him the position of director of the artillery ateliers in the Cairo citadel. Sève went on to great fame in the governor's service. Marsot wrote about Sève:

At first Sève had a hard time winning the trust and the respect of the men, for they could not speak his language nor he theirs, and they despised him as a Frenchman and a non-Muslim. Even more they were disgruntled at having to learn a new method of warfare in which they did not see much value. When target practice came round, more rifles were aimed at Sève than at the target. Fortunately for the man, the soldiers' aim was bad, but Sève's courage in standing up to the men won their admiration and they accepted his teaching.\textsuperscript{138}

Fortunately for Coste, he simply taught the men how to dig canals. In 1821, Coste made a particularly beautiful sketch of Sève (fig. 6), who was now called Sulaiman al-Faransawi. He is shown lounging on a divan holding a long pipe to his mouth. Any nineteenth century traveller would be proud to show this portrait to his friends back home. Sève is pictured barefoot with a fez pulled low on his brow, wrapped around his waist is coiled belt and dagger. Shown in profile, the Frenchman looks hard into the distance as if meditating in his tent.

\textsuperscript{137}Ibid.
\textsuperscript{138}Marsot, p. 127.
over his next battle. The portrait is one of Coste's finest; the portrait could not capture the Orientalist image better.

Coste and the *Dar al-Handasah*

Throughout his account of the Mahmudiyya canal, Coste mentions the assistance of students as supervisors and surveyors. In the early nineteenth century, Mohammed Ali arranged for many specialized schools, in particular military schools, to be opened.139 Between the years 1824 and 1837, Muhammad Ali enlisted the aid of many French soldiers in the directing of these new military schools. Sève was one as indicated above. J. Heyworth-Dunne, writing about the history of education under Muhammad Ali, emphasizes that the ruler wanted the Europeans working under him to be "servants not masters".140 These military personnel were expected to advise, not to command. One reason Heyworth-Dunne gives for the large number of French military advisors is to balance the position of the Italians. Conversely, there were very few Italians employed as engineers/architects under Muhammad Ali. Coste lists numerous French engineers in Egypt but, except for Baffi who was a chemist, Coste lists no Italians. But, after his departure,

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139 The most comprehensive book on the schools in Egypt is J. Heyworth-Dunne, *An Introduction to the History of Education in Modern Egypt* (London, 1939); references to Coste's role specifically are also in G.B. Brocchi *Giornale delle osservazioni fatte nei viaggi in Egitto, nella Nubia*, (Bassano, 1841) - Coste is listed as Kusti; Clot Bey, *Aperçu...*; and L. de Bellefonds.
140 Heyworth-Dunne, p. 115.
Coste blames the intrigues of Turkish and Armenian architects as the cause of the changes in his plans for Shoubra.141

Unlike the French military personnel who were considered advisors, Coste’s position held more power. While teaching the students, Coste was also the designer and director of his projects. Perhaps one of the reasons Muhammad Ali decided to train local Egyptians was due to being disgruntled with his experience with the Turkish engineer on the Mahmudiyya Canal before Coste. On the canal, Coste’s students served as supervisors for the hundreds of workers who were utilized during the excavations, although he himself inspected the progress daily.

Coste never dates when he began training students. It was perhaps due to the suggestion of Muhammad Ali (whose strong support for local education has been discussed) that Coste began an organized system of educating local men in engineering and architecture. Jasmin states that Coste formed the group of students to help oversee the vast projects that he was now designing and for supervising their construction.142 While a practical explanation and quite probable, it is also true that during this time the wali had begun projects to open many schools in Egypt and send students to Europe. Thus it is also probable that Muhammad Ali had a hand in the this initial start of training in architecture and engineering.

Located in the citadel, the Dar al-Handasah was formed in December 1820 and included training similar to that of a School of Engineering. After

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142 Jasmin, p. 5.
its founding it was reorganized by Coste in May 1821 and later by the St. Simonians whose main purpose was industrial development and the completion of the Suez canal. Heyworth-Dunne wrote that the St. Simonians eclipsed Coste's role in the school\textsuperscript{143} his departure, however, pre-dates their impact on the school in the 1830s. Coste would have had students before the 1821 date but he possibly was teaching in a less formal fashion. In his memoirs, he does not elaborate.

Officially, Coste, or Kusti as it is documented, was appointed to form the school Madrasat al-Handasah at Bulak in 1821, with the intent to teach drawing and mathematics to several students.\textsuperscript{144} Why the number of students is so small is unclear. These official students appear to be selected by the administration and appointed to Coste, unlike his earlier less formal selection of students or apprentices whom he used at the construction sites. Planat lists Coste as the founder and director of the \textit{Institute civile des ingénieurs des ponts et chaussées} but Dunne-Heyworth states that he would not have been a director.\textsuperscript{145}

Whatever his capacity as instructor, Coste enlisted the assistance of his students for all of his projects. It is likely that these same architectural students executed the buildings that Coste designed after his departure for Marseilles. From his few citations of students, Coste seemed to be proud of them, keeping in close contact by checking their progress every day at the sites. Of course, this

\textsuperscript{143}Heyworth-Dunne, p. 144.
\textsuperscript{144}\textit{Ibid.}, p. 108.
\textsuperscript{145}Planat, p. 115.
could also be attributed to an overly meticulous need to be in control of his own work.

The Personal Writings of Coste in Egypt

Documenting Coste and his students provides a perfect example of the difficulty of depending on Coste's memoirs, particularly with reference to his Egyptian period. Throughout his account of Egypt, Coste mentions his students, but it is in only one cursory note that he indicates an organized school and in this reference the information is sketchy. Most of Coste's descriptions of his time in Egypt are scattered and inconsistent. Filling two volumes, Coste's published memoirs are a chronological account of his life. Although the information normally consists of simple lists of places and people visited, Coste periodically gives anecdotal information of personal impressions in his writing.

In his description of Egypt, however, these personal insights are very rare. The memoirs start with a brief two-page summary of Coste's life before Egypt. Quickly launching into his Egyptian voyage, Coste's account of the country is cursory. The Egyptian sketchbooks written during his travels are filled with many more commissions than Coste documents in the journal, where much of the text is simply lifted from notes written on the sketches themselves. It is only in his passage on Egypt that Coste's writing skips forward and backward in dates and particular projects, sometimes giving more than one date for the same commission and rarely telling whether the building was executed. On his ten years in Egypt, Coste wrote thirty-five pages, much
of which consists of descriptions of ancient ruins he documented on trips with other Europeans. For his two-year trip to Persia, Coste wrote hundreds of pages, including little personal incidents that occurred while he travelled. Given the many discrepancies between his early description of Egypt and his later life, it seems apparent that Coste must have written this early section later in his life, depending on his sketchbook notes and his memory, which would account for the impersonal quality of the prose and the lack of exact dates and information about each of his commissions. In this study, I have trusted the sketchbook dates and details of projects (being compiled while he lived in Egypt) more than the facts given in his memoirs.

In his writings on Egypt, Coste not only neglects personal information about himself but also of his friends and acquaintances. There are few personal insights or stories given in his account of Cairo. Coste never speaks poorly of the wali; above all, he admires the efficiency with which he works and deals with people. The journal passage recounting Muhammad Ali's treatment of the deserters demonstrates Coste's cool acceptance of the inhumanities of his patron. Coste's keenest concern, it seems, is to get his projects completed. As mentioned earlier, Coste differs from many of the other European travellers in this respect since most other European journals state distaste for the cruelty and inhumanity of so many of the ruler's acts.

At his arrival in Egypt, Coste gives no florid account of his new impressions of the Middle East, the Orient so famed in Europe. He never discusses his apartment or home. Nowhere does he discuss the close friends he made during his stay. One beautiful watercolor exists of one of his servants, a
young Nubian boy, but no comment is made of the boy in his memoirs. While he did travel often, Coste must have had some sort of permanent residence in Cairo. The lack of personal commentary and descriptions is surprising in this age of travelogues and their meticulous scrutiny of customs and social habits, but Coste does not remark once about his personal comforts nor does he recount any queer mannerism which surprised him, a practice that fills most of the other contemporary travel journals. Throughout his sojourn in Egypt, Coste always kept sketchbooks at his elbow and thus they give his most personal views of his life at the time.

Coste had completed his first three years in Egypt working more as an engineer than as an architect. Although his plans for the saltpeter and gunpowder factories show a mastery of design, it was for large-scaled official buildings that Coste yearned. With these three enormous engineering projects, Coste had secured his position as the main architect of Muhammad Ali and had earned the right to design the prized commissions for the prospering governor's private residences and administrative buildings.
By 1819, Mohammed Ali's defeat of the Wahhabis was complete and the ruler had cast his eyes on greater exploits. The next year he began a campaign to acquire control over the Sudan including Nubia. These new acquisitions aided him in his dream of separating from the Ottoman empire by providing Egypt with a much greater supply of natural resources on which to depend. After very bloody battles, the Egyptian forces finally won. Vaulabelle notes that contemporaries witnessed a transformation at this time in the actions of Mohammed Ali: he was now striving for riches and international respect.146

As mentioned earlier, the pasha invaded the Sudan in search of slaves to serve in his military forces, and to find mineral resources. The acquisition of the Sudan would also create a powerful political image because Muhammad Ali would be sole ruler of the Nile. In preparation for his attack, Muhammad Ali sent European voyagers to research the area. The Frenchman Cailliaud, an acquaintance of Coste, sent in 1815 by Muhammad Ali, found emeralds at Mount Zabarah but he said that it was “cette soif de l’or” that was the main impetus for the journey.147 Driault wrote that “Il [Muhammad Ali] considérait l’or comme un instrument de puissance politique; car dans sa vie privée il avait les goûts les plus simples.”148

147 Cailliaud, p. 37.
148 E, Driault, L’Egypte Ottomane, (Cairo, 1933), p. 147.
With Ismail in command in 1820, Muhammad Ali sent two small armies into the territory to unite the Nile. Ultimately this integration of the Sudan under Egypt's rule extended Egyptian territory to Suakin and Massawah, awaking the suspicions of the British always fearful for the safety of India. Through India, the British controlled trade in cotton and linen textiles, and were therefore in competition with Muhammad Ali's agricultural and industrial expansion. Hoping to continue the tradition started by the Ottoman Empire, England wanted Egypt to continue exporting raw goods to satisfy the British industrial interests and allow England to continue to export finished goods to Egypt, the Sudan, and Syria. Instead, Muhammad Ali was striving to create a monopoly in his newly acquired territories for which he would be the sole importer and exporter, cutting off all British trade.\textsuperscript{149}

The Sudanese expedition of Muhammad Ali ended successfully lasting only three years: 1820-1822. Although the mineral resources proved minimal after the conquest, Egypt now controlled the trade of the Red Sea and the Nile. As Marsot argues, "The wars were to supply, through conquest, a captive market for Egyptian industries and commodities, a source of raw materials necessary for Egyptian industry, a buffer zone between Egypt and the Ottoman empire, and finally a means of controlling the trading network of the eastern Mediterranean."\textsuperscript{150}

Muhammad Ali's desire for Egypt's political autonomy and dynastic rule called for an image of power and modernization which ultimately meant

\textsuperscript{149}Marsot, p. 178.
\textsuperscript{150}\textit{Ibid.}, p. 195.
Westernization in the early nineteenth century. After Muhammad Ali’s many successes against the Wahhabis, and his recognition by both the Sultan and the European powers as a competitor both commercially and politically, Coste’s arrival could not have been better timed. With the saltpeter works, the gunpowder factory, and the Mahmudiyya canal, his first projects consisted of very utilitarian facilities, concerned with military and agricultural progress. Establishing his reputation, Coste was now given architectural commissions where he could finally make use of his classical architectural training.

In his wish for European recognition, Muhammad Ali also felt that politically he needed to keep the trust and aid of the Sultan Mahmud III in Istanbul. Perhaps this wish to become a world power accounts for the enormous number of commissions Coste received for large building projects in Egypt. Unfortunately for Coste, it is also the reason that so few of these buildings were completed: the pasha’s military exploits cost a tremendous amount of money and nearly bankrupted the Egyptian government. This financial instability did not impede Muhammad Ali from commissioning a wide range of projects to modernize the country. In less than three years, at the age of thirty-three, Coste found himself chief architect to the most powerful governor in the Middle East. Coste was without competition and threw himself into his new position with great enthusiasm. Coste amassed many commissions which included: a citadel palace; the Shoubra garden grounds; a pavilion for Muhammad Ali in conjunction with the Ras-al-Tin compound in Alexandria; two villas also in Alexandria, one for the British consul the other
for Boghos; a restoration of the Aboukir fort; numerous canals; and designs for telegraph poles.

Coste's Work in Alexandria: the Muhammad Ali Pavilion, the Boghos Villa and the British Consulate

The three Alexandrian buildings were commissioned in 1820, the same time that Coste was finishing the major work on the Mahmudiyya canal. Since the canal was part of a broader plan to rebuild the city of Alexandria, the wish to architecturally modernize the city would be a natural extension of these desires, with Muhammad Ali demanding a new, more European pavilion on the edge of the sea and a neighboring villa for his interpreter and minister of foreign affairs. Due to its location on the Mediterranean, Alexandria had a large and growing population of Europeans and thus it was only fitting that the minister of foreign affairs was suitably housed in the trade capital of Egypt. In addition, the British foresaw the need to create a consulate in Alexandria and commissioned Coste directly. In all three designs, Coste adheres to strict symmetrical planning, yet he also begins experimenting with Islamicizing the European vocabulary in their ornamentation. As will be discussed in this chapter, it is this development of a synthesis of European and Egyptian decorative motifs that ultimately characterizes Coste's work in Egypt and also has the strongest impact on Egyptian design throughout the century.
In April 1820, Muhammad Ali was afflicted with an asthmatic condition and directed by his physician to go to the coast to take sea baths. Although the wali already had a palace in Alexandria, Ras-al Tin, he commissioned Coste to design a pavilion situated directly on the edge of the sea in the old port of Alexandria, near the earlier palace. Completely finished in 1821, the simple plan consists of an elongated semicircle which projects out from the shore (figs. 7,8). The pavilion rests like a small island with only a narrow entrance ramp leading from the land, as if one would walk a precarious plank to reach a Mediterranean paradise, a jewel box suspended over the sea. This narrow ramp is articulated very cleanly with only a plain porch, its doorway indicated with a slightly cusped arch and two narrow columns on

151 About this project Douin wrote:

A ce moment, Mohammed Ali prit l'habitude de s'établir, à l'exception du temps qu'il passait aux chantiers, dans sa salle de bains, petit édifice en bois qui s'avance de trois ou quatre cents pieds dans la mer. Le prétexte de ce changement d'habitation est une plus grande facilité de voir Pertev Efendi qui en demeure très près. Il y a, dit-on, une autre raison: c'est que son médecin a jugé à propos de l'éloigner momentanément du harem et que ce docteur a trouvé qu'une retraite d'un mois serait d'une très bonne hygiène. Mais une raison plus forte encore peut-être, c'est qu'il y jouit d'une extrême fraîcheur qui lui plaît, qu'il a plus de liberté de conversation privée que dans son palais ouvert à tout venant, et que de là, en même temps, il contemple son arsenal, son escadre et le port dans toute son étendue. Pendant les premières nuits, il dormait sur un petit balcon de bois environné d'un grillage, et presque à fleur d'eau. Il nous contait hier qu'au milieu de la nuit précédente ses voisins les poissons avaient fait pêcher par ses gens, et avait fait appeler Othman bey, qui croyant qu'il s'agissait d'une affaire d'État et ne songeait guère à un souper impromptu pour faire frire et manger avec lui les perturbateurs de son repos." Douin, L'Egypte de 1828, pp. 265-66. While these reasons are more entertaining, it is probable that Coste's statement that the commission was due to Muhammad Ali's asthma is the real reason.
each side. By such a strict use of flat planes at its entrance, Coste recalls some of the *barrière* facades of Ledoux with their austere flatness. But unlike the massive facades of Ledoux, Coste lightens the surface by incorporating delicately thin columns and a playful exterior surface decoration that negates any heaviness.

Since the curved, projecting bay was encased with a series of windows, the pavilion must have been filled with light and breezes from the sea. Muhammad Ali could sit on the divan which stretched the length of the windows and watch from his intimate hideaway, the sea and his newly-developed navy. Wrapping around the whole edifice, the narrow corinthian columns which flank the entrance continue to unite the entire structure and give it the appearance of a temple with the windows simply set back from the more dominant motif of the ring of columns. The *wali* could take the fresh sea air either from the encircling walkway or by taking the interior staircase down to the water where he could bathe at the pier. The few extra facilities have been beautifully incorporated into the semicircular space without interrupting the smooth circulation of both the interior and exterior plan. Through his spare use of lively, intricate decorative patterns, Coste invented a decorative stylization, the Turko-classical, which will be seen throughout his remaining commissions for the pasha.

Designing the Boghos villa at the same time, Coste abandoned the theatricality of his pavilion design for a more subdued Italianate villa for Muhammad Ali’s minister (figs. 9, 10). Boghos, who served as interpreter and
the minister of foreign affairs for the pasha, was admired by many Europeans as being very sophisticated and worldly. Coste’s use of an Italianate design could perhaps be due to a preference of the minister for Italian design or to a greater license for stylistic freedom with the scholar. The villa was located near Ras-al-Tin, close to the sea. Coste retained the elongated semi-circular plan that he used in the pasha’s pavilion, but due to the necessities of the residence, slipped two bedrooms into the curve which jut out like two bays from the villa’s exterior. On each side of the entrance porch, Coste added two wings to house other amenities.

Although the overall stylization of the villa is Italianate, Coste has slightly altered the decoration to be more suitable to its Egyptian locale. The overhanging roof is corbelled by a band of muqarnas, while the arches of the windows and porch are pointed and slightly swollen, as Coste would have seen in many of the Cairene mosque arcades and differing from the straighter arch normally seen in Italianate buildings. These two devices, although minor to the design in its entirety, are noticeable against the flat austerity of the villa’s exterior, serving to enrich, yet, soften the villa’s exterior. These subtle alterations in decorative elements give an indication that Coste was conscious of the environment in which he worked and that he hoped to create a design sympathetic to its surroundings.

In addition to these two commissions for the Egyptian government, Coste designed a villa for Brisc, the British consul-general, at the edge of the Mahmudiyya canal in Alexandria (fig. 11). The villa was to serve as both a
home for Brisc and as the British consulate. In his design for a European client, Coste abandoned the lighter, more decorative stylization he utilized in the pavilion and villa, and instead created a stately, classical residence. This switch is probably due both to the nationality of the patron and to the more official aspect of the commission. Since the building was to serve as a residence and work place, Coste simply incorporated a Beaux-Arts traditional symmetrical plan which was divided in two.

The facade is dominated by an authoritative grand staircase which curves up each side of the mansion, giving equal importance to both halves. The staircase leads to a grand hall from which the two areas are divided. As an antithesis to the severe classicism of the structure is in the two Italianate pavilions which comprise the top floor of the mansion, sitting in the roof terrace. Like the Boghos villa, the arches are lightly swollen but the muqarnas have been replaced with traditional corbelling. In 1820, the villa was completed to Coste’s specifications with only minor modifications.

The Citadel Ministry Palace

Later in 1820 Coste was summoned by Muhammad Ali in Cairo where he was commissioned to design two palaces for the wali. Both were extensions to earlier palaces in the Cairo area. The first was to be located in the northern enclosure of the citadel perched above the city. Its purpose was to unite the pasha's *palais-divan* to two ministry headquarters. The second commission was for the enlargement of Muhammad Ali’s suburban palace outside Cairo in Shoubra. Perhaps nowhere else in the Ottoman Empire was modern
development more dramatically growing than in Egypt. By the 1820s, Muhammad Ali had begun numerous factories and schools to improve his military. With his new military and territories, the wali had rebuilt Egypt from the decay and instability of the Mamluk beys. Muhammad Ali radiated confidence and, with his new found power and expectations of wealth, he wanted physical manifestations as proof.

Towering over the city and enclosed in massive walls, the citadel dominates the old city of Cairo. Eventually, Coste was to design not one but two buildings that would overhang the famed Egyptian city. The ministry palace152 and later-commissioned mosque (situated even more dramatically atop the hill) were incredible opportunities for Coste to design buildings that would dominate the skyline of one of the world’s great cities.Built atop a large flat rock hill, the citadel is located in the south-eastern section of the city, looming 250 feet above the city and shadowed by Mount Mukattam behind.153 From the citadel, one can see the pyramids and most of the city. Lane wrote that from the Southern end one can see “the numerous and elegant minarets and domes of its [Cairo’s] four hundred mosques, the whitewashed houses with flat terraced roofs, the Turkish palaces with pointed roofs, and the many malkafs or ventilators directed towards the north, and a few trees intermixed.”154

152 Wiet, Les Beaux-Arts... gives a thorough documentation of the travelogues description of existing palaces. In addition to Wiet, Fleming also discusses the palaces, little else exists documenting the structures at the time of Muhammad Ali.  
153 S. Lane-Poole, Cairo, (London, 1892), p. 44  
154 Ibid., p. 50.

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The importance of the citadel had declined throughout the years, with the only standing Ottomans projects being two mosques and a gate. The citadel had previously housed a number of majestic palaces of the Mamluks. In the thirteenth century, Muhammad Ibn Qalawun rebuilt the main divan, constructing a towering dome covered with marble and surrounded by columns obtained from Upper Egyptian sites.155 Muhammad Ali determined to make the citadel again the seat of power, commissioned numerous projects for its redevelopment. Muhammad Ali added extensions to earlier palaces in the citadel, moved his mint there, built a metal works, an arsenal and a diwan or audience hall for council meetings.

Coste wrote of his commission that he was to design “un palais réunissant son palais-divan et les deux ministères, celui de l'intérieur et celui des finances, avec leurs dépendances, à construire dans la citadelle du Caire, en remplacement des anciens bâtiments mal distribués et en partie délabrés.”156 Coste’s resolution was to create a large palace with two wings (figs. 12, 13). Muhammad Ali’s quarters were to be situated in the center and the two ministry offices stretched down the wings. The wings encased a small rectangular courtyard that lead to a grand staircase which stepped up to the governor’s quarters.

Filled with light from the numerous windows, the palace’s enormous scale is diminished by the light, airy quality of all the windows and the restrain of the exterior decoration. The huge glazed windows were revolutionary to

Egyptian architecture in which windows normally consisted of the thick wood screen of the *mushrabiah*. Coste’s plan is very ordered with restrained horizontals and verticals, yet the building is still lively in its peaked ornamentation, pavilion-like feel of the entry facade, and lightness of structure. The palace has a classical integrity which gives it a feeling of restraint, but the ornamentation still retains a sense of delicacy and fluidity. Due to the rigorous requirements for rooms of strange sizes, Coste was forced to abandon the geometric legibility of his École works to fit the mish-mash of rooms for the ministry functions, civil servants, and house servants into the building.

The complexity of the interior both in planning and decor is a strange synthesis of Egyptian and French design. While the building has a traditional French *cour d’honneur* and grand staircase, the heart of the building consists of a large reception hall, with extensions for four additional narrow rooms, calling to mind a four-*iwan qa’a* with small rectangular rooms fitting angularly into the corner spaces. The French symmetry that Coste attempted to retain in the center of the building quickly dissipates into a complexity of interlocking rooms of different shapes and sizes, some of which surround courtyards. Among the many rooms in the complex, Coste plans included a series of three rooms in each of the three sections of the palace for an “officier des pipes,” “officier du café,” and “officier de l’eau.”

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158 Coste’s sketchbook MS 1306 at the Bibliothèque municipale de Marseille.
Even though the classical unity of the structure has been altered by the use of such different shapes, there is still a sense of unity in the chaos of the rooms with the extensive use of rich surface decoration which clothes every surface. Due to the density of the ornamentation, the decorative panels appear more like tapistries hanging on the walls rather than the walls themselves. The surplus of light gives activity as it hits the many facets and colorful variety of patterns present. Fleming wrote that in the interior one finds the “perfect expression of the ostentatious taste of an oriental parvenu; all the paraphernalia of eighteenth-century aristocratic mannerisms misunderstood and misapplied in a hotch-potch of styles varying from the Pompeian to the memphitic and the Freudian.” Fleming continued that the work was done in such “frenzied haste” that none of the walls are the same size nor do they meet at right angles, and thus that the decoration is even more bizarre yet charming. The interior decorations were all completed by Turkish and Armenian artists, some of whom were trained in Istanbul.

It is difficult to determine how much of the structure was ever built. A palace was definitely built on the site and it is probable that it was started during Coste’s stay due to the administration’s need for the space. The current structure has a similar plan to Coste’s design with a cour d’honneur and main hall with four projecting rooms separated by thin columns. Descriptions in nineteenth century travel literature, continually describe a large, beautiful main stairway in marble as was included in Coste’s design. Coste’s elevations

however called for floor to ceiling windows different from the present windows which are topped with small oculi. Only a few sketches remain in Coste’s archive of his designs for the interior. They are virtually the same as the interiors of the standing Military Museum or Palace of the Harem (Qasr al-Harim).

Further examination of nineteenth-century sources, reveals that al-Jabarti described an 1820 fire that destroyed the palace, the same year that Coste received the commission.\textsuperscript{161} The palace was rebuilt only to be destroyed again by an explosion in a nearby arsenal in 1824.\textsuperscript{162} Wiet dates Coste’s palace to be 1824, but it is more probable that it was Coste’s design that was destroyed by the 1824 fire.\textsuperscript{163} Thus the palace was reconstructed on Coste’s foundations and following his plans but the second construction was a looser interpretation of the original designs, probably even more freely interpreted due to Coste’s departure before its completion. Resembling the Eastern Palace, Coste’s design was probably used to build the Eastern Palace whose inscription on the gate reads 1826.\textsuperscript{164} Coste wrote that the ministry was to be connected to an older palace which would have been the present Middle Palace. Nasser Rabbat has described the initial purpose of this building as an orphanage for the pasha’s children and for young Mamluks.\textsuperscript{165}

\textsuperscript{163} Wiet, \textit{Les Beaux-Arts...}, p. 108.
\textsuperscript{164} N. Rabbat, “The Citadel of Cairo,” a pamphlet published by the Aga Khan Trust, 1989, p. 30. I would also like to thank Nasser Rabbat for showing me more recent plans of these palaces.
\textsuperscript{165} \textit{Ibid.}
The Shoubra Gardens

Contrary to the urbanity of the citadel ministry building, Shoubra \(^{166}\) was designed to be a suburban palace outside Cairo which allowed for a freer interpretation of stylization than could be used in the government building. Coste designed the Shoubra gardens as a place of sheer fantasy, the fantasies of a European. Coste wrote of the commission that “Le pacha voulait en faire un petit Versailles, avec bosquets, labyrinthe, hippodrome, grande pièce d'eau entourée de galeries, avec quatre pavillons divan, d'une chapelle-mosquée et des grandes allées bordées d'abres.” \(^{167}\) How exact Muhammad Ali’s specifications were is unclear.

What Muhammad Ali could have known of Versailles was more than likely hearsay. The wali never travelled to France but his contact with many European voyagers must have awoken a belief in the incomparable splendor of the French royal palace and gardens. Muhammad Ali’s library contained many books on the French of whom he was enamored and it is likely that these books included images of the French grounds. During the French occupation, around Bonaparte’s house, previously the palace of Mohammed Elfi Bey, the

\(^{166}\)Shoubra appears more than any other structure in European accounts, far more often than the Muhammad Ali mosque. Wiet, *Les Beaux-Arts...*, gives an excellent summary of travel literature on Shoubra pp. 129-93. In addition to these references, information can be found in Coste, Linant de Bellefonds, al-Jabarti, Sami Pasha, Fleming, and Douin. There are no modern studies on the history of Shoubra.

French transformed the two Turkish gardens into the "French style." Above all however, the governor was interested in creating an atmosphere of regal splendor for the visits of the European powers' emissaries who he hoped to impress with his sophistication and modernity. It is amusing to note that during the seventeenth and eighteenth centuries, French kings incorporated motifs from the ancient Egyptian kings to emphasize their power and omnipotence especially in the sculpture of Versailles; a century later in Egypt, many of these same symbols of power returned in an attempt to appropriate the image of strength through the progress of Western modernization.

