SOME ASPECTS OF INDUCED DEVELOPMENT IN EGYPT UNDER MUHAMMAD ALI PASHA AND KHEDIVE ISMAIL

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ABSTRACT

Dramatic socio-economic reforms were induced in Egypt during the administrations of Muhammad Ali Pasha, 1805-1848, and Khedive Ismail, 1863-1879. This thesis is primarily concerned with many of the problems that impeded the fruition of these reforms.

After usurping the governorship of Egypt in 1805, Muhammad Ali strove for more than a decade to consolidate his position of leadership. Soon after he had eliminated or neutralized most elements of active or potential opposition, he undertook military reforms. The establishment of a large army - for defensive and offensive purposes - modelled on European military forces, became the Pasha's primary preoccupation. The problems of attempting to form a modern army in nineteenth century Egypt, a profoundly traditional society, were formidable. The Pasha also undertook an essentially more difficult task, that of forming a modern navy. Egypt at this time had no experienced naval personnel, other than a few European naval instructors.

The army, which by the early 1830's exceeded 100,000 men, acted as the major nucleus of reform. Various "modern" industries were founded - essentially to supply the army - and numerous "modern" primary, secondary and special schools were established, largely to prepare personnel for military service. All of these institutions encountered great difficulties, as

the administrators, the factory workers and the students originated from a profoundly traditional ethos.

Muhammad Ali's reforms suffered a grave setback in 1840, when the Egyptian army in Syria was defeated by Ottoman and European forces. The Pasha was forced to reduce the size of his army to a small percentage of what it had been. In poor health, disillusioned and resentful, the Pasha for the remainder of his administration showed little interest in furthering or maintaining his reforms. During this period the navy, schools and industries he had founded were largely dissipated.

Ismail acceded to leadership in Egypt fifteen years after the abdication of his grandfather, Muhammad Ali. Though he had previously appeared to be somewhat cautious and parsimonious, he rapidly instigated reforms involving relatively large expenditures, which necessitated costly (in interest and service charges) foreign loans. By the end of his administration, he had accumulated a debt of E. 91,000,000.

At the time of his accession, Egypt enjoyed a period of unprecedented prosperity due to the boom in 1861-1865 of world prices for cotton. This undoubtedly inflated his expectations of the country's economic potential, which in turn influenced him to spend imprudently in various areas. Notable among his expenditures were those on public works. Soon after the decline of cotton prices, Ismail initiated a large scale sugar refining industry, hoping in part to diversify Egypt's income from agriculture, which was largely reliant on cotton. Such

factors as a lack of management personnel and skilled workers, as well as poor sugar prices on the world market, undermined the project. It was unprofitable and eventually collapsed.

Ismail undertook relatively large scale military reforms, yet the army did not become the raison d'être of his policies as it had been with Muhammad Ali. Among his more noteworthy achievements were those concerned with education. New educational institutions were opened, others were revived and major reforms were promulgated. Ismail was able to utilize Egyptian and Ottoman teaching personnel educated in schools founded by his grandfather.

The precipitate changes and reforms induced by Muhammad Ali were fraught with shortcomings, and had largely dissipated before his abdication. Considering that Egypt was a profoundly traditional society, however, it is remarkable that they developed to the extent that they did. Some of Ismail's modernization projects on the other hand, proved to be relatively durable and provided a more concrete basis for future socio-economic development. The large National Debt accumulated during his administration, however, offset the benefits from these projects. It was an important factor in a chain of events that culminated in the British occupation of Egypt.

A wide variety of books, journals, correspondence, consular reports, and edicts were studied for this thesis - in both English and French. Much of this material was obtained through Inter-Library Loan.

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INTRODUCTION

Muhammad Ali Pasha and Khedive Ismail were the most dynamic rulers of Egypt in the nineteenth century. During their administrations this autonomous province of the Ottoman Empire underwent dramatic socio-economic changes. The results of the reforms were in many instances markedly defective, and especially those induced by Muhammad Ali, largely ephemeral. Considering the many elements within traditional society antithetical to such reforms, it is remarkable that they developed to the degree they did. The overt differences between Egypt of the time of Muhammad Ali's accession to power in 1805, and Egypt at the time of Ismail's abdication in 1879, are no less striking.

This thesis is primarily concerned with a study of the tensions and problems that emerged as a result of the changes the two administrators undertook to implement. These changes are interesting examples of attempts to induce the development, in the non-Western world, of characteristics that evolved in the European cultural environment. The Muhammad Ali era provides an early and classic pattern of induced change with the following historical stages of development:

1. The French invasion and occupation of Egypt broke the Mamluk's control of that country. Soon after the French force had withdrawn, Muhammad Ali usurped control of Egypt.

2. During the next decade or so, he consolidated his position as ruler of Egypt by, among other measures, neutralizing or destroying active or potential opponents to his regime.

3. In the same period, he greatly increased government income, most notably by confiscating all land, and monopolizing all farm produce.

4. During the second decade of his reign the Pasha instituted military reforms. These, coupled with rapid military expansion, triggered large scale developments in ancillary areas.

The initiatives undertaken by the two autonomous rulers of Egypt have been discussed from a variety of perspectives in a variety of accounts, but a balanced examination of their reforms, in the light of the problems of induced development, has been largely neglected. A number of European contemporaries of Muhammad Ali wrote apologias for his reforms. Their works, which have had considerable influence upon subsequent studies on the subject, gave scant attention to the difficulties of transition from tradition to modernity. One could conclude from them that such difficulties were virtually non-existent. In fact, however, the reforms were inundated with problems. It is probable that at least some of the apologists were bribed by the Pasha to glorify his achievements. This of course would account for their failure to discuss the difficulties encountered.

Ismail acceded to the throne in 1863, fourteen years after the death of his grandfather, Muhammad Ali, by which time the overt effects of the Pasha's reforms had been largely dissipated. He instigated large scale modernization projects, some of which proved to be relatively durable. Unlike his grandfather, however, his contemporary critics outnumbered his apologists. The large national debt that he accumulated was of course to a considerable extent responsible for this. Apart from the debt, such influential British figures as the Earl of Cromer, Lord

Milner, and Edward Dicey unjustly characterized Ismail in their writings as an utter wastrel. Such character assassination helped to justify Britain's role in Ismail's abdication, and the subsequent British occupation of Egypt. His efforts at modernization, and the nature of the problems encountered, have largely been ignored by historians, while his debt has become his epitaph.

This thesis concentrates on those aspects of induced development originating with the initiatives of the reformers or their governments. These are the specific problems of administration and finance, military organization, conscription, naval construction, educational reform, agricultural development, industrialization and public works expansion. The general problems of war, religion, politics, diplomacy and society must perforce remain beyond the scope of a specialized study like this one.

PART I Chapter I

Egypt, Muhammad Ali and the Consolidation of Power

When Muhammad Ali came to power Egypt was part of a traditional society profoundly ignorant of European advances. The ethos of this society was essentially antithetical to socio-economic changes of the kind undertaken in Europe. Muhammad Ali was appointed *Vali* of Egypt in 1805, seven years after the French invasion of Egypt, her first real contact with Europe for three hundred years. Until early in the sixteenth century, Egypt had been in relatively close contact with the West, her ports being major links in the trade routes that carried such luxury items as ivory, precious stones and spices from Asia and Africa to Europe. Soon after Portuguese navigators had discovered the Cape Route to India and the Spice Islands. During the last decade of the fifteenth century, however, the vast majority of this luxury trade was diverted to the newly discovered sea routes. Thus Egypt's sole avenue of cultural exchange with the West was all but severed.

The Mamluk ruling class was overtly hostile to Europeans and generated public sentiment against them. Consequently, the few Europeans who lived in Egypt, mostly merchants, largely remained aloof from Egyptian Society. This is evidenced in the following observation by a French traveller, Volney, concerning the few of his countrymen residing in Cairo during the 1780's:

> Shut up in a confined space, living among themselves with scarcely any external communications, they even dreaded it and went out as little as possible, to avoid the insults of the common people, who hated the very name of Franks, and the insolence of the Mamluks, who forced

> them to dismount from their asses in the middle of the streets.[1]

Because of their lack of communication with Europeans all Egyptians remained unaware of the momentous scientific, industrial and social changes that were occurring in Europe during the sixteenth, seventeenth and eighteenth centuries.[2]

The backwardness of eighteenth century Egypt, essentially a feudal state, is reflected to some extent by her educational system. Throughout the eighteenth century, Egyptian education, which was entirely religio-centric, was in a state of decay. A perusal of eighteenth century curricula of al-Azhar, the centre of Egyptian learning, discloses that history and belles lettres were largely neglected, and that philosophy and scientific subjects were not studied at all.[3] In the relatively narrow range of studies most attention was paid to Arabic linguistics, jurisprudence, theology, logic and elementary mathematics.[4] Al-Azhar library was only a fraction of the

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[1]Quoted in E.R.J. Owen, Cotton and the Egyptian Economy, 1820-1914 (Oxford, 1969), p. 14.

[2]There is no record of a single Egyptian having visited Europe in the 16th, 17th and 18th centuries. Charles Issawi, "Asymetrical Development and Transport in Egypt, 1800-1914," in W.R. Polk and R.L. Chambers (eds.), Beginnings of Modernization in the Middle East (Chicago, 1968), p. 389.

[3]For a resumé of the eighteenth century curricula at al-Azhar see J. Heyworth-Dunne, An Introduction to the History of Education in Modern Egypt (2nd ed., 1968), pp. 41-77.

[4]A similar range of subjects was given at other post-kuttab institutions. Al-Jabarti reported that such institutions existed at Asyut, Birma, Damietta, Dasuk, Faiyum, Girga, Mahallah, Mansurah, Maruf, Rosetta, Taha and Tanta. To these J. Heyworth-Dunne added Alexandria, Gizah, Kalyub, Kena, Jus and Manfalut. Ibid., pp. 19-20.

size it had been in previous centuries. Few of the shaykhs knew another Middle Eastern language.

Fundamental Islamic education was provided by the kuttabs which operated under the auspices of local mosques. It is not possible to estimate the proportion of children who received kuttab training since, for instance, it is not known how many kuttabs existed. Over a period of three years the students memorized a large part, or all, of the Quran.[5] Lessons in comprehending the material that had been memorized were not part of the curriculum, nor did the teachers have more than a surface understanding of it.

It appears that reading and writing were only taught in some urban kuttabs. Consequently, virtually none of the rural population were literate. On the other hand, Chabrol, a French scholar, who was a member of Napoleon's Expedition to Egypt, estimated that between a quarter and a third of the adult male population of Cairo could read, or read and write, to some extent. Chabrol's estimate appears to be high, but it is probably more accurate than that given by the Russian Consul-General, Duhamel, who, in the 1820's, claimed that except for the Copts, who acted as bookeepers and scibes, there were less than 200 literate people in Egypt at the beginning of the

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[5]E.W. Lane reported that he had heard of a school teacher in his neighbourhood of Cairo who was able to recite the whole of the Quran, though he could neither read nor write. When it was necessary for him to read, he would ask the head boy of the school to assist him, "pretending that his eyes were weak." E.W. Lane, The Manners and Customs of the Modern Egyptians (2nd ed.; London: Everyman's, 1963), p. 63.

eighteenth century.[6]

Eighteenth century Egypt suffered a severe jolt when she was invaded by France in 1798. The French expeditionary force rapidly overwhelmed the Mamluk army and broke the Mamluk's control over most of Egypt. Having been profoundly weakened by their defeat at the hands of the French, the Mamluks were not able to muster sufficient strength to re-establish their control when the French had departed from Egypt. By dislocating the status quo the French inadvertently facilitated Muhammad Ali's rise to power a few years later.

During the four years that they remained in Egypt, the French were too preoccupied with suppressing insurrections to undertake any profound internal reforms. Nevertheless, they revealed to some Egyptians, for the first time, various aspects of modern western development. The fact that Napoleon's carriage was the second wheeled vehicle to be used in Egypt since ancient times - the first having been a French gift to Ibrahim Bey, a Mamluk prince - indicates the enormous gulf between the technical achievements of the two cultures.[7]

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[6]This claim appears to be subverted by the fact that more than 1,000 students were in attendance at al-Azhar throughout the 18th century; moreover, there was a considerable number of students at other post-kuttab institutions. It should be added however, that some of the students at all of these institutions had enrolled in order to receive the free food provided for them, and not to study. Heyworth-Dunne, op. cit., pp. 27-28. Chabrol wrote that all Coptic boys attended denominational primary schools, where they learnt to read and write. There were, however, no facilities for higher education for Copts. Ibid., p. 86.

[7]Issawi, op. cit., p. 396. For Mamluk attempts to use rollers and wheels for the transport of cannons and columns, see Gaston Wiet, Cairo (Norman, Oklahoma, 1964), p. 84.

Shaykh-al-Jabarti, a contemporary Egyptian chronicler, reflected the general bewilderment of educated Egyptians towards western scientific achievements, when, after witnessing French electrical experiments, he remarked: "They achieve wonders.... many of which cannot be comprehended by the minds of people like us."[8]

Muhammad Ali first became prominent during the three chaotic years following the French withdrawal from Egypt, 1802-1805. In this period various factions fought for control of Egypt. Born in Cavalla, Macedonia in 1769, Muhammad Ali journeyed to Egypt in 1799 as an officer in the Ottoman expeditionary force that was defeated by the French at Abu Kir in July, 1799.[9] Soon after the French evacuation the Sultan appointed him leader of the Albanian troops in Egypt, whose designated task was to establish Turkish control there - Egypt had technically been part of the Ottoman Empire since 1517. However, Muhammad Ali showed little interest in accomplishing this end. He and his troops fought for and against the Turkish governor. In the meantime he was wooing the support of Sayyid 'Umar Makram, who held the second most powerful position in the

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[8]Quoted in Abu al-Futouh Ahmad Radwan, Old and New Forces in Egyptian Education (New York, 1951), p. 51.

[9]Apparently, Muhammad Ali had received no formal education as a child. He learnt to read when he was 47 years old. According to Artin Bey, who was the nazir of the School of Engineering during the Pasha's reign: "He had every book about Napoleon that he could find translated for him, and read them or had them read to him with avidity." Quoted in N.W. Senior, Conversations and Journals in Egypt (London, 1892), vol. II, p. 176. According to Rifaat Bey, Muhammad Ali prided "himself on being born in the same year as Napoleon." M. Rifaat Bey, The Awakening of Modern Egypt (London, 1947), p. 15.

hierarchy of the Egyptian ulama. The ulama had considerable influence over the populace and Muhammad Ali saw Makram as the key to gaining control of Egypt via popular support.

In 1805, under the guidance of Makram, the ulama led a popular revolt against the Turkish Governor of Egypt, Khurshid Pasha. He was deposed and Muhammad Ali was acclaimed as his successor. It is notable that without the ulama's assistance in stirring and leading the mob, Muhammad Ali could not have attained this goal at this time. He had insufficient troops to achieve it without outside assistance; moreover, there was considerable dissension within the ranks. In addition, he was virtually unknown to the Egyptian people.

During the first decade of his reign Muhammad Ali was preoccupied with the task of consolidating his position as ruler of Egypt. Soon after his coup d'état he was reluctantly appointed Vali of Egypt by Sultan Selim III when only in control of Cairo and its environs. The remainder of the country was in the hands of competing Mamluk factions, or of Bedouin tribes. Nevertheless, by the use of various expedients, including military oppression, intrigue and bribery, the Pasha gradually gained complete control of Egypt.

Paramount among the Pasha's manoeuvres during the early part of his reign was the destruction of the political power of the Mamluks. Though there were probably less than ten thousand Mamluks in Egypt at this time, they continued to constitute the major internal threat to his position of leadership.[10] In 1811,

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[10]At the time of the French Occupation it was estimated that contd:

most of the Mamluk leaders were assassinated at the Cairo Citadel, having been invited there as guests of the Pasha. Immediately afterwards, the Pasha's troops massacred a large proportion of the remaining adult male Mamluks throughout the country. The majority of the women and children were spared, most of them being absorbed into the households of Muhammad Ali and other members of the political hierarchy as servants, and members of harems. The Mamluks' landholdings, which constituted approximately three quarters of Egypt's agricultural area, were confiscated by Muhammad Ali.

Another of the Pasha's key manoeuvres during the early years of his reign was the neutralization of the ulama's political power. 'Umar Makram, the Pasha's erstwhile political ally, became increasingly dissatisfied with government policies, especially those concerning taxation. In 1809, when a tax was to be levied on hitherto untaxed land, a meeting of the ulama was called to decide what action could be taken to curb the Pasha's power. Makram persuaded those present to swear opposition until various new taxes had been repealed. The Pasha, however, rapidly engineered division among the ulama and gained the support of some of the principal shaykhs. Within a short time, Makram had been exiled and the ulama's opposition against the Pasha quieted.[11] In 1814, Muhammad Ali confiscated

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10 contd:
there were only 9,000 Mamluks in Egypt. Felix M. Mengin, Histoire de l'Egypte, 1798-1823 (Paris, 1823), vol. I, p. 365.

[11] Afaf Loutfi el Sayed, "The Role of the Ulama in Egypt during the early Nineteenth Century," in P.M. Holt (ed.), Political and Social Change in Modern Egypt (London, 1968), pp. 276-277.

the waqf land, the ulama's major source of revenue, thus making them almost totally reliant upon himself for economic support.[12] Some time after Makram's departure, the Pasha also began clandestinely to support various factious ulama, and to interfere in elections for the rectorship of al-Azhar. Clot-Bey, a French physician in Muhammad Ali's employ during a later period, aptly summarized the consequences of the Pasha's actions against the ulama thus:

> Formerly the ulama had great influence over the minds of the people, they directed opinion and often provoked or stopped political movements. This influence has been destroyed by the Viceroy, who has taken great territorial riches from them, which they owed to the superstition and ignorance of their fellow countrymen. They have little influence over the people now and exercise no influence over the government, which is concentrated in the hands of the Turks.[13]

Had not the political powers of the ulama and the Mamluks been virtually eliminated, they would undoubtedly have presented strong opposition to various reforms that the Pasha undertook later in his reign.

In addition to the Mamluk and the waqf property that he had seized, the Pasha also confiscated all remaining private landholdings. He accomplished this in 1814 by summoning landowners to produce their deeds of ownership. Once in possession of all such documents he declared them nul and void. This strategem, and the completion of a cadastral survey, undertaken

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[12] Waqf land was land that had been donated to a religious institution. It was traditionally immune from government authority.

[13] Translated from French: A. Clot-Bey, Aperçu général sur l'Egypte (Brussels, 1840), vol. I, p. 263.

during the previous year, enabled the distribution of the bulk of Egypt's agricultural land to tenant farmers. Each allotment averaged from three to five acres with the tenancies recorded in government registers.[14] This policy provided the Treasury with a large increase in land tax revenue.

To further boost Treasury revenue, the Pasha requisitioned the entire cereal crop of Upper Egypt during 1812. He then sold it to European merchants for many times the minimal price he had paid the cultivators. Cereals were in high demand in Europe, where the Napoleonic War was in progress at this time. He later decreed that all future grain crops in Upper Egypt could only be sold to government agents.[15] Similarly in 1816 he established monopolies in Lower Egypt over hemp, sesame, indigo, cotton, carthame, barley, beans and wheat. By the early 1820's all farm produce had been monopolized.[16]

With the diminution of the political powers of the ulama and the Mamluks, Muhammad Ali significantly reduced the likelihood of large scale reaction against subsequent reforms. By monopolizing farm produce and appropriating virtually all arable land, he greatly increased government income. This revenue provided a large proportion of the capital for his socio-economic reforms.

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[14] A.E. Crouchley, The Economic Development of Modern Egypt (London, 1938), pp. 48-49.

[15] Owen, op. cit., p. 21.

[16] Crouchley, op. cit., p. 61.

Chapter II

The Higher Administrative and Military Echelons

One of the most serious problems facing a country undergoing induced socio-economic changes is the lack of key personnel able to administer the changes. This problem was a formidable barrier to the fruition of Muhammad Ali's efforts at reform. When he first acceded to power, even though Egypt had been through a prolonged period of violent political disruption, an administrative hierarchy and numerous minor officials conversant with traditional governmental regulations remained. The Pasha did not, therefore, have to concern himself with re-establishing a system of government, but essentially used the extant form. Some years after his accession, however, a more complex governmental structure began to evolve to deal with the changes he sought to induce.

By the early 1820's the Pasha's political system was highly centralized, far more so than that which had existed under the Mamluks. The business of the central government was conducted by deliberative councils (majlises) and by bureaucratic departments (diwans). Policies discussed in the councils were determined by majority rule (as stipulated in an official regulation of February-March, 1818). Muhammad Ali had to approve any decision, however, before it could be legislated, thus retaining control of Egypt's governance.[1] On the subject of his

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[1] J. Deny, Sommaire des Archives turques du Caire (Cairo, 1930), p. 33.

political power, Muhammad Ali said:

> In your country (England) you must have a great many hands to move the machine of state; I move it with my own. I do not always see what is best to be done; but...I compel prompt obedience to my wishes, and what is seemingly best is done.[2]

Europeans assisted in organizing the formation of majlises and diwans, the memberships of which consisted primarily of Ottomans (some Westerners also sat on them). The two principal majlises, founded in 1824-1825 period, were those of civil and military affairs, al-Majlis al-Ali al-Malaki and Majlis al-Jihadiyah respectively. Diwans were established as their need arose, but the ones which carried the burden of administrative functions were those of the (1) interior, (2) treasury, (3) war, (4) marine, (5) public instruction and public works, (6) foreign affairs and commerce and (7) industry. To facilitate the work of the central government, Egypt was divided into seven provinces during early 1826 and provincial governments were formed.

During the latter part of the 1820's a privy council was established. Its tasks included assisting the Pasha in co-ordinating the administration, advising him on various projects, promulgating his orders, verifying the execution of all official business and resolving administrative and financial difficulties referred to it. It also studied reports from various governmental departments and resolutions passed at the meetings of the directors of diwans, in order to communicate the more

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[2]Quoted in A.A. Paton, A History of the Egyptian Revolution, Memoirs, Oral Tradition, and Local Research (London, 1863), vol. I, p. 85.

important elements of these documents to the Pasha.