Meticulously enclosing all its elements into a coherent plan, Coste designed all the facilities within a rectangular walled garden extended on one side by a long thin rectangle which enclosed the hippodrome. Coste's plan is based on a rectangular design with the axial entryway stretching from outside the rectangle along a treed boulevard through the two large pavilions of the grand basin and finally stretching out of the gardens altogether creating a second grand boulevard (fig. 14). The length of the rectangle is emphasized by the length of the oval, while the length of the hippodrome balances the length of the axial entry way. Surrounding this central oval basin are the four main components of the garden: two garden parterres, one parterre which served as an entrance to the small mosque, and the labyrinth. Each of these square elements is surrounded by pathways that run either parallel to the walls or

diagonally from the center. The cross-axial nature of all these subsidiary spaces form a web of foliage which ultimately draws one to the oval lake in the center. These gardens were filled with exotic flowers and trees that de Leon wrote made “the senses ache with the perfume of roses and other fragrant flowers.”\textsuperscript{169} A boulevard linking Shoubra and Cairo was lined with sycamore and ebony trees where chariots and cars of the \textit{beau monde} were seen parading in all their magnificence. Leon Hugonnet wrote “des princesses aux éblouissants visages des gracieuses amazones, qui s’y promènent escotées d’horrible eunuques noirs.”\textsuperscript{170} About the gardens, St. John noted that the gardens covered thirty to forty acres in geometric patterns with the paths covered with different colored pebbles arranged in patterns that resembled mosaics. The brilliance of the flowers and fruits overwhelmed St. John who remarked that the gardens “recalled by their beauty the fabled Gardens of the Hesperides, which, like these, were situated in the sands of Africa.”\textsuperscript{171}

The grand basin contained an artificial lake which was four feet deep and paved with marble. On each narrow end of the basin, Coste placed two large square pavilions which protrude into the lake (fig. 15). Each side has smaller pavilions. The peaked ceilings are highly decorated in the interior with gradual spoked domes above, described by Europeans as of a Chinese style decorated in barbaric splendor.\textsuperscript{172} The interior was thick with

\textsuperscript{169}De Leon, p. 45.  
\textsuperscript{171}St. John, p. 243.  
embellishments, a mixture of rococo and Turkish ornamentation. This rich, floriated ornamentation also characterized the mosque, designed as a simple domed square which more closely resembles a decorative garden pavilion than a religious structure.

It is interesting to compare Coste's initial design with the design he later published in *Monuments du Kaire*. In the first design for the pavilion, Coste returns to the light, intricate patterns he used in the Alexandria pavilion and in the citadel palace (fig. 16). In the second, the design is far more curvacious and voluptuous in its design (fig. 17). Although both designs include many levels of arcades wrapping around the pool, in the original, the arcades look static and merely iced with a few decorative elements which are not important to the design.

Given the two designs, one in his sketchbook the other included in the *Monuments du Kaire* plates, for the Shoubra pavilion two hypotheses can be made. The first takes into account that Coste returned to France during the initial construction of the pavilion. His students could have, in supervising the design with other architects, changed the plans while it was being built. Then Coste, returning after a large portion had been finished, and simply drew the realized design. This idea is highly unlikely however, due to the extremely slow pace most buildings in Egypt were built, and Coste's close supervision of his students. The Shoubra pavilion was also the only modern pavilion included in his collection on Egypt. Its is rather unlikely that Coste, unhappy with the new design, would bother to include it in his collection, much less draw it.
The more probable hypothesis is that Coste himself made the two designs since the plan stays the same and only the decorative scheme changes. Coste appears to have been proud of this design since he included it as his only large-scale completed, even if altered building. Coste wrote of the plate in *Monuments du Kaire* that his plans had been “denatured” by the intrigues of the other Turkish and Italian architects, as he also wrote in his memoirs. It is likely that Coste is referring to the fact that the plans were altered during their later execution after his departure, which they were, as has been documented in photographs and drawings which would have been accessible to Coste also, rather than that he was referring to the differences between his two drawings (fig. 18). The use of sea-serpent curves in the structure is also characteristic of a number of Coste’s later Egyptian designs.

In his later design, Coste completely changes the ornamentation making the curves a part of a coherent theme of design (fig. 17). In the published lithograph, the viewer looks through one of the kiosks out at the basin. Within the interior, one is struck by the enormous curving freize that undulates above. Looking out over the water, this same curve is repeated in the ornamentation of the opposite kiosk and then picked up by the surrounding arcade. The ambulatory which connects the kiosks is not only faced by an arcade but includes a central and an exterior arcade which are all visible. Thus when one looks out at the water, no particular edifice dominates the scene. Instead, the building is simply a series of curves, sea-serpent curves as Fleming calls
them, which mimic the movement of the water. The architecture becomes an active element in the enjoyment of the water and in fact creates a sense of movement by creating the effect that everything is floating on the pool.

The richness of the interior decoration of the large basin is continued in the three ornate fountains filling the pool. The central grand fountain is complete with horses and alligators, and the two side fountains have dolphins. The dolphins and horses are in keeping with the gardens of Versailles but the Versailles frogs have been replaced by the more appropriate beast of the Nile, the alligator. On the interior corners, water from marble lion fountains gently flows back into the main basin (fig. 19). These fountains resemble lion fountains made popular during the French Revolution in Paris.

In designing the large basin, Coste must have thought of the classical Roman naumachie or water circus which was essentially an indoor lake used for Roman sports contests. In 1830, Victor Baltard composed a similar design for his concours d'émulation whose program was a naumachie. Baltard utilized the same oval structure with two large pavilions at its narrow sides but in this case due to the size of the basin, these pavilions have the advantage of a greater seating capacity, a problem not confronted by Coste.

Historically, water spectacles, similar to the Roman events, had taken place within the citadel's flooded hippodrome. During the sixteenth century, the citadel contained a hippodrome where contests of wild animals, elephants and lions, took place. Less colorful contests of archery, jousting, and polo

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173 Fleming, p. 79.
174 Wiet, Cairo..., p. 150.
matches (or “horseback tennis”) also entertained the crowds. An account from 1509 describes a grand celebration in the hippodrome in which the hippodrome was flooded with water from the Nile and flowers. An enormous tent was erected filled with rugs and candelabra where the guests were served a magnificent feast. Muhammad Ali’s inclusion of a hippodrome in the Shoubra garden grounds was probably an attempt to recapture the heraldry and pageantry of past centuries.

Appropriate to an Egyptian Versailles, the garden area of Shoubra became an incarnation of orientalist sensualism and luxury in the thoughts of European travellers. Linant de Bellefonds claimed “c’était là où la cour, les poètes, les interprètes, etc., etc., se tenaient.” It was the cultural meeting place for the pasha, where he could relax away from governmental duties, and thus served the poet Lord Byron who was searching for a setting for the debauched, blood-thirsty governor of Egypt in his Childe Harold’s Pilgrimage. Byron, like many of the European romantic artists, was outraged by the repression of the Greek rebels in the Morea and immortalized Shoubra in his poem Childe Harold’s Pilgrimage, in which he recounts the pompous luxury of the Muslim court:

In marble-pav’d pavilion, where a spring
Of living water from the centre rose,
Whose bubbling did a genial freshness fling,
And soft voluptuous couches breath’d repose,
Ali reclin’d, a man of war and woes;

175 Ibid., p. 154.
176 De Bellefond, p. 380.
Yet in his lineaments ye cannot trace,
While Gentleness her milder radiance throws
Along that aged venerable face,
The deeds that lurk beneath, and stain him with disgrace.177

Fulfilling the fantasies of the Orientalists, Shoubra was also the setting where European writers liked to place stories of the Oriental splendor of Muhammad Ali.

De Leon wrote of Muhammad Ali in his later years that, as he approached death, he enjoyed relaxing in the grand basin. “Perched on this central seat, he would amuse himself for hours, watching the gambols or the fright of his hareem women, who he would cause to be rowed or paddled about in small boats around this mimic lake, at a secret signal from himself to the boatmen caused them to be upset into the water, witnessing with delight their struggles afterwards [sic].”178 De Leon remarked that it was strange that such a fierce soldier who still had a “savage nature and fierce eye” in his later years should enjoy such childish pleasures so close to death.

After the death of Muhammad Ali, an American traveller, Charles Dudley Warner, visited Shoubra. He wrote that the garden was still rich in exotic trees and foliage but had fallen into “Oriental decay,” abandoned by his successors. Inside the pavilion, Warner found that gas for lighting was piped to “every corner and outline of the bizarre edifice”.179 Complaining that the sights of the interior when it was inhabited were closed to the infidel, Warner

178 De Leon, p. 54.
179 C.E. Warner, p. 456.
fantasized what the pavilion would look like “thronged with the dark-eyed girls of the North, in their fleecy splendors of drapery, sailing like water-nymphs in these fairy boats, flashing their diamonds in the mirror of this pool, dancing down the marble floor to the music of soft drums and flutes that beat from the orchestral platform hidden by the water-lillies.”

Although Coste’s plans are dated 1820, the gardens were not completed until after his departure from Egypt. In reference to his grand designs he wrote that the pacha approved of all his plans “mais les intrigues des architectes turcs et arméniens s’emparèrent de mes projets et ils n’exécutèrent que le grand bassin, avec galerie divan, au jardin de Choubrah, et dénaturèrent mes plans.” This is the only building about which Coste discusses the execution after his departure. John Fleming wrote that the pavilion was constructed between 1826 and 1836, but Coste dates its commencement two years earlier. In his account published in 1845, Prince Puckler-Muskau visited the pavilion to discover it boarded up. After scaling the wall, he found the pavilion abandoned but stated that large blocks of “oriental alabaster” were stacked in the garden in the hopes of reconstructing some of the structure.

St. John attributed the design of Shoubra to Signor Drovetti, the late consul-general for France and close friend of Muhammad Ali. In reality, it was probably Drovetti who “denatured” or altered Coste’s plans when the pavilion was finally completed. Fleming accords the “general merits” of the structure as

180 Ibid.
182 Puckler-Muskau, p. 126.
well as the Turkish Baroque style to Coste but adds that due to Drovetti’s amateur status his alterations only “added to the charm for the modern traveller” who looks at these structures as reflections of European architecture in a “distorted mirror”. 183

In more recent history, Shoubra was almost completely rebuilt by Halim Pacha and is currently serving as a campus of the Egyptian university system. Thus little is left of what Coste imagined. We do however have photographs from the 1930s which show the grand basin before modern restoration. The original decorations have been stripped away, the fountains are only jets of water with the central fountain, a balustrated island, sitting on Coste’s alligators. The arcade has been replaced by a heavy overhanging eave that sits on columns like the satchak seen in the Sabils-kouttabs of Cairo. Coste’s original design relied on wavy arcades that appear much lighter and active than this later design which is also devoid of the undulating ornamentation, ultimately making the roof appear very heavy and bloated. Coste’s outer arcade has been replaced by a wall of paned windows, and rooms filled with Empire furniture have been added on the exterior. These rooms include a Billiard Room and Reception hall which were restored in 1945.184

The Utilitarian Projects: Canals, Telegraph Poles, and the Aboukir Fort

In addition to the Mahmudiyya Canal, Coste served as the engineer for the Ras al-Wadi canal which stretched from the head of a canal on Bahr

183Ibid.
184Fleming, p. 79.
Muways to the dike of al-Absi. The latter opened onto a valley where Muhammad Ali wanted to cultivate mulberry trees for the growing of silkworms. This valley, the Oudée-Toumilat, Coste wrote, still had indications of an ancient Suez canal, now destroyed. In the beginning of this work, Coste was instructed to survey an area northwest of Alexandria in the valley of Aboukir for a canal and the valley’s cultivation. To better see the surroundings Coste used a structure called the Arabes tower to survey the area. The tower was a Roman construction most of which had been demolished. It had an eight-sided base with two circular levels above, the rest having been destroyed. This tower most probably served as an inspiration for Costé’s design of the telegraph towers to be discussed.

During his work, the working conditions in this area proved particularly difficult. Coste wrote:


In other locations Coste encountered windstorms and the ever-present plagues. After taking many measurements Coste deemed the canal impossible.

185 Rivlin, p. 231.
186 Coste, p. 32.
In the longest account in his memoirs of his time in Egypt, Coste described his voyage to Upper Egypt to study the canal of Sohajieh. The canal's purpose was to relieve the stagnant water stranded in a plain between Thebes and Hermentes. Chance would have it that Coste’s former acquaintance the military commander Sève was also visiting Muhammad Ali at Shoubra and Coste asked him to accompany this new excursion. “Nous partîmes le 11 mai, avec notre personnel: domestiques, un mameluk français comme interprète, et deux de mes élèves, dans une cange dorée du pacha, montée par seize matelots-rameurs et deux reis (patrons de barque), dont l’un chef, et d’une seule grande voile latine.”187

In conjunction with surveying the canal site, Coste also documented the Nile geographically to better explain his work on the canals. His work in particular focused on canals in the Nile basin in Lower Egypt around Cairo and Alexandria, but Coste was such a meticulous worker it was undoubtedly his intention to understand the flow of the Nile comprehensively from the first cataract to its entrance into the Mediterranean.188 Thus after his trip to

187 Ibid.
188 Coste wrote about Egypt's geography:

Deux chaînes de montagnes, celle Arabique, à l’est, et celle Lybique à l’ouest, encaissent toute la vallée du Nil, depuis le Caire jusqu’à la première cataracte, sur une longueur de 6 degrés 1/2; mais, par les diverses courbes développées du cours du fleuve, sa distance est d’environ deux cents lieues. Ces montagnes sont plus ou moins élevées, et absolument nues depuis leur base jusqu’à leur sommet. Elles sont calcaires jusqu’au dessus de Syont, et calcaires-grès jusque’à Assouan, où commence le granit; ces deux chaînes ne sont pas Également rapprochées, d’où il résulte sur la vallée s’élargit subitement dans une grande plaine triangulaire, de trente-quatre lieues de haut sur cinquante lieues de base. Elle forme le delta où le Nil se sépare
Upper Egypt, Coste had an overall view of the flow of the Nile and from this information he could make an extensive report to Muhammad Ali about the possibilities of future projects. This excursion also gave Coste the chance to produce the beautiful, highly detailed sketches of the ancient Egyptian ruins that fill two sketchbooks in the Bibliothèque municipale de Marseille. The entourage made numerous stops on its way down the river, examining both modern and ancient sites. The head of the Sohajieh canal was located beside a small Nile village, Sohaï, close to Syout. At the canal site, Coste made his normal measurements and drawings, leaving one of his students to supervise the canal’s construction. Coste noted “Je faisai toujours mes courses avec mes élèves et mes instruments.”

Continuing to travel down to Thebes, that night the men passed an agreeable night at Achmyn. “C’est dans ces parages que l’on commence à apercevoir les crocodiles sur les îlots de sable; ces îlots ne sont visibles qu’à l’époque des basses eaux. Nous fimes feu avec nos fusils sur plusieurs crocodiles; mais les balles ne firent que sautiller sur leurs écaillès: immédiatement, ils font un demi-tour et se glissent dans le Nil.” This passage is one of the rare poetic writings in Coste’s journal. Another example is Coste’s response to the city of Thebes. “A cet aspect, joignez un ciel bleu, profond, que ne trouble aucune parcelle de vapeur, et qui allonge les ombres tranchées de ces

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189 Coste, vol. I, p. 34.
190 Ibid., vol. I, p. 35.
monuments dorés par une vive lumière: ce tableau vous donnera une idée haute et sublime de l'homme et de ses œuvres.” 191 The rest of the account of his trip is just a guidebook of what to see when visiting Upper Egypt, complete with measurements. This trip included Coste’s first visit to Luxor and Karnak.

In writing of ancient Egyptian and Roman sites, Coste meticulously detailed what he saw, listing architecturally significant objects and giving exact measurements, but a lack of personal impressions or descriptions of the beauty or grandeur of an object characterizes the whole of the two journals. Where Coste is poetic is in the sketches and watercolors he made of these scenes. Going as far as the first cataract, Coste turns back taking advantage of his time to visit Assuan and its Philae temple with “l'inscription que le général Desaix fit graver sur le pylône du temple d'Isis, et qui rappelle la conquête de l'Égypte par l’armée française commandée par le général Bonaparte (1798-1801).” 192 A month later on the 13th of June, Coste returned to Cairo where he visited Muhammad Ali at Shoubra to report on his mission. Satisfied with Coste’s report, the wali and Coste traveled to Alexandria that evening. At his arrival in Alexandria, Muhammad Ali received news of the death of Napoleon at Sainte-Helena. Coste noted that Muhammad Ali was “très affecté”. 193

After Coste’s visit to France in 1823, Muhammad Ali requested that Coste organize engineering students, breaking these students down into different classes and locations. Coste wrote:

192 Ibid.
Le pacha approuva cette organisation, si nécessaire dans les travaux incessants pour l'entretien des digues, des chaussées et des canaux, lesquels exigéaient une surveillance très active, afin que les eaux, lors de l'inondation, pussent séjourner pendant huit jours pour y déposer leur limon, seul engrais qui permettait de faire trois récoltes par an, en laissant évacuer les eaux, après leur dépôt, dans les divers canaux et par les ponceaux des digues; car, si un canal n'était pas déblayé chaque année, l'année suivante, il se trouverait presque comblé par le limon du Nil.194

He conducted inspections of his students’ work by horse or in a “cange” that was constructed for Coste.

With his new corps d’ingénieurs, Coste had many new canals excavated including the canal of Zagazik in 1822; the Tantah canal in 1824; the Kaffre-Talkran canal in Gizeh and the Mansourah canal, both in 1825; the Bahireh canal in 1826; and before his departure in 1827 he began the Cairo canal stretching from Boulaq to Tel-Yaoudieh. All this work was completed after his plans. For the canal of Zagazik Coste requested thirty-thousand workers for sixty days. Impatient to see the work done Muhammad Ali responded “je vous en donne soixante mille ou même quatre-vingt mille: préparez votre travail pour recevoir ce nombre.”195

Between the years 1821 and 1822, Coste constructed thirty-five telegraph towers (fig. 20) which stretched from Alexandria to the Cairo citadel. Coste designed the towers in four heights. On his plan in his

194Ibid., vol. I, p. 43.
In his sketchbook, he wrote that he constructed twenty towers of six floors, two of four floors, eight of three floors, and nine of two floors. In a short note Coste boasts that after their completion the news could travel from Alexandria and Cairo in minutes, a point of pride surely for Muhammad Ali also.

Amusingly Coste's towers give no indication of their modern function. As suggested, it is quite possible that Coste was thinking of the Tower of the Arabs located near the line's path when he envisioned the towers stretching across the desert. In his journal, he described the tower in great detail specifying that it had a banded use of decoration. Instead of a modern design, Coste drew heavy brick towers which appear squat due to the wide horizontal bands of each floor. This horizontal heaviness gives no indication of the narrow spiraling stairway inside. Cut into each level are small windows, the only decorative motif in the flat bands. Each tower is encircled with a narrow band of scalloped brickwork along the upper edge and capped with a band of lacy crosshatching of bricks. This decorative band is strangely diminutive making the towers charming imitations of medieval war barriers. Why Coste turned to such a medieval stylization is unclear. Perhaps there was a security reason for protecting the towers from being tampered with or maybe he simply saw the wonderfully amusing quality these towers have with their little antennae sticking up from squat little brick trolls.

For his last project before his visit to France, Coste produced a plan for restoring the fort at Aboukir (fig. 21). Located by the ruins of Canope, the Aboukir Fort was constructed in 1460 by Kaitbay, Coste wrote. Coste noted
that Kaitbay was also the sultan who commissioned the Alexandria lighthouse and fortifications using ancient debris. During the French occupation, the French forces restored the site by adapting the fort to hold heavy French canons and strengthening the walls.

In 1822 Muhammad Ali asked Coste to survey the fort for “un projet de reconstruction, en y joignant deux redoutes établies sur les points les plus levées de la côte, afin d’empêcher, en temps de guerre, un débarquement de l’ennemi sur les rives de cette rade.” Coste wrote of his design:

Mon projet, sur cette presqu’île de 6,750 mètres de surface, présente un grand bastion demi-circulaire armé de neuf pièces de canon et deux mortiers pour battre la rade. Sur les côtes en retour, les murs sont armés de trois canons chaque, et les deux bastions triangulaires, aux deux angles des murs, armés aussi de deux canons. Sur le mur de face de l’entrée, deux canons. Sur le mur de face de l’entrée, deux canons; au centre de ce mur, la porte principale avec pont-levis et fossé où l’eau de la mer circule; en avant, un bastion avec pont-levis sur un fossé à sec. Dans l’intérieur du fort, la poudrière, le logement du commandant, la caserne, en conservant les deux citernes. Ce fort était armé de vingt-un canons.

The two redoubts allow cross-fire to cover the entire area before the fort. Coste drew a beautiful sketch showing the two points and the possible lines of fire from the fort. As is written about so many of Coste’s designs, the architect noted: “L’exécution de ces projets, approuvés par le pacha, fut ajournée par suite des dépense que lui occasionnait l’expédition de son armée en Morée.”

197 Ibid.
198 Ibid.
199 Ibid.
Summary of Coste’s Work During the First Five Years

Coste’s career in Egypt began with numerous military and practical commissions. Beginning with the saltpeter and gunpowder factories, and later with the Aboukir fort, Muhammad Ali directed Coste toward projects which would aid in his attempt to modernize the Egyptian military. These commissions were followed by numerous small projects: the three residences in Alexandria, the telegraph poles and numerous canals. The Mahmudiyya canal was a necessity in Egypt for both transportation and irrigation with its original conception predating the reign of Muhammad Ali. Concerned with military and agricultural progress, Muhammad Ali appeared to be more restrained in his early commissions, developing the resources of the Egyptian state rather than focusing on architectural luxuries.

Even his first two grandiose projects from Coste, Shoubra and the citadel palace, are extensions of previous structures. These structures were conceived to be visions of modern grandeur for the Ottoman and European travelers visiting the wali. Both were highly visible, the citadel palace being the seat of his government which dominates the city and Shoubra as a suburban residence to which visitors could request an audience with the governor at his retreat. Conceived as a government building, the citadel palace was to house two ministries in addition to providing quarters for the ruler. The gardens of Shoubra are less modest than the citadel palace, allowing Muhammad Ali to portray himself as a ruler whose place was as an European king not simply as a sub-serviant Ottoman governor.
Following his successful suppression of the Wahhabi revolt and his invasion of the Sudan, Muhammad Ali had a developed hunger for recognition and glory. He had proven that he could be an asset to the Ottoman empire and perhaps even a necessary military addition. Economically, Muhammad Ali had turned the Egyptian economy around, so successfully in fact that it was hindering British trade interests. In addition to these political triumphs, in 1820 Muhammad Ali was on the verge of conquering the Sudanese territories which he believed would provide him with a wealth of precious metals and new troops. It is not surprising then that the ruler commissioned a grand new governmental structure and new residence like “Versailles.”

Coste’s Designs for Egyptian Palaces

One of the most difficult areas of Coste’s work in Egypt to discuss is the drawings of palace designs. In addition to the palaces and pavilions discussed above, Coste has included many varied designs for other palaces within the Marseilles sketchbooks which have no inscriptions indicating the building’s name, patron, or location. A great number of these drawings depict structures which closely resemble palaces standing today. Since neither Coste’s journals nor his drawings of finished plans include all of Coste’s known works since some plans were left with Muhammad Ali (for example, the Shoubra plans), it is even more difficult to attribute existing buildings to Coste specifically. Coste had no fondness for contemporary architects in Egypt and would not spend his time sketching their commissions; thus it is probable that these original drawings are from Coste’s designs. In addition, since Muhammad Ali declared
Coste his personal architect, the pasha would not give the highly desired commissions for his personal residences to other architects. Thus I believe that we can consider these random drawings found in the sketchbooks as studies for palatial designs which served, if not as exact blueprints for the construction of the palaces, at least as inspiration for much of the work on the citadel, Rhoda Island, and in Alexandria.

Throughout these designs, there appears a distinctly European stylization which would be distinctly new to Egypt during Muhammad Ali’s reign. These designs incorporate a light Italianate style with Turkish elements and a neoclassical plan. An unusual combination which would come naturally to the young Coste. Just before Coste’s year at the École, Percier and Fontaine had popularized a mixed Italianate-neoclassical style in Parisian architecture. Coste would have been very familiar with their endeavors and most probably would have found it a suitable solution for the highly decorative European dreams of his Egyptian patron. This “Turko-classical” style differs from the traditional Ottoman “Turko-Baroque” in that the plan emphasizes symmetry and commonly uses a cour-d’honneur and grand staircase as its focal point. The palaces are thickly ornamented, yet there is more balance and restraint than in the Turko-Baroque in the way Coste utilizes patterns and harmonizes colors that serve to highlight the more conservative floor plan. All of these qualities are the basis of Coste’s eclectic designs. Utilizing the traditional Turkish decorative vocabulary and the monumental, neoclassical Beaux-Arts planning, Coste created a stylistic hybrid which was both stately, and yet light and colorful. Palace roofs might be supported by muqarnas. Italian arcades might
have arches which were cusped or tightly sprung. A heavy, austere Mamluk gate could mask a light neoclassical double arcade in its interior. Coste used these elements of classical and Islamic vocabulary together in very subtle ways. With the Turko-Classical, Coste created a style appropriate to both the Ottoman-Egyptian populous and their modern European visitors.

These Turko-classical designs shaped Egyptian architecture for the rest of century. Coste's achievement was in introducing European design to Egypt and in creating a stylistic synthesis with traditional Muslim structures. Previously the palaces were accumulations of structures and details added when needed: the notion of a coherent composition was non-existent. To Coste, trained at the École des Beaux-Arts, the principles of composition were not only helpful but imperative. Holding to the École's theory of design, Coste held to a unified composition, developed with the application of rational geometry and a sense of the function of the structure. His achievement was in his insistence on the principles of composition which he had been trained to use, in combination with a less classical use of color and curvilinear decoration to compose a unified Turko-classical style.

During the time that Coste worked in Egypt and directly after his departure, many small palaces and gardens were constructed, including the Rhoda palace and garden (started in 1819) and Ibrahim's Kasr al-Ali palace (finished in 1832 and located in Cairo). Pictures of these structures look very similar to Coste's work, and they resemble some of his unnamed sketches. Coste's palatial style lasted through the nineteenth century, employed more by his followers than in his own completed designs. Sadly, Coste was never truly
allowed to realize his statements of disciplined form due to the continual financial problems incurred by the Egyptian government. Instead, his plans were left in the hands of others who simply made the buildings fit into their locations, slicing through the exact symmetry of the original design. Ironically, Muhammad Ali presented to Coste the École dream of a *tabla rasa*, complete liberty of design, location, and materials, only to have most of his projects shelved to be completed by other architects who were indifferent to his vision of unified order.

Although these designs were very popular in Egypt, they rarely had the same appeal to European travellers who saw them as gaudy, vulgar, and bad imitations of European architecture. This is perhaps one of the reasons these palaces were so rarely described in contemporary travel journals; they were normally only mentioned in passing as the site of a historical anecdote. Stanley Lane-Poole wrote that “everywhere, rise the unsightly and ill-built palaces in which viceregal extravagance and ostentation have found an outlet. Not one of all these huge buildings is other than an eyesore.”\textsuperscript{200} Although Coste’s designs did have a sense of “Europo-Oriental” about them, it was the later artisans who completed the works that made the designs awkward and loud. These artists lacked the training to read Coste’s plans or appreciate his subtle harmony, creating more random designs in an ad-hoc fashion while the palaces were constructed.

\textsuperscript{200}Lane-Poole, p. 34.
John Fleming, in one of the few articles to discuss the architecture of Muhammad Ali, wrote that the *wali* had a "scheme to europeanise Egyptian Architecture." Fleming continued his theory, writing that the pasha wanted to reform the arts as an "enlighted patron of modern progress" and that he chose the Ottoman Turkish Baroque style. This decision was due to his advisers who persuaded him of the importance of his image of national opulence. One reason Fleming gives for this decision to reform is that the *wali* himself lived in frugal simplicity and was not comfortable in such ostentation. While it is true that many acquaintances of Muhammad Ali recount the pasha’s desire for simplicity in his private life, this does not mean that the pasha was not interested in appearing prosperous and Western in the public eye. Muhammad Ali did not choose the Turkish Baroque style directly. Instead he commissioned Coste and trusted in his decisions for what was appropriate to Westernized palace architecture.

In his memoirs, Coste never describes in any way any interference by the *wali* in reference to the designs. Although Coste’s plans were changed by and large, much of the ground plans and decorations are in keeping with Coste’s original intentions. Thus these designs are less the “idiosyncrasies of Turkish taste and an oriental misunderstanding of the imported European styles” than the misinterpretations of Coste’s own plans. Thus the "scheme" of

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201 Fleming, p. 75.  
202 Ibid.
Muhammad Ali would have really been that of Coste who simply wanted to create a coherent, sympathetic synthesis of West and East.203

After five years in Egypt, Coste was determined to visit his home and friends. On his return, Coste’s commissions grew in size and aspirations fitting Muhammad Ali’s new persona as the founder of a dynasty.