A complex government structure had evolved, yet it was manned for the most part by personnel who had undergone neither relevant training, nor more than minimal formal education. In addition to the many problems resulting from these factors, deliberate obstruction to the Pasha's reforms was common at all levels of government.[3] The following account by Hamont, who was in charge of the School of Agriculture during the 1830's, discloses some facets of this obstructiveness:

> The Minister of Public Instruction refused me his assistance, he created difficulties, caused delays and took pleasure in opposing me.
>
> I carried out some tests on potatoes. They did not sprout, perished in the furrows and the diwan withdrew their value from my salary.
>
> Despite this lack of assistance, in defiance of the diwan, despite all opponents I carried out some reforms. I had the Diwan of Public Instruction, the Armenians and the Pasha's Privy Council against me.

In the same context, Hamont went on to say that administrators

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[3]A son-in-law of Muhammad Ali, Mohammed Bey, Intendant General of the Administration, the third highest position in Egypt "distinguishes himself from other Turks in Egypt by some talents, and some real knowledge, but above all for a large energy - but he is regarded, in spite of his devotion for his father-in-law, as an enemy of the new institutions, and as the chief of the opposition." Translated from French: Georges Douin, L'Egypte de 1828 à 1830, Correspondance des Consuls de France en Egypte(Rome, 1935), p. 274: Monsieur Mimaut au Prince de Poignac, Alexandrie, 26 juin 1830. The following comments on the administration were made by Monsieur de Cohorn: "Mahmoud Bey, Minister of War is one of the Turks most opposed to the New Army - this is supposed to be a clever move by Muhammad Ali, for Mahmoud Bey has to support that which he has strongly opposed. Osman Bey, Major General of the army - who was sent to Europe to learn new military ideas - is one of the most enlightened Turks, however, the beys who surround Muhammad Ali have cast obstacles in his way - for instance in his attempts to establish an arsenal. Colonel Selim Bey, governor of l'Ecole d'Etat Major only owes his position to the generosity of the Pasha. He is a ridiculously conceited man, and profoundly ignorant." Translated from French: Ibid., p. 189: Le Rapport de Monsieur de

contd:

arranged for the students at the School of Agriculture to demonstrate some of their newly learned techniques, but in order to assure bad results, provided them with inferior land and weak draught animals. Hence, they were able to report confidently to the Pasha that the School of Agriculture was worthless.[4] Changes in the status quo were regarded by many officials as threats to their positions in the government, yet they were supposed to oversee such changes (for more on obstruction by government officials see p.66).

Muhammad Ali frequently bemoaned the fact that there were virtually no capable individuals in his administration to assist him in implementing his policies. He said to British government official Bowring, for instance:

> You (English) have numbers of intelligent persons who comprehend their rulers, and carry on their work. I can find very few to understand me and do my bidding.[5]

Though this was largely true, the Pasha, who appointed all members of the administrative hierarchy, exacerbated the problem himself. Invariably, the sycophants among the government officials persisted in his favour. Conversely, those who dared to contradict him, or overtly disapprove of any of his projects, were considered enemies and sent away to some distant place, or

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3 contd:
Cohorn, 9 décembre 1829.

[4]P.N. Hamont, L'Egypte sous Mehemet Ali (Paris, 1843), vol. II, pp. 294-305.

[5]John Bowring, Report on Egypt and Candia, House of Commons Sessional Papers, 1840 (London, 1840), vol. XXI, p. 146.

exiled.[6] Not surprisingly, virtually no one would tell the Pasha the truth concerning conditions in the country. Reports on all aspects of Egyptian society were distorted in order not to engender the Pasha's wrath. In the words of Yusuf Hekekyan (see p. 85 footnote 26 for information on Hekekyan): "He (Muhammad Ali) received no reports...that he could trust."[7] The Pasha was further insulated from the true state of affairs in Egypt by the fact that the court dragomans were as much in favour of maintaining the status quo as members of the administration. Thus they deliberately distorted a large part of the information imparted to the Pasha by Europeans.[8]

The complex administrative structure that evolved during the Muhammad Ali Era theoretically represented a progressive step in the establishment of efficient government in Egypt. It principally fell short of its potential because there were not sufficient adequately educated and trained personnel to operate it. For largely the same reason, the military officer corps - the army being the Pasha's primary preoccupation after military reforms got under way - failed to achieve its expected potential.

Muhammad Ali had intended to instigate military reforms in 1815, but as is described later in this chapter, these failed to

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[6]Al-Jabarti noted in 1816 that the Pasha tended to surround himself with persons who never disagreed with him. Abd-el-Rahman al-Jabarti, Merveilles biographiques et historiques ou Chroniques (Cairo, 1896), vol. IX, pp. 225-226.

[7]Quoted in Senior, op. cit., vol. I, p. 250.

[8]Bowring, op. cit., p. 118.

materialize at that time, due to opposition from reactionary Albanian and Circassian mercenaries. Nevertheless, the Pasha remained determined to institute the reforms which involved the development of a western style army. He had fought, on separate occasions, French and British army contingents. Undoubtedly these experiences had greatly influenced him in concluding that, in order to become a significant military power, Egypt would have to adopt western techniques and equipment.[9] The Pasha wished to develop the strongest military force possible, mainly to defend his domain, but also to attempt to expand it and perhaps to free it from Ottoman suzerainty.[10] There is evidence that he was seriously contemplating military reforms during the early period of his administration because of the educational missions he sent to Europe early in 1809. Most students were required to study military subjects.[11] For

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[9]He fought against the French at Abu Kir in 1799, and in the Turko-British force that defeated the French in 1801. He later fought the British at al-Hammad in 1807. M. Rifaat Bey, op. cit., pp. 15, 17 and 27.

[10]Muhammad Ali had told Misset, the British Consul-General in Egypt, as early as 1812, that he meant to conquer Palestine as soon as he could. H. Dodwell, The Founder of Modern Egypt (Cambridge, 1967), p. 107. Cahil Efendi, a Syrian, who was the American Vice-Consul to Egypt during Said Pasha's reign, made the following perceptive comment on the security of the Pasha's position of leadership" "For many years his tenure of Egypt was most insecure. His authority, like that of his brother Pashas', was delegated and revocable. He was forced to be a warrior and a conqueror, in order to possess an army which should hold his master the Sultan in awe. If he had not made himself formidable, he would have been deposed and strangled." Senior, op. cit., vol. II, p. 226.

[11]The records of early educational missions to Europe were destroyed by a fire at the Cairo Citadel. Thus it is not possible to trace what subjects were studied by most members of the early missions. Nevertheless, it is known that some of these students studied military science, shipbuilding and engineering. Heyworth-Dunne, op. cit., p. 105.

some years, however, he considered his position too vulnerable to withstand the violent repercussions that might be provoked by such reforms. Sultan Selim III's assassination during 1808 no doubt helped to impress upon Muhammad Ali the fact that military reform was a potentially dangerous undertaking. There appears to be a direct link between Muhammad Ali's military reforms and those of Selim III. The Pasha was assisted in drawing up the military reform plans that he attempted to institute in 1815, by a Turk named Ibrahim Agha, who was probably involved with Selim's new army.[12] Prior to 1815, Muhammad Ali had clandestinely sent Ibrahim Agha to Farchout, in Upper Egypt, to train some slaves in western military techniques, but he was not satisfied with their rate of progress and the scheme was terminated.[13]

On August 2, 1815, Muhammad Ali announced to the troops stationed at Bulaq, near Cairo, that all personnel in the Egyptian Army would undergo a course of training based upon European methods.[14] At this time most of the Egyptian Army was in the Hejaz fighting against the Wahhabis (see footnote 21). Hoping to deflect opposition from the troops to this news, he warned that anyone who openly opposed the plan would be beaten and exiled. To no avail, the announcement of the reforms

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[12] Hamont, op. cit., vol. II, pp. 4-5.

[13] Ibid., vol. II, p. 5.

[14] There were approximately 20,000 men in the Egyptian army in 1813, and probably a similar number in 1815. They were mostly Albanians, but there were some Circassians. The majority of the army was fighting against the Wahhabies in the Hejaz at the time. Periodically troops were recruited in Albania. Owen, op. cit., p. 20.

induced profound unrest among all military personnel in the vicinity. The soldiers cherished their unique position in the Egyptian social structure. Because of their collective strength, no one dared to enforce the law against any of them.[15] The reforms threatened their position, while they profoundly resented the implication that they had anything to learn about fighting from Europeans. These were not their overt grievances, however, for in the subsequent rioting they claimed to be defending Islam. Their watchword was that all reform was contrary to the principles of Islam.[16]

Two days after the Pasha's announcement some officers attempted to assassinate him, but the plot was foiled. Infuriated by the Pasha's escape the soldiers turned to pillaging the Cairo bazzars and to terrorizing the population.[17] Muhammad Ali finally managed to placate the insurgents, who had remained in open revolt for two or three days, by offering them substantial bribes, and swearing that he would not carry

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[15]Military personnel robbed civilians with impunity. They were a constant strain on the Treasury, perpetually demanding higher wages, and were of minimal value as soldiers. According to al-Jabarti, such atrocities were committed by them that the population wished that Egypt was occupied by a European power, "any European power, just to rid the country of the boarders who have no faith, no law, no rules of conduct." Al-Jabarti, op. cit., vol. IX, pp. 123-124.

[16]One of the sunni traditions states that "the sovereign should guard from innovation, for the prophet has said, 'all innovation is an error and all error leads to the fire.'" Mengin, op. cit., vol. II, p. 50.

[17]John Lewis Burkhardt, who took refuge in the Frank quarter, reported that the soldiers were unsuccessful in breaking through the fortifications, though they made several attempts to do so. D.A. Cameron, Egypt in the Nineteenth Century (London, 1898), p. 107.

out any military reforms.[18]

To lessen the danger of another attempt on his life by military personnel, the Pasha gradually sent the vast majority of the soldiers stationed in Egypt to guard dispersed coastal positions on the pretext that these areas were the most vulnerable to invasion.[19] To gain the support of the citizens of Cairo against the army, should another revolt occur, he reimbursed those whose property had been damaged and whose merchandise had been stolen or destroyed. The total reimbursement amounted to £E. 40,000.[20]

The threat of military insurgency diminished further as the Egyptian army was decimated during the latter stages of the war against the Wahhabis in the Hejaz. No Albanian or Circassian replacements were recruited, the Pasha being content to rid himself of his factious mercenaries. The war lasted in its entirety from 1811-1818.[21] The Wahhabis were eventually defeated and most of the Hejaz brought under Egypt's control. A further significant number of Egyptian army personnel perished in the Sudan between 1820 and 1822, when the Pasha sent three military expeditions there. The expeditionary forces

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[18]Georges Douin, Une Mission militaire française auprès de Mohamed Aly (Cairo, 1923), p. x.

[19]Al-Jabarti, op. cit., vol. IX, pp. 174-175.

[20]Cameron, op. cit., p. 101.

[21]The Pasha had been ordered to free the Hejaz from Wahhabi domination in 1811 by the Porte. This order was compatible with the Pasha's ambition to bring the Hejaz under his control. According to Hamont, the war cost Egypt 100,000 men, 50,000 animals including horses, dromedaries and camels, large quantities of wheat and millions of dollars. Hamont, op. cit., vol. II, pp. 433-434.

conquered much of Eastern Sudan, including a large portion of the western coastline of the Red Sea, liquidated a group of Mamluks who had established themselves in Dongola and captured many black slaves who were later conscripted into the Egyptian army.[22]

Once the army had diminished to a manageable size, the Pasha again attempted to implement military reforms. It appears that this took place soon after the departure of the first expedition to the Sudan, in June, 1820.[23] Joseph Sève, who had been an aide de camp to Marshall Ney in Napoleon's Grande Armée, was appointed chief military instructor.[24]

The initial group of trainees consisted of approximately 400 Mamluks. They were to be trained as officers and were to form the nucleus of the Pasha's new army. Most of them had previously been working as domestic servants and had received no formal education beyond the kuttab level. Approximately 80

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[22]Cameron, op. cit., p. 113.

[23]As units of the Egyptian expeditions to the Sudan returned to Cairo they were rapidly disbanded. Those of their members who were unwilling to enter the new army were awarded small pensions and discharged. Ibid., p. 113.

[24]Sève was honourably discharged as a staff major from the French Army in 1815. He arrived in Egypt in 1819 and presented Muhammad Ali with letters of recommendation from various French dignitaries. His first appointment was as leader of an expedition which was sent to search for coal deposits in Upper Egypt. After his return to Cairo, he met Ibrahim Pasha, Commander-in-Chief of the Egyptian Army, who was extremely impressed with his military record. Ibrahim advised his father, Muhammad Ali, to appoint Sève as chief military instructor. Heyworth-Dunne, op. cit., p. 111. Sève was not the first European to hold a key position in the Pasha's army. A Monsieur Vaissière had been aide de camp to Ibrahim Pasha during the war against the Wahhabis in the Hejaz. Douin, op. cit., p. x.

of them, however, had been undergoing special educational training previous to being drafted into military service. A school had been opened in the Cairo Citadel in late 1816. Initially, a few Mamluks, attached to the Pasha's household, had been taught arithmetic and caligraphy. During 1818 the student body and the curriculum were significantly expanded. The revised curriculum comprised reading, writing, the Quran, Turkish, Persian, Italian, physical exercises, riding and the use of firearms.

Placing Sève, a Christian, in charge of a group of Muslim officer cadets, created a potentially explosive situation. This is indicated by the fact that it was rumoured throughout Cairo that Muhammad Ali, with the assistance of Sève, was intent upon destroying Islam.[25] In keeping with the intense disdain for Christians among urban Muslims, the officer cadets considered it an insult to take orders from Sève.[26] Constrained by the Pasha, however, they grudgingly obeyed Sève's commands.[27] The

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[25]Hamont, op. cit., vol. II, p. 9.

[26]On the other hand fellahin do not appear to have strongly objected to Christians in superior positions. There appears to have been no overt fellahin reaction against taking orders from Europeans.

[27]Because of the influx of Europeans to Egypt, the Pasha raised the traditional restrictions pertaining to non-Muslims within Egyptian Society. For instance, for the first time for centuries, Christian churches in Egypt were permitted to ring their bells. The following statement by al-Jabarti indicates the great difficulties that Muslims had in adjusting to the fact that Christians were technically their social equals: "Copts and Greeks have until now been ordered to wear black or white clothing, and not to wear turbans. They have now however, surpassed themselves wearing turbans of all colours, riding horses, and going shooting in the country." Translated from French: Al-Jabarti, op. cit., vol. IX, pp. 265-266.

situation was significantly complicated by the fact that the Roumeileh field, contiguous to the Cairo Citadel, was used as the drill square. A large crowd of civilian spectators ringed the field throughout the training sessions, hoping to see the officer cadets break into revolt against Sève. Numerous civilian spectators verbally harassed the trainees. It was reported that Albanians, discharged from the Egyptian Army, were among the ringleaders of this provocation.[28] Vingtrinier, Sève's biographer, described the harassment of the trainees thus: "By secret intrigues, by raillery in public places, by provocative words, by their hostile attitude, they intimidated the recruits who, when Sève and the other instructors were not around, found neither peace nor security."[29]

Muhammad Ali and his son Ibrahim attempted to encourage the Mamluk trainees by joining them in arms drill, under the instructions of Sève, and by offering rewards to outstanding cadets. After reluctantly participating for some days, however, and facing severe verbal abuse from civilians, the Mamluks finally threw down their rifles and adamantly refused to undergo any further training, despite the orders and pleadings of Muhammad Ali. Thus the new army's training programme was curtailed.

During the latter half of 1821, soon after the departure of the second expedition to the Sudan, the Pasha dispatched

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[28]A Vingtrinier, Soliman-Pacha (Paris, 1886), p. 98.

[29]Translated from French: Ibid., p. 98.

Sève and approximately 400 Mamluk officer cadets (presumably the same ones who had been undergoing training in Cairo) to Esneh, 450 miles due south of Cairo, far away from any major sources of civilian provocation.[30] Training was to be carried out there, but it proved to be an unsatisfactory location due to an uncommonly high incidence of endemic disease. Therefore, the group moved further south, to Aswan.[31] Barracks, a hospital, an arsenal and a gunpowder manufactory were established there and training commenced. During 1822, Lieutenant-Colonel Mary, a Corsican, and Frenchmen Cadeau and Dussap were hired to assist Sève in his training programme.[32] The European instructors, including Sève, were not admitted into the Egyptian army, but remained civilians. Had Christian instructors been admitted into the army, which was traditionally a Muslim reserve, the general hatred towards them would no doubt have intensified.

The training course was scheduled to last for three years. Lessons initially had to be presented in an extremely elementary manner since the general comprehension level of the cadets was low. Most of them had previously worked as house servants and had experienced little need, in their limited milieus, to

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[30] C.R. Scott, Rambles in Egypt and Candia (London, 1837), p. 201.

[31] Four thousand rifles, manufactured in Saint-Etienne, were purchased from France, and sent to the new training camp at Aswan. Jules Planat, Histoire de la Régénération de l'Egypte (Paris, 1830), p. 27.

[32] During their first year in Muhammad Ali's employ, Mary, Cadeau and Dussap earned 2,000 francs each, received two suits of clothing, a house and 60 francs worth of food a month. Ibid., p. 40.

exercise their minds.

The difficulties caused by differences in character and religion, between instructors and instructed, were great. Apart from disdain for Christians, the trainees vehemently resented being subjected to Western military discipline. The key element of European army training was a far more severe code of conduct than they had previously experienced. Jules Planat, a French military instructor in Egypt, summarized the Mamluk's profound distaste for military training thus:

> relegated all at once into a corner of the desert, forced to abandon their horses and bright attire, to take charge of a heavy gun, and to tramp whole hours in the sand. Everything was torment for them, but what was worse was to find themselves under the charge of a Christian.[33]

Several attempts were made by Mamluk trainees to assassinate Sève. Consequently, Muhammad Ali, who greatly valued Sève's services, persuaded him to convert to Islam in order to placate the religious sensitivities of the trainees. He was circumcized in June, 1824.[34] After this, other Europeans were pressed to follow Sève's example but few of them did so. On this topic, Lieutenant-Colonel Mary told William

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[33]Translated from French: Ibid., p. 27.

[34]Vingtrinier opined that Sève converted to Islam purely to gain promotions whilst in the service of the Pasha. Vingtrinier, op. cit., p. 105. Being a Moslem, Sève was admitted into the Egyptian army with the rank of Colonel and was eligible for promotions. The Pasha was very pleased with Sève's work. He gave him land and raised his salary to 40,000 francs per annum. He was, after his conversion, given the title Sulaiman Agha. Planat reported that he was, in 1826, living "completely in the Oriental manner, a luxurious life, with his three wives." Ibid., p. 95.

Senior, a British traveller: "I refused on three grounds: first, that I believed in Christianity; secondly, that I had been an officer of Napoleon; and thirdly, because I was a Corsican - that is to say, a native of a country so Catholic that a Jew is not allowed to live there."[35] It is notable that Sève was generally despised by other Europeans in Egypt because of his conversion.

Though there was virtually no mention, in works studied for this thesis, of difficulties in verbal communication between the European instructors and the trainees, they were undoubtedly great. It appears that none of the trainees spoke French. On the other hand, it seems that Sève did not become relatively fluent in Turkish until the mid-1820's.[36] Fortunately, Colonel Mary was able to speak Turkish before his arrival in Egypt, in 1822. However, none of the other Europeans at Aswan could speak Turkish or any other Middle Eastern language.[37] Presumably, instructions were given via interpreters, of whom there were very few, by means of consecutive translation.

Muhammad Ali had originally intended to maintain a predominantly Mamluk officer corps. He was contemplating military conflict against Turkey, and suspected that, in such an eventuality, Ottoman officers would not remain loyal to him.[38]

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[35]Senior, op. cit., p. 27.

[36]Sève learnt to speak Turkish fluently at some time in his career, but this was not a common practice for Europeans in Egypt. Vingtrinier, op. cit., p. 91.

[37]Bowring, op. cit., p. 97.

[38]Georges Douin, La Mission du Baron de Boislecomte, L'

contd:

Nevertheless, because of the lack of eligible Mamluks, many Ottoman recruits were soon undergoing officer training.[39] The great majority of them, as with the Mamluk officer cadets, lacked any relevant preparatory education. Also, like the Mamluks, they detested taking orders from Christians and found western military discipline repugnant.[40] Profound concern for the lack of personal discipline among officer cadets is reflected in the following excerpt from a verbal reprimand pronounced by Osman Bey, Inspector-in-Chief of the army:

> It is up to you to become men, to find yourselves at the peaks of your jobs, and not to abandon yourselves to the idleness, stubborness and nullity of your race. You will be degraded according to the degree of your apathy. If you persist, we will treat you like brutes, and you will perish under the baton.[41]

Considering the general shortcomings of officer cadets in the Egyptian army, it is not surprising that the officers on

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38 contd:
Egypte et la Syrie en 1833 (Cairo, 1927), pp. 100-101. These suspicions were considerably justified by the fact that, during the First Syrian War, Ibrahim found that he could trust the loyalty of few of his Ottoman officers and many of them defected. J. Marcel, Egypte depuis la Conquête des Arabes (Paris, 1877), p. 33.

39 Muhammad Ali told Boislecomte the following, concerning his Ottoman officers: "I have had to draw from the same sources as the Sultan; luckily he has been paying small salaries; I have given better ones and the officers have come to me; I found it necessary afterwards to assure myself of their fidelity, I found the means by lavishing them with money and presents, but preventing them from becoming landowners and from gaining an influence over the population." Translated from French: Douin, La Mission du Baron de Boislecomte, p. 99: Le Baron de Boislecomte au ministre, Alexandrie, 1er juillet 1833.

40 Planat, op. cit., p. 69.

41 Translated from French: Ibid., pp. 316-317.

active service were, by Western standards, markedly incompetent. Monsieur de Cohorn, a military observer for the French Government, said of them: "They do not understand how to effectively employ troops, they know little of European military methods.... and they are completely ignorant of modern methods of fortification."[42]

Few of the active officers were literate. This proved to be a severe handicap to the army even at its most basic level of operation. For instance, there were not sufficient literate officers available to carry out such fundamental procedures as recording the names of members of the various battalions.[43] "The administration of personnel rested on the memories of adjutant officers, who counted on their fingers."[44]

The officers generally despised the men in the ranks, regarding them as "beings of an inferior species."[45] In keeping with this attitude, they frequently treated them with utmost cruelty. In fact few officers paid any attention to the most fundamental needs of their subordinates, though, according to

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[42]Translated from French: Douin, L'Egypte de 1828 à 1830, p. 191: Rapport de Monsieur de Cohorn.