203 M. Volait wrote in “Cairo 1850-1950” that Coste designed the palais citadelle, now the palais bijou. This would have been impossible since it was built before Coste arrived in Egypt.
After five years in Egypt, Coste decided to return to France to visit his parents and friends. Coste wrote that “J'éprouvai un grand désir et même un besoin de revoir mon pays natal, mes parents et mes amis. Je demandai à Mehemet-Aly un congé illimité. Il me l'accorda avec sa bienveillance accoutumée, en ajoutant: “Au revoir! à bientôt!”

Before leaving for France, Coste met with his students, leaving his notes and plans for projects whose construction was to continue during his absence. This act was in keeping with Coste’s working technique: most of his work was already supervised by students. Coste gives no indication of the status of his Egyptian students, their age, educational background, or nationality. One can assume however that Coste’s training must have been part of Muhammad Ali’s plan to educate young Egyptians and thus they had probably been assigned by the administration to learn the trade. Although it is possible that they were continuing their studies at Coste’s citadel school, Coste had students supervising projects before the governor’s official recognition of their apprenticeship. These pupils were probably on the order of apprenticed help and Coste probably worked with them from the beginning of his time in Egypt.

Coste left Egypt on October 27, 1822 and entered the town of Marseilles the 29th of December. Coste described the sea as unusually rough,

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205 Ibid., p. 41.
and his stay at the Marseille's lazaret for eighteen days as a time to relax. Accompanying Coste on the trip was Cailliaud, the explorer, whose discoveries in Egypt were discussed earlier. Staying with his elderly father, Coste visited with family and friends including his old teacher, Penchaud. In January, Coste returned to Paris "pour m'y retremper aux nouveautés des sciences et des beaux-arts, dont j'avais été privé pendant cinq ans de séjour en Egypt."206 He does not elucidate what "nouveautés" he found in Paris but he does mention that the trip gave him a chance to renew old friendships with Jomard, Labadie and Huyot, among others. Undoubtedly motivated by the excursions they took together in Egypt, Coste turned to Huyot for advice about his drawings of Cairene architecture. "Je communiquai à Huyot (architecte du gouvernement et membre de l'Institut) ma collection de dessins sur l'architecture arabe du Caire; il la trouva assez intéressante pour la faire connaître par une publication."207

This is the first time that Coste mentions his intention to publish a collection of his studies. The benefit of having a firman from Muhammad Ali to study all mosques, including al-Azhar, at his total discretion was a plum that few others had had before him. Interestingly, Coste does not mention showing his drawings to Jomard, only to Huyot. Since Jomard's volumes concerning Egyptian Islamic architecture of the Description de l'Égypte, État Moderne, were published in 1817, Coste should have felt no sense of competition between his work and that of Jomard. It is conceivable however

206Ibid., p. 42.
207Ibid.
that the prospect of sharing his drawings with Jomard was intimidating, made more daunting by the relatively short time that Coste had been researching the buildings. Coste took advantage of his friendship with Huyot who found the drawings interesting and worthy of publication. In order to secure the safety of the drawings already completed, Huyot had his students make exact tracings of all the sketches, the originals being left in Huyot's keep. Thus Huyot and his students had copies of the Cairene mosques before publication, a fact to be considered concerning Huyot's vast popularity with the young architects of the day.

On his return to Marseilles, Coste found that Penchaud had requested the position of Inspector of the département of the Bouches-du-Rhône for Coste who was regrettably forced to decline the offer. Coste wrote that he found himself in a painful position, feeling that he was abandonning Penchaud ungratiously. Considering his choices, Coste decided to return to Egypt. “Cependant, il fallait prendre une décision: retourner en Egypte pour compléter mes relevements d'architecture et achever les travaux commencés et ceux projetés; cette position, plus avantageuse que celle d'inspecteur, me souriait d'avantage. Je pris donc la résolution de retourner.” Coste decided that returning to Egypt would improve his career possibilities, more than serving in a middle-level position in France.

During the eighteenth and nineteenth centuries, European architects could build a reputation much more quickly by returning with illustrated

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208 Ibid.
journals of exotic lands for publication, as was the case with Owen Jones, the architect and theoretician. This fact in addition to the large-scale commissions that Coste had in Egypt, was decidedly advantageous to his career, especially considering the scarcity of architectural work in France and fierce competition for these projects. Coste knew his position with Muhammad Ali was secure. On his return from Paris, Coste found numerous letters from Egypt reminding him of his promise to return and recalling him for projects to be continued. Hence, Coste recognized that in France he would simply be a government inspector in southern France, whereas in Egypt he was the governor’s chief architect, designing for a man whose fame and power were continually growing.

Muhammad Ali and the Battle of the Morea

Coming to the aid of his suzerain by confronting the Greek insurgents in the Morea, Muhammad Ali assured his place as the strongest of the Ottoman governors. However, his interference in the dispute lost him much of the support of the European powers, ultimately resulting in his defeat by European navies. Incurring the displeasure of both the British government and the Ottoman Sultan, Muhammad Ali suffered more than the loss of his fleet. The British, strong backers of the Greek revolutionaries, were dissatisfied with Egypt not only for its battle of the Morea but also by the success the pasha had achieved in his trade monopoly. Accusing Muhammad Ali of unfair trade practices and “maliciousness,” the merchant houses in Alexandria petitioned the British consul-general over the imbalance of Egyptian trade. John Marlow
writes that "During the year September 1823-September 1824 goods to the value of £178,723 were exported from Egypt to Great Britain against imports worth £35,198 from Great Britain to Egypt. The comparable figures for all Mediterranean ports were £41,080 exported from Egypt and £27,242 imported in to Egypt." Most of these figures referred to the trade of cotton, one of Muhammad Ali's main interests in his modernization of Egypt. This trade imbalance served to increase the tensions between England and France since the British mistrusted the French "cultural penetration of Egypt" in the areas of military, industrialization, education and general modernization. France was accused of furthering her own Eastern ambitions through the aggrandizement of Muhammad Ali whose hopes of independence continued to strengthen especially after the failure of the Sultan to honor his promises of recognition for Egypt's assistance against the Greeks.

Retaliating, England strengthened its ties to the Ottoman empire whose trade had become completely dependent on the exportation of raw materials to Europe. In her study of the westernization of Istanbul, Zeynep Çelik considers westernization of the Ottoman empire, restricted until 1839 to the areas of technology, science and education with the Turks' early focus being the military. The industrialization of Europe accentuated the decline of the Ottoman empire and its slowness to industrialize particularly in machine-made textiles, an area Muhammad Ali had developed in Egypt by the 1820s.

with the aid of French engineers. Unlike Muhammad Ali, the Ottomans were more concerned with competing with the European powers, whereas Muhammad Ali could use the French as allies in his battle toward independence.

The relations between the British and French became even more tense in Egypt itself. British travelers in Egypt detested the French living in the country and refused to live in the French quarter amongst them. This problem was exacerbated by the fact that since the seventeenth century, all Europeans in general were referred to as "Franks" by Near Easterners, a practice the British deplored. About his dislike for the French, Edward Ward Lane wrote: "Many of the Franks here, retain their national costume: others adopt that of the Turks; and some are seen with the hat and European jacket, and the full Turkish trousers; or with European clothes upon the body, and a turboo'sh (or red cloth skull-cap), on the head. In general they look a most disreputable set of vagabonds." 211 Another traveler wrote, "The Franks of Cairo… are the most disreputable-looking class of Cairo," and as a "set of needy, indolent, adventurous, dissipated… men," were as a rule avoided by the more discriminating traveller.212

Part of the English antagonism toward the French was due to their jealousy of the French role in Muhammad Ali’s administration. An Englishman in Egypt in the 1840s wrote “every department of the public service is more or less in the hands of the French; the younger members of the

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reigning family were all educated either in Paris or under French instructors; the medical, education, and engineering branches are all entirely French; Alexandria has been fortified by a Frenchman; the effective C-in-C of the army (Soliman Pasha) is a Frenchman by birth and the Foreign Minister (Artin) is a Frenchman by adoption; it only remains to officer the troops with French men to make Egypt another Tunisia as a preliminary to its becoming another Algeria."213

England and France were united, however, in their distaste for Egypt’s suppression of the Greek insurgents. The Greek revolt, caught the eye of the European romantics, inspiring poems and paintings. Byron wrote of Childe Harold and Delacroix painted decimated battle fields at Chios and Missolonghi. To Europe, it was a great battle for liberty, Greece’s return to its past heroics. As the battle drew on, rumors spread of the inhumanity of the Turkish troops. “All the misdeeds of the Turks were multiplied and exaggerated. Every hint that the Greeks were a trifle less heroic than the heroes of classical literature was angrily rejected. Stories spread that Ibrahim contemplated the wholesale enslavement and removal of the Greek population and the resettlement of the Morea by Turks or Arabs.”214 As a result, Muhammad Ali lost his place as Europe’s favored ally and was treated more and more warily.

The Return of Coste to Egypt

On his arrival back in Alexandria on October 8, 1823, Coste was summoned to visit the governor who named him “chef des travaux de toute la Basse-Egypte.” Rising to this new authority Coste immediately took control, reuniting his students, inspecting their work and organizing a *corps d'ingénieurs*. Coste was now in control of his own force of engineers whom he could direct in his own projects, dividing the students into three classes and assigning them work in the provinces of Lower Egypt. “Pour faciliter l'exécution des travaux dans les provinces, je présentai au pacha l'organisation d'un corps d'ingénieurs avec mes élèves, dans les huit provinces de la Basse-Egypte. Chaque province avait trois ingénieurs de 1er, de 2me et de 3me classe.” Muhammad Ali must have been thrilled with such efficiency as it copied the systematic order of his military troops in his new modern army.

The Shoubra Palace and Boghos Palace Commissions

The year 1824 brought Coste two new projects for palaces despite the fact that many of his earlier designs had still not been executed. Ultimately the construction of these two palaces was also suspended due to the enormous expense of Muhammad Ali’s military actions, in particular “à cause des grandes dépenses occasionnées par l'expédition de l'armée et de la marine, à Navarin, contre les Grecs.” The first project was to construct a palace at the

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governor's residence in Shoubra. This palace was to replace the earlier structure as the main residence and to compliment Coste's early design for the Shoubra gardens. Like his earlier plan for the citadel palace, this plan consisted of a rectangular structure but unlike the government building, the facade of Shoubra was dominated by an enormous curved double staircase (figs. 22, 23). In keeping with the Shoubra gardens, the palace was extremely ornate with Italianate filigree work covering every flat surface. One of the more striking aspects of the design is the enormous quantity of windows which would allow the residence to see the surrounding gardens from virtually every vantage point.

We can only speculate what designs were eventually used for the Shoubra palace construction. The palace was originally begun in 1809. Muhammad Ali moved into the structure immediately in 1810, and had the palace expanded in 1812.218 No mention is ever made of a design by Coste. Coste's 1824 commission called for a large formal design with a stunning entrance stairway that could not be missed by foreign travellers. All the travel literature on the palace complex, however, never describes this exterior staircase. In fact, they state very little about the palace itself, only describing it as a indiscript palace composed of a series of ornately decorated rooms for Muhammad Ali and his harem. Instead, the travellers are concerned with the Shoubra gardens and central pavilion discussed in the last chapter. Due to this neglect by the Europeans who were eager to describe the sumptuous life of

Muhammad Ali, one can assume that Coste's design was never constructed and that the *wali* remained in the original, more traditional structure of 1812.

The second commission called for a large palace and mosque to be situated on the Alexandrian port. The palace was commissioned by Muhammad Ali for his minister Boghos for whom Coste had previously designed a small villa. Coste's designs are for an enormous edifice on the port that resembles a walled city as much as a palace (figs. 24, 25). Muhammad Ali must have held Boghos in high esteem considering the grandeur of the enormous residence. As in the Boghos villa, Coste adopted an Italiante style for the palace and mosque. The question arises why Boghos was considered such an important administrator to the *wali*. It is understandable that Muhammad Ali would commission the earlier villa located near his palace due to Boghos' function as minister of foreign affairs and as his premier interpreter. Boghos' relationship with Muhammad Ali must have been far stronger than as simply an administrative member since the commission is more fitting a member of Muhammad Ali's immediate family than a simple employee.

The entrance of the complex is marked by a heavy arched porch which resembles the arcade in the mosque of Ibn Tulun. On each side of the gate are two lighter sentry pavilions, almost Indian in style, which reflect a similar stylistic handling. This entrance leads directly to the palace. Resembling Coste's earlier design for the British consulate, the palace is designed with a large central reception hall surrounded by offices and domestic quarters. The palace is embellished with a strict classical exterior and lighter Italianate top-
story belvedere which also mirrors the consulate plan. The belvedere in the Boghos’ palace design however, is two-storied and dominates the project more than the previous design which is divided into two single stories. At its side, the palace is flanked by a long rectangular series of formal French gardens at ground level, terminated by Boghos’ private mosque. The mosque is a small square plan capped with a cupola, and surrounded by two columned arms. It is these two side wings that dominate the structure as they embrace the vast expanse of formal gardens before them. Thus the mosque resembles a garden pavilion far more than a mosque both in its placement within the garden scheme and also in its open arcade design. The facade of the mosque and its arms is dominated by a double arcade which wraps around its entirety.

The Alexandrian Lazaret and Aboukir Fort

The following year Coste designed a lazaret for Alexandria after a “programme de la commission sanitaire dont Clot-Bey était President.”219 Although Coste does not mention this commission in his memoirs, it is included in his sketchbook of plans for Egypt, dated August 1826 with no indication of whether the plan was executed. Recounting the new sanitary conditions in Egypt, Driault wrote that along with telegraph lines, Muhammad Ali had demanded more hygenic conditions to control the plague, quarantines and a lazaret organized on the better French models to

219Coste, manuscript MS 1306, Bibliothèque municipale de Marseille.
improve the control of maritime merchants. Whether or not the Alexandria lazaret that was completed was by Coste is unclear, but Coste had completed precise plans for a lazaret at Alexandria which he wrote had been approved by the governor.

Coste’s plan for the lazaret is a large rectangle divided into a series of smaller units (fig. 26). The plan was divided into two parts, one side for the “Mahometans” and the other for the Europeans, as was dictated by cultural etiquette of the time. This division began at the port, separating all medical and sleeping arrangements. The facilities are harmoniously designed to resemble a small sea village. The turrets or watchtowers are the one heavy element in the structure. Coste has chosen to articulate the towers with heavy medieval brickwork, perhaps in an attempt to harmonize them with the other visible structures in the Alexandrian port: the Aboukir fort, the Pharo, and the Arabs’ tower. One of the great beauties of Coste’s design is the cleanliness of the plan-partly due to his concern with the process of guarding the occupants. Every element in Coste’s plan is separated from the next by a series of corridors which allow for more hygenic conditions and observation. The corner turrets and small round side towers allow for surveillance of the whole structure from above. At ground level, the complex is linked by corridors which skirt the outer walls and then cut in a grid pattern all internal compartments. The geometric rigidity of Coste’s plan was designed for a strict surveillance policy necessary for a quarantune station but Coste intentionally downplayed this purpose. The

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220 Driault, *L’Egypte Ottoman*, (Cairo, 1933), p. 258, “un lazaret fut organisé selon les meilleurs modèles de la France” and Sabry also notes a lazaret, p. 587.
towers, while functional, also make the structure blend into the Alexandrian cityscape.

The interior design resembles a Mediterranean village, complete with a square for cafés and mosque. The focal point of the plan was this large courtyard placed toward the back of the enormous complex which brought together the functions of eating and prayer. Coste's chapel is a simple domed structure located centrally against the southern wall with a cemetery at its side. The mosque, due to the proportionately more numerous group of inhabitants is suitably a much larger and more impressive structure, dominating the courtyard. As in Coste's mosque designs for Shoubra and the Boghos complex, its facade consists of an arcade. For the lazaret quarter, however, perhaps due to his intense study of mosques, Coste turned to a more traditional vocabulary. Although the arcaded porches resemble Christian architecture more than Islamic, Coste incorporates a Mamluk dome seated on a drum similar to those at Barquq and places splendid Ottoman minarets of equal height on each side. The housing quarters, in addition to the other facilities, are surprisingly well-coordinated, giving the feeling of a Mediterranean town with the inclusion of differing arcades, wall textures, and buildings of low over-hanging roofs supported by narrow columns.

In all, the complex lends a sense of harmonic proportions with the only dominating structures being the mosque and the corner sentry turrets. Coste's treatment of the design is completely contrary to many of the French ideas held at the time about the necessity of austere design for surveillance.
facilities. The subtlety of Coste’s handling of the architecture in its habitable quality masks the inherent purpose of a lazaret, surveillance; yet in no way does Coste’s plan inhibit this function.

The Mosque Commissions

Although Muhammad Ali commissioned Coste to design two mosques in 1822, one for Cairo and one for Alexandria, Coste did not design the structures until years later. Coste spent these early years sketching the local mosques as was discussed and it was from this analysis that Coste developed his two designs. About the commission, Coste wrote:

De retour au Caire, Mehemet-Aly me demanda les projects de deux mosquées, l’une à construire dans la citadelle du Caire, et l’autre à Alexandrie. Je lui fis remarquer que ne connaissant pas l’intérieur de ces monuments et n’étant pas initié aux cérémonies religieuses, je lui ferais plutôt une église qu’une mosquée, et qu’il était urgent au’il me permit de les visiter. Il comprit cette observation. Il fit aussitôt rédiger un firman, sur lequel il avait apposé son cachet, dans lequel order était prescrit à tous les chefs des mosquées, de me laisser circuler, mesurer et dessiner dans l’intérieur comme à l’extérieur de ces monuments, et me donner protection à l’encontre de ceux qui s’y opposeraient.

Muni de ce firman, je commençai à visiter toutes les mosquées de Caire et du Vieux-Caire. Je me fixai sur les huit principales, les plus importantes par leur caractère architectural du type arabe. Ces mosquées étaient celles d’Amrou, 613 de J.-C.; Touloum [sic], 876; El-Azhar, 981; Barkauk, 1149; Kalaoun, 1296; Hassan, 1370; El-Mouaïed, 1415, et, Kaitbaï, 1463.

A study of prisons, hospitals, asylums, etc. has been led by Michel Foucault with Surveillir et Punir, (Paris, 1975), and his followers. Examinations of lazarets include: B. Bergdoll, “The Architecture of Isolation,” AA Files, Spring 1987, pp. 3-13; J. Howard, An Account of the Princeipal Lazarettos, (Warrington, 1789); and D. Panzac, Quarantaines et Lazarets, (Aix-en-Provence, 1986).
Le pacha, en me donnant le firman, me fit observer de ne pas aller à la mosquée El-Azhar, sorte d'université pour l'instruction du Coran, où de nombreux étudiants se réunissent et sont toujours prêts à s'insurger. Je pris note de cet avis. Cependant, comme j'étais très-désireux de compléter mes relevements par cet édifice, il me vint l'idée d'aller faire une visite au directeur-chef de cette mosquée universitaire. Il me reçut d'une manière cordiale en me faisant servir la pipe et le café. Je lui dis que le pacha m'avait chargé de venir reconnaître le mauvais état du dallage de la mosquée et des salles servant aux études, afin de pouvoir le remplacer. Il accueillit avec satisfaction le bon vouloir du pacha pour sa mosquée. Comme les dalles des salles d'études étaient recouvertes de tapis ou de nattes, je les fis enlever, et je pus, par ce moyen, mesurer toutes les parties de l'ensemble du monument, faire une vue intérieure de la cour et autres détails, sans être inquiété par les étudiants. Le directeur attend encore le redallage. J'eus occasion d'en faire part à Mehemet-Aly, qui ne put s'empêcher de rire.222

Creswell includes this story of Coste's small deception in his study of Egyptian architecture.223 This anecdote does indicate the freedom with which Coste operated in Cairo and the closeness of his friendship with Muhammad Ali, allowing him to break a direct order and not be punished.

Unfortunately neither of Coste's designs was built, but an analysis of his plans demonstrates the care Coste took in creating buildings suitable, not only to the surroundings, but also to the congregation. Foremost in Coste's mind was the appropriate monument for the Egyptian cityscape. Coste's approach to the two mosques differs from his treatment of all the smaller private mosques. Coste probably felt a more European structure was suitable for mosques placed

beside his classical palaces. For these large-scale commissions of public
mosques, however, Coste adhered to a more traditional Islamic design meant
to address the general Egyptian population. The argument that Coste utilized
a non-Islamic stylization because he was not familiar with the traditional
vocabulary is incorrect due to Coste’s Boghos Palace mosque design dates from
1824 and still utilizes a very classical European stylization.

Coste designed these two mosques as a conglomeration of different
elements he had noted in older religious structures. The influence of Barquq
and Sultan Hasan are most frequently seen in both designs. The Cairo design
has a dome almost identical to Barquq (figs. 27-29), while Coste’s Alexandrian
dome resembles Kaitbay (figs. 30-33). Coste chose for the minarets of the
Alexandria mosque to use a stylistic synthesis of Barquq, Kaitbay, and al-
Muayyuad. In contrast, for the Cairo design, Coste utilized the less decorative,
more abstract Ottoman type. The interiors of both are richly adorned with
ornamentation Coste had seen in many of the Mamluk buildings. Coste based
the plan of the Alexandria mosque on Barquq and used a similar plan for
Cairo, which also incorporated a tomb chamber like Sultan Hasan. The Cairo
four-iwan plan has its interior courtyard filled with a forest of columns and
small domes, surmounted by the enormous Mamluk dome. This plan in Cairo
is extremely similar to the plan of Barquq which is fitting to its function as an
enormous funerary complex. To make the plan more symmetrical, Coste added
two aisles on each side and ended the qibla iwan axis with a great mausoleum.
But for his mosque plan in Alexandria, Coste used a simple hypostyle mosque
type with two mausolea flanking the qibla wall.
Wishing to accommodate a larger congregation in the Cairo plan, Coste created a public space before the mosque. This space lacks the enclosed, meditative atmosphere of the traditional mosque courtyard; instead resembling the oval piazza created by Bernini’s colonnades at St. Peter’s cathedral in Rome. As in St. Peter’s, Coste incorporated two arms to encircle the area. These arms are complete with the public necessities of city life as Coste saw them, a public fountain and a café. Coste’s incorporation of a café at the mosque, although strange, was prophetic in consideration of the mosque’s present state as a major tourist attraction and the modern embellishment of ice-cream carts at the entrance. Perhaps Coste did imagine the site as a central meeting point for the administrative and military personnel located at the citadel, and the visitors who would pay homage at Muhammad Ali’s tomb. If the mosque was to serve this function, Coste felt the inclusion of a café, a necessity of Egyptian life, was warranted. Running on each side of the mosque were quarters for “les cheykes desservants la Mosquée” which included small formal gardens.

For the Alexandria mosque design, Coste chose to design a fortified exterior, resembling Sultan Hasan, with its hard, flat exterior, instead of creating a large public space as he did in Cairo. In Alexandria, Coste enlivens the introverted design by enriching the walls with the alternation of colors and the placement of exterior projections housing a public bath, latrines, fountains, and another café on the exterior. Housing was provided for the Imam and caretaker, as it was in the Cairo design. Coste’s decision to utilize such an austere fortress-like exterior is interesting. Alexandria’s location on the sea.
would make it more vulnerable to invasion than the Cairene mosque enclosed within the citadel. Coste designed the mosque to give the appearance of strength and immunity needed in a building located by the sea. Ultimately, no mosque was constructed in Alexandria during Muhammad Ali's reign and Coste's reference in his memoirs and sketchbooks to the commission is the only known mention of this project.

The Muhammad Ali Mosque, the Realized Design

Coste's design for the Cairo mosque was ultimately not built and instead an Ottoman structure was erected. This enormous change of plans is strange and has never been addressed in discussions of the Muhammad Ali Mosque.

Discussing the mosques's construction, Coste wrote that the explosion of an arsenal destroyed the Divan de Joseph located at the citadel in 1824, the location where the Muhammad Ali mosque was intended. Since the wali had commissioned the mosque for this location from Coste in 1822, there must have been a plan to remove the structure whether the arsenal exploded or


not. The *Divan de Joseph* was built during the fortification of the citadel in the early twelfth century. The beauty of that structure is seen in a plate from the *Description de l'Egypte* which enlarges the structure to extreme proportions, the columns looming high above the excavating men (fig. 34). The splendid series of columns is ornamented by a freize of calligraphy circling above.

Completed in 1848, the Muhammad Ali mosque in Cairo was ultimately built in an Ottoman style, after the mosque of Sultan Ahmad, the Blue mosque in Istanbul.226 Some accounts of the Muhammad Ali mosque state that it was designed by a Greek, Yusuf Bushnaq, starting in 1824.227 Today the mosque, erected on the citadel, has become a focal point of the skyline of Cairo. Coste’s Mamluk plan was abandoned. Taking its place is a traditional Ottoman plan consisting of an enormous central dome resting on a series of semi-domes. The decoration, made of alabaster, was completed in 1857 and retains the Baroque opulence seen in Coste’s palaces. As a gift in exchange for the Egyptian gift of the obelisk at the Place de la Concorde, Napoleon III gave a large clock in 1846 which is placed in the courtyard. One of the most delightful features of the mosque is its ablution fountain which is of a voluptuous Baroque design favored in fountain design throughout Muhammad Ali’s reign.

Many hypotheses can be made about why the wali would change to another architect and such a completely different design after approving Coste’s Mamluk plan. After building factories, irrigation projects, new

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227 Parker and al-Asad.
ministeries, and palaces, it is logical that Muhammad Ali wished to immortalize himself by building a mosque to house his tomb. Appropriately, the all-powerful Muhammad Ali chose a site that dominated Cairo’s skyline and was placed on the ruins of Divan de Joseph.

Lamenting the demolition of the splendid Divan de Joseph, Curzon wrote in 1833:

Le divan de Saladin qui était une salle vraiment belle, divisée en compartiments par de magnifiques colonnes antiques en granit rose, a été amené à le faire pour la mosquée qu’il fait édifier en albâtre égyptien, une splendide matière, mais son architecte arménien, qui est un rustre, nous offre avec le présent édifice un fâcheux contraste avec celui qui a été détruit impitoyablement. L’architecture si maigre de Constantinople convient peu au Caire, elle est tout à fait impropre au climat: elle a été introduite durant ces dernières années pour les bâtiments publics et les palais des ministres, lesquels prefèrent leurs murs nus et misérables, blanchis à la chaux, aux splendides travaux des Arabes des anciens jours.228

Curzon’s reference to an Armenian architect is the first time a change in architects is noted in historical references. On July 24, 1831, the Russian consul wrote that the pasha was collecting marble for a mosque to be built on the citadel after Coste’s design.229 Thus between 1831 and 1833, Muhammad Ali had altered his decision, having first approved of Coste’s designs years

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before. Muhammad Ali had opted for a completely different program, moving from a Mamluk-inspired structure to an Ottoman design (fig. 35).

This change is made even more dramatic considering that Coste wrote in 1827 that he was supervising the laying of the foundation and had already found marble for the structure. A comparison of the approximate measurements of Coste’s plan to the present structure show that the building is virtually the same size: the entire length of Coste’s structure without the exterior arcades was 105 meters and the present Ottoman mosque including the courtyard is 107 meters. The width of Coste’s mosque is 58 meters and the present width is 55 meters. The two plans are completely different except that both plans are built from a series of units of 4 meters square. Thus it is probable that in the second design the architect was forced to use the foundations already laid.

To understand the change from the original design, one must consider the personality and political situation of Muhammad Ali. While it is true that the wali never had a fondness for Egyptian culture, finding it uncouth, he had previously approved of Coste’s plans for the mosque, as well as for other Coste designs that incorporated Mamluk elements. After Coste’s departure, a great many of his designs were altered and constructed by Armenian, Greek and Italian architects, as Coste has stated above. Simply stating that the change was due to Coste’s absence seems too simplistic for the situation, yet Muhammad Ali seems to have insisted upon loyalty in his administration.

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230 For the present mosque, I am using the most recently drawn plans made by the Egyptian government kindly provided to me by Nasser Rabbat.
Coste’s failure to return could have annoyed the wali. It is also important to remember that Muhammad Ali was extremely close to his minister Boghos, a man Coste had befriended early during his stay. Boghos was Armenian, as was the new architect, thus there could have been an amiable relationship between the two that would have placed the new architect in good grace. However, after Coste’s departure, Muhammad Ali never appointed another head architect. The rest of his reign is filled with a miscellaneous hodgepodge of European consultants but much of what was built was after the initial designs of Coste.

Considering that the Armenian architect radically altered the designs, many interesting parallels can be made regarding this change. Although Egypt was filled with Europeans in the 1830s (many of them French St. Simonians interested in railway and canal construction), the honeymoon period of affable relations was over. After the defeat at Navarino, Muhammad Ali realized that the European powers were not going to simply let him conquer territory without questioning his political aspirations. In the 1810s, Muhammad Ali had to convince the Egyptians that he should rightfully rule. By the 1820s, his resources were focused on agricultural growth and territorial expansion. The 1830s were the “apogee” of his reign. He had created a monopoly in agricultural production and North African trade, as well as built a military force that had bested the army of the Ottoman Sultan.

Vatikiotis claims that Muhammad Ali at the time “realized the intrinsic decay of the Ottoman power and foresaw the quick decline of its dominion. If he could now embark upon a delicate diplomatic balance between England and
France, by playing one against the other, Muhammad Ali was ready to risk an all-out attack against the Empire for the extension of his dominion.”

During 1830-1833, the pasha’s troops were marching toward Istanbul, getting as far as Konya, Turkey. Muhammad Ali knew that the Ottoman forces would not be able to repel his attack but due to the political pressure put on him by the European powers he recalled his troops and agreed to the Treaty of Hunkar Iskelesi in July 1833.

As trade and transportation moved from its center in Turkey to Egypt, perhaps Muhammad Ali also envisioned the Ottoman capital moving from Istanbul to Cairo. Muhammad Ali did not need to appear the great Egyptian hero, he had subdued the Egyptian people. Muhammad Ali was now aspiring to be the Ottoman leader and the perfect representation of that, would be an enormous Ottoman mosque towering over the new capital, Cairo. In 1819, Muhammad Ali had dedicated his greatest building commission of the time, the Mahmudiyya Canal, to the sultan, but by the 1820s he wanted his own mosque. Finally in 1833, he determined to build the Muhammad Ali mosque, an Ottoman mosque, encased by his Cairene citadel.

**The End of Coste’s Time in Egypt**

While designing these palaces, Coste continued his work on canals in Lower Egypt and continued to supervise work done on his projects located throughout Egypt. Coste’s work became plagued by difficulties due to weather,
workers, and probably above all a frustration with the number of projects which the pasha continued to commission but never finished constructing.

Les fatigues incessantes, tant pour les opérations de nivellement de ces canaux que pour celles des relevements au graphomètre des positions des villes, des villages et des bourgs de la Basse-Egypte, jointes à la surveillance et direction des travaux, me causèrent un engorgement au foie et me forcèrent à garder le lit avec une forte fièvre et même avec délire. Le docteur Dussap, chez lequel j'étais logé, m'appliqua un fort moxa; ce remède, quoique un peu violent, me rétablit et je pus reprendre mes excursions.233

Coste took advantage of his improvement in health to finish his work on his sketches of Arabic architecture and to trace the foundations for his grand mosque for Muhammad Ali. While completing his studies of Cairene architecture, Coste made copies because he notes that an English tourist asked to see his drawings. Impressed with Coste's work he offered 12,000 francs for the lot which Coste accepted as he had copies.234

As has been mentioned, Coste continued to draw plans for canals throughout his stay. One of his last designs before he left Egypt was a new canal in Cairo in the province of Calioubich. On one of the canal's bridges, Coste designed a tower which resembled a minaret. Decorating another part of the canal Coste placed an arc-de-triomphe. (fig. 36) Why Coste included an arc-de-triomphe is unknown. It was not the first arc-de-triomphe in Egypt.

233Coste, vol. I, p. 44.
234These drawings are now in the Rodney Searight Collection in the Victoria and Albert Museum.
After the defeat of the Wahhabis early in his reign, Muhammad Ali was celebrated in the French quarter of Alexandria. To commemorate the conquest, an *arc-de-triomphe* of plaster was erected to honor the pasha. In addition to this structure, a Chinese pavilion was built as well as a "colonne surmontée d’un globe qui s’en détachait pour paraître suspendu dans les airs."235 With Muhammad Ali riding on horseback through the proceedings, the French were said to have yelled, “Vive Mehemet-Ali, protecteur et ami des Français!”236 All the monuments were covered with inscriptions commemorating his great victories. Perhaps Muhammad Ali wanted to remember this occasion with a more permanent monument and thus requested that Coste include a marble *arc-de-triomphe* in his design.

In September 1827, Coste’s health again took a turn for the worse. Stung by a large yellow scorpion in his Cairene lodgings, Coste became very ill.237 After being attended by the physician Dussap who removed the stinger, Coste was visited by Clot Bey who in fear for Coste’s life told him to leave Egypt for France at once. Coste called his students together to give them his plans and notes for construction as was Coste’s custom. Coste however added that “je les embrassa tous en leur faisant mes adieux.”238 This is the first time Coste describes a sentimental farewell, perhaps because he believed that he

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237 It is rumored that the scorpion is preserved in a jar in the Marseilles Natural History Museum.
would not be returning. In addition to his students, Coste said farewell to Kalia-Bey, Cherif-Bey, Boghos, Agi-Osman-Aga, Drovetti, Anathase, Fantozzi, Tourneau, and Nardi.239

Of course, Coste also visited Muhammad Ali to announce his intention of returning to France to recover. Coste wrote that "Le pacha me témoigna le déplaisir que lui causait ma détermination, et me souhaita un bon voyage, avec l'espérance, dit-il, que vous retournerez dès que votre santé sera rétablie."240 Sailing on November 7, 1827 with Planat who later wrote a history of Muhammad Ali, Coste heard the news that the Egyptian fleet had been destroyed at the battle of Navarín. It is striking that Coste's departure coincided with the defeat of Muhammad Ali's navy by French and British forces. The wali had spent his entire rule creating an enormous military force that could compete with the world powers. Courting these same powers, Muhammad Ali also worked to establish close relations with Europe, ultimately to satisfy his aims of autonomy, as has been discussed. With the destruction of his navy and his subsequent rejection by the European heads, Muhammad Ali was now forced to be more cautious with French and British diplomats.

Muhammad Ali still had the capacity to attack Syria, rebuild his army, and complete many of the projects that Coste had originally designed, but his initial hopes for glory and success had been dimmed with the wali being forced to answer more and more to the Sultan and European powers. In

239Ibid.
240Ibid.
the end, Muhammad Ali was brought to task for his earlier bravado. Unfortunately for Coste, the 1830s was the time that the governor was able to complete the largest number of building projects, as his interests and finances became more and more confined to his own backyard. The conclusion of Coste’s glory as head architect of Egypt coincided with the dissolution of the myth of the all-powerful, unstoppable hero of North Africa.
Travel, History, and Architecture
Sorte de pionnier de l'archéologie, M. Coste ne s'arrête que quand les forces lui manquent, et elles ne lui ont heureusement jamais manqué: ni les privations, ni le désert, ni l'insuffisance des ressources, ni le temps, ni le désir de revoir sa belle ville de Marseille, ne lui ont jamais fait perdre l'occasion de retenir et de dessiner avec un calme parfait les monuments qu'il voulait ranger dans ses portefeuilles. N'allex pas croire que M. Coste soit une façon d'homme de guerre, robuste, imposant, sachant, comme certains Anglais et Américains, se faire place partout. Non pas. M. Coste est un petit homme, d'apparence timide, boitant par suite d'une fracture à la jambe, tenant le moins de place possible partout où il se trouve; mais à son oeil vif, à un sourire à la fois bienveillant et un peu narquois, à une certaine carrure du front, on reconnaît bien vite une de ces natures vivaces et persistantes qui trouvent le moyen d'arriver à leur fins. Quand on connaît bien l'homme et un peu l'Orient, on comprend comment M. Coste a pu passer partout, dessiner partout, comme dans son cabinet.

-Viollet-le-Duc, preface for L. Bourgoin, _L'Art Arabe_, 1873.

Chapter 5: _A Summary of Coste's Life, 1827-1879_

Coste's return in 1827 to Marseilles was abrupt. His illness interrupted a career which could have made him the Hausmann of Cairo. Although Coste did not recover completely from the scorpion sting as he was lame in 1832, his infirmity did not hinder his appetite for foreign lands although he sometimes was forced to travel in a “chaise à porteurs” or sedan. Coste probably would have preferred to return to Marseilles an architectural hero with many completed commissions in his portfolio. Instead he was to return from Egypt with a portfolio of unrealized projects, a few constructed buildings and hundreds of historical sketches of ancient and Islamic architecture. Coste’s education and experience provided him with credentials suitable to an array of architectural work. Basically, Coste’s work after Egypt can be divided into three different categories as: an international architect, an architectural
historian, and a professor and chief architect of the département of Bouches-du-Rhône. This chapter will consider these three aspects of his life with the following chapter studying only Coste's commission for the Palais de Bourse in Marseilles.

**Architectural Work Outside France**

While Coste might have felt that his career would have been bettered by more completed work in Egypt, his reputation was established enough to make him an architect and engineer much in demand throughout North Africa and Europe. In addition to supplying Coste with more architectural projects, these commissions also allowed him the opportunity to continue compiling historical studies of world architecture. Many of his trips were necessitated due to periodic plagues in Marseilles. This was the case in 1828 when Coste, recovered from the scorpion sting, decided to travel throughout France sketching the major national monuments. On his return, he was appointed Professor at the Ecole d'Architecture de Marseille by Mayor Montgrand.

During his life, Coste travelled throughout North Africa, Western and Eastern Europe, and Persia. On account of his work in Egypt, Coste had become a veritable nineteenth-century international consultant to use a modern term. It is unclear how Coste’s reputation preceded him and how other countries would have known to contact him. Coste had become an expert not only in engineering feats but also was valued as an architect. How his ten years of experience in Egypt really prepared him for this fame is sketchy. It is true that his acquaintance with Penchaud enhanced his prestige in
Marseilles. Coste also had become an expert in irrigation projects. But why this experience would result in his recognition as an architectural master is somewhat obscure. Nonetheless, when the French consul in Tangiers decided to redesign his residence, Coste was immediately remembered. Coste was now an expert in any work concerned with non-Western countries, an honor that would prove invaluable later in his appointment by Napoleon III to document the architecture of Persia.

Tunisia, 1835

Less than ten years after his return from Egypt, Coste was to return to North Africa by request of the Bey of Tunisia in 1835. During this year, the Bey had constructed a frigate and two corvettes in Marseilles under the supervision of Hassan-Morali, inspector and interpreter for the Tunisian ministry. Coste had known Hassan-Morali in Egypt and it was the inspector who asked Coste to come to Tunisia to advise the local workers on dredging the port of La Goulette and to design a new port close to the capital of Tunis.241

Coste wrote in his memoirs that he willingly accepted the projects since the occasion allowed him to visit the ancient city of Carthage. In the collection of Marseilles' Bibliothèque municipale, Coste's sketchbook of Tunisia is filled with rich drawings of ancient and Islamic monuments. Coste documented in picturesque drawings the palace of the Bey where he dined on

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couscous made with rosewater and slept wrapped in muslin drapes. His
drawings portray a palace richly ornamented in tiles and surface stucco work,
about which Coste wrote that he greatly admired its Moorish decoration.
Admiring the exteriors of the mosques of Ez-Zaitouna of Tunisa and Sidi
Okba at Kairouan, Coste was not admitted to the latter. About the incident,
he wrote, “Les maures la désignent comme ville sainte, et les habitants se
croient tous des saints. Les chrétiens et les juifs ne peuvent y entrer et même
s’approcher de ses murs. Mon escorte, Maures fanatiques, refusa de m’y
conduire. Je dus y renoncer avec regret.”

Since 1815, Tunisia had enjoyed a privileged trade agreement with the
commercial port of Marseilles. Like Egypt, Tunisa conversely benefitted from
the new industrial modernization brought by the Western technicians who
flocked to the new commercial trade centers of North Africa. More
importantly, the advent of the steam engine made the easy navigation of ports
even more imperative due to the increase in traffic. For his work in Tunisia,
Coste concentrated specifically on engineering projects, having cleared the port
of La Goulette and created plans for a new port. Coste’s efficiency led the bey
to offer him a permanent position in Tunisia but Coste’s current fees as a
consultant were beyond the financial means of the regency.

\[242\textit{Ibid.}, \text{vol. I, p. 74.}\]
Algeria and Tunisia, 1847

By 1847, France’s interests in the Maghreb had greatly increased. After the conquest of Algeria in 1830, France had begun to treat the other regents of Tripoli and Tunisia as colonies as well, which before long they would become. Morocco was then under a separate sultanate and relations had warmed between the Sultan and the French government. In accordance with this new affability, Guizot, French minister of foreign affairs, commissioned plans from Coste for a French consulate to be built in Tangiers. Since the project coincided with a particularly frustrating time in terms of architectural work in Marseilles, Coste jumped at the chance to design the consulate (the commission would also allow him time to travel extensively). Coste voyaged to Tangiers by way of Algeria since he wanted to see the “nouvelle colonie française” and its extensive reconstruction under the new ruling power. In Algiers, Coste encountered two friends from Marseilles which was not surprising due to the vast numbers of Europeans, particularly from Marseilles, who had settled in the newly formed European sector of the city.

As in Algiers, Coste found an extensive European sector in the city of Tangiers where France had set its sights on increasing commercial interests. Coste noted in his journal that France’s rapport with Morocco was of great importance in aiding its continued possession of Algeria. Escaping from the financial restrictions in Marseilles, Coste was to learn that even French commissions in North Africa were not protected from the economic deficit of the present French government. Unhappily for Coste, the revolution of 1848
diverted the funds earmarked for the consulate and his project was canceled. None of his plans for the consulate remain in his sketchbooks.

Coste as Architectural Historian

Although Coste most highly valued his work as an architect, it is his historical publications that most benefitted his career as an architect and created his acclaim both in the nineteenth century and today. Returning from Egypt in 1827 to Marseilles, Coste was appointed professor at the École and architect of the Bouches-du-Rhône. Coste’s new positions as architectural professor and départemental architect demanded time from his daily work of drawing architectural sketches of Egypt. Coste continued his work on a publication of the Egyptian monuments, while he was preparing designs and class lectures.243 In 1829, Coste published his Carte de Basse-Egypte and began to prepare his other architectural sketches for lithographic reproduction.

Coste’s reputation as an architectural historian and authority on Islamic culture was cemented in 1837 with the publication of Architecture Arabe ou Monuments du Kaire. (The second edition was published in 1839). The importance of this publication and its subsequent impact on Egyptian

243Coste continued the tradition of Marseillaise historians in Egypt. Before Coste there were: Vincent Le Blanc (1554-1640); Gabriel Brémon (1610/20-1668/78); and Amédée Jaubert (1779-1847) who accompanied the Napoleonic expedition. Coste paved the way for the work of Jean-Jacques Rifaud (1786-1867); Octave Borelli (1849-1911) who published the Moniteur Egyptien and later the Bosphore Egyptien; Antoine Moures (1827-1887) who established a press in Egypt; Henry Sauvaire (1831-1896), the Orientalist; and numerous workmen and engineers for the work on the Suez Canal 1854-1914.
architectural history are such that it will be treated separately in the final chapters of this study. Coste’s historical or “archaeological” interests were in keeping with the nineteenth-century curiosity regarding historical evolution and the popular adoption of non-classical elements in vogue during the eclectic movement in Europe at the time. While traveling, Coste was rarely at rest since he sketched any monument, costume or city street that struck his fancy. Coste wrote modestly about his drawings, saying that they were “mes travaux de touriste.” This comment is in character, as Viollet-le-Duc writes about Coste that he was “un artiste de talent distingué, et d’une modestie égale à son mérite.”

With the publication of *Architecture Arabe*, Coste became a celebrity in the French arts and a visit became mandatory for any French personality travelling through Marseilles to the Middle East. He also was a respected speaker in the international debate over the proper treatment of Western and non-Western architecture being held in London, Rome, and Paris. To see his drawings or to discuss the Near East, Coste was visited by Flaubert, Duchamps, Gautier, Viollet-le-Duc, Abadie, Daly, Révoil, Vitet, Mérimée, Lamartine, Duban, Lebas, Hittorff, and Zanthe. His visit to England resulted in appointments with Donaldson, Cockerell, Alexandre, and Owen Jones. In Italy, Coste obtained an audience with Pope Pius IX, where the Pope and Coste spoke about the new Marseilles commissions of Notre-Dame-de-la-

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Garde and La Major; and afterward Coste was presented to the "pensionnaires de l'Ecole de Rome."

Coste's reputation as a historian was not only for his work in non-Western countries. Coste was recognized nationally for his historical efforts and was employed on a number of occasions to advise in restorative work. In 1846, he advised in the planning of the railway lines inside the fortifications of Avignon and suggested restorations to the city's celebrated Hôtel de Ville.245 In addition, he was consulted on many projects within the département of the Bouches-du-Rhône, including La Major, the destined site for Vaudoyer's Marseilles Cathedral.

Coste's tastes historically were rather conservative as is disclosed by his discussions about his visits to European capitals. He found Saint Peter's in Rome "le plus bel édifice du monde" but he pronounced Baltard's use of iron and stone together in his newly designed Trinité in Paris inappropriate to religious architecture. During his trip to Spain, Coste admired the "coquet" architecture of the Alhambra which he wrote "manque de grandeur et de majesté monumentale, en comparaison des palais des califes et des mosquées du Caire." Coste took his final grand voyage in 1872 to Russia where he traversed much of the country, followed by an epidemic of cholera. This trip occasioned his historical writings and drawings of the churches of Russia.

It was his mission to Persia in 1839, coinciding with the second, larger publication, of his Monuments du Kaire, as much as his work on Egyptian

245 Coste's drawings for Avignon are located in the Bibliothèque Municipale de Marseille in manuscript MS 948.
architecture that assured his reputation as an international celebrity. Since the sixteenth century, France and Persia had maintained diplomatic relations, mandated by a fear of the rising strength of the Ottoman empire. France was interested in having a foothold in the Middle East to counter England’s possession of India. Geographically, Persia (like Egypt) provided the perfect position to strengthen the French presence in the area. Conversely, France’s occupation aided Persia’s attempts at retaining autonomy from the Ottoman empire. After a brief hiatus during the eighteenth century, talks resumed in the early nineteenth century due to two missions sent by Napoleon, who envisioned a Turko-Persian bloc against the interests of England. During the next few decades, the Persian government vacillated between French and British advances, the latter’s presence becoming more enticing due to growing fears of a Russian advance. Finally in 1839, the July Monarchy, wishing to pursue more French colonies and foretelling the collapse of the Ottoman hold, sent a formal mission to Persia.

The Persian mission was composed of twelve members and like the French savants in Egypt, each was a specialist in a particular field, though in this case, the French government had approved each specialist. Led by le Comte de Sercy, the mission’s job was to evaluate the country’s economic potential to France, plant the seeds of French industrialization, and study various modern and historical aspects of the Persian culture for publication back in France. Coste and the painter Eugène Flandin were charged with the documentation of Persia’s modern and ancient architecture. Coste’s recently published *Monuments du Kaire* and his architectural work in Egypt
recommended him to the position of architectural expert. Coste wrote about his appointment by the Académie royale des Beaux-Arts de l'Institut de France "Etant connu par mon grand ouvrage sur l'architecture arabe des monuments du Caire, où j'ai reproduit cette époque de l'art qui précéda le moyen-age, dans les plus minutieux détails d’une architecture heureuse de fantaisie et charmante de caprice." This reference to Egyptian architecture as "heureuse de fantaisie et charmante de caprice" is completely out of character for Coste who usually described the architecture as majestic and monumental. Flandin had accompanied the Algerian campaign in 1837 and been recommended for the mission due to his publication of his Prise de Constantine. During their stay, the mission encountered continual instability in the country, both in the cities due to the anarchic and archaic governmental institutions, and in the countryside due to the constant ethnic battles between the Shiites and the Sunnis throughout the country and the continual uprisings of the Kurds in the north.

Coste's writings about his trip to Persia are the richest, most personal accounts in his memoirs. He described the miserable living conditions of the Persians, the constant danger of being attacked by thieves and even lions, the "veritable fléau asiatique" better known as fleas, and the stupendous beauty he encountered throughout the country both in ancient and modern sites. Unlike his experience in Egypt with his firman from Muhammad Ali, Coste was often threatened and attacked as he studied the mosques, sketching quickly in

watercolors, pencil, and pen in the open or drawing within the interior (figs. 37, 38). "Mon premier soin fut d'aller mesurer et dessiner la principale mosquée.... A peine m'étais-je installé dans l'intérieur de l'édifice, occupé à le reproduire... je vis des barbes se hérisser et des yeux flamboyer dans le sanctuaire. Je ne pus achever mes dessins, car déjà le peuple s'ameutait."247 Coste wrote that it was his passion for mosques that made him brave the dangers.248 When sketching domestic structures, however, Coste wrote: "Les orientaux aiment fort peu qu'on dessine leurs habitations; ils attachent une idée superstitieuse au portrait de ce qui leur appartient. Les habitants vinrent demander au gouverneur de Serpoul-Zoab de quel droit je dessinais leurs maison."249

Coste deplored the conditions he found in the country: "Quel pays que la Perse!... Partout l'œil ne voit que ruines, campagnes désertes et populations misérables.... Le Schah voudrait faire le bien mais entouré de misérables, il ne sait rien et a les mains liées. Les Russes, ici tout-puissants ont un très grand intérêt à maintenir le pays dans l'abjection et la misère. Pauvre humanité."250 Coste was given a reception with Muhammad Shah in which he was officially decorated for his work. "Ce prince me reçut dans un cabinet qui lui servait de chambre à coucher. A mesure que la visite se prolongeait, ses traits exprimaient une plus gracieuse bienveillance.... Le Schah me demanda si le Caire était plus grand et plus beau que Paris.... Comme de raison, je dus exalter Paris aux

dépens du Caire, qui n’a aucun point de ressemblance avec une cité européenne."251

We know little of how Coste prepared for Egypt or in what capacity he spoke Arabic, if at all. His extensive essay on the history of Islam for *Monuments du Kaire* and his large collection of books suggest an active interest in historical topics. For his trip to Persia, Coste wrote that he studied the history of the country, modern and ancient, by reading the classics, Herodotus, Xenophon, and Diodorus of Sicily, in addition to more recent histories.252

Since the French mission had no specialist in Persian history or classical languages, Coste traveled with a small library of the classics, supplemented by modern translations of the antique inscriptions and his own rudimentary knowledge of Cuneiform writing. Thus Coste was able to make proper copies of the inscriptions both in Cuneiform and Latin. He wrote that he preferred the history of Ninive and Babylon to Zoroastrianism.

This trip resulted in three publications. The first, completed with Flandin, concerned their work on ancient Persia, in particular Persepolis. *Monuments antiques de la Perse* was published in 1844. Its five volumes received immediate acclaim and prompted Coste to compile his drawings of the more recent monuments. In addition to *Monuments antiques*, Coste and Flandin collected their watercolors and sold them in a special six volume collection titled *Voyage en Perse* released from 1844 to 1854. Coste’s final publication

arising from the Persian mission, entitled *Monuments modernes de Perse*, displayed the Islamic monuments of Persia, many of which had never been seen before in France. Coste did not complete this volume until 1867; it ended with a text by Camirsky de Biberstein, an old friend of Coste's. At the age of eighty, Coste had finally received the respect he deserved as a historian. The seventy-one plates of *Monuments modernes* were completed by a crew of lithographers. In a rare glimpse of Coste's work schedule, Léon Lagrange, an Islamicist and dear friend of Coste, wrote of the architect's rigorous work day in a review of *Monuments modernes de Perse*:

The rest of the review documents the buildings that Coste included in the publication. In a diversion from his architectural discussion, Lagrange gives an account of the pleasures of kif and its importance in the Persian daily life.

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Lagrange completed his review by writing that Coste’s drawings represent “le kief [sic] d’un architecte.” 254

After this trip, Coste was awarded the ribbon of Chevalier de la Légion d’Honneur by Louis-Philippe for his work on ancient Persia, and for his drawings of modern Persia, the Shah of Persia gave him the Commandeur du Lion d’Or. Later, Napoleon III elevated his distinction to Officier de la Légion d’Honneur for his design of the Palais de la Bourse. Coste became a membre correspondant of the Institut de France (Académie des Beaux-Arts) in 1854; and in 1848 a member of the Royal Institute of British Architects and in the Academy of Archaeology in Rome.255

In 1847, Coste gave a lecture entitled “Y a-t-il possibilité de créer une architecture nationale en France” before the Academy of Marseilles in which he discussed what was appropriate to modern architecture. Coste’s argument is founded on the belief that every style inherits and builds from its predecessor. He describes the artists of his day as striving to achieve originality under the pretense of liberty, yet to Coste, these artists are simply creating copies of earlier masters. Coste saw the growth of architecture as a steady progression, with changes in character, but still sharing the same stylistic parentage. These differences were assisted by such factors as climate, religion, and local customs of the populace.

254 Ibid., p. 392.
255 In addition, Coste was a corresponding member of Arts et Monuments de France, a memebier of the Société centrale des architectes, and of the Marseilles Academy.
In his discussion, Coste documents architectural evolution from ancient Greece to the modern day. At the end of his lecture, Coste gives a quick synopsis of his view of historical progression:

Les Egyptiens créent un ordre d'architecture.  
Ce germe déposé dans les monuments égyptiens, les Grecs le fécondent.  
Les Romains s'approprient l'architecture grecque, à laquelle ils ajoutent l'art.  
L'architecture romaine dégénérée va s'éteindre en Occident, dans le style romain; en Orient, dans les styles bizantin [spell] et sassanide.  
L'art arabe surgit, il a sa source dans l'architecture sassanide et byzantine.  
L'Europe s'ébranle. Elle s'arme pour la conquête de l'Orient. L'art ogival est sa conquête.  
Les traditions de l'art ogival sont perdues; un retour vers le style antique se produit, mais il passé par une combinaison avec l'art ogival; c'est la renaissance.256

While Viollet-le-Duc held that it was the gothic that, in its spirit if not its forms, expressed the future of modern architecture, Coste looked to the Renaissance as the natural predecessor. Coste believed that the architect naturally turned back to the past for inspiration; and in his decision to choose the style appropriate to the present, the artist must look to the society whose social mores are the most equal to his own: “Je termine, Messieurs, pour exprimer ma conviction sur l'impossibilité de créer une architecture sans rappeler le passé; le style renaissance époque de François Ier, n'en déplaise aux admirateurs exclusifs du gothique, si un choix était à faire entre les divers

genres d'architecture, le style renaissance me paraîtrait le plus sympathique à
nos moeurs et à notre caractère national." 257

The impact of Coste's historical studies of Islamic architecture is vast
and difficult to document. As has been mentioned, Coste was a close
acquaintance to many of the nineteenth-century architects, now considered
forerunners in the field. Coste was over fifteen years older than Vaudoyer,
Labrouste, and Duc but his drawings and publications still piqued their
interest in this foreign culture. With the publication of Monuments du Kaire
and later with his Perisan studies, these architects for the first time had
thoroughly and correctly documented renderings of Islamic architecture,
unimpeded by fantastic uses of color, domes, and minarets as was described
before in travel journals and fictional accounts. In particular, the nineteenth-
century interest in polychromy was ignited by the publication of illustrations of
the multi-colored buildings of Cairo and Iran. 258

The “Néo-Grec” style which characterized the architecture of the
Romantic Pensionnaires was a rejection of the classical restrictions on the
French architectural profession canonized in the early nineteenth century. The
style was a synthesis of historical styles more concerned with emotional
expression than the belief in an “absolute truth” in the classical doctrine. This
new attitude led architects to non-Western architecture to study the effect of

258Middleton, p. 175, footnote #1. Many studies of the Ecole interest in polychromy
exist, among them: D. Van Zanten,”;
light, color, and pattern in ornamentation and design. The specific interest many of these architects had in the Islamic architecture of Cairo, especially considering their familiarity with Coste, indicates the impression made at viewing the drawings of the *Monuments du Kaire.*

Coste's impact was immediate in ways Coste abhorred, and subtle in the architectural and historical fields in which he yearned to be recognized. Coste excited the appetites for exoticism already awoken. As Hautecoeur wrote about the age, "Ce n'est plus seulement aux modèles de l'Italie et de la France que s'adressent les architectes; les campagnes d'Algérie et de Crimée, les fouilles exécutées en Orient, les livres de Pascal Coste sur l'art arabe et persan, celui de Bourgoin, dont Viollet-le-Duc rend compte, les publications nouvelles comme...