[43]According to General Boyer, a French military instructor, only high ranking officers at his camp, el Khanka, could read and write and none of them had learnt any arithmetic. Douin, Une Mission militaire française auprès de Mohamed Aly, p. 67: Rapport du General Boyer, Camp d'El Khanka, 6 octobre 1825. Similarly, Hamont wrote: "In an infantry corps or cavalry corps one scarcely finds two officers who know how to read and write." Translated from French: Hamont, op. cit., vol. II, p. 44.

[44]Translated from French: Gabriel Guémard, Les Reformes en Egypte (Cairo, 1936), p. 132.

[45]Lieutenant-Colonel Mary used this phrase in describing relations between officers and men in the ranks. Senior, op. cit., p. 24.

Lieutenant-Colonel Mary, Muhammad Ali lectured many of them for hours on the "affection which the colonel ought to bear towards his regiments, the chef de bataillon to his bataillon and the captain to his company."[46] A Captain Damergue, who accompanied an Egyptian expedition to Syria, claimed that even though he painstakingly explained to officers on the expedition that unless a great deal of planning and preparation was executed by themselves the army would perish in the desert, they insisted on taking an enormous amount of superfluous baggage with them.[47] Largely due to the officers' lack of interest in their troops, and their overt hostility towards them, extremely harsh punishments were virtually the only means of generating discipline in the ranks. General Boyer, the leader of a French military mission to Egypt, reported the following on this topic:

> Discipline is terrible in the army: recidivist deserters are shot, those who are caught after having deserted for the first time receive 1,000 blows of the courbash, those who are guilty of such misdemeanours as disobedience and insubordination receive 500 blows.... There are always 150 to 200 wounded men in hospital resulting from the cruel beatings they have received.[48]

Monsieur de Cohorn observed that the rank and file's hatred of the officers at el Kankah was so intense that on several occasions they had banded together and physically beaten some of them. He added that: "some people believe that it would only take a

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[46] Ibid., p. 24.

[47] Planat, op. cit., pp. 50-51

[48] Translated from French: Douin, Une Mission militaire française auprès de Mohamed Aly, pp. 67-68: Rapport du General Boyer, Camp d'El Khanka, 6 octobre 1825.

spark to precipitate a military revolt."[49]

The generally low quality of personnel in the upper echelons of the Egyptian officer corps was to some extent perpetuated by the restrictive promotion system. Promotions were not primarily based on merit, but on status. For example, Mamluks who had worked as servants in the palaces of Pashas or their sons, automatically received superior ranks when conscripted into military service, even though they had no qualificat. s for such positions. After the First Syrian War, Muhammad Ali instituted a minor modification to this system. It was made mandatory for all potential superior officers to spend some years in the rank immediately inferior to their prospective one.[50]

During the mid-eighteen twenties Staff Colleges were opened. These were intended to help raise the low standard of competence of the Egyptian officer corps by forming an elite of experienced officers. The first Staff College, Madrasat Arkan, was opened in October, 1826. The initial group to take the course consisted of two colonels, two commandants and fourteen other officers, none of them being below the rank of captain. Their lack of fundamental education however, made the instructors' tasks extremely difficult. Planat, a teacher

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[49]Translated from French: Douin, L'Egypte de 1828 à 1830, p. 196: Aperçu de Monsieur de Cohorn.

[50]Ibrahim promoted a few Egyptian sergeants, during the Greek War, 1823-1827, and the First Syrian War, 1831-1833, into the lower echelons of the officer corps as recompense for their bravery. It was said however, that they: "displayed revolting brutality towards their inferiors....beating them without rhyme or reason." Guémard, op. cit., p. 132.

at the college, found that: "they could not understand the simplest definitions."[51] Moreover, though they were senior officers, they were inordinately lazy and extremely difficult to discipline.

The courses progressed very slowly. For example, because of religious custom, students refused to draw diagrams of the human body. To overcome this, one of Planat's colleagues embellished his classroom with prints of the human body and left some, seemingly inadvertently, on his desk. The students soon began to demand explanations of various aspects of the figures represented, and eventually their prejudice was overcome. Planat claimed that he and his associates were eventually able to encourage sincere interest from the majority of the students, even though initially all of them had refused to pay attention to their courses. After this had been achieved, the instructors persisted in their efforts to teach the more interested students and ignored those who wished to sabotage the progress of the college. Within two years of its opening, there were 71 officers undergoing training at Madrasat Arkan; the programme was of four years' duration.[53]

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[51] Translated from French: Planat, op. cit., pp. 92-93. This point is well illustrated by the fact that it took a considerable number of demonstrations by Planat to prove to the students that one can only see one eye of a head in profile. And Planat said of the trainees' questions to him that "they were basically questions of big children." Ibid., p. 93.

[52] Ibid., p. 93.

[53] The courses and instructors were as follows: Planat: director of instruction, geodesy, military tactics, reconnaissance, gunnery, temporary and permanent fortification, Shaykh Hasan: arithmetic, Arif Ef: geometry, trigonometry, Lieutenant-

contd:

None of the European instructors at Madrasat Arkan could speak Turkish and only one of the first intake of students could speak French (although of course the students were in the process of learning French). As in similar teaching situations, the instructor wrote his lecture in a European language. This was translated into Turkish by an interpreter on the school's staff. After the translation had been checked by the instructor, though apparently in many cases only cursorily, if at all, the interpreter read it to the class.[54] A major difficulty with this system was the fact that the interpreters were unfamiliar with a great deal of the military terminology used by the instructors. In many cases equivalent words did not exist in the Turkish language, so that the meanings of key words in the lecture were often misinterpreted, thus greatly misleading students. Soon after the Madrasat Arkan had opened, an interpreter was employed to compile a Turkish dictionary of French military terminology.

It was not possible to assess the teaching abilities of Planat and his colleagues from the material available for this thesis. Nevertheless, it is not unreasonable to suppose that some of the Europeans at Madrasat Arkan were less than capable instructors, for many charlatans went to Egypt during the

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53 contd:
Colonel Wagt: infantry drill - theory and practice, Pachot: French, Koenig: French, Persian, Arabic, Abbé Celesia: physics. Heyworth-Dunne, op. cit., p. 120.

54There was for much of Muhammad Ali's reign a severe shortage of interpreters. There were no Egyptians among the initial group of interpreters used in the army, most of them were Syrians. Bowring, op. cit., p. 87.

Muhammad Ali Era, passing themselves off as high ranking military officers, and embellishing the deceit by "pluming themselves, and wearing golden epaulets."[55] Moreover, many of those European instructors, who were not blatant impostors, were inadequately trained to justify their positions. For instance, referring to instructors in both military and non-military fields, John Bowring, a British government official, opined that "among the Europeans themselves, too few have been trained by adequate education at home to become instructors and directors of instruction abroad."[56]

But regardless of the fact that many Europeans in Egypt were impostors, it is evident that the intrinsic difficulties involved in hastily attempting to form a Western style officer corps from trainees of cultures totally alien and profoundly hostile to the West, were formidable. The lack of adequately trained officers remained a major barrier to the success of Muhammad Ali's military reforms for the remainder of his reign.

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[55]Translated from French: Guémard, op. cit., p. 120.

[56]Bowring, op. cit., p. 136.

Chapter III

Military Conscription in a Traditional Society

In addition to the difficulties encountered in endeavouring to form a "modern" officer corps, there were formidable problems involved in attempting to transform conscripts for the rank and file into military personnel. The conscripts - Sudanese captives initially but later mostly fellahin - had generally led extremely narrow traditional lives, totally devoid of military experience. To complicate matters further, the fellahin regarded military service as an anathema and many of them took severe measures to avoid it.

After Egypt had conquered a large part of the Northern Sudan in 1822, thousands of Sudanese captives were sent to newly established military training camps in Upper Egypt, including Aswan. They were marched in chains - a large proportion of them dying en route.[1] In Egypt they underwent a programme of rudimentary military training under the direction of Mamluk officer cadets. After each regiment had completed the programme, one battalion of 800 men remained at the training camp to serve as a nucleus for a new regiment.[2]

Virtually no information was available to this writer

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[1] R.R. Madden, Egypt and Mohammed Ali (London, 1841), p. 67.

[2] There were 800 men in a battalion and 5 battalions in a regiment.

concerning problems encountered with these men, apart from Drovetti's comment that they were stubborn and difficult to train. Nevertheless, there must have been overwhelming difficulties. For instance, negroes, who had for the first time in their lives encountered fire arms during their battles against the Egyptian expeditionary forces, must have been profoundly confused in the totally alien milieu of a military training camp. Moreover, because the instructors in all probability were not conversant with any of the trainees' native languages, and vice versa, verbal communication between the two was impossible without interpreters. Presumably, at least a few interpreters were present, though how many different lanaguage groups were represented among the trainees is not known.[3] Not surprisingly, the majority of the trainees are reported to have suffered from severe melancholia caused by mental confusion and homesickness. In fact thousands of them died from a combination of such afflictions. According to Boislecomte the deaths of three quarters of them made it necessary to despatch further expeditions to the Sudan to find replacements. R.R. Madden, a British traveller, was in Crete in 1824 when four of the Pasha's six negro regiments were stationed there. He said of them:

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[3]It might have been possible to train the Sudanese without interpreters. Since infantry training at this time was not complex, it would be possible to communicate marching and field craft techniques by vocalizing an order and giving demonstrations of the expected response to the order. By this quasi-Pavlovian method the instructors could slowly train troops without being fluent in their language(s) (due to lack of information on training techniques, the author is here merely hypothesizing a method of overcoming language difficulties in training).

> here they were encamped for the winter months, and about 2/3 of them perished....They could not be said to die of any disease - they drooped and pined away. The rest of the negro troops who were sent into Arabia and Sennar perished by thousands, and in a little time the skeleton of a regiment was all that remained of 30,000 stolen men.[4]

The negro soldiers had been trained to some extent to emulate their western counterparts in military procedures. There had been no attempt, however, to assist them in psychologically adjusting to their new alien surroundings. It is apparent that the Pasha and his assistants were unaware of the profound psychological barriers that confront such changes as they were attempting to engender.

The extremely high mortality rate of the negroes caused the Pasha to turn to the conscription of fellahin for military service. Hundreds of years had elapsed since a large number of fellahin had served in an Egyptian army, though a few of them had been recruited for Muhammad Ali's expeditions to Arabia, and a few more had trained with the Sudanese captives. In fact the Pasha had been sceptical about conscripting them at all as he feared that, if many fellahin received military training, they might at some time launch a united effort in an attempt to overthrow him. Furthermore, he realized their value to the economy as farmers, agriculture being the chief source of national revenue. He restricted the fellahin's potential military power by issuing few commissions to them, while none could rise beyond the rank of captain.[5] To limit the likelihood

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[4]Madden, op. cit., p. 68.

[5]Douin, La Mission du Baron de Boislecomte, p. 100.

of civilian revolt, he promoted the few fellahin considered to be potential leaders to such positions as shaikh al-balad. This tempered their discontent while giving them an office that would make them unpopular among their fellow villagers.[6]

Fellahin are usually described as being passive and servile to whomever rules Egypt. This evaluation is only true to a limited extent in the period in question. There were relatively long periods when the fellahin remained passive and servile, but there were also periods when they broke into open revolt. For instance, there were large scale fellahin revolts in Upper Egypt during 1822, 1823 and 1824. It appears that Albanians, presumably veterans of the Pasha's pre-reform army, played major roles in inciting these revolts.[7]

The largest revolt of the Muhammad Ali Era was that of 1824. It broke out during March of that year, in the region between Esneh and Thebes, where there had been much popular unrest against conscription. Its leader, Ahmed ben Idris, a Magrebi convert to Wahhabism, professed to be an envoy of God and the Prophet. He claimed that his task was to overthrow Muhammad Ali, whom he referred to as "the Pasha of the Christians," and to abolish his reforms, which were contrary to Islam.

Several battalions of troops, including many fellahin, marched against the rebels. Largely because of the fratricidal nature of their task, however, there was considerable discontent among the fellahin troops, and many of them joined the insurgents,

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[6]Madden, op. cit., p. 34.

[7]Vingtrinier, op. cit., pp. 121-123.

said to number approximately 30,000 men. After six weeks of intermittent fighting the rebellion was crushed by Turkish and Bedouin troops. Seven thousand of the insurgents were killed during the fighting, and many more, including women and children, were massacred after the ceasefire.[8]

The system used for conscripting fellahin for military service was both inhuman and grossly inefficient. For example, in the levy of men for the 10th, 11th and 12th regiments, 48,000 males were taken from the fields and herded, roped or yoked together to the military camp at Khanga. This entailed a 20 day journey for many of them. By the time they had reached the induction centre a large number of them had become too debilitated by the journey to pass the simple medical examination. The captives were closely followed all the way to Khanga by 24,000 relatives, family ties being very strong among the fellahin. Twelve thousand of the males were conscripted, essentially for life, since there was no recognized termination date of service for any conscripts. The remainder, many of them boys too young for military service, and men too old, were released to make the long return journey. Meanwhile, the fields of many families remained untended for up to forty days and many of their crops were destroyed. Moreover, the fact that a fellah

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[8]Bedouin were used to a considerable extent to keep the fellahin under control. They scoured the countryside for deserters from the army and the villages. Muhammad Ali did not attempt to conscript them into military service for fear of provoking them into revolt. Nevertheless, many of them voluntarily served in the Egyptian army. The Pasha periodically gave generous gifts to Bedouin leaders in order to maintain their loyalty. Guémard, op. cit., p. 123, al-Jabarti, op. cit., vol. IX, p. 196 and Helen B. Rivlin, The Agricultural Policy of Muhammad Ali (Cambridge, Mass., 1961), pp. 201-203.

had been rejected on previous occasions did not exempt him from a further levy. He was forced to go to an induction centre each time one of the Pasha's press gangs came to his district. Some of the wealthier fellahin were able to bribe their way out of conscription, but it was necessary to repeat this subterfuge at each levy.

Conscription was not entirely limited to the fellahin. British Consul-General Barker reported, for instance, that the Pasha intended to raise sixty thousand men from the towns and cities in June, 1832. He described a levy in Cairo thus:

> On the 14th instant the male population of Cairo was suddenly seized by press gangs posted in every quarter at the same appointed time....It is said this violent measure produced 15,000 of all conditions, ages, able-bodied and infirm, out of which 4,000 were retained for the tyrant.[9]

There were serious enough problems in training the fellahin - who accounted for the vast majority of Egyptian conscripts. Nevertheless, it appears that they were less difficult to train than the negro captives. Forcibly removed from their native villages and transplanted into the alien surroundings of army training camps, they were for some time greatly dejected and confused. They proved, however, to be more psychologically resilient than the Sudanese.

Once adjusted to the military milieu, the fellahin are said to have been relatively good soldiers. Various European observers claimed in fact that they were, in general, better soldiers than the officers.[10] Their adjustment to army life is

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[9]Quoted in ibid., p. 203.

[10]Scott opined the following concerning the other ranks contd:

reflected in the fact that many of them came to regard themselves as being socially superior to other members of their native villages. Galice, a French military instructor, remarked in 1841, that they were greatly flattered when favourably compared to French soldiers.[11]

The abject social conditions under which many fellahin soldiers lived while stationed in Egypt are illustrated in the following observation:

> A short distance from the camps, the fellahin recruits built shanties, one against the other, with mud or pieces of stone, and in these narrow very low dwellings, often humid and always dirty, they housed their wives, their children, the father and mother - sick and too old and incapable to look after themselves....But the wives, the children, the father, the mother possessed nothing; and the soldier of Muhammad Ali was obliged to share his already modest ration with two, three, four or six persons.[12]

When fellahin conscripts were posted outside of Egypt, their wives and families had to resort to such demeaning practices as begging and prostitution in order to gain sufficient sustenance to remain alive.

The fellahin's consternation at the thought of serving in the army was manifested in the measures that many of them took to avoid conscription. Some maimed themselves by burning out an

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10 contd:
and the officers after they had put down a Wahhabi uprising in 1824: "the Egyptian troops earned the reputation of possessing the principal qualities requisite in a soldier....whilst their Turk officers proved themselves to be totally unworthy of commanding them." Scott, op. cit., p. 266.

[11]Reported in Rivlin, op. cit., p. 212.

[12]Translated from French: Hamont, op. cit., vol. II, p. 18.

eye with lime, others cut off their trigger fingers, while others extracted all of their front teeth. Bowring tells of a fellah who "cut off his toes, one after another - a toe a day until he had got rid of the whole of them." Such drastic measures increased in number even though the Pasha made such severe threats as "he who has maimed himself shall be sent to the galleys all his life."[13] In fact during the eighteen thirties self-mutilation became common in districts where it had been unknown for years.[14]

In addition to mutilation, many fellahin fled from their native districts to avoid conscription. They went to cities, desert regions, mountainous areas, anywhere that might provide an adequate hiding place. Many even took refuge in Syria. There, Abd-Allah, Pasha of Acre, provided an additional incentive when he exempted from taxation for three years, all Egyptian refugees who settled in his area of jurisdiction. Approximately 6,000 took advantage of this offer.[15] Periodically Muhammad Ali hired bedouin, or sent contingents of troops, to search for peasant fugitives. In July, 1831 alone, 15,000 of them were found in the Alexandria region.[16] At this time it was estimated that one quarter of the cultivable land of Upper Egypt was not being farmed because of a severe shortage of

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[13]James August St. John, Egypt and Muhammed Ali (London, 1834), vol. I, p. 190. This quotation is from Order F.8 of Muhammad Ali, dated March 12, 1833.

[14]Rivlin, op. cit., p. 106.

[15]Muhammad Ali attacked Acre in 1831, ostensibly to recover these refugees. This was the first stage of the First Syrian War.

[16]Crouchley, op. cit., p. 52.

peasant labour. Some of those found were conscripted for the armed forces, or industry, the remainder were herded back to their villages. Thereafter, village shaykhs went to Cairo and Alexandria each Spring and Autumn to look for deserters from their villages.[17]

By the mid-eighteen thirties there were almost no able-bodied men of conscription age, who were not either in the armed forces, in industry, or working on construction projects. In fact the agricultural labour force consisted predominantly of women, children, old men and mutilatees.[18] Dr. Gallinar, who medically examined fellahin to assess their fitness for military service, reported in 1834 that Girga province, which had ninety six villages, could not furnish seven suitable recruits, and that in five other provinces from which the Government demanded a levy of 400 recruits he could only find one hundred and seventy men capable of bearing arms.[19] In the mid-1830's, youths were being conscripted from the age of thirteen and it was reported in 1836 that three regiments of men with fingers, front teeth or eyes missing, had been formed in Upper Egypt.[20]

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[17]Rivlin, op. cit., p. 204 and Hamont, op. cit., vol. I, p. 43, vol. II, p. 12 and Bowring, op. cit., p. 197.

[18]The Russian Consul Meden wrote in 1838 "the population is more thinly spread than before - more ragged and composed of old men, women, children and mutilated individuals." René Cattaui, Le Règne de Mohamed Ali d'après les Archives russes en Egypte (Rome, 1935), tome II, part 2, p. 245. Bowring wrote during the same period that: "In the Fayoum, which was formerly the most richly cultivated part of Egypt, the desert has made many inroads." Bowring, op. cit., p. 15.

[19]Rivlin, op. cit., pp. 205-206.

[20]Cattaui, op. cit., tome II, part 2, p. 28: Bonteneff à

contd:

In 1840 - the Second Syrian War began in 1839 - the Pasha was informed by several mudirs and mamurs that there were no more fellahin suitable for regular military service. In response to this predicament he decreed, in the Spring of that year, the formation of National Guard regiments. These consisted primarily of boys, old men and factory workers. Though National Guardsmen were only part-time soldiers, the fellahin were no more willing to serve in the National Guard than in the regular forces. It was universally believed that a series of fires in Cairo, including one which destroyed al-Azabakiyah Palace on May 22, 1840, were started by opponents to the new form of conscription.[21] It is not clear how many regiments of National Guard were actually formed, but it is known that the Pasha ordered the establishment of twenty of them (3,200 men to a regiment).[22]

After Egypt's defeat by Turkey and a coaltion of European powers in the Second Syrian War, however, the National Guard rapidly dissipated. But inestimably more important was the fact that the Pasha was compelled by the khatt-i-sharif of 1841, resulting from the War, to reduce his regular army to a maximum of 18,000 men - while the Sultan was to henceforth appoint the

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20 contd:
Duhamel, Pera, le 10 mai, 1836, and Hamont, op. cit., vol. II, p. 41. Also Bowring reported that: "at Es Siout there was a whole regiment which had been composed of mutilated conscripts, every one of them had either lost an eye, a finger or the front teeth." Bowring, op. cit., p. 52.

[21] Rivlin, op. cit., p. 208.

[22] William Holt Yates, The Modern History and Conditions of Egypt (London, 1843), vol. I, p. 417.

superior officers. The ramifications of Egypt's defeat in the Second Syrian War are discussed in more detail later in this thesis.

The extent to which the armed forces and the Pasha's other major projects absorbed Egypt's limited manpower is indicated in the following statistics. By 1831, within a decade of its inception, the new army numbered approximately 100,000 officers and men.[23] In 1840 it was estimated that there were 130,302 regular troops, 41,471 irregulars and 8 National Guard regiments (32,000 men at full strength).[24] During the same period there were also around 25,000 officers and men in the Egyptian navy.[25]

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[23]The ratio of officers to men in the ranks was approximately 1:16. This estimate is based on the fact that Planat mentioned that if the size of the new army reached 50,000 men below commissioned ranks, during the mid-nineteen twenties it would require an officer corps of 3,000 men. Planat, op. cit., p. 69.