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259 N. Levine, "Architectural Reasoning in the Age of Positivism," doctoral dissertation, Harvard University, 1975, vol. II, p. 380, and vol. III, 498; Levine discusses specific cases in which Coste's publications were used for inspiration, specifically with Vaudoyer and E. Garrel. Discussing the interest in polychromy and the Romantics affiliation with North Africa, Levine refers to the growing knowledge of the area in Paris. In addition to the conquest of Algeria by 1847 and Flaubert's trip to Egypt, Levine refers to the exhibitions of Coste's drawings of Cairo in the Salons of 1831, 1833, and 1836, as well as the publications of *Monuments du Kaire* and *Voyage en Perse*. He continues in his argument to state that the strongest influence on Labrouste and Vaudoyer would have been their early training by Huyot who claimed that "Cairene architecture had reached a point of 'classical perfection,' analogous to Periclean Greece, in the fourteenth-century mosque of Sultan Hassan." (p. 516, #656) Huyot's advanced knowledge of Sultan Hasan would likely have been due to Coste's research since Huyot himself had spent only a short time in Cairo and did not obtain official approval to enter the mosques. In 1822, the year Huyot had his students copy Coste's Egyptian drawings, both Labrouste and Vaudoyer would have still been in school. Levine, among other historians, has emphasized the strong friendship that existed between Huyot, Vaudoyer, and Labrouste, and thus it seems likely that the two students would have had the opportunity to view Coste's work in Paris. A few years after seeing Coste's colorful watercolors of Cairo, Labrouste was to send equally colorful studies of the Greek monuments back to Paris as his fourth-year *envoi.*
Le Tour du Monde, qui depuis 1863, reproduit les édifices de tous les continents, favorisent l'exotisme, dont les romantiques étaient déjà si curieux."260 Although Coste detested Orientalist creations, the publication of his books on Egypt and Persia contributed to the taste for exoticism in architecture, particularly in the design of villa architecture; some of the architects who committed these excesses were his own students.261

As Quinet wrote “the Oriental Renaissance brought the end of the Neoclassical age.”262 Denon, Wilkinson, Belzoni, and Salt supplied vivid descriptions and illustrations of the wonders of ancient Egypt. By the 1830s, Egyptology did not supply the novelty that it first held and the artists of the Romantic age were searching for a new strange world to capture in words and paint. With Monuments du Kaire, Coste was to introduce that new world.

Carré who wrote about the influences on French writers of the nineteenth century, discussed the new-found interest in modern Egypt:

Particulièrement nouveau est le chapitre sur l'art de l'Islam dû au marseillais Pascal Coste, le précurseur de Prisse d'Avennes, l'homme à qui l'archéologie musulmane doit le premier grand traité sur l'art arabe... pendant dix ans, d'innombrables dessins, d'une fidélité exemplaire, d'une exactitude stricte et nue, qui valent par la sûreté et la pureté incomparable du trait et il venait d'en publier les plus caractéristiques dans son magnifique ouvrage: Architecture arabe ou monuments du Caire.... Nous connaissons, certes, avant lui, l'art mauresque d'Espagne et l'art de

In his discussion of the work of Théophile Gautier, Carré wrote that the work of Denon and Prisse d'Avennes greatly influenced Gautier's descriptions of ancient Egypt for *Roman de la momie*, whereas the works of Coste and possibly Girault de Pragney helped Gautier create the vivid atmosphere of a harem in *La péru*. It is highly likely that Gautier had used the works of Coste since they were friends. Arsène Houssaye, a friend of Gautier and of Coste, conducted a salon in which all three regularly took part, as did Vaudoyer. Gautier, himself, had an impact on French architecture as Van Zanten wrote in his examination of Vaudoyer's Marseilles cathedral and the Néo-Grec. "It was not so much Greek as exotic, and its leitmotif was this Mediterranean sense of color. Its quintessential monument was Théophile Gautier's volume of exquisite, sensual, exotic poems, *Emaux et Camées*, published in 1852."

It would be impossible to document the writers and artists who consulted the innovative work of Coste. Showings of his drawings were studded with the most famous artists of the day. Coste was consulted by numerous artists and architects who were considering traveling to the Near East or who were simply interested in his voyages. These artists were interested in finding passionate, violent images improper to a Western setting. As was

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stated earlier, Coste was visited in Marseilles by many French luminaries voyaging to the Islamic world, including Flaubert and Maxime du Camps. Coste was also a frequent visitor to fashionable salons in Paris for whom the exotic Orient was decidedly in vogue.

Coste as Architect and Professor in Marseilles

An account of Coste's travels and historical exploits throughout the world would give the impression that Coste spent little time in his native Marseilles. On the contrary, Coste was one of the most important leaders in the city's development, by acting as architect, inspector, city official, and professor. Coste's memoirs read as a testament to the rebuilding of Marseilles and the establishment of the architectural profession in the port city. Although Coste periodically worked with other architects like Barrel and Ferrié, Coste considered the commissions his designs and it was by him that the final word was given. In all probability these commissions are the ones that Coste held the most dear of his life's work. Over all his other work Coste wanted to be known as a great French architect, a characterization which was continually undermined by the political turmoil of the day (witnessed by his vast portfolio of unfinished projects from both Egypt and France).

The nineteenth century was an extremely active period for Marseilles, commercially and thus architecturally. The city's growth was not only in public buildings but also included religious monuments and plans for urban design. Coste's first commissions on his return from Egypt were for the churches Saint-Lazare and Saint-Joseph, both located in Marseilles and designed in
1833 (figs. 39, 40). These churches are neo-classical in design with elevated porches supported by a row of corinthian columns. In 1846 and 1848, Coste designed two more churches in Marseilles: Saint-Barnabé and Mazargues (figs. 41, 42). Coste chose to use a Neo-Roman design which Denise Jasmin says is “au moment où Questel construit dans le même style d'église Saint-Paul à Nimes.” The plans for these four churches all utilize a basic basilica form with many eclectic elements in their interior design that give no indication of Coste's experience in North Africa. All were completed with modifications by later architects. By 1860, the year of his last ecclesiastical commission, Coste had given his lecture about the appropriateness of the Renaissance style for contemporary French design. Coste designed the Chapelle du Cercle Religieux in Marseilles utilizing a Renaissance centralized plan which is dominated by a massive dome (fig. 43). Jasmin wrote that Coste “élabora un plan centré qui se réfère aux créations de la Renaissance plus qu'à celles du XVIIe siècle romain ou parisien.” These projects, while not as impressive as his designs in Egypt, and have a subtle simplicity in their exterior ornamentation and a richness of interior ornamentation.

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\[\text{Additional information about these commissions is given in A. Fabre, Les Rues de Marseille, (Marseilles, n.d.), vol. IV, St. Lazare-pp. 64-66 and St. Joseph-pp. 233-37. Archival information about Coste's churches are: A detailed discussion of Coste's church designs is given by Barry Bergdoll in his lecture “Passé national et passé régional dans l'architecture religieuse marseillaise: Coste et Vaudoyer” given in the Coste symposium in Marseilles, 1987.}


\[\text{Ibid., p. 12.} \]
Coste was nominated to the Ecole d'Architecture by the Marquis de Montgrand in May 1829 and appointed to teach the Classe d'architecture Civile et d'Ornement as professeur d'architecture élémentaire where “L'étude de l'architecture élémentaire concerne l'apprentissage des principes constitutifs du monument, à partir de l'analyse et de la copie des éléments de l'art classique.”269 As an architectural professor in Marseilles, Coste was hired to instruct in classical architecture but he never abandoned his love of Arabic architecture. Coste prided himself on being a historian and rationalist, never debasing his work by creating Orientalist fantasy architecture despite his having had such a strong impact on such architecture with his publications.270 Coste taught a traditional treatment of ecclesiastic architecture but supported a more innovative vocabulary in reference to public buildings, in particular to new structural techniques. For his most prestigious design, the Palais du Bourse of Marseilles, Coste utilized new structural techniques to deal with the hazards of the site. Due to the difficulties found in the soil at the building location, Coste utilized structural techniques then being developed in Paris. In addition Coste incorporated in the Bourse's structure the first use of iron roofing and flooring in Marseilles.271

One cannot stress enough Coste's impact as educator and inspecteur on the stylistic development of Marseilles' nineteenth-century architecture. Coste

271Jasmin, p.11.
had his hand in projects of all sorts. He designed the Marché at the Place de Rome (fig. 44) \(^{272}\); the Slaughterhouses à Arenc at the new port of la Joliette in a simple style which emphasized function above all else (fig. 45); the Altaras residence(fig. 46); and fountains for the Cours Saint-Louis in a Renaissance style using vocabulary that referred to Marseilles’ history (fig. 47). All of these projects were completed. It is more difficult to trace the numerous large-scale projects which were not built, many put off due to lack of governmental funds. These include a proposal to commemorate the Durance Canal with a museum and fountain (later designed by Esperandieu as the Palais Longchamp); the Marseilles prison (which was later built by Coste’s student Martin); and an apartment house on the Cannebière. The financial crisis facing France starting in 1847 forced many of Coste’s projects to be shelved. In comparison to most French architects, Coste was fortunate to have so many of his projects completed. However, Coste also designed a vast number of commissioned projects which were canceled at the last moment. This fact combined with continual news of the ill-health and deaths of many of his friends makes the last volume of Coste’s memoirs, which details his Marseilles projects and final years, morose and depressing. By mid-century Coste was not only out-lasting friends his age but was also witnessing the deaths of many of his younger students and acquaintances. Coste addressed this fate by continuing to take grand voyages and to visit Paris yearly.

\(^{272}\)Coste wrote that he designed the pavilions in a “style grec que l’on appliquait à une autre époque à tous les monuments, aux halles comme aux églises, aux bourses comme aux Panthéons.” reprinted in Jasmin, p.15.
The Tomb of Camille Olive

While Coste’s ecclesiastic and public projects brought him more acclaim, it was his tomb at the Cimetière Saint-Pierre in Marseilles that was to represent Coste’s most personal design. Commissioned late in his life in 1865 (Coste was seventy-eight years old), the Tomb of the Camille Olive family is a simple composition that unites the eclecticism that filled Coste’s life. Jean-Joseph-Camille-Barthélemy Olive was a wealthy Marseilles businessman who commissioned a family tomb from Coste. The domed monument towers over most of the less-colorful tombs surrounding it. Its location on one of the many center lanes through the cemetery assured the recognition of the bourgeois family’s importance to visitors. Likening the cemetery to Père-Lachaise, Montparnasse, and Montmartre, a contemporary journalist wrote that the opulent merchants of Marseilles wanted to be housed as well after death as they were during life.273 These “temples de la bourgeoisie marseillaise”274 assured the proper glorification of the merchant’s family and thus were duly ornamented with marble and precious stones. There is no indication that Olive had any interest in or ties to the Orient. Coste’s synthesis of such a colorful melange of Western and non-Western elements

274 Ibid.
was due to his artistic preference, much of its color due to the incorporation of such rich materials then popular in Marseilles.\textsuperscript{275}

In its design, Coste incorporated many disparate stylistic elements to make a structure colored in soft hues of green and white, and banded in ornate delicate carvings much as Vaudoyer had done in La Major. The beauty of the mausoleum is in its cohesive design with no ornamentation superfluous to the conception as a whole (fig. 48). The main body of the tomb is composed of a striped rectangle, with light columns inserted at each corner and corniced by alternating winged angel heads and Greek crosses. Below the cornice runs a frieze of abstracted muqarnas which are flat and far more geometric than their Islamic predecessors. Arabesques embellish the door as does a neo-Gothic, Cordoba-like cusping around the arch. The dome is more austere, ornamented only with a multi-colored drum and topped by a cross that soars high above the surrounding bourgeois temples. Unlike the nearby tomb of Clot-Bey which is simply an attempt to copy a Muslim tomb (fig. 49), Coste’s thrust was an integration of Western and Eastern elements, such as the tympanum sculpture of a cross entwined in the tendrils of an arabesque. Coste designed a structure which was a harmonious synthesis of Christian regularity clothed in a delicate Islamic shell of color and movement which suggests a Mediterranean spirit in its play of light rather than an overt Orientalist copy of Islamic stereotypes.

\textsuperscript{275}Bertrand suggests that the availability of the stones was due to the contemporary constructions of Notre Dame de la Gare and La Nouvelle Major which also were ornamented with marbles and precious stones as were other tombs of the period.
Nowhere else was Coste to appear so subtle in his overall design and so appreciative of the two worlds in which he worked.

But it was the commission for the Marseilles Palais de la Bourse in 1851 which made Coste swell with pride as he finally felt recognized by France as an accomplished architect. Coste immersed himself in all levels of its design. As with so many of the commissions of his life, financial crisis threatened to prevent its completion since the city was still struggling after the crisis of 1848. However the Chamber of Commerce prevailed and Louis-Philippe the prince-president, arrived in Marseilles to place the first stone. The sixty-five year old Coste wrote in a letter of 1854 after being assured of the building's completion that he prayed for "sa santé se conserve pour pouvoir terminer ce monument qui clôturera, je l'espère, d'une manière satisfaisante et honorable ma carrière artistique. Heureux l'architecte qui voit commencer et achever son oeuvre".276 Coste's prayers were heard. He retained full health throughout the completion of the Bourse and lived on to the respectable old age of ninety-two when he died in Marseilles. He is buried in the Cimetière Saint-Pierre below a plainly ornamented stone where all the writing has been made illegible by time but

Pascal-Xavier Coste, 1787-1879, architecte.

\[276\] Jasmin, p. 11.
The study of the Marseilles Bourse allows for further exploration of France’s view toward the Orient in the nineteenth century in the study of one monument whose existence was dependent on the relations between West and East. Coste saw this commission as his most important because he wanted to be viewed as a top Beaux-Arts architect, like his established friends in Paris. Unfortunately, his design was affected by the stylistic compromises he had to make in order to accommodate the desires of the Marseilles Chamber of Commerce. The greatest change imposed on Coste was from the original design which was in a Renaissance style (in accordance to Coste’s view of its appropriateness to French design at the time) to a more classical design. Coste’s career moved from one political realm to another: in Egypt, Coste had been given free rein in his designs for Muhammad Ali even though the projects had strong political affiliations. Returning to Marseilles, architectural expression was seen as being inextricably linked with the city’s personality and the image the Chamber of Commerce wanted to present to both France and the Mediterranean world.

Considering Marseilles’ position as a trade center since ancient times, it is odd that it was not until 1860 that the city had a permanent stock/commodities exchange or bourse. Throughout the centuries, trade in Marseilles was transacted in an area of the quai situated before Marseilles’ Hôtel-de-Ville designed by the Marseilles sculptor Puget, the French Michelangelo, as part of Louis XIV’s plan to revitalize the city as a military and
commercial port. During the first half of the nineteenth century, a temporary edifice stood in the Place Royale, the current location of the Bourse. This first structure consisted of a large square pavilion supported by columns separated by cusped arches which were sumptuously decorated (fig. 50). The colorful pavilion was described as a Moorish or of a Chinese character and served as the main bourse until the completion of a permanent Palais de la Bourse constructed under Napoleon III after the designs of Coste. By the 1840s, the solution to replace the Moorish pavilion was apparent, it was a design that utilized monumental classicism. Coste’s knowledge of world architecture was vast and his reputation was well-established as an international designer. Coste was to choose a design which most specifically captured the dynamism of the city’s spirit.

Marseilles in the Mid-Nineteenth Century

It was not until the mid-nineteenth century that Marseilles became France’s largest Mediterranean port. As it had access geographically to two major water routes, the Mediterranean and the Rhone, Marseilles was thought to be an ideal harbor for the whole of France. In reality, however, the original port became filled with silt due to neglect and thus the towns of Toulon and Nice came to dominate Mediterranean trade. Marseilles had originated as a Roman port. Although Arles had controlled the “fosses mariennes” as the

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277 The pavilion is referred to as Chinese in *L’Illustration*, December 27, 1851, p. 415; and as Moorish in Berteaut’s article on the Bourse in *Revue de Marseille*, no. 3, 1957, p. 73.
official port to Rome, Marseilles had served as the merchant entrepôt between
the Orient and the continent. Sacked by the Moors in the seventh century,
Marseilles did not regain its position as a principal merchant trade center until
the fifteenth century when, annexed by the Comte de Provence, it again served
as a transit center between the Levant and continental Europe. While Genoa
and Livourne dominated the commercial trade on the Mediterranean during
the seventeenth century, Colbert, as Louis XIV’s secretary of finance, began
rebuilding the city; the rebuilding was funded by a newly-created monopoly on
trade with the Levant (Colbert had the city fortify its ramparts and forts). This
monopoly continued into the next century aided with the commencement of
Marseilles’ industrialization processes.

It was with the conquest of Algeria in the 1830s, however, that
Marseilles began to recapture her title as France’s premier port. The
transportation of troops and goods through Marseilles to Algeria helped the
city become the main port for France, surpassing the neighboring harbor of
Toulon. The conquest of Algeria held strong political and economic benefits
for Marseilles. Writing of the growth of Marseilles, Marcel Roncaylo noted,
“A vrai dire, les ressources à tirer de la colonisation algérienne n’apparaissent
pas encore nettement et l’Algérie signifie surtout, avant 1850, un mouvement
de troupes, puide colons, un trafic d’équipements puis de ravitaillment un
débouché pour les industries marseillaises, dont évidemment l’armement tire
profit. Plus que réalités, les promesses d’un renouveau commercial de la
Mediterranée donnent une valeur économique à la conquête de l’Algérie.”

This colonial acquisition produced and paid for new commercial projects including a train line between Marseilles and Avignon in 1849, an auxiliary port begun in 1844, and a canal linking Marseilles and the Durance. The area surrounded the Vieux port was redeveloped allowing for a grand bourse at its heart.

The Bourse was commissioned the same year as the Marseilles Cathedral in 1850 due to the promptings of A.-L.-A.-E. de Suleau, the prefect of Marseilles, who sent a long report on the present state of the city to the ministre de l’Instruction Publique et des Cultes. The report detailed other suggested improvements to the port, rail facilities, and abattoirs. In an attempt to distinguish itself as a cultural center, the government rebuilt the city with its newly acquired commercial wealth. Marseilles merchant class now wanted visible signs of their prosperous economy, ennobling that which founded the city and generated their wealth, Mediterranean trade.

Coste’s Palais de la Bourse

In 1851, an open competition was held for the design of the Palais de la Bourse after funds had been secured from Paris through the administration of Louis-Napoleon Bonaparte. This was not the first competition held for the Bourse’s construction. Previously, a competition was judged by the Chambre of

279 Van Zanten, p. 139.
Commerce in which Penchaud, "fils de l’ancien architecte de la ville"280 was granted the commission. Appropriate to the commercial origins of the city, the committee chose a design that “acquise à l’architecture grecque... qui faisait la part des habitudes et du climat marseillais,”281 its classical style recalling “l’orgine hellénique de Marseille.” 282 Funds for this project were found to be insufficient and the plans were abandoned. But by 1851 the search for funds was renewed. Louis-Napoleon Bonaparte foresaw the benefits in the growth of Marseilles and promised funds for the bourse’s construction, realizing the financial benefits which could be derived from the aggrandizement of the Marseilles harbor and thereby its commerce.

The location of the Bourse caused much debate about the appropriate orientation of the city’s commercial center, as well as the location for the new modern hub of Marseilles. A quarter beside the Vieux-Porte was finally deemed suitable despite the arguments that arose over the necessary demolition of residential streets which the citing required. Located facing the Place Royale, the Bourse was situated across the street from the earlier provisional pavilion, one block from the quai on the Canebière. Coste won the competition (he collaborated on the design with the Marseilles architect Févrié, who later resigned from the project) by designing a classical structure like Penchaud’s previous project, which also followed community pressure to glorify Marseilles’ past as a Greek port. A drawing exists of the placement of

281 Ibid.
the first stone by Louis-Napoleon on September 26, 1852. The prince-president is pictured accepting the trowel from Coste as a mason prepares the stone (fig. 51).

Coste’s resolution to the competition was to design a rectangle 68 meters by 47 meters whose main entrance addressed the Place Royale (fig. 52). The interior consists of an enormous hall surrounded by galleries where commercial transactions would take place. The first and second floors would contain the Chambre of Commerce, its dependencies, the Tribunal of Commerce, and various services for the syndicate, insurance, and commercial transactions. The attic story would hold the archives of the Tribunal and Chambre of Commerce in addition to various other services.283

For the design of the Bourse, Coste originally submitted two decorative schemes, Marseille Règne sur la Méditerranée and Marseille Porte de l’Orient,284 the former being chosen by the committee.285 In the Porte de l’Orient design, the facade is less monumental with a closer resemblance to an Italian Renaissance residence (fig. 53). This utilization of the Renaissance style is in keeping with Coste’s views in his earlier essay “Y-a-t-il possibilité de créer une architecture nationale en France” in which he determined that the Renaissance style is most appropriate to the modern day since their society

283 After a trip to Hamburg, Coste returned with ideas of enlarging the Bourse in 1863. His hopes were premature and the Bourse was enlarged decades later.

284 D. Jasmin, p. 11.
285 The original designs exist in the Archives Departmental du Bouches-du-Rhône, AD-BDR M2/38.
closely resembled nineteenth-century the French morally and politically. The entrance portico has been narrowed, becoming a *piano nobile* rather than a continuous colonnade as was later built. Also the sculpture serves as a decorative element in the Porte de l’Orient schema with statues ornamenting only the pediment of the portico. In this design, the statuary includes four Greek goddesses, mermen and a clock flanked by dolphins and griffins. The frieze behind the colonnade is a simple ornamentation of floral scrolls. Marseilles is represented by its shield inscribed with *Massilia Civitas*, its Greek name. A depiction in *L’Illustration* published in 1851 shows the Bourse with a facade similar to Coste’s Porte de l’Orient design but still maintaining most of the earlier Renaissance stylization. Thus alterations must have continued during construction. However, the top row of windows has been eliminated, the colonnade has been lengthened and the portico rounded. The realized design dramatically differs from the original palatial design and this each of these two earlier designs.

**The Final Design**

Stripped of its complicated rows of windows, Coste’s final design serves as a flat canvas for a program of large sculptural commissions. The facade resembles Ange-Jacques Gabriel’s solution for his buildings placed on the northern side of the Place de la Concorde begun in 1758. As in Gabriel’s design, Coste has incorporated a colonnade of Corinthian pillars and utilized a modest ten columns to ornament the center portico. The massiveness of the structure is continued in its interior which consists of an enormous chamber
with a double arcade lit from above by a lantern. To the Chamber of Commerce, the design of the sculptural iconography was most important. The composition is compact and unadorned, the sides simply ornamented by niches with sculpture. The iconography for Marseille Règne sur la Méditerranée is concerned with the glorification of Marseilles’ classical history, its historical and military feats on the sea, navigational exploits, and the glory of Marseilles in the history of the kingdom of France.

In the final version (fig. 54, 55), the façade features the signs of Marseilles’ past glory on the sea by prominently depicting two enormous sculptures of past Pheonician navigational heros from Marseilles, Euthymenes and Pytheas; surrounded by medallions featuring the names of other celebrated navigators through the ages: Laperouse, Tasman, Gama, Colomb, Magellan, Cook and Durville, who were all past heros on the sea and all foreshadow the victories Marseilles could assume as queen of the Mediterranean. Euthymènes and Pytheas, like the Dutch and Portugese navigators, had discovered new

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trade routes and land for colonial exploration. Crowning the portico, the fishtailed gods of the first design have been replaced by two colossal figures representing France and Marseilles who hold enormous tridents. Here the mythic legend of the sea has been replaced by gigantic terrestrial bodies poised to protect the Coat of Arms of Marseilles with the weapon of the sea, the trident. As an indication of the seriousness of their purpose, winged genii representing Force and Peace stand at the ready as if to emphasize the seriousness of Marseilles' mission.

Behind the exterior colonnade is a frieze. Coste described the scene as follows:

A droit de Marseille sont douze figures qui arrivent par le détroit des colonnes d'Hercule, avec la girafe et le lion d'Afrique, le lama et le perroquet de l'Amérique du Sud, le taureau d'Écosse et les mérinos et mulets d'Espagne. À gauche, arrivant par le canal de Suez, onze figures avec le thé de la Chine, l'éléphant de l'Inde, les parfums de l'Asie, le café de l'Arabie, le dromadaire, le cheval d'Égypte et le taureau d'Italie qui se joint à ces divers peuples à leur rentrée dans la Méditerranée. Cette grande page qui rappelle les Panathénées d'Athènes et les bas-reliefs des palais de Persépolis, a été exécutée d'une manière magistrale par Toussaint, statuaire.287

At the top of the portico, the arms of Marseilles are supported by two figures which represent "l'Océan et la Méditerranée."288 Two winged genii stand at each corner, representing Force and Peace.

287Coste, p.301.
288Ibid.
Coste wrote about the project, "La pensée de l'auteur du projet de Bourse, dans la décoration de cette façade principale, a été de lui imprimer un caractère monumental par de grandes masses ornées, en diminuanta les ouvertures des fenêtres nuisibles ordinairement à l'effet d'un monument.... L'architecte a voulu accuser dans cette décoration, par la simplicité des lignes et le nombre des croisées, l'administration et l'habitation indispensable pour les divers services de cet édifice." This wish for monumentality and grandeur is continued in the interior with its grand salle and double arcade ornamented by enormous bas-reliefs. To Coste, successful architecture must be a harmony of structure and ornamentation, thus he was active in every aspect of the project's design and was completely responsible for the building's iconography with the approval of the Chamber of Commerce. At this time Jean-Baptiste Pastré presided over the Chamber from 1852-1866. It was Pastré and the officers of the Chamber who requested a more monumental facade to the Bourse rather than the less imposing palatial design.

The subjects of the interior panels are: Le Commerce recevant les Plans du Palais de la Bourse, Justice Consulaire, La Fondation de Marseille, Marseille Devenant Chrétienne, Le Départ de la Croisade, La Réunion de la Provence à la France, Les Capitulations de François 1er avec le Levant, La Chambre de Commerce Soldant les Consulats et les Expéditions Scientifiques, La Conquète de l'Algérie, and La France Recevant les Trophees Conquis en Crimée et en Italie. Coste praised the completion of these sculptural reliefs as

289 Ibid., p. 302-303.
290 Ibid., p. 306.
duly suited to his design. “L’artiste censciencieux s’est renfermé scrupuleusement dans les lignes architecturales conçues par l’auteur du projet de Bourse, qui s’estime heureux d’avoir été compris par cet habile sculpteur dans la décoration magistrale qu’il a faite, de la partie la plus importante de cet édifice.” 291

The main ceremonial gallery of the Chamber of Commerce was placed on the second floor. Its doors were crowned by the coat of arms of Marseilles or France. The walls were covered with paintings “représentent sur fond d’or, des sujets allégoriques des temps anciens et modernes de l’histoire de Marseille, depuis sa fondation jusqu’à nos jours; ayant au centre, au-dessus de la cheminée, La Paix s’appuyant sur la Force et la Justice, en face au-essus de la fenêtre, Le Travail guidé par la Science et la Prudence.” The ceiling was ornamented with images of Industry, Commerce, and “L’Apothéose des grand hommes de la Provence”. 292 Coste noted this ornamentation in a footnote in which he states that the Chamber of Commerce decided to change to this iconographic sequence from the original scheme which was to depict Marseilles’ most important ports of commerce: Constantinople, Odessa, Alexandria, and Algiers. 293 The Chamber’s interference with such mundane decorative themes affirms their particular interest in the political message presented by the Bourse. Their intent could not have been in truly portraying the commercial aspect of the structure since they did not allow the portrayal of

291 Ibid., p. 305.
292 Ibid., p. 306.
293 Ibid.
Marseilles' most important commercial partners. Instead the members elected to again depict the historical triumphs of Marseilles and its conquests.

In understanding the Bourse commission, the importance of the stock exchange building to the bourgeois elite of Marseilles cannot be overemphasized. Marseilles had been founded and had attained success through its international commerce. In no uncertain terms, the city was recognized as a commercial port, its commerce overshadowing all other aspects of the city's livelihood. The people of Marseilles were seen as boorish and uncultured by the rest of France, a reputation accentuated by the famed grace and elegance of its neighbor Aix-en-Provence. Aix as the academic and intellectual center, and government seat of the département Bouches-du-Rhône, was an ever-present thorn in the side of Marseilles, its presence continually enhancing the rough unrefined image of the merchant capital. Thus it is not surprising that Marseilles as it grew in prestige, wealth, and population, strove to be identified with a new image of history and culture.

Lacking aristocratic and cultural ties to the French kingdom, Marseilles' merchant class sought a new identity rooted in the city's glorious past as a Phoenician harbor, seen as a time of glory for the ancient city which was composed of free, educated merchants, a cultured city in a kingdom of barbarous Gauls. One of the strongest embarrassments to the merchants was Marseilles' lack of monuments surviving from antiquity, a point discussed on
numerous occasions in mid-nineteenth-century Marseilles journals. 

Hence in the creation of these new monuments, Marseilles' middle classe saw a rebuilding of the city's glorious past and a prophecy of its again being a political and cultural center in the future. Since trade was Marseilles' most important financial endeavor, the building to house it was of the greatest importance and was to serve as the focal point of the city's new urban development. This lack of a proper commercial exchange was lamented by many contemporary Marseilles writers who discussed it as a personal embarrassment.