[24]J.C. Hurewitz, "The Beginnings of military Modernization in the Middle East: A Comparative Analysis," in The Middle East Journal, XXII, No. 2 (Spring, 1968), 147, and Edouard Driault, L'Egypte et l'Europe, la Crise de 1839-1841 (Cairo, 1930), tome 2, p. 241: M. Cochelet à son Excellence Monsieur Thiers, Président du Conseil, Ministre des Affaires Etrangères, Alexandrie, le 22 avril 1840. Statistics of military personnel, as well as population, are merely estimates made by European observers and are not totally reliable. On the other hand, official Egyptian military and population figures are quite unreliable. In many cases they have been purposely inflated in order for the officials involved to gain the Pasha's favour. In one notable case of this it was concluded in 1833 that the population of Egypt was 3,480,000 people, while most Europeans estimated it at less than 2,500,000 people. According to Russian Consul-General Duhamel, the researchers involved claimed to have counted all domiciles in Egypt and assumed that there was an average of four inhabitants to each one. He was sure, however, that they had falsified their findings by including in their count abandoned homes, stables and dovecots. Rivlin, op. cit., p. 278.

[25]This figure includes more than five thousand men who worked in the naval arsenal at Alexandria. Nada Tomiche, "Notes sur la Hierarchie sociale en Egypte à l'Epoque de Muhammad Ali," in Holt, op. cit., p. 253.

Furthermore, 40,000 men were conscripted for working in factories and 67,998 were in the civil administration.[26]

Even if the population had maintained its 1821 level of approximately 2½ million people, the number of men working in one or other of the Pasha's new projects in the 1830's would have been excessive, but, though statistics for this period are unreliable, it appears that the population fell to between 1½ and 2 million.[27] The cholera epidemic of 1835, said to have killed at least a third of the total population, was the major single factor responsible for this.[28] In addition, thousands were killed in the First Syrian War and thousands more died from other diseases and famine.[29] Moreover, tens of thousands

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[26]This figure represents the highest number of personnel employed in industry. There were wide fluctuations in the number of industrial workers. The same is also true for the other two categories. Rivlin, op. cit., pp. 199 and 209.

[27]Hamont estimated that the population had fallen to 1½ million people during the mid-eighteen thirties, and other European observers including Edward Lane, August St. John, John Bowring and Duhamel reported that there had been a dramatic decline in the population during the eighteen thirties. Charles Issawi, "Egypt since 1800," in The Journal of Economic History, XXI, No. 1 (March, 1961), 6 and Tomiche, op. cit., p. 249.

[28]Mengin wrote of the plague in 1835: "The people, superstitious like all ignorance-based people, believe that the plague comes as a result of a rainy winter....A purple horizon before sunset and sunrise is in their eyes a certain sign of a public calamity - Muslims, fatalists by principle, do not believe in contagion....If a parent dies of the plague, the children use his or her clothes." Felix M. Mengin, Histoire de l'Egypte sous le Gouvernement de Mohammed-Aly, 1823-1838 (Paris, 1839), pp. 468-471. Bubonic plague was not contagious, though contemporary physicians thought that it was. The Egyptian Government made considerable efforts to warn against contagion of the plague, but they made virtually no impression on the fellahin.

[29]Concerning the manpower shortage, the French engineer Linant de Bellfonds told Senior that when he was directing the construction of a Nile Barrage during the late 1830's - which

contd:

of Egyptian soldiers were in foreign regions and thus unable to procreate in their own country.

Apologists of Muhammad Ali have written much panegyric concerning the high level of military ability of the Egyptian army, often finding it comparable to European armies. Some of these apologists suffered from lack of comprehension of what constitutes an effective army. Others were deliberately exaggerating in order to glorify the work they themselves had done in Egypt, or possibly because they were paid to do so by Muhammad Ali. Those who were ignorant of what constitutes an effective army, seem to have based their opinions largely on having witnessed Egyptian soldiers on parade. This, of course, is not a valid means of analysing military effectiveness. There is in fact no doubt that even by 1840 the Egyptian army was still in transition between traditional and modern. On the basis of evidence found in works studied for this thesis, the following report by a French officer - written in 1831 - credibly typifies the actual state of the Egyptian army in the 1830's:

> some regiments manoeuvre, if not with precision,

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29 contd:
employed 12,000 Egyptian labourers - "the plague came, the Syrian War came, half my workpeople died, the rest were made soldiers, and the barrage was stopped." Senior, op. cit., vol. I, pp. 53-54. The fact that the fellahin lived on grossly inadequate diets, accounts to a large extent for the high mortality rate during disease epidemics. Their diet consisted almost totally of durra, a maize bread. They ate little meat, and consumed few, if any dairy products. W.A. Cleland, The Population Problem in Egypt (Lancaster, Pennsylvania, 1936), p. 23. Clot Bey, the director of the military medical service, had much trouble in getting the civilian population to accept vaccinations, which had initially been used in Egypt on military conscripts. The fellahin imagined that they were a means of marking children for later military service. Guémard, op. cit., p. 230.

> at least with some togetherness. But without any authority within the corps, how can they by persuasion alone obtain that military behaviour (discipline) so necessary and so difficult? The equipment, rejects of German and French factories, is still in a wretched state; all sorts of models can be seen here....Add to....(these) vices the lack of concern of the chiefs, the ignorance of the officers, the ill will of the soldiers and one will have an exact idea of the Egyptian infantry.[30]

In a similar vein, after inspecting gun emplacements established by Egyptian military engineers, Yates - an English traveller - wrote that:

> the 24 pounder gun carriages and platforms along this water-line, are very ill constructed; the latter are so scanty that they would probably fall backwards at the first shot, and knock their own wheels off! The mortars too sit on a sandy foundation, which is shaken at every charge, when the men are exercising; and there is, therefore, no possibility of taking a sure aim with them![31]

Though the Egyptian army was in a state of flux, it had by the 1830's undergone sufficient reform to have appreciable advantages over the majority of its opponents, most of whom used more traditional warfare techniques and armaments. It appears, however, that the major reason for its military successes was its numerical supremacy over opposing forces. The mobilization of a large standing army was in itself of course a relatively modern concept, introduced to the Middle East by Muhammad Ali and his advisors.[32]

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[30]Translated from French: Georges Douin, La première Guerre de Syrie (Cairo, 1931), vol. I, p. 11: Situation de l'armee regulière égyptienne par Felix-Mathieu de Faviers, lieutenant au 13e Chassieurs, 30 mai 1831.

[31]Yates, op. cit., vol. I, p. 430.

[32]Military expenditures constantly accounted for an extremely large proportion of the Pasha's revenue. For instance, in the 1833-1834 fiscal period they amounted to 60 percent of the entire budget. Tomiche, op. cit., pp. 253-254.

Chapter IV

The Navy: Development and Effectiveness

The navy, developed during Muhammad Ali's administration, was in some respects one of the most notable aspects of induced development. Prior to the 1820's Egypt had not equipped a navy for some centuries. Other than a few coastal traders, none of them exceeding 100 tons displacement, she did not even possess a merchant fleet from which experienced seamen could be drawn. Manned by sailors with no tradition of the sea, and with cursory training, it is hardly surprising that the navy was plagued with problems during its short existence of two decades.

The naval training programme commenced in 1821, the same year that Sève first travelled to Upper Egypt with his Mamluk cadets. The officer trainees consisted of a small number of young Ottomans and Mamluks who had been drawn from schools in Cairo and some "old Turk ex-army officers."[1] Naval instruction was given by a few Frenchmen and Italians. As with the army, the officer cadets proved to be poor students. Their course consisted of nautical training and lessons in mathematics and lineal drawing.[2] In addition to the officer cadets, there were 3,200 conscripted ratings. The training of officers and ratings took place aboard five old corvettes purchased from European

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[1] Douin, L'Egypte de 1828 à 1830, p. 199: Aperçu de Monsieur de Cohorn.

[2] Planat, op. cit., p. 170.

powers.[3]

Naval ratings were conscripted in the same manner as their army counterparts.[4] But naval service was even more unpopular among Egyptians than military service. Many men deserted.[5] For this reason each sailor had an anchor or fish tattooed on the back of his hand, or on his leg, in order that he could easily be identified. As there was no specific age limit for conscripts, a considerable number of them were relatively old. These found it especially difficult to adjust to their new milieu, and they were harder to train than younger men.[6]

The navy was, for a number of years, grossly incompetent. For example, when a convoy of 146 transport vessels (many of them on loan from other countries, but primarily Austria) and 51 warships sailed for the Morea in 1824 - Egypt having joined

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[3]The extent to which the Pasha wished his navy to emulate those of European countries is reflected in the following report: "When the sailors come to shore they fall in, rank and file, and march away to the sound of the drum and fife, and many familiar English and French airs:- "Life let us cherish," "Malbrook," "Le Valiant Troubador," and the like reached my ear." Yates, op. cit., vol. I, p. 140.

[4]See pages 39 - 40 for military conscription techniques.

[5]General Boyer mentioned that the Pasha had told him that he was going to issue an order warning that if any member of the general populace was found to be aiding a deserter from the army or the navy, he would be hanged. Douin, La Mission du Baron de Boislecomte, p. 94.

[6]The discipline in the navy was severe. For instance one captain, contrary to standing orders, attempted to bring his ship into Alexandria harbour without the assistance of a pilot. His ship struck a rock and sank. He was executed. As for men in the ranks, they were bastinadoed for the least infraction. Guémard, op. cit., p. 211.

Turkey in fighting the Greeks seeking independence - she:

> navigated without order, her batteries encumbered by clothing, crates and goods....Some sections of the convoy remained entirely without protection. There is no doubt that surprised in this position by the Greek squadrons, which were so agile at manoeuvring, she would have suffered considerable losses.[7]

According to Planat, whenever a convoy left Alexandria the slower ships would soon be left by themselves. The commanders of the faster vessels - aware of the incompetence of their crews - would maintain full speed, wishing to reduce the likelihood of their ships being attacked by Greek raiders.[8] The general low standard of seamanship is illustrated by the fact that a ship seldom entered port without ramming into a pier or wharf.[9]

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[7]Translated from French: Douin, Les premières Frégates de Mohamed Aly, 1824-1827, pp. 1-2. Planat said of a later convoy bound for the Morea, which had in it 40 transport vessels carrying relief military units and supplies for Ibrahim Pasha's troops, who were besieging Missolonghi: "ten have been taken by the Greeks....these ships were European, this has caused many complaints." Translated from French: Planat, op. cit., p. 110.

[8]Ibid., p. 63. General Boyer said that the Greek navy, which it was estimated consisted of 70-80 armed merchant brigs: "is mistress of the sea, that the Turco-Egyptian (navy) is only secure in ports protected by fortress cannons; that the vigilance and quickness of the insurgents' navy is such that they take away all the munitions from the Pasha's fleet and army." Translated from French: Douin, Une Mission militaire française auprès de Mohamed Aly, p. 111: Boyer a Belliard, Cairo, 10 mars 1826.

[9]Cattaui, op. cit., tome II, part 1, p. 91: Duhamel à Nesslerode, Alexandrie, le 25 mai 1834. Planat wrote the following concerning anomalous conditions aboard Egyptian ships: "The exhalations from the holds could destroy a whole crew, and the piles of filth rotted the wood. The projectiles of all calibres thrown at random had no fixed destination; cannons of cast-iron were found buried under the ballast of several ships." Translated from French: Planat, op. cit., pp. 168-169, dated March 18, 1827.