The Marseilles Chamber of Commerce saw the commission as a form of national recognition of the city's prominence and importance to the French Republic. To the bourgeoisie of Marseilles, the commission of the Bourse was an acknowledgement of their importance in the commerce of France and, more immediate to Marseilles' location, the city's part in the colonization of the Mediterranean and its bordering countries. Journals of the time are filled with discussions of the Bourse's construction and estimates for the cost of its construction range from five million to over eight million francs. Contemporary articles discussed in depth the stock exchange's decorative program with extensive descriptions of the different sculptural iconographies.

In the original design that Coste submitted to the competition, Coste maintained his commitment to Renaissance architecture as an appropriate historical style for nineteenth-century France. But due to the political agenda

of the Marseilles Chamber of Commerce this design would not have been adequate to express the monumental classicism desired by the city’s merchants. The palatial, residential quality of the first design did not accommodate the city elders’ dreams for a building that captured the monumentality of their accomplishments and likened their past to the original glories of the founding Greek merchants. The decision by the committee to choose the design of Marseilles reigning over the Mediterranean rather than the Gateway to the Orient is of great significance: first, because architecturally it changed the building from a Renaissance style to a monumental classical basilica dressed in all the trappings of grandeur and imperialism; second, because it indicates the Chamber of Commerce’s active participation in the design of the Bourse and thereby suggests the importance of the symbolic message of the building’s architecture and sculptural conception; and third, because it symbolically suggests the imperialist agenda of Marseilles’ merchants and their hope to legitimize the city’s political and cultural claims as a civilizer of the East and thus reestablish Marseilles’ legitimacy as a cultural center in France.

This desire to establish the city’s cultural identity was not exclusive to the Bourse’s design. The search for Marseilles’ ancient past became an obsession for many residents who wished to substantiate the city’s claims to be the civilizer of the western continent. Marseilles’ importance to French national interests increased with the conquest of Algeria in 1830. This colonial

\footnote{In his dissertation, *Historical Reasoning and Architectural Politics*, pp. 336-341, Bergdoll discusses two new “literary genres” that arose at this time; the first being articles and pamphlets predicting a utopian growth of Marseilles and the second, archaeological studies of the city’s past as an attempt recreate the past glory of Marseilles’ ancient history.}
conquest only helped to deepen the city's hunger for what they thought was appropriate national recognition. Acknowledging Marseilles' past history as a city from which other areas were colonized, citizens hoped to regain their glorious imperial past, renewing the Napoleonic calls for the Mediterranean to be a *Lac français.*

The sculptural program of the final project mirrors the political climate of Marseilles. In the first design, Coste incorporated a more palatial structure using a Renaissance style and ornamented the pediment with mythical beasts of the sea and Greek figures of virtues. The iconography of Marseille Porte de l'Orient was focused on Marseilles' role as a Mediterranean city and suggested its origins as a Phoenician port. Missing the earlier design's subtlety, the sculptural program of Marseille Regne sur la Mediterranee, is an imperialist call for colonization, for the progress of commercial trade and the recognition of Marseilles' rightful place as the dominant cultural and economic center of the region.

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296 This reference to mastering the Mediterranean as a “lac français” was a common expression during Napoleon's reign and throughout the colonial era. It is used for instance by Paranque in his speech for the placing of the first stone on September 25, 1852, as quoted in Coste's sketchbook MS 948; C. Lloyd, *The Nile Campaign,* (New York, 1973), p. 10; and M. Roncajlo, “Les Grandes villes françaises Marseille,” *Notes et Etudes documentaire,* no. 3, 1963, p. 13.

297 This influence of the citizens trying to recreate Marseilles cultural past is not exclusive to the sculptural program of the Bourse but also appears in the enormous monumental fountain before the Palais Longchamps which includes symbols of Marseilles ancient past and cultural heritage.
One of the most interesting differences between the two designs is the ornamentation of the frieze behind the colonnade. Previously designed with a simple band of floral motifs, the sculptural relief is now carved into a series of personages paying homage to Queen Marseilles as she sits upon her throne at their center (figs. 56, 57). Coste noted that this frieze was to resemble the bas-reliefs of the Persepolis palace and the Panathénées of Athens. The sculpture represents people of different countries carrying products toward the figure of Marseilles. These figures are in profile (like in Persepolis and Athens, and ancient Egyptian sculpture) with Marseilles facing directly forward, not addressing either group. They present their products like libations to a goddess - commodities to the goddess of commerce, Marseilles which resembles the Panathénées, festivals which honored Athena, goddess of wisdom and war.

Interestingly, some of the countries even feature strange beasts indigenous to the country represented by the figure. At the time of the sculpture’s conception, the city of Marseilles was debating whether to build a zoological garden which would include animals found in the countries where the French armies had triumphed. Many of the animals depicted in the relief had previously been named as possible specimens for the garden. The garden was seen as more than a public amusement but also as a valorization of the French conquests. As one contemporary editor wrote, “nous avons en vue... le Jardin Zoologique de Marseille, proclamons ici, avec reconnaissance, les dons
This pride in the valor of the French army and their African exploits was not limited to interest in the bizarre beasts which now fell under French rule. It also included pride in and greed over the new raw goods that fell under France's commercial domain and thus would pass through Marseilles. In 1845, Sebastien Berteaut, then secretary of the Chambre of Commerce, wrote a treatise thoroughly documenting Marseilles' commercial potential for the future. The first volume of *Marseille et les intérêts nationaux* documents the importance of Marseilles for the industrial and commercial development of France, discussing practical factors such as navigation, geographic advantages and factories. The second volume reads like a manifesto for French imperialism. In this volume, Berteaut documents much of the non-western world and its possibilities for commercial exploitation, listing the products available and their markets which of course always includes Marseilles.

Berteaut exclaimed:

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298Barthélemy-Lapommerage, *Revue de Marseille*, vol. I, 1855, p. 46. Listing all the great cities of Europe and their gardens, one article went so far as to predict that Marseilles would become queen of the Mediterranean if she had her own zoological garden, E. Marcotte, “De la création d'un Jardin zoologique à Marseille,” *Revue de Marseille*, vol. I, 1855, pp. 153-66. An elephant was bought prematurely in 1856 and had to be chained in a public rotunda until better facilities were constructed, J.-P. Ferrari, “Les jardins Botaniques de Marseille,” *Marseille Revue Municipale*, vol. CXII, 1978, pp. 53-60.

299S. Berteaut, *Marseille et les intérêts nationaux*, (Marseilles, 1845). Surprisingly these two volumes are found in libraries throughout North America and France; and were thus not as obscure as one would imagine.
Quand une cité compte deux mille ans de prépondérance commerciale et de civilisation; quand on est la clé de l'Orient, l’étape obligée de l’Algérie et des Indes; quand on tient le sceptre de la Méditerranée; en un mot, quand on s’appelle Marseille, rien n’est petit et tout prend les proportions de cette haute et majestueuse destinée. Les questions qui concernent notre cité ont toutes un caractère grandiose, un intérêt véritablement national.”

Not surprisingly, all the elements of this description of Marseilles have been included in the sculptural program of the Bourse.

What is interesting about this document is the similarities between Berteaut’s listing of countries and products, and their later depiction on the freize. As Berteaut catalogues the countries and their products succinctly with no indication of the character of the country, the sculptural relief also simply documents the various races of people standing in line to relinquish their goods to the Queen of Commerce. By this time, Senegal, Algeria, Egypt, Indochina, and parts of China could be listed as open markets for French interests. Marseilles is not a Gateway, she is not sharing in their trade nor does she welcome the foreigners with open arms. Instead she sits impassively on her throne with scepter in hand, as if to indicate that her new subjects should leave their products at her feet.

In this volume (written before the Coste commission), Berteaut also predicts the building of the Bourse itself and its location. In the first volume, Berteaut states that one of Marseilles’ primary needs is for a stock exchange. “S’il est un palais à construire à Marseille, c’est un palais au commerce.”300 He continued that Marseilles was without a monument and the building of a

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Bourse would recognize "la noble mission sociale que le commerce accomplit." To Berteaut, the project had to recognize the important mission that Marseilles had to fulfill as "maitresse" of the Mediterranean. "La Méditerranée n'est pas simplement une mer; son bassin est un centre universel." Her commerce formed the best market possible for products from around the world and she was destined for richly deserved success as the queen of the sea, Berteaut wrote. To Berteaut, the Bourse was to reflect a strong monumental character in its design:

Un tel monument [Bourse] doit être vaste et complet; mais, toutefois, on doit bien se pénétrer de la pensée que cette création est demandée en vue de besoins moraux très-sérieux qu'il est appelé à satisfaire, beaucoup plus qu'en vue d'une gloriole architecturale. Il ne s'agit pas d'élever un temple grec à l'instar de la bourse de Paris, mais de faire, dans des proportions dignes et avec une sage sobriété d'art, une chose qui soit à la portée nos resources financières, et en harmonie avec le climat et la cité.

Berteaut not only predicted its design but its location writing that it should be located at the port on the Cannebière. Berteaut would have participated in the decisions of the Chamber of Commerce as one of its members, and his writing must to some extent mirror views held by the committee.

The interior program for the sculptural relief panels also continues the themes of commerce and meridional life but concentrates on the history of

303 Ibid., p. 227.
Marseilles more specifically. All the panels show classically sculpted figures adorned in togas seated in classical settings. Located in the center, opposite the main door, is a relief, Le Commerce recevant les plans du Palais (fig. 58). Its placement in the most visible location suggests the importance of the image. The relief includes a detailed plan of the Bourse being shown to the personification of Marseilles, a crowned female figure. The other reliefs also demonstrate Marseilles' glorious history, from an ancient colony to its present state, including images of: Marseilles becoming Christian, its justice, Marseilles joining the French kingdom, its participation in the Crusades, and participation in commercial and scientific achievements. Strikingly, the only reliefs commemorating the achievements of France directly relate to the increase of Marseilles' commerce: François Ier's treaty with the Levant which gave Marseilles a monopoly on Eastern trade; the 1830 conquest of Algeria which multiplied the commercial and military enterprises of the city; and the French victories in the Crimea and in Italy, which stretched the rail system from Paris to the Mediterranean coast and thus passed through Marseilles. Thus the interior becomes a tribute to the city's historical past, heralding Marseilles' place as a bringer of civilization, religion, commerce, science, and ultimately imperialism to France defending civilization against the terrors of barbarism. The message is specific and direct as to how the Marseilles' local authorities wanted the history of their city viewed.

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304 Many writers of both the nineteenth century and the twentieth century have acknowledged this fact, including: O. Tessier, Marseille et ses Monuments, (Paris, 1867); M. Clapier, Marseille: son passé, son présent et son avenir, (Paris, 1863); and M. Roncaylo.
The Political Implications of the Bourse's Design

Much has been made of the role of the Saint-Simonians in the stylization of the Marseilles Cathedral. Although Marseilles did hold a significant place in the Saint-Simonian hope for a “système de la Méditerranée,” their dreams were not necessarily shared by the Marseilles populace. Despite the fact that Marseilles was an essential part of their Mediterranean system, Marseilles was not swayed by the Saint-Simonians any more than any other French city was. “Au total, les saint simoniens, au plan objectif, n’ont pas eu une influence plus grande sur les Provençaux que sur les autres régionaux qu’ils rencontraient sur leur route. Ce la était dû sans doute, comme le dit Lucien Gaillard, à l’existence d’une bourgeoisie trop entichée de ses privilèges et à la coupure entre ces ouvriers d’élite que sont les saint-simoniens et les prolétares de la base.”

In particular, Marseilles’ Chamber of Commerce was even less likely to endorse the Saint-Simonian theory of universal peace if it in any way hampered Marseilles’ economic advancement. This synthesis of cultures denied the supremacy of Marseilles’ classical past and imperialist future. The city’s commercial heads dreamed of an empire on the Mediterranean, the French

305 Van Zanten, p. 167.
306 Bergdoll discusses the Saint Simonian achievements in the transportation system around Marseilles as well as the mammoth predictions of the city’s future in his dissertation, pp. 325-31.
lake, rather than a system for the sea’s commerce. They did not see Marseilles as a part of the system but as the Queen of the Mediterranean. Marseilles took up the scepter of Commerce to rule, not to harmonize.

At the laying of the first stone in 1852, Fabricius Paranque, then president of the Chambre of Commerce, gave a speech in commemoration of the day. He began by lauding Marseilles’ past, “Marseille, la ville qui compte vingt-six siècles d’existence en même temps que de progrès commercial non interrompu....” 308 He continued, “Marseille, le premier port commerçant sur la Méditerranée, sur cette mer qui doit, comme on a dit, être un jour un lac Français... elle deviendra un vaste entrepôt, la grande porte ouverte à ce courant commercial qui lie les deux mondes; ce jour-là Marseille aura définitivement conquis sa prééminence au profit de l’intérêt français et n’aura plus à redouter de concurrence de ces villes étrangères qui, assises également sur les bords de la Méditerranée, lui disputent encore avec tant d’ardeur et de persévérance le sceptre du commerce.” 309 Again, the images of French lake, the port between the two worlds, and the scepter of commerce are used. By 1860 due to the invention of the steam engine, the Mediterranean was even being prophesied as the “lac marseillais”. 310

Although the Marseilles literature was filled with a discussion of how the indigenous population would benefit by the kind caress of civilization, importance was given above all to the productive potential of these colonized

309 Ibid., p. 298-299.
lands and the increase in French authority with their new acquisitions.

"Quand une nation grandit et se civilise, on peut affirmer que le travail y est en honneur. Les pays plongés dans la misère et l'ignorance sont ceux où l'habitant est enclin à la paresse, et où le pauvre préfère mendier à travailler. Le sauvage est paresseux. L'homme civilisé produit, matériellement ou intellectuellement." Civilization would increase commercial production, an essential to Marseilles' explosive development, while expanding France's imperial sights in its continual battle with the British empire. Colonialism often did not satisfy the economic wishes of the colonizing country. In many ways colonialism served less as an enhancer of economic growth and more as an intensifier of nationalistic pride, seen in particular in France's futile attempt throughout the nineteenth century to "conquer" the Sahara desert. Hence, Marseilles, as a vital link in the chain of imperialist expansion, would resurrect its past image as cultural civilizer of barbarous lands and establish its moral and political cause above the philistine merchant's taste for money.

This colonial language was not exclusive to pompous politicians waxing eloquent on the pedestal. Marseilles' journals are also filled with this imperial hunger and the call to civilize their neighbors across the sea. One of the most popular images used is the call to bring the Mediterranean under the scepter of commerce, an image which appears figuratively many times in the Bourse's sculptural program. Marseilles' poets called for the civilizing of the Orient

under the generous philanthropy of the French state. Marseilles ultimately gained a representation of “Marseilles, Gateway to the Orient” as a painting from 1869 created by Pierre Puvis de Chavannes for the Palais de Longchamp. The painting depicts people of various countries, huddled in the bow of a ship entering the Marseilles harbor. The city of Marseilles, standing radiant on the turbulent sea, welcomes this diverse horde to her prosperous midst. To the French, their country was faultless and guiltless in her territorial expansion. Religious fanaticism and Ottoman greed were often blamed for the resentment and the uprising of the indigenous populations rather than ill-will toward an occupying state.

In his discussion of the Marseilles Cathedral, David Van Zanten remarks that “It is also striking that the local authorities were neither asked for nor expressed opinions about the designer or his artistic decisions.” This cannot be said of the Marseilles Bourse. Not only did the committee actively pursue changes in the original design but they made such mundane decisions as altering the theme for the paintings in the ceremonial chambers on the second floor. Throughout Coste’s writings and contemporary articles, mention is continually made of the committee’s active participation in all design and decorative decisions. These men saw the city not simply as an entrepôt for a


Mediterranean system but as its capital. The building was a great point of honor to the wealthier merchants of Marseilles and they in no way were about to neglect any aspect of its planning. Unlike the cathedral, the Bourse was built by local architects, craftsmen, sculptors, and painters. Few works were produced by artists who were not from Provence and Fourier's monograph on the Bourse indicates that those artists were submitted to scrupulous examination. Napoleon III (who is only depicted in an interior statue) did attend the inauguration of the Bourse in 1860 briefly, but he preferred to spend the night in Toulon rather than stay in the Palais du Pharo specifically built for the emperor for this occasion. Of the Bourse, he said he regretted that the monument was not in Paris.

As to Vaudoyer's cathedral commissioned with the Bourse, Coste wrote that he greatly admired its design, in particular its Mediterranean character recalling Venice and Padua, and that "il se transporta alors par la pensée dans cet Orient qu’il [Vaudoyer] regrettaït de ne pas connaître, et dont Marseille est le chemin et comme le frontispiece...." Coste described the style as Byzantine and Roman but he only referred to Islamic stylization in the use of beautiful marbles. The local merchants, however, were not open to such a full synthesis of Mediterranean stylization. Classicism ruled at the école in Marseilles as well with the citizens.

315 Jasmin, p. 18.
316 Coste, La Cathédrale de Saint-Petersbourg, la future cathédrale de Marseille, (Marseilles, 1874), p. 5.
Fantastic oriental structures were built but only in a limited numbers of venues. Fantasy villas along the sea were designed utilizing Islamic stylizations, as were cafés and theatres along Marseilles’ most popular avenues. The zoo, so important to the Marseilles’ establishment was finally realized in the 1860s, complete with a giraffe and elephant house each of which resembled a cross between a mosque and an Arabic tomb (fig. 59). In funerary architecture, Coste was not alone in his incorporation of non-western elements in tomb design. Many funerary structures used ornamentation adapted from Islamic architecture. Islamic eclecticism was deemed appropriate for cafés, theatres, animal houses, fantasy villas, and tombs but it was never seen in governmental structures. Marseilles’ tremendous growth was due to its traffic with the Orient. Every day a multitude of visitors from these lands filled her streets and shops, and their merchandise filled Marseilles’ ships. Algeria had even become part of France. Yet, the merchants did not welcome the arts of these foreign cultures, only their goods.

In their search for an identity, the merchant authorities turned back to antiquity, finding validation in the Phoenicians, Greeks, and Romans who seemed to vindicate commerce and colonization. The Bourse was the middle class merchants’ answer to the Roman temple. It gave the merchants the perfect format to express their new identity through symbolically appropriating the power of antiquity and heroic navigation. The myth made was one of the bourgeois elite’s appropriating the history of past generation to justify the
aggrandizement of Marseilles through the French colonization of other countries.

In his attempt to satisfy all the stylistic demands of the Chamber of Commerce, Coste's design became much more conventional than in his Egyptian work in which he invented a synthesis of architectural styles. In Marseilles, he was forced to create a building that served as a billboard for the city's political agenda and cultural aspirations. Ironically, the committee's choice of a monumental, Roman temple, supports Coste's theory of the suitability of specific styles to corresponding societies, since the merchants chose a character suitable for imperialism and colonization. Due to the importance of the Bourse commission and the visibility of the building in Marseilles, the Bourse put Coste in the architectural history books, placed alongside the other great Beaux-Arts architects of the nineteenth century, a place he dearly wanted. Sadly, the design did not speak of the previous work of Coste or his architectural beliefs, nor did it demonstrate his true talent for architectural design. Yet, of all Coste's projects in Egypt and France, it is the building for which he is most remembered.
Monuments du Kaire, the Conclusion

The beauty of modern historical writing lies, above all, in its modesty.

Chapter 7: The Historical and Artistic Impact of Coste's Study

In 1837, Coste published his crowning achievement *Architecture Arabe ou Monuments du Kaire*. It was the summation of Coste's ten years in Egypt and ten more years of historical study on his return to France. This book captures Coste's experiences and views of Egypt, and suggests his attitude toward architecture in general. Not only was *Monuments du Kaire* his finest study of Islamic architecture, it also served to make Coste a celebrity in European architectural and historical circles, resulting in his commissions in North Africa and his invitation to join the French mission to Persia that produced three books. Unlike the Persian publications on which Coste worked quickly, *Monuments du Kaire* is a meticulous, thorough study of the Islamic monuments of Cairo which still serves as a major source for the study of Egyptian medieval architecture. Coste studied precisely the finest examples of Islamic architecture in Cairo and combined his renderings with studies of Egyptian daily life in an attempt to record accurately Egyptian modern life as he saw it. Foremost in Coste's mind was the possibility that many of these buildings would not survive much longer due to neglect and urban expansion; and thus, that he should, to the utmost of his ability, preserve these marvelous monuments for posterity.
Over the past six chapters we have viewed the architectural projects, writing, and travels of Coste through a history of his life. In light of broader questions, we have seen a description of a provincial architect gaining the prestige of becoming the architect of one of the most notable Muslim leaders of the nineteenth century, Muhammad Ali. Yet, it is not for his architectural contributions in Marseilles, nor even for the stylistic synthesis which he created for Egypt that Coste’s life is of such great historical importance. As was seen in the last chapter, many architectural historians and Coste himself view the Marseilles Bourse as Coste’s greatest contribution. However as the Bourse was designed, really, by Marseilles’ Chamber of Commerce. It is not an artistic creation that testifies to Coste’s true talent. Coste’s greatest contribution is his historical analysis of Muslim architecture, in particular of Egyptian monuments, in his Monuments du Kaire. In this book, we find Coste’s stand on the Muslim world, his view of Islamic architecture, and his respect for its historical significance. In order to understand the Monuments du Kaire, a review must first be made of the previous European studies of Egyptian Islamic architecture, in particular the Description de l’Egypte. After a discussion of its predecessors. I will examine the Monuments du Kaire itself and its historical impact.
The Architectural History of Egypt before Coste

One of the earliest European studies of Islamic architecture was by the sculptor/architect J. B. Fischer von Erlach. Fischer’s interest was in world architecture which included Turkish mosques. Although Fischer’s work idealizes the architecture illustrated, it still contains a great deal of truth in its drawings. Fischer’s work was extraordinary as it gave visual evidence of architecture that had previously been known formally through assorted descriptions in travel journals which included Egyptian architecture but only through ancient Egyptian examples which were seen as simply predecessors to Greek architecture. Published in 1721, the third book in Fischer’s series, *Entwurff einer Historischen Architektur*, published in England as *Of some Arab and Turkish Buildings as Well as about Modern Persian, Siamese, Chinese, and Japanese Architecture*, included engravings of Moslem buildings, such as baths and mosques in addition to various fantastic representations of world architecture. Fischer’s attempts at drawing Moslem buildings were as much invention as reality but some credit is due to him for his early effort at depicting these works in a historical context. The book contained studies titled: *Suleymaniye at Constantinople*, the *Kaaba at Mecca and Muhammad’s tomb*, and the *Maydan*. Architects searching for new inspiration for their exotic landscape and garden pavilion designs often referred directly to these images of Islamic monuments as evocative representations of the weird East.

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317 Full citations of these historical studies will be given in the bibliography on Egypt.
The French author J. M. Carré claims that the first historian to document the architecture of Egypt was Benoît de Maillet in his *Description de l’Egypte* of 1735. Benoît de Maillet was the French consul to Cairo in the early eighteenth century. He claimed to know Arabic fluently and during his government appointment spent his time documenting the customs, commerce, government, natural history, arts, and religion of ancient and contemporary Egypt. It is probable that these two volumes of de Maillet would have served as an inspiration for the latter version of the Napoleonic savants. Although there are plates only of ancient monuments and natural history, de Maillet did include Islamic architecture in his text. He wrote that mosques are found in large number and most still hold the name of their original founders. About mosque design, de Maillet wrote:

Les Mosquées sont presque toutes bâties sur le même plan et ne diffèrent guère que dans l’étendue. En entrant par la principale porte, on trouve d’abord un grand carré, ordinairement plus long que large, et toujours à ciel découvert. Autour de ce carré bien pavé, qui forme une espèce de cour, règne une galerie couverte soutenue par des colonnes. C’est sous cette galerie, que se fait ordinairement la prière, afin d’être à l’ombre. Il se trouve cependant des dévots, qui par un excès de zèle font leurs oraisons en plein midi au beau milieu de la Mosquée; c’est-à-dire sous un soleil insupportable que je crois, pourrait fondre la cire d’Espagne.

He continued by describing the traditions of prayer, ablution, the muezzin, etc. He mentions the mosques “Ashar,” probably al-Azhar, and Amrou by name

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and describes them as having beautiful domes and minarets. Sultan Hasan on the other hand he described as “grotesquement sculptée”.

The most well-read book illustrating Egypt was Richard Pococke’s *Descriptions of the East, Observations on Egypt* published in 1743. Including plans and elevations, Pococke attempted to thoroughly document the architecture, although his attempts are often simplified. Pococke only includes one image of a mosque, that of Amrou, and that is only in plan to illustrate the hypostyle mosque. This publication was followed in the next decade by the Danish navy captain Frederick-Lewis Norden’s *Travels in Egypt and Nubia* published in Paris in 1755 and in London in 1757, the same year as Thomas Shaw’s *Travels... in Barbary and the Levant*. Norden in his large engravings does not truly document Egyptian architecture but he does depict a good deal of Egyptian town skylines and waterways. Since Norden was sailing through Egypt, his images do not give a close study of the buildings in Egypt but show only what he could make out from the boat. Thus most of his scenes are filled with distant homes, minarets and onion domes of all sizes. Norden allowed his imagination to travel freely in his architectural depictions. In all of these books no attempt is really made to separate fact from fantasy in the architectural renderings.

The Comte de Volney published his studies of Egypt as *Voyage en Égypte et en Syrie* in 1787 which composed two volumes. Endowed with personal funds, Volney travelled throughout the country making scientific notes about

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culture as he saw it. As Edward Said writes, "Volney evidently saw himself as a scientist, whose job it was always to record the 'état' of something he saw." 321

Volney disliked the Islamic religion and foresaw Egypt's potential as a colonial territory. 322 Volney did not study Muslim architecture. Soon after the publication of Volney's book, Cassas published *Voyage pittoresque de la Syrie et ... de la Basse Egypte* in 1799. In a very different vein from Volney's study, Cassas produced fantastic representations of ancient Egyptian temples and homes. These images appear more like theatre stage sets than architectural studies.

By the nineteenth century, more time and detailed study was given to architectural studies. Many diplomatic officials employed artists and architects to accompany them on their travels. Sir Robert Ainslie traveled with an artist in his employ, Luigi Mayer, throughout the Ottoman empire. Mayer's *Views in Egypt*, published in London in 1801, precisely depicts local costumes and monuments. His scenes of ancient ruins are shown in full color, filled with Arabs, camels, and horses going about their daily tasks. His picturesque views entitled *Joseph's Hall*, the *Lover's Fountain*, *Mosque of a Hundred Pillars* and *View of the Nile*, all depict mosques in the distance. Mayer's true concern is in the picturesque portrayal of Egypt rather than its architectural design. Nevertheless, his image of Ezbekiah square gives an invaluable view of the square at the turn of the nineteenth century, surrounded by palace arcades, mushrabiyas, domes, and terraces—a truly poetic vision of the principal square of Mamluk Cairo.

Scholarship of non-Western architecture was most advanced during the eighteenth century in the study of the architecture of India by the British. During the period, studies were conducted by scholars attracted to India by the presence of the East India Company and by the officials themselves. Thomas Daniell, William Daniell, Thomas Hope, Francis Swain Ward, and William Hodges all made studies of Indian architecture, Islamic and Hindu. These studies had an enormous impact on interior design. Some, like Hope's study *Household Furniture and Interior Decoration*, specifically addressed interior design. The Daniells' study prompted such fantastic architectural creations as Sezincote in 1804 by Samuel Pepys Cockerell, John Nash's Brighton Pavilion, and Brighton stables by William Porden. One Englishman, Robert Richardson, traveled outside India to compile *Travels along the Mediterranean and Parts Adjacent* (published in 1822) during his voyages in the early nineteenth century in North Africa and the Middle East. His study includes a number of images of mosques richly adorned with domes and minarets. But he gives little documentation of Egyptian architecture, and as usual the documentation is confined to ancient Egypt. It was not until the *Description de l'Egypte* that Egypt, both modern and ancient, received the attention it truly deserved.

The *Description de l'Egypte*

With its conquest, Egypt was to become a province of the French Republic; its colonization was to restore the prosperity of both Egypt and France. The purpose of the French was "To make Egypt a French dependency;
to restore the cradle of civilization; to bring back prosperity to the country and
destroy a barbarous tyranny—such were the purposes of the expedition as
defined in the document submitted to and discussed by the Directory.” 323
Napoleon established the French Institute of Egypt bringing with him savants
from all fields. In addition to their political interests, the French were to assist
in the redevelopment of the country. As Jomard wrote, their purpose was “to
bring the arts of Europe to a semi-barbarous, semi-civilized people, destitute of
industry and of scientific enlightenment....” 324

The scholars were given the freedom to document the country from
every aspect, a veritable clean slate as far as the French were concerned. The
Enlightenment gave birth to a desire in Western scholars for scrupulous
analyses of history and science. As was noted about Egypt in the Encyclopédie:
“It was once a country to be admired; nowadays it is one to be studied.” 325 All
fields, whether science, history, or the arts, were treated in the same fashion:
meticulous classification and specialization. As was pronounced at the time of
the conquest, “To-day all is changed: now that we are masters of the whole of
Egypt, it is easy for us to examine the customs and usages of the country, to
ascertain with the utmost precision the nature of the climate, the quality of the
productions of the soil, the existing state of agriculture, and the improvements

324 Ibid., p. 5.
325 As quoted from the translation of the late eighteenth-century Encyclopédie of
Diderot and d’Alembert in Monuments of Egypt: The Napoleonic Edition, (Princeton,
possible; we can go in safety to visit the ancient monuments, and to observe with care the marvels and singularities of nature. Thus will the errors of ignorance and the exaggerations of enthusiasm be rectified.”

The Description de l’Égypte did not blossom from altruistic goals. As Peter Gran wrote about the publication’s modern scholarship, “Until now only a few critics of orientalism treat the great book, Description de l’Égypte as colonial ideology (or image formation) most scholars treat it as a work of science.” But the scholars accompanied the troops for the specific purpose of documenting the country to aid in its conquest and exploitation.

The efforts of the French savants produced the Description de l’Égypte, commissioned by Napoleon. It contained twenty-three volumes from various publications and took nineteen years to finish from 1809 to 1828. The volumes were divided into sections labelled Antiquités, État Moderne, and Histoire Naturelle filling nine volumes of text and ten folio volumes of plates.

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326 Ibid., as quoted, p. 139.
328 There is relatively little written on the Description de l’Égypte considering the magnitude of the project. A contemporary history of the publication was written by Louis Reybaud, Histoire scientifique et militaire de l’expédition française en Égypte, 10 vols. (Paris, 1830-36); the most comprehensive history is H. Munier, Tables de la Description de l’Égypte, suivies d’une bibliographie sur l’expédition française de Bonaparte, (Cairo, 1943); also a number of studies exist written by the savants themselves, including V. Denon, P. Jollois, S. Devilliers and E. de Villiers du Terrage. A Cairo reproduction was published in 1987, titled alternately Egypt in 1800 and Egypt revealed which includes a small introduction. Another reproduction which includes only the ancient Egyptian section is Monuments of Egypt: the Napoleonic Edition (Princeton, 1987) which has a larger discussion of the Institut d’Égypte and the authors. There also exists a thèse pour le doctorat du 3ème cycle, “Les Origines intellectuelles de l’expédition d’Égypte, 1689-1798,” published in 1987 (Istanbul-Paris, Editions ISIS).
Due to the enormous interest in archaeology in the nineteenth century and the excitement over the new discoveries of ancient Egypt which created the field of Egyptology, it was the volumes on antiquity that were published first and have since received the most attention. All volumes were scrupulous in their detail. Architecture is documented through maps, plans, facades, elevations, and reconstructive drawings. Due to the amount of damage that has occurred to many of these buildings in modern times, some are now known only through the plates in the Description de l’Egypte. Things whether sculptural, decorative, animal, vegetal, or architectural were all painstakingly documented in an almost anatomical way. The contemporary life of Egypt was not exempt. The scholars noted costumes, daily habits, ways of farming and social habits—everything came under the unwavering gaze of the scholars. In his unpublished sketchbooks of ancient Egypt, Coste shows the same care in his detailing of objects, costumes, even hieroglyphics.

Scholars associated with the trip included Gaspard Monge, Claude Louis Berthollet, Etienne Geoffroy-Sainte-Hilaire, Jules César Savigny, Nicolas Antoine Nouet, Jean Baptiste Say, Jean Baptiste Fourier, Guillaume André Villoteau, and Jacques Conté. Architectural drawings were made by Denon, Duterte, Redouté, Protain, and of course Coste’s friend Edmé Jomard. Little was written about Islamic architecture in the essays of the Description de l’Egypte. Jomard wrote “Observations sur les Arabes de l’Egypte Moyenne” in which he discussed tents, tribes, crops, customs, and languages. About his expertise, Jomard wrote “je ne prétends pas donner ici le tableau des moeurs des Arabes; mon seul dessein est de rapporter des observations dont je garantis
l'exactitude, les ayant faites et écrites sur les lieux mêmes, avec loisir et sécurité, souvent accompagné dans mes courses par des cavaliers de ces tribus, ou bien campé au milieu d'elles." 329 Jomard's images in the Description de l'Égypte are concerned with the Arts et Métiers section as well as engineering elevations, although he did complete some of the detailed drawings of Sultan Hasan.

The text of the Etat Moderne section looks at the ethnography of the Egyptians, focusing on their daily life. The architectural masterpieces of Egypt are noted by Jomard in vol. II, part 2 but Jomard only writes about the building's dates, patrons, and locations. Above all, the monuments are seen as necessities of Egyptian culture, not prized as artistic creations. In one short essay concerned with the use of calligraphy on monuments titled "Mémoire sur les inscriptions Koufiques recueilles en Egypte" 330, Marcel wrote, "Ces monumens, qu'on trouve en plus d'un endroit de l'Egypte, construits avec moins de solidité que les édifices des anciens Égyptiens, ont été par-là [sic] plus exposés aux ravages du temps, qui en a réduit une partie à un état de ruine presque totale; mais un assez grand nombre d'entre eux a échappé aux efforts de la destruction, et leur conservation est encore à-peu-près [sic] entière." 331 The author continues in the essay to complain that the buildings are not majestic in

331 Ibid., p. 526.
design and ornamentation but that they do have a special historical interest to
the historian and antiquarian.

The influence of the Description de l'Egypte on the European population
is inestimable. The Description de l'Egypte gave birth to Egyptology; following
its publication France was filled with Egyptian explorers, whether legitimate or
not, who developed one of the most well-known fields of architectural research
in the world today. One of the most important discoveries was the Rosetta
Stone deciphered by Champollion from 1814 to 1819. Although the French
ultimately lost the stone to the British as a spoil of war. The drawings of Egypt
in the Description de l'Egypte provided fodder for many writers and artists in
their descriptions of Egyptian life. Baron Antoine Gros, the official painter of
Napoleon, was denied permission to travel with the expedition to Egypt and
was forced to make his portraits of Napoleon in Egypt using scenes found in
the Description de l'Egypte.

As important as the Description de l'Egypte has been in introducing the
field of Egyptology, the volumes also provided some of the first realistic
glimpses of Islamic architecture in Egypt. Even so, images of ancient Egypt
vastly outnumber the depictions of modern architecture, as do the illustrations
in Arts et Metiers of traditional Muslim life. To the savants, the medieval
mosques were not as appreciated since they did not equal the beauty of the
ancient temples, nor did they provide sociological interest in portraying the
daily life of the modern Egyptians.
Vivant Denon, who published his history of ancient Egyptian architecture before the completion of the *Description de l'Egypte*, is said to have influenced Thomas Chippendale the younger, John Randall and the architect of the well-known Egyptian Hall in Picaddilly Circus. Ancient Egyptian paraphernalia became more fashionable than ever before, influencing clothing, buildings, and interior design. Exhibitions of ancient Egyptian objects were thronged with people both in Paris and London. Various authors went on to write about ancient Egypt during the nineteenth century, often including lengthy descriptions of the perils they went through to find the monuments. These authors included: Comte de Forbin, François Cailliaud, William Hamilton, Henry Salt, Champillon, Belzoni, Jomard (who was writing on Thebes), and Prisse d'Avennes who created an enormous four volume folio set of plates of the ornamentation of ancient Egypt in color. Through time, the basic descriptions of early travellers were replaced by examinations by scholars with more expertise writing about the archaeological sites, and the books, therefore, became far richer in illustrations and historical fact.

332 In addition to Denon, many other studies were published specifically focused on ancient Egyptian architecture including: Henry Salt, *Views in St. Helena... and Egypt*, (London, 1809); G.B. Belzoni, *Narrative of the Operations and Recent Discoveries within the Pyramids, Temples, Tombs, and Excavations in Egypt and Nubia*, (London, 1821); and H. de Vaujany, *Alexandrie et la Basse-Egypte*, (Paris, 1885).

Coste’s *Architecture Arabe ou Monuments du Kaire*

Unlike the *Description de l’Egypte* which treated the modern Egyptians ethnographically, Coste was interested in the architectural monuments as works of art. The *Monuments du Kaire* is composed of a short historical study and a lengthy set of architectural plates. In this discussion, we will quickly look at the historical text and its discussion of the Arabic influence on the Gothic style but the main focus of our study is in Coste’s plates: the choices he made, his method, and the impact of the study. Coste’s publication was at the forefront of books historically documenting the Islamic world. Advantageously, *Monuments du Kaire* coincided with the birth of lithography. 334 Although the technique had its beginnings in Germany, it was in France that the method was perfected, intriguing many artists and technicians. 335 Interestingly, lithography was championed and introduced by two historians of Egypt, Denon and Jomard. The publication of Coste’s *Monuments du Kaire* coincided with the studies by Girault de Prangey (1804-93) of Moorish Spain which had

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335 Lithography became so popular in France that it was practiced as a hobby by many aristocrats. By the 1820s, lithography was being used to illustrate magazines and newspapers, and a decade later produced a new medium, caricature, which was featured in periodicals such as, *La Caricature, Le Charivari* and *L’Artiste* and ultimately brought fame to the Marseilles-born Daumier.

Lithography was extremely important to the development of the *voyage pittoresque* genre because of both the facility of producing lithographic plates and its rich results. During the 1820s, historical publications began to be produced detailing different countries or periods. The most famous of these was Baron Taylor’s *Les Voyages pittoresques et romantique dans l’ancienne France*, a series that eventually included twenty-five volumes.
been begun in 1836. Published in 1837 and 1839, Coste’s studies of Egyptian architecture would have been the first publication of lithographs concerned exclusively with Arabic architecture. By 1840, historians were documenting Egypt with photographs. Even so, photography did not make lithography completely outdated. Prisse d’Avennes (1807-79) in his study of modern Egyptian architecture and ornamentation still utilized the method in 1877 for one hundred and sixty plates in his *L’Art Arabe d’après les Monuments du Kaire*.

In 1833, after resettling in Marseilles, Coste visited Paris, bringing along his colored drawings of Egyptian architecture. Coste finally arranged publication with Firmin Didot a firm with a reputation for publishing large architectural works. “Je m’empressai de la soumettre à mon ami Huyot, architecte, il en fut satisfait. Nous la présentâmes au ministre des Beaux-Arts. Séduit par la nouveauté cette architecture et par mes dessins coloriées, il accorda une subvention de 25,000 francs pour la publication. MM Firmin Didot furent chargés de l’éditeur. M. Huyot avait bien voulu surveiller et diriger les graveurs pendant mon absence. Il avait aussi le soin de m’envoyer les épreuves, pour pouvoir les corriger et signer le bon à tirer après les corrections. M. de Biberstein, Polonais, savant orientaliste, fut choisi pour rédiger l’introduction et la description des monuments d’après mes notes.” 336 This was not the first time that Huyot had seen these drawings. As was mentioned earlier, during Coste’s trip back from Egypt to France, he carried his drawings back to show some friends. On showing them to Huyot, the latter feared for

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their safety and had his students make copies of the drawings he then had in his possession. Coste sold his original drawings to an English tourist just before he left Egypt in 1827.337

Coste seemed to have had insecurities about the publication of his Egyptian drawings. In his memoirs, Coste mentions numerous times that he turned to others for advice. More than anyone else Huyot appears to have been the most helpful, taking over the supervising of the preparation of lithographic plates the few times Coste was unavailable. Coste threw himself into the project, being personally involved in all aspects and worrying about every detail. Finally, in 1839, Coste returned to Paris for the publication of his Egyptian drawings, titled “Architecture Arabe ou Monuments du Kaire, mésurés et déssinés de 1818 à 1825 par Pascal Coste architecte. Contenant une préface une introduction historique, la description des planches au nombre de soixante; grand in folio.”338 Coste had spent over twenty years on this publication, in comparison later on to the brief three years for the Monuments antique de la Perse. Muhammad Ali subscribed for ten copies. Coste wrote that his publication was well received and in a few years the edition was exhausted.

The book contains seventy 44 1/2 by 30 centimeter plates. The most detailed are reproduced twice, in a simple line print and again using the lithographic technique. There is a historical introduction to general Islamic history and religion as well as a brief summary of each plate. When Coste left

337 These drawings are now in the Rodney Searight collection in the Victoria and Albert Museum.
for Egypt, he gave no indication that he had prepared for the trip by studying the history of Egypt, modern or ancient. While he did document ancient Egyptian architecture and draw picturesque scenes, it was not until the commission from Muhammad Ali for two mosque designs in 1822 that he truly began to study Islamic architecture. With the pasha’s firman, Coste zealously endeavored to draw and measure all the important religious buildings in Cairo and Alexandria, even entering Al-Azhar which he had been forbidden to do. Included with the Monuments du Kaire plates is a lengthy description of the historical birth of Islam.339

In the twenty-seven page preface, Coste wrote that it was not his intention to give a step-by-step history of Islam but, rather, he wanted only to sketch roughly the general history, marking prominent moments in which the Arabs made an impact on the arts. In this discussion, Coste included a discussion of Abraham, Muhammad, the Qaaba, Mecca, Medina, Arabic lineages, and the impact of the Romans and later Christians on Muslim architecture. In reference to his purpose in documenting the Islamic architecture of Egypt, Coste wrote:

> On s’empressait d’en décrire le nombre, d’en reproduire les traits, dans la crainte que le reste de ces monuments ne disparût sous l’action du temps, ou ne cédât ou marteau des nouveaux maîtres, zélés croyants, peu enclins à s’enquérir des peuples que leur livre sacré stigmatise à chaque page des noms d’impies, d’idolâtres et de suppôts de Satan. L’esprit

339 For Monuments du Kaire, Kamirsky de Biberstein, an Orientalist and friend of Coste, edited the text for him, correcting all the historical errors. Later, for Monuments moderne de la Perse, de Biberstein wrote the entire text since Costedid not have the time or energy in his later years to write the Persian historical section.
exclusif des musulmans et le fanatisme des masses poursuivant d'un oeil jaloux toutes les fouilles des Européens, les supposant faites pour découvrir des trésors cachés, n'auraient pu voir sans inquiétude les artistes retracer les monuments consacrés à la religion mahométane. Aussi en Égypte, comme dans la reste de la Turquie, tout à été décrit et dessiné, excepté les monuments musulmans.... Ces observations nous ont déterminé à publier un recueil de planches représentant les principales mosquées, quelques autres édifices publiés et maisons de particuliers du Caire enfin tout ce que cette ville offre de plus grand et de plus remarquable sous le rapport de l'architecture. 340

While the Description de l'Egypte documented all of Egypt including a few mosques and the English historians had included mosques in their studies of India, Coste was the first western historian to document the mosques of one Islamic country exhaustively. Even though Coste fell into the whole study rather haphazardly, it still remains one of the foremost studies of Islamic religious architecture and the first to truly appreciate its richness.

Historically, Coste also appreciated other achievements of the Muslim world. After his trip to Persia, Coste wrote about the historical plight of Islam:

C'est là tout ce qui reste de ce merveilleux essor que les Arabes, maintenant retombés dans une ignorance qui touche à la barbarie, avaient, au milieu de l'énervement du triomphe guerrier et de l'enthousiasme religieux, imprimé aux sciences à une époque où l'Europe était retournée à l'enfance des arts et des lettres. Cette Europe a beaucoup reçu des Arabes, quand les croisades vinrent en quelque sorte jeter entre elle et l'Orient un point sur lequel se précipitaient les populations occidentales au cri de : Dieu le veut! Les Arabes enchantèrent nos farouches guerriers par les miracles de leur architecture aérinée, dont la végétation efflorescente et l'arc ogive furent transportés dans nos églises. L'école de médecine de Montpellier fut fondée par des

340 Coste, Architecture Arabe ou Monuments du Kaire, (Paris, 1839), p.1, which will from now on be referred to as Monuments du Kaire.
médecins arabes; leurs chiffres devinrent les nôtres; ils furent nos professeurs d’astronomie et de philosophie, et inspirèrent nos premiers romans de chevalerie. L’Espagne leur a dû sa plus brillante phase historique. C’était de Baghdad que partait ce rayonnement qui leur encore sur les murs de l’Alhambra, palais que les génies ont bâti comme un rêve et rempli d’harmonie. Cette civilisation, sitôt éclos et au même soleil qui brilla sur celle de l’antiquité, est maintenant rentrée dans les ténèbres d’où elle avait surgi, mais le sillon lumineux qu’elle a tracé dans l’histoire subsistera toujours.341

In keeping with the “party line” of most European historical views, Coste stated that the Islamic world peaked during the Middle Ages, a time when the Muslims were to be greatly admired, but the current Muslim world had not advanced since that time. This belief does not allow for any praise-worthy developments of the Islamic world under the Ottomans.

Coste finished the preface with a discussion of Islamic architecture specifically. “Les monuments qu’ils y construisirent sont autant de preuves qui nous portent à croire qu’à leur retour dans leur pays, les Frances bâtirent d’après la manière à laquelle ils s’étuaient accoutumés. Il n’est donc pas étonné que dans les édifices faits en France on trouve le même système que dans les édifices arabes…. Qu’on appelle le gothique, qui n’était autre que la manière arabe.”342 Coste continued the discussion reflecting on the impact of the Crusades on the subsequent designers in Europe who were familiar with Arabic architecture. Coste points specifically to Qala’un which has a strong Gothic character and was built at the same time as other similar structures in France,

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341 Coste, Memoires..., vol. I, p. 397.
Germany, and Northern Italy. Coste concluded his Gothic comparison with a
discussion of climates and social functions in the determination of
appropriateness of stylistic development, as was commonly argued at the time.
“En effet, si l'on ajoute à cette architecture arabe ce que le climat froid et
pluvieux exige, ce que les usages religieux demandent, et ce que la sculpture
statuaire permet, alors les combles éléves, les pignons pointus, le gouttières
avance, les clochetons, les statues, les bas-reliefs deviendront la décOration
obligée de cette architecture arabe transplantée dans le Nord, chez un peuple
chrétien.”343

Coste allowed for a large diversity of character in Gothic architecture
but in general found that it was divided into two categories. The first category
was the “Byzantine” style ranging from 850 to 1063, the date of the laying of
the foundations for the complex at Pisa. In this period, semi-circular arcades
and architectural orders were employed. Coste wrote that politically Italy had
continued constant relations with the Orient. Coste’s second period is
characterized by decoration which has been influenced by Arabic architecture.
“Les édifices de la seconde classe ont dans leur décoration un style arabe auquel
on ne peut se méprendre; les arcades aiguës [sic], les murs avec des contre-forts
sans corniches, point d’ordre d’architecture, et surtout l’absence de tout
système de rapports et de symétrie....”344 This stylization utilized during the
eleventh, twelfth, and thirteenth centuries was introduced by Northerners who
were acquainted with Islamic architecture because of the Crusades and rejected

343Ibid.
344Ibid., p. 27.
the still-present classicism of Byzantium in favor of freer, more decorative architecture they had encountered in the Middle East.

In summarizing his theory, Coste concluded:

Ces deux branches d'une même architecture, c'est-à-dire, l'architecture arabe et l'architecture gothique, s'éloignent sensiblement l'une de l'autre lorsqu'elles sont assujetties à des usages, à des goûts différents, sous des religions et des climats divers. Les ornements de l'architecture arabe ne cessèrent d'être les mêmes que ceux des armes, des vêtements, des tapis et des tentes de ce peuple, tandis que les ornements de l'architecture gothique consistaient particulièrement dans la sculpture d'hommes et d'animaux, que les musulmans ne pouvaient employer sans enfreindre les préceptes de leur religion. Ainsi, des armoires, des bas-reliefs, des statues historiques, des figures symboliques ou allégoriques dont la religion chrétienne permettait l'emploi, étaient du domaine de la sculpture et des arts romaines [sic] en décadence.

C'est sans contredit à cette école qu'on doit la décoration de l'architecture gothique des premiers temps. Saint-Germain des Prés en offre un exemple dans la grande tour, qui date du VIe [sic] siècle de notre ère. Cependant les architectes et les sculpteurs, en cherchant une imitation plus fidèle de la nature, donnerent un autre caractère à leurs constructions; le travail fut plus exact et plus fini, et les formes furent plus sveltes. Enfin dans l'ornement on vit des entrelacs et des rinceaux dont les feuilles ressemblaient plus à la form des productions végétales du pays, qu'à la sculpture idéale des Romains.345

Coste wrote that he hoped that, through a comparison of the architecture of the Mamluk sultans of Egypt and their architecture against European architecture, he would provide “une preuve irrécusable” that there are Arab origins to Gothic architecture.346 This last sentence gives a strange slant to

345Ibid.
346Coste was not the first to suggest that there was an Arabic influence on Gothic architecture but he was the first who was well-versed in Arabic architecture to make the
Coste's purpose in writing this book. Is its purpose to document the Islamic architecture of Egypt or to prove the Arab origins of Gothic architecture? While it is true that the book does both, the strength of this concluding sentence suggests that Coste did want to make an impact on the European historical perception of the stylistic evolution of the Gothic style and the stylistic importance of Arabic architecture, in addition to introducing the West to the architecture of the Near East.

Coste repeated this belief in the Arabic influence on the Gothic style in his 1848 essay "Y-a-t-il possibilité de créer une architecture nationale en France?" in which he traces the stylistic development of architectural forms. Coste wrote that because figural representation had been prohibited, the Arabs had developed a rich ornamentation of patterns and lines derived from natural forms. To Coste, the most notable architecture in this area is found in Cairo, Persia, Baghdad, Aleppo, Damascus, Cordoba, and the Alhambra. As an

comparison. In England, Christopher Wren and Humphrey Repton, two centuries apart, both believed that the connection had to exist. The French architect, Francois Blondel also believed in a design connection between Arabs and Goths but that this influence was detrimental. Blondel, like Coste, differentiates the stylistic development into two phases. The second, as with Coste, was the Arabic phase but Blondel believed the influence came because Arabic books were, as Frankl writes about Blondel, "widely read and thus Arabic architecture was extended to Europe: 'as a result many churches were built in the Moorish taste, even without correcting what was more suitable for hot countries than for regions with a temperate climate.'" Frankl, The Gothic Literary Sources and Interpretations through Eight Centuries, (Princeton, 1960), pp. 388-91. Unlike these other historians however, Coste did not make his hypothesis by looking at European travelogues.

aside, Coste repeats his assertion that the richness of ornamentation and the ogival arch was passed on to Christian architecture through the Crusaders.

The original concept and illustrative format for the *Monuments du Kaire* was not unique. As Michael Darby wrote, “Pascal Coste’s extraordinarily detailed drawings adhere to the same pattern of meticulous draughtsmanship and careful observation which distinguishes many 18th century books devoted to classical buildings.” For *Monuments du Kaire*, Coste chose the mosques he felt were the most historically and architecturally significant to the study of Egyptian Islamic architecture. His selection included: the mosque of Ibn Tulun, Al-Azhar, the Qala’un complex, the madrasa of Sultan Hasan, the mausoleum of Qaitbay, the mosque of Al-Muayyad and the mausoleum of Barquq (figs. 60-67). There is little difference between Coste’s original drawings in the Marseilles sketchbooks and those that were published. Coste originally drew in pencil, often using watercolor washes to enhance the light or color of a particular surface. It is the soft richness of these color washes that is most lacking in his published designs. To maintain a strict adherence to the architectural image, Coste drew the monument first in plan and then in elevation paying attention to the building’s structure overall. After these more rigorous drawings, Coste would compose a small chart using letters and numbers to mark where various areas of ornamentation were placed. He then separately drew each segment of decoration to be redrawn later in its proper location (fig. 68, 69). Through this method, Coste was able not only to capture

the entirety of the building’s design but also to fill in the details which would have proven too cumbersome for his simpler, more evocative pencil drawings. Out of Coste’s hundreds of drawings, only a few show inaccuracies of the standing structures in any notable way.

To aid in the compilation of the final drawings, Coste often made austere wash studies of the play of light in a building or the positions of lamps, minbars and people. Coste arranged the drawings as a painter would with figures used not only as a size reference, but also to energize and personalize the scenes. Coste’s first allegiance was to the accurate portrayal of a building but he was not averse to enlivening the scene with images of daily life. In his studies in Egypt (unlike his Persian work), his people and animals going about their daily tasks were not imaginary. Coste created as many drawings of people, costumes, customs, animals and working conditions, as he did of city scenes and buildings (fig. 70, 71). One can find in an examination of his many sketchbooks of Lower and Upper Egypt figures, costumes, saddles, and ordinary objects which were used in either similar or exact copies for details in his more elaborate lithographs and architectural perspectives.

Thus Coste was as concerned with the correct portrayal of the culture as of the buildings. Nowhere do the figures dominate the image nor are they distracting from the building itself or from its purpose. Coste never depicts the local Egyptians in the midst of squalor or other ruinous scenes as is seen in many of the other European images of Egypt. People, camels, storefronts, and vegetation are used to authenticate the scene and properly locate its position in the city. In none of Coste’s drawings does he make a social or political
statement as to the primitivity of the country. If anything, Coste’s greatest fault is to overly cleanse and rectify the image to its original architectural form. Photographs taken in the 1850s by the German photographer, Jacob Lorent, show Ibn Tulun in a decaying state with plaster crumbling, ornamentation destroyed, and even one side of the arcade filled to create a solid wall with windows. But in Coste’s drawing the mosque is shown in pristine condition with no damage depicted anywhere in its interior, thus Coste restored the buildings in his work to capture the monument’s original design and separate incidental details that would distract from the beauty of the building.

Throughout the sketchbooks, beside the drawings of a particular monument, Coste makes specific historical notations such as the origin of the materials, stones, or columns; the number of lamps, columns, or of other architectural details which are included in the book’s text. Coste made far more interior drawings and detailed sketches then were used in the publication of Monuments du Kaire. There is only one blatant error in the publication which is the reversal of the Bain Publics, plate 17, most probably due to lithographic error.

In addition to the strict attention Coste paid to the illustrations, he published a short description with every plate that detailed the building’s political history, the history of the building itself, any interesting architectural

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349 J. Lorent, Egypten, Alhambra, Tlemsen, Algier, (Mannheim, 1861).
350 Coste also made a complete study of the mosque of Amrou which was not included in the final version. Coste did however use some of the details of Amrou including the wood screens and the lantern in the incidental details in some of the other plates.
details and, if the monument was representative of a particular type or function, an explanation of that role. For example, Coste discusses how a proper bath is taken in Egypt, in the context of his description of the public baths of plate 17. Due to the impressive domes found on Barquq, Coste uses this occasion to describe the importance of domes and their construction in Egyptian architecture. The only building that was designed by Coste that is included in _Monuments du Kaire_ is the Shoubra pavilion whose theatrical effect Coste claims was in keeping with the Oriental taste. This design of Shoubra would have been the first alteration of Coste's more classical plan (which was again changed before completion). In the final plates, Coste included a few studies of costumes, weapons, and military camps. Coste researched and documented the Turkish encampments outside Alexandria when he was supervising Mahmudiyya. This camp in all probability is where Coste stayed.

In his portrayal of the monuments, the only errors Coste makes are in straightening plans of two mosques. Otherwise it is surprising to compare Coste's plans with modern plans of the mosques, due to his incredible accuracy in drawing and measuring. The plans that are extremely regular Coste draws exactly correct but the two more irregular, asymmetrical plans, Coste modifies to fit into a more geometric grid. The images of Barquq, Sultan Hasan, Qaitbay, and Ibn Tulun are drawn perfectly. Coste only makes minor changes to exterior offshoots, fitting them in at right angles to the regular plan in the center. However, both Qala'un and Al-Azhar have been dramatically changed; the plans are completely redone in a symmetrical, orthogonal way (fig. 72). It seems Coste's wish for historical correctness was overpowered by his école
training in these two instances. Coste could not bring himself to draw these
two random, asymmetrical structures that were compiled through time in the
Cairene streets. The historian was overpowered by the classicist in this
instance.

As with the plans, a comparison of Coste's lithographs with the
buildings displays a remarkable insistence on capturing the standing structure.
While Coste sometimes did cleanse the buildings of decaying elements, he also
drew every detail of the building with surprising authenticity, surprising not
only for his ability to be so factually correct in his architectural renderings but
because he finished the drawings in France without the aid of photographs.
Coste did periodically round-out or spring arches more than in the original
design, but that is more likely because he did not have the structure before him
than any stylistic preference. Although some details have been questioned by
Islamic architectural experts, Coste's drawings are in general very close
representations of the originals.351

Monuments du Kaire and the Description de l'Egypte

Monuments du Kaire contains many of the same subjects previously
depicted in the Description de l'Egypte, such are Ibn Tulun; Sultan Hasan; Bab
al-Nasr; Bab al-Futuh; the cities of the dead; the Nilometer; the Mamluk
tombs; houses on canals; al-Nasir Muhammad's aqueduct; and the public
baths. Coste's plan of Cairo is almost a duplicate of the one in Description de

351R.P. Spiers in Architecture East and West, (London, 1905) complains about certain
inaccuracies in architectural details in Coste, as does Creswell.
l'Égypte but lacks the detailing of suburbs, islands, and topographical formations essential to Napoleon’s military staff. While the Description de l'Égypte includes sketches of local mosques in many of its city scenes, there are only three studies of mosques, Ibn Tulun, Sultan Hasan, and Sinaniya mosque in Boulaq. Interestingly Coste does not include the latter in his Monuments du Kaire. Coste taught classes in Boulaq so he was well acquainted with the mosque and he would have had no problem gaining admittance with Muhammad Ali's firman. It seems probable that Coste chose not to include the sixteenth-century Sinaniya mosque because of its Ottoman style. Coste wrote specifically about his admiration for the Mamluk style and its majestic monuments, but nowhere does he praise Turkish design. Coste included in his publication details of Ottoman minarets but he seems to have had no fondness for Ottoman structures and although Muhammad Ali preferred Turkish architecture over Egyptian, Coste intentionally adhered to a Mamluk stylization in his designs for the pasha, such as in the mosque commissions. The most notable absence in Monuments du Kaire is the impressive “Divan de Joseph” which is shown in the Description de l'Égypte as an enormous, marvelous ruin. It is unknown whether Coste had ever seen the structure since it was destroyed by Muhammad Ali to make way for his mosque some time in the early nineteenth century.

A comparison of two mosques portrayed in both Monuments du Kaire and Description de l'Égypte illustrates the vast difference in treatment by the

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352 In this discussion, I will be using a large folio version from 1817 of Etat Moderne, Description de l'Égypte.
two publications. Little difference can be seen in the two plans for Ibn Tulun, as it is a very simple symmetrical design. The authors of the Description de l’Egypte chose to show the minaret as square rather than spiraling as the more precise Coste does but little else is changed (figs. 73-75). The contrast is much more striking however in the interior depiction. The Description de l’Egypte design was drawn by the architect Protain and is mostly devoid of ornamentation. The interior cornice, stucco detailing, painted rafters, and fountain detailing have been stripped compared to Coste’s. The arcade’s arches are far more pointed and the perspective is tight with little glimpse of the interior courtyard. In the exterior depiction of the mosque and in some details, the ornamentation which was lacking previously reappears in another context. One of the reasons for such discrepancies is due to the problems of consistency when numerous artists are involved, all sketching their own images. Coste took years to study the mosques and, while his departure was unforeseen as well, he had already compiled a large dossier of drawings that were concerned exclusively with Cairo’s mosques. A comparison of Coste’s drawings to the standing buildings shows a remarkable fidelity to the original monuments.

Illustrations in the Description de l’Egypte were also concerned with creating a picturesque image. Like Coste, Protain chose to show the mosque in perfect condition. In contrast to Coste however, Protain has peopled the interior with stiff, lifeless characters that do very little to embellish the mosque’s appearance. All wear the same robe and turban, lacking any characterization. Coste’s drawing is architecturally detailed correctly, placing all ornamentation properly and emphasizing the simple beauty of one of Cairo’s
oldest mosques. Concerned with creating a picturesque scene, however, Coste does change the interior perspective, sliding the minaret and ablution fountain closer together so that they both can be shown shining through the dark arcade.

The only mosque to be studied thoroughly in the *Description de l'Egypte* is the majestic Sultan Hasan which Jomard called one of the most beautiful monuments in Cairo. The plates were drawn by numerous artists and therefore great variations exist in its ornamental portrayal. While the plans of both *Monuments du Kaire* and the *Description de l'Egypte* are identical, the exterior and interior elevations differ dramatically. The detailing of the exterior ornamentation by both Protain and Conte resembles that of Gothic cathedrals more closely than it resembles the detailing on the mosque itself. In some places, the muqarnas have been replaced by stacked semi-circles, arabesques, or leafy scallops. Most of the interior calligraphy has been left blank but in rare instances a geometric Kufic has been used instead of Coste's floriated one. In both cases, the calligraphy is illegible.

In the *Description de l'Egypte*, Sultan Hasan is a fortress, flat and heavy, surrounded by squalid shops and homes (figs. 76–82). Coste's Sultan Hasan is colorful, its decoration is rich and playful on the walls. Coste places the mosque in a relatively open space with only some well-tended shops and homes in the distance. As in Ibn Tulun, Coste portrays Sultan Hasan in a more gentle light. He concentrates on the architectural detailing, exactly replicating

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it on paper, as is seen in the meticulous studies and diagrams in his sketchbooks. His designs are marvelously portrayed with the sun shining on the exterior and in his interior image, the hanging lamps make a textured abstract pattern against the wall while the domed fountain appears animal-like in his strange, fantastic rendering of the courtyard. Living in Cairo as an architect, Coste learned to admire the building as a work of art, not as a bizarre edifice or as an ethnographic type for scientific study. Coste lived in Egypt and learned to appreciate the beauty of Mamluk architecture, making the drawing was a testament to that appreciation.

Similar discrepancies can be seen in a comparison of the two publications as a whole. The *Description de l’Egypte* is more concerned with the depiction of a mosque, any mosque, as a type, rather than detailing the building as a historical monument. The French savants concentrated their efforts on documenting the culture as a whole rather than making a historical record of any of the buildings. For instance, Coste specifically documents two caravanserai, giving plans and exact elevations. The *Description de l’Egypte* includes a series of different types with an enormous section on the *Arts et Metiers* showing local crafts and working techniques as well as a number of portraits of commoners and craftsmen. The *Description de l’Egypte* includes a simple drawing of a modest barber in his shop, whereas Coste meticulously details a barber in a shop almost dripping with ornamentation. The *Description de l’Egypte* contains a plate featuring a tent with its resident’s camel. Coste in comparison drew an exact scheme of a Egyptian and Turkish encampment with detailed studies of how the various types of tents were erected.
Ultimately, the *Description de l'Egypte* was an ethnographic work, capturing the contemporary scene and all around it. The static, lifeless work of the savants adhered to the Enlightenment fascination with scientific rationalism. In Egypt, Coste served as an architect, critic, and historian. He loved the buildings, yet, he was unable to elucidate verbally his admiration. Instead, Coste meticulously drew the monuments as the artistic masterpieces that he believed them to be. His hopes lay in capturing the buildings as proof of their merit to a European audience, in addition to saving them for posterity.

**Architectural Studies of Islamic Egypt after Coste**

*Monuments du Kaire* appeared at the same time as a number of historical studies of Islamic culture in England. In France, the study of Islamic architecture was still of peripheral interest, Coste’s work on Egypt and Persia dominated the field for a great part of the century. In 1877, a three volume set of folio drawings studying the architecture of Egypt was published by the French author Prisse d'Avennes (1807-79). *L'Art Arabe d'après les Monuments du Kaire*, Prisse d'Avennes' work, was greatly influenced by Coste's *Monuments du Kaire*. In the early 1830s, Prisse had worked for Muhammad Ali as a civil

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354 In 1837, coinciding with the publication of Coste's *Monuments du Kaire* in Paris, Edward William Lane (1801-76) published *The Manners and Customs of the Modern Egyptians* and John Gardner Wilkinson published *The Manners and Customs of Ancient Egyptians*. In the next decade, David Roberts (1796-1881) published the volumes of *The Holy land, Egypt and Nubia* (1842-49) and *Egypt and Nubia* (1846-49), and Owen Jones completed his studies of the Moorish Spanish palace, *Plans, Details, Elevations and Sections of the Alhambra* (1842-46). These studies provide an odd assortment of historical examinations of Muslim culture.
engineer but resigned after Muhammad Ali's administration declined to construct one of his designs. *L'Art Arabe* was conceived forty years later when the author/engineer was working for Ismail Pasha. As before, Ismail canceled the project and Prisse again resigned from Egyptian service. Coming from an affluent family, Prisse had the freedom to pursue travels and historical interests as he wished. It took him ten years to prepare the two-volume study of ancient Egyptian art and the three-volume study of modern Egypt. In a discussion of the work of Prisse d'Avennes, Jean-Marie Carré wrote in his book *Voyageurs et Écrivains Français en Égypte* (published in 1933) which was concerned specifically with French artists and historians working in Egypt:

Prisse d'Avennes est arrivé en Égypte au moment même ou Pascal Coste venait d'en partir, et ceci est un symbole. L'architecte marseillais avait ouvert les portes de la mosquée: il restait à y vivre, à en explorer la pénombre chatoyante, à chanter les vitraux, les stucs ciselés, les incrustations de nacre, les portes de cèdre fleuries d'arabesques d'ivoire, les faïences, les corans enluminés. À travers les dessins linéaires de Coste, ses épures froides et élégantes, l'architecture des Fatimides, des Califes et des Mamlouks apparaissait, certes, dans son magnifique essor, mais dans sa beauté abstraite, son caractère monothéiste et intellectuel. Nous ne touchions que son essence, et cela nous laissait sans ferveur. Qu'arrive Prisse d'Avennes, avec ses pinceaux vigoureux et sa riche palette, et c'est toute une vie qui s'agit, toute une civilisation qui se lève, tout un passé qui s'exalte dans un hymne de couleurs. Bois sculptés, fontaines, céramiques, broderies, miniatures, mobilier, cuivres, la maison égyptienne est là qui renonce à son mystère, nous acceuille et nous invite à entrer. Coste nous a révélé la perfection géométrique de l'art arabe, Prisse d'Avennes nous l'a rendu vivant, accessible, humain et c'est en cela qu'a bien mérite de l'Islam celui qui se faisait appeler Edris-Effendi.355

Carré's criticism is telling. Only one of Prisse's three volumes is concerned with the architecture of Egypt and that volume is composed of a random collection of city scenes and interior studies. The other two contain large-scale colored lithographs studying Islamic ornament. The first volume which does include full architectural renderings is extremely inconsistent. The three plans featured are copies from Coste's *Monuments du Kaire*, as is one elevation, although Coste is not acknowledged in the publication. The other drawings range from Girault de Prangey's extremely picturesque stylizations- (fig. 83) which dramatically highlight shadows, colors and heights, much as does David Roberts in his work-to photorealistic studies of Ibn Tulun and Qaitbay which in all probability were drawn from photographs. The drawings sketched from photographs are particularly noticeable due to the lack of contrast in the darkest and lightest areas of the drawn image which would exactly correspond to the technical accuracy of nineteenth century photographs.

Prisse's gift to Egyptian historical study is in producing a pattern book of Islamic ornamentation, much like the work of Owen Jones (1809-74). Amusingly, Carré declares that Prisse brought life to the study of Islamic architecture as a whole by producing colorful studies of interior and exterior ornamentation. Coste's drawings of the complete buildings located in a cosmopolitan site filled with people and city life are found inaccessible in their geometric perfection.

This praise of studies of Islamic ornamentation was not exclusive to the twentieth century. Enormous books featuring decorative patterns were in vogue with much of the cultured elite during the second half of the nineteenth century. In 1879, Jules Bourgoin (1838-1907), professor of ornamental theory at the École des Beaux-Arts, wrote *Les Éléments de l'Art Arabe* which began with a discussion of the differences between Greek, Japanese, and Arabic ornamentation. This is the publication that includes the long inscription by Viollet-le-Duc in praise of Coste. Bourgoin wrote that the Arabs were masters without equal in ornamentation. Having studied the architecture of Egypt, he divided Arabic decoration into three categories: *Stalactites*, *Entrelacs*, and *Ornements*. His richly colored plates display the geometric patterns of elegant complexity from which he developed a theory of ornamental derivation expanded in his *Théorie de l'ornement* in 1879. Books rich with plates of Arabic decoration like Bourgoin's had a tremendous impact on decorative arts and interior design in Europe, yet they did little to increase the Europeans' knowledge of Islamic architecture. Ornamentation became the only essential in the portrayal of Islamic architecture, whether in paintings, literary descriptions, or exposition pavilions. Rich, colorful decoration became synonymous with Arabic architecture.

One of the most well-known authors of nineteenth-century decorative studies, started his examination of Islamic architecture with the Frenchman, Jules Goury, in a study of the Alhambra. But Jones ultimately was to become famed for his theoretical studies, in particular *The Grammar of Ornament* (1857), like Prisse d'Avennes and Bourgoin. *The Grammar of Ornament*
attempted to create a new theory of ornamentation to link past solutions with new solutions in the progress of modern architecture. Like Coste, he used different textural patterns and colors in his designs, but Jones also wanted to create a Western architecture that expressed the Islamic world. His examination of Islamic ornamentation led him to theorize about its applicability to Western architecture and to develop a system of polychromy published as the principles of *The Grammar of Ornament*. Jones stressed the harmony of form and color as a guide to establishing a new architecture. Like Bourgoin and Prisse d’Avennes, it was in the decorative studies that Jones gained his reknown in the European architecture community.

While the early travel-books of British voyagers included descriptions of Egypt’s geography, architectural monuments, and some of its customs, these travellers were more interested in the oddities they found in the foreign culture. These travel-books were extremely popular and were published in large number, the titles increased on account of the many travellers who were visiting Egypt including British East Indian officials traveling between England and India on the Overland Route. Besides the enormous amount of material found on the ancient monuments visited by these travellers, their books are also filled with descriptions of their trip and the strange behavior before them. “The travellers now also described the inhabitants and their customs—or such of their customs as they happened upon, for they made no attempt, in describing customs, to approach the subject systematically, and

merely described and generalized from the forms of behavior they happened to
encounter and to be struck by.” Along with the travelogues, exhibitions of
paintings were also used to satisfy the popular interest in the bizarre and
primitive Middle East, particularly subjects pertaining to the “Holy Land”.
David Roberts and Robert Hay made a comfortable living publishing picture
books and touring their grand tableau throughout England with images of
Jerusalem, ancient Egypt, and modern Cairo.

Lane’s study, The Manners and Customs of Modern Egyptians, differed
dramatically from these earlier Philistine excursions. Speaking Arabic fluently
and dressed in traditional clothes, Lane moved to Egypt in 1825, studied local
and ancient habits, and published them in a meticulous volume which is still
used as a source by experts in the field today. To satisfy his curious European
audience, Lane described in full Egyptian customs concerning magic,
superstition, snake-charming, and other strange habits but the body of the
text emphasizes daily life. Additionally, Lane published translations of Arabian
Nights and the Koran. Lane, like Coste, took an undisclosed culture and
systematically documented a specific part of that culture. The Manners and
Customs of Modern Egyptians included 101 sepia drawings by Lane, but they
were more concerned with illustrating domestic life than monumental
architecture like Coste. Lane differed from Coste in his method of study, in
that he was completely prepared when he arrived in Egypt, speaking the
language and having a thorough knowledge of the country’s history. Yet, Coste

358 Ibid., p. 68.
and Lane produced very similar studies: Lane through social analysis and Coste in pictorial documentation.

Coste's contribution to the field of Egyptian historiography was in the meticulous care he took to portray the buildings as he saw them standing in the Cairene streets. In reality, of course, Coste had to be concerned with his audience and thus make the images interesting and alive but Coste in no way tainted the images with his own theoretical agenda. It is this fact probably more than any other that has kept the work of Coste relatively obscure. Historians of the nineteenth-century have documented and criticized the work of David Roberts, Jones, Bourgoin, and Prisse d'Avennes for their theories of ornamental design or suggestions of political correctness. Coste appears in these histories as an influence on architects and historians alike, but rarely do these studies include an analysis of his work. Likewise, Coste is used as an important source in the study of Islamic architecture for documenting buildings, but nothing is written about Coste's oeuvre itself or of his life.

It is Coste's objectivity that has led to his neglect. An important parallel can be drawn between the historical treatment of ancient Egypt and modern Egypt. Both fields arose from the early Description de l'Egypte studies, yet, Egyptology became a scholarship based on fact and field work in which historians made accurate studies, compiled measurements, hypothesized chronologies, and documented relevant literature. Islamic architecture became valued only for its ornamentation which led to purely theoretical arguments of ornamental design. The interest in exterior and interior articulation, the use of ornament to clothe the structure, and interest in buildings' plans disappeared
from the examination of Islamic design. Coste, building on the foundations of
the *Description de l'Egypte*, created a study that furthered the examination of
Islamic architecture as a whole. This kind of examination was not pursued
again until the twentieth century with studies by Louis Hautecoeur, Gaston
Wiet, Georges Marçais, and Creswell. Coste’s insistence on meticulous
documentation has led historians to treat his work only in impersonal terms
like a photographed image instead of acknowledging the man behind the
image, a man dedicated to capturing the historical artifact for posterity.

As Jack Crabbs wrote about modern historians in his treatise on
Egyptian historiography, it is modesty that marks their work: “As far as
possible, [the historian] lets his evidence determine the ultimate purpose of his
researches.”360 It is this “modesty” of modern history that characterizes all of
Coste’s historical writing and is what makes his work so innovative, and yet so
neglected. Even in the one historical point that Coste wishes to put forth, the
Islamic influence on Gothic architecture, Coste merely writes that he believes
that through the depictions of Islamic architecture, he hopes the reader will
find the inevitable connections apparent. Coste simply lets the images speak for
themselves. Unfortunately, this anonymity has become the outcome of his
admirable work and Coste, the man, has been lost in the shadows.

Conclusion

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Coste wrote *Monuments du Kaire* to produce a precise study of Cairene Islamic architecture, as the *Description de l'Égypte* documented ancient Egypt and the ethnography of the modern Egyptians. Moving beyond his classical studies, Coste learned to admire the Islamic buildings for their beauty and hoped to share his appreciation with the European public. But the *Monuments du Kaire* was published at an inopportune moment serving more as a sourcebook for exotica than to initiate genuine scholarship in Islamic architecture. Coste was admired at the time for his diligence and the precision of his work but this admiration did not result in the continuation of similar historical studies. Viollet-le-Duc wrote in the preface of Bourgoin’s *L’Art Arabe* about Coste:

> Au rebours de beaucoup de nos explorateurs modernes qui prétendent tirer les plus vastes conséquences souvent de la découverte d’un fait de peu d’importance, M. Coste donne tout bonnement ses dessins au public avec une candeur digne de l’âge d’or. Parfois ces dessins, ces relevés, soulevaient les questions les plus étendues, permettraient des théories pleines d’aperçus singuliers. N’attendez de M. Coste autre chose qu’une description simple, quelques dates, quelques faits historiques relatifs aux édifices qu’il fait graver... puis c’est tout. Il laisse au public le soin des déductions; il fait huit cents kilomètres, n’importe comment, et passe à un autre monument. J’avoue que dans un siècle où le moindre déplacement fait objet de descriptions... trop longues, où le voyageur nous fait part des petits accidents de la route, nous dit si son cheval est déférré, si son souper fait défaut, cette modestie antique à la façon d’hérodote et de Xénophon est un avantage considérable: c’est un hommage que je me plais ici à rendre à notre vénérable doyen M. Coste.361

361 Viollet-le-Duc, preface for Bourgoin’s *L’Art Arabe*, (Paris, 1873), pp. i-ii.
Viollet-le-Duc held Coste in high esteem, portraying him as a saint in the way he confronted all hardships and emphasizing the supreme modesty which characterized Coste, the man and his work. But Viollet-le-Duc accused Coste of being an artist and nothing but an artist, leaving the area of analytical and critical work for his followers.362

To Viollet-le-Duc and his followers, the historian's purpose was to find a system of representations, a European formula in which to fit Islamic decoration in easily digestible portions. This attitude was endemic to nineteenth-century ethnocentricity in which architectural styles were wedged into theories as simple as the classical orders, like Bourgoin who fit all of Islamic art into three categories of decoration. None of these studies are used by Islamicists today in examining Muslim architecture, but they do serve in documenting the attitude of historical scholarship in the nineteenth century. Coste did not want to be an agent of ideology like his fellow historians but to simply understand a culture and produce what he saw as the historical truth. However, for the intellectual elite that Coste was addressing, the mid-nineteenth century was not a time of modesty. Thus, the integrity of Coste's book led him into a life of quiet acceptance in the historical circles of Islamic and Beaux-Arts scholarship.

Coste had departed for Egypt in 1817, schooled with a strong neoclassical background from his architectural studies in Marseilles and Paris.

362Ibid., p. i.
Yet, when he was confronted with the Islamic world and Egyptian culture, he sought a more suitable style appropriate to the modern Egyptian city. His sensitive designs are a synthesis of Egyptian, Turkish, and classical French design which he felt was more suitable to this culture. On his return to France, he found his native country changing dramatically. Working as an architect and professor in Marseilles most of his life, Coste now found a French society interested in a colonial vocabulary in its public buildings and fantastic, exotic designs in its private residences.

The political world was changing quickly with the decline of the Ottoman empire and rise of European imperialism. This interest in expansion and its imperialist manifestations is exemplified by Coste’s experience with the Chamber of Commerce and his Bourse commission. With this commission, as with all his architectural work, Coste deferred to his clients and respected their wishes in his design. Coste’s experience was not abnormal for the time. In the 1862 Grand Prix competition, the program called for a “Palace for the Governor of Algeria, also Intended to Serve as a Temporary Residence of the Sovereign.” Although two designs were submitted with an Islamic influence, a classically styled building was deemed more appropriate to the importance of the project.⁶³ A synthesis of styles was not a suitable statement for a colonial building whose purpose was to represent the values of the Republic to its subjects.

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With *Monuments du Kaire*, as with all his other projects, Coste was not determined to make a personal statement but to produce sensitive scholarship. It is not my purpose to assert that Coste’s work is “pure” scholarship but that he attempted to produce genuine documentation of architecture he personally held dear. Coste resisted the quest for order and formulas of his followers and their theories of ornamentation and polychromy, preferring not to define the forms but to describe by letting the architecture speak for itself. This differs from its forerunner, the *Description de l'Egypte*, and its political agenda; and from its successors, the pattern studies of Jones, Bourgouin, and Prisse d’Avennes, who were manipulating the architecture to serve their own ideology of style. The virtue of *Monuments du Kaire* is that the reader himself must confront the issues of diversity and variety found in the Cairene architecture, and it is this obligation of the reader that makes the work so important and timeless in its pursuit.

Coste retired happily, sketching and writing until the end of his life. He recounts that during the 1867 Paris Exposition, at the age of 75, he visited the exhibition every day for two weeks, dining regularly at the British pavilion (which had pretty waitresses) and making sketches of the colorful displays. About the Egyptian section and its pavilions designed by Frenchmen\(^\text{364}\), he

\(^{364}\text{Amusingly, Coste’s Monuments du Kaire was probably used to design these “curious” reproductions. As Z. Çelik and L. Kinney write, “In the Islamic exhibits from 1867 on, mosques, baths, caravanserais, houses, and rows of shops were built, drawing on examples well known from architectural surveys and expeditionary literature.” in “Ethnography and Exhibitionism at the Expositions Universelles,” Assemblage, no. 13, December 1990, p. 39.}
wrote that the French version of the mosques were “très curieux” but that is his only negative criticism. Coste could simply turn the pages of his sketchbooks if he wanted to see the monuments as he had years before on the streets of Cairo.

Appendix: A Chronology of Pascal Coste

1787  Born on November 26th, in Marseilles to a the director of a carpentry atelier.

1804  Becomes an architectural student of Penchaud who was architect of the city of Marseilles and of the Bouches-du-Rhône.


1815  Returns to Marseilles, working as an inspector under Penchaud.

1817  Receives an invitation through Edmé Jomard to construct a saltpeter factory for Muhammad Ali in Egypt. Departs October 6th for Egypt.

1819  Completes the Saltpeter Factory and starts work on the Mahmudiyya Canal. Receives the commissions for the Rhoda Gunpowdery Factory, the Ras-al-Tin Pavilion, the Boghos Villa in Alexandria, and the British Consulate.

1820  Completes designs for the Citadel Palace and the Shoubra Gardens.

1821  Designs the Telegraph Towers and numerous canals.

1822  Receives the two mosque commissions. Completes the restoration of the Aboukir Fort.


1824  Returns to Egypt. Makes plans for the Shoubra Palace and the Boghos Palace Complex.

1825  Makes plans for the Alexandria Mosque.
1826  Makes plans for the Alexandria Lazaret for the Muhammad Ali Mosque in Cairo and traces the foundation.

1827  Stung by a scorpion, advised by the physician Clot Bey to return to France.

1828  Travels throughout France making architectural sketches.

1829  Nominated professor at the Ecole des Beaux-Arts at Marseilles. 
*Publishes Carte de la Basse-Egypte.

1832  Travels to Italy, completing numerous architectural sketches.

1833  Completes designs for the churches St.-Lazare and St.-Joseph in Marseilles.

1835  Travels to Tunisia as a consultant on the port of La Goulette.

1837  Travels to Germany, Belgium, and Holland sketching architecture. 
Publishes L'Art Arabe ou Monuments du Kaire.

1839-  *Chosen to accompany a French mission to Persia, documenting the 
1841  ancient and modern architecture with the painter Eugène Flandin. 
Travels through Greece, Turkey, and the Middle East.

1842  Returns to Marseilles before traveling to Germany.

1844  Nominated architect of Marseilles and member of the Comité 
Historique des Arts et Monuments de France. 
Completes design for the Markets on the Place de Rome in Marseilles. 
Publishes Monuments antiques de la Perse and the first volume of Voyages en Perse.

1846  Completes designs in Marseilles: Church of St.-Barnabé, the 
Slaughterhouses at Arenc, Pavilions and Fontaines on the Cours Saint-Louis and Cours Belzunce, and the Altaras residence on Place des Chartreux.

1847  Commissioned to design the French consulate in Tangiers which is 
ultimately concealed due to lack of funds. 
Travels to Algeria, Morocco, and Spain.
1848 Designs Church of Mazargues in Marseilles.  
Gives essay “Y-a-t-il possibilité créer une architecture nationale en France?” at the Marseilles Academy.

1849 Visited by Gustave Flaubert and Maxime de Camp as they pass through Marseilles.

1850 Designs a city prison for Marseilles.

1851 Competes for and wins the commission for the Marseilles Bourse which is completed in 1860.

1852 Travels to Italy and Paris.

1860 Completion of Coste’s chapelle du Cercle Religieux at Marseilles.

1861 Travels through southern France and Spain.

1862 Travels to England and Ireland.

1863 Travels to Germany.

1864 Travels to Italy and Paris.

1866 Travels to Switzerland.

1867 Publishes *Monuments modernes de la Perse*.

1871 Commissioned to design the Tomb for the Camille Olive family at the cimetière St. Pierre in Marseilles.

1872 Travels to Denmark, Sweden, and Russia.

1873- Retires from architectural practice but continues to travel between Marseilles and Paris.

1876 Dies in Marseilles at the age of 92.
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72. Coste plan of Al-Azhar compared to a modern rendition.


Fig 3
Fig 7

Fig 8
Façade principale de la Mosquée projetée pour Alexandrie.
Fig. 40

1. Avant-corps
2. Clochers
3. Prophètes
4. Chapelle de la Vierge
5. Chapelle de St-Jacques
6. Chapelles
7. Chapelle des Morts
8. Fonte Baptismaux

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CHAPELLE DU CERCLE RELIGIEUX
Rue de la Mission de France, construite en 1860
COUPE SUR C.D.

Fig 43

page 331
MARCHÉ DE LA PLACE DE ROME
Construit de 1844 à 1845

FAÇADE PRINCIPALE

PLAN D'ENSEMBLE

Place de Rome

Fig 44

page 332
à MARSEILLE.
FONTAINE DU COURS S\'LOUIS
Construite en fonte en 1848.
BOURSE ET CHAMBRE DE COMMERCE DE MARSEILLE

PLAN AU REZ-DE-CHAUSSEE

1. Entrée principale de la Bourse
2. Porche
3. Salles des parvis
4. Grande Salle de la Bourse
5. Corbeille des Agents de change
6. Portiques
7. Bureaux des Courriers
8. Escalier de la Chambre de Commerce
9. Escalier du Tribunal de Commerce
10. Escalier des étages supérieurs
11. Escalier de l'entresol
12. Corbeille des enchaînés
13. Salle de ponction des Agents de change
14. Bureaux des Renseignements marchés
15. Terrasses
16. Lavatoires

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Fig. 70

<Diagram of a historical building>
Fig 72 page 355