Since there was only a limited supply of officer graduates, even the most incompetent of them rapidly gained responsible positions.[10] A further crucial problem was that, while in training, the officer cadets received little practical experience at sea. When commissioned they even lacked knowledge in such elementary matters as estimating the strength of the wind and the amount of sail to carry. It was reported that Egyptian ships suffered considerable damage due to carelessness or ignorance on the part of their officers.[11] The following account of the fleet refitting during the Second Syrian War illustrates the gross negligence and disorganization that still - at that late date - pervaded the Egyptian Navy:

> the balls were found to be too big for the cannons! Some of the ships were then served four times by the storekeeper before he could hit the proper calibre.
>
> "'Tis not my fault," said the captain, "I sent an order for so many rounds for my ship. Those fellows in the arsenal ought to know the size of the guns they put in her."
>
> "It's no fault of mine," said the storekeeper, "I sent all the cartridges they asked for; and they might have tried them and sent them all back again at once, if they were not too lazy."[12]

Initially, all Egyptian naval vessels were foreign built. Apart from the training vessels already mentioned, the fleet consisted in February, 1822 of "three vessels (or rather large frigates) of 64, nine corvettes, four brigs, three schooners,

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[10] "The officers are more ignorant than the ratings; the Pasha desires very much to attract European officers into his service." Translated from French: Douin, La première Guerre de Syrie, vol. I, p. 266: La capitaine Aubry-Bailleul commandant la Lampoie au contre-amiral Hugon, Nauplie, 18 juillet 1832.

[11] Douin, L'Egypte de 1828 a 1830, p. 247.

[12] Yates, op. cit., vol. I, p. 431.

three goellettes and six fire boats."[13] In early 1824, in order to significantly strengthen his fleet for service against the Greeks in their War of Independence, Muhammad Ali commissioned the construction of some new warships. Four frigates were to be built in Italy at Venice, Livorno, Genoa and Trieste. Negotiations were held for similar ships to be constructed in England, but because of strong public sympathy there for Greece, the government ultimately denied Egyptian requests.[14]

There was also considerable popular support for Greece in France.[15] Notwithstanding this, the French Government secretly

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[13]Translated from French: Guémard, op. cit., pp. 210-211.

[14]Samuel Briggs, a British merchant in Egypt, and a confidant of Muhammad Ali, had persuaded the British Government, in 1821, to permit the Egyptian warship Diana to be coppered in England. Egypt lacked the facilities for carrying out this operation. Furthermore, he requested that the Diana be equipped with modern armaments. Since Egypt was a province of the Ottoman Empire, and Turkey was involved in the Greek War of Independence, this request was denied. However, Briggs was "privately informed that the Diana might leave the docks as a merchant vessel without arms" - though evidently with no other restrictions as to its equipment - "and might sail for Gibraltar or Tunis, where it could pick up a regular Egyptian crew." The Diana, after being coppered, sailed for Egypt in September, 1822. En-route she stopped at Algiers, where she received English guns on board, specially sent from England on a British brig. The Briggs Company paid for the expenses of the repairs and equipment with cotton and linseed. F.S. Rodkey, "The Attempt of Briggs & Co. to guide British Policy in the Levant in the Interest of Mehemet Ali Pasha, 1821-1841," in Journal of Modern History, V, No. 3 (September, 1933), 326-327.

[15]British and French philhellenism at this time was largely based on: religious sympathy for Christians fighting against Moslems, "political sympathy with the nationalism which the Greeks appeared (in many ways misleadingly) to represent; (and) reverence for Classical Greece, whose heirs the Greeks of the nineteenth century were assumed to be." M.A. Anderson, The Eastern Question (New York, 1966), p. 57.

sanctioned the construction of three Egyptian warships and awarded the contract to a private company in Marseilles. An engineering officer from the French navy, Lefebvre de Cérisy - who later gained fame in organizing naval construction in Alexandria - was given indefinite leave by the French Government in order to supervise the construction work. He was authorized to draw anything he needed from the naval stores at Toulon. Pleased with the work taking place in France, Muhammad Ali ordered a further warship to be constructed there.[16]

Unfortunately for the Pasha, the destination of the ships under construction leaked out. There were bitter outbursts of criticism by philhellenes among the press and public against the Government's complicity. Attempts were made by philhellenic groups to destroy the ships under construction and a reward of 150,000 francs was offered by them for the destruction of the frigate la Guerrière.[17] Due to public and press criticism, the Government made token policy amendments. They rescinded Cérisy's authorization to draw equipment from Toulon and it was decreed that the vessels would leave France unarmed (apparently they were fitted with guns in Italy, but it is not clear whether these were

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[16]Also during 1824, orders were accepted in France for the construction of five smaller ships: four brigantines and a corvette. The French Government, due to the rising wave of pro-Greek sentiment in France, wished to appear neutral concerning the Greek War of Independence. Thus it refused to permit the building of these ships in establishments belonging to the French Navy, but it did nothing to prevent private contractors from building them on their own premises. The Government decreed, however, that the ships would not bear any plaques announcing the place of construction and that they would not be armed while in French waters. Douin, Les premières Frégates de Mohamed Aly, 1824-1827 (Cairo, 1926), pp. 21-33 and 65.

[17]Ibid., p. 62.

of French or Italian manufacture). The construction of the vessels was accelerated, and security precautions were significantly increased. The ship named, ironically, La Spartiate, was launched before being completed, for it was feared that saboteurs would soon be successful in their attempts to destroy it. La Spartiate, le Guerrière, l'Amazone and le Crocodile arrived in Egypt during the first half of 1827. Several French naval officers and technicians aboard them remained in Egypt in the service of the Pasha.

The philhellenic unrest in France and the refusal of the British Government to permit the construction of Egyptian warships in England influenced Muhammad Ali into deciding, in the late 1820's, to establish extensive shipbuilding facilities in Alexandria. A further inducement for this decision was the fact that the Pasha was flagrantly overcharged for various of the foreign built ships he purchased, as is evident in the following report:

> He had boats built at Marseilles, Bordeaux, Leghorn, Genoa and as far away as Archangel, not only was he made to pay a third more than they were worth, but they were made from inferior materials....1,700,000 francs was paid for the most recent ship, it would only have been worth 1,100,000 francs built of good wood, it will be rotten within a few months and will have to be taken out of service.[18]

Yet Muhammad Ali took great pride in his foreign built fleet, especially in the fact that it surpassed any other fleet of the Islamic World in its modernity. These points are clearly

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[18]Translated from French: Douin, La Mission du Baron de Boislecomte, p. 118: Le Baron de Boislecomte au Ministre, Alexandrie, 3 juillet 1833.

illustrated in the following letter of the Pasha to his son Ibrahim - written as the Egyptian fleet prepared to embark for Crete, shortly prior to the Battle of Navarino:

> My son, we are, with God's help, in possession of the most beautiful fleet that has even been seen in Islam. It answers all the requirements as far as speed, good order and discipline are concerned. It is no longer the fleet that you knew a short time ago: it is now a brilliant fleet, completely modern, nobody in the Muslim world has up to now possessed its equal. You will see....that the five ships which have been built in Genoa....are vastly superior to the Tunisian frigate that you know. The frigate Murchid-i-Djihad (la Guerrière), which has arrived from Marseilles, does not cede anything in the point of view of sailing and construction, or in any other regard to the Austrian commander's frigate. It is also said that the two frigates which will arrive and will be sent to you later are even better than the Murchid-i-Djihad.[19]

Muhammad Ali's high ambition for the navy is revealed in his following statement to General Boyer:

> I am very ambitious, especially for my navy, and if God lets me live another twenty years I hope that the civilized world will have added another maritime power (namely Egypt) which will not even be inferior to England, whom consequently I shall not fear.[20]

This aspiration was momentarily crushed, however, when the fleet, which had been accumulated at great expense, was almost totally destroyed at the Battle of Navarino in October, 1827. Of the seventy-five ships of the Turco-Egyptian fleet that participated in the Battle (two battleships of 75 guns, the remainder being frigates, corvettes, brigs and transport vessels:

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[19]Translated from French: Douin, Les premières Frégates de Mohamed Aly, 1824-1827, p. 96.

[20]Translated from French: Douin, Une Mission militaire française, p. 111: Boyer a Belliard, Cairo, 10 mars 1826.

three frigates and a brig that were present were of the Algerian Navy), sixty were sunk, most of the remainder severely damaged, and 9,000 men were killed.[21]

Notwithstanding this immense setback, the Pasha quickly recovered his confidence. Preparations were soon afoot for building warships in Alexandria. In 1829 Lefebvre de Cérisy was hired to organize the development and operation of this undertaking. Also, some French, Italian and Maltese ship-building artisans were hired to teach and supervise conscripted Egyptian workers.[22] A shipyard, a foundry, a rope factory and other workshops necessary for the building and fitting of warships were constructed and equipped. Only the finer nautical instruments, brass nails and some cannons were imported. During early 1831 the first Egyptian built 110-gun battleship was launched.[23]

The major problem in shipbuilding, was that there was a total lack of native artisans with appropriate skills. Cérisy

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[21] Planat, op. cit., p. 233. Prokesch, an Austrian Government official reported that 28 Egyptian warships actually took part in the Battle: 3 frigates, 9 corvettes, 4 brigs, 3 goelettes, 3 schooners and 6 fire-ships. In addition there were some Egyptian transport vessels present. Reported in Guémard, op. cit., p. 217. Twelve of the Egyptian ships at Navarino were commanded by French captains who included: Letellier, Bompar, Chabert, Reynier, le Dentu, d'Isnard, Matoire, Brian, Maffre, and Luciani. Gabriel Hanotaux, Histoire de la Nation égyptienne (Paris, 1940), tome VI, p. 82.

[22] Bowring, op. cit., p. 67.

[23] "Muhammad Ali passed a great deal of his time at the arsenal at Alexandria, and caused four frigates and several small vessels to be built in rapid succession, under the superintendence of Monsieur Cérisy. Two ships of the line were then laid down, and his first three-decker of 110 guns was launched on the 3rd of January, 1831." Yates, op. cit., vol. I, p. 420.

thus had to use unskilled personnel. He despaired over this state of affairs, and confided to Drovetti, in July, 1829, that he must get more European foremen in order to provide increased guidance for the workmen. Bowring graphically described the ineptness of the Egyptian workers at the Alexandria Arsenal thus:

> Generally speaking, among the Arabs, there is the greatest inattention to the business on which they are engaged. A man who strikes a blow with a hammer seldom looks to where the instrument falls. A carpenter with a chisel or plane, takes no trouble to watch what his tool is doing. There is little regard to lines or angles. If a nail is driven, no trouble is taken to ascertain whether it is too large or too small for the purposes proposed.[24]

It should be noted that at the time that the above was written - the late 1830's - few European foremen were employed at the Arsenal, due to economy measures by the Pasha. Moreover, Cerisy had returned to France because of friction with Ottoman members of the Arsenal's bureaucracy, who had greatly resented his dominant position.[25] After Cérisy's resignation, there was a decline in workmanship and output at the Arsenal.

The major materials required for shipbuilding, wood, iron and copper, had to be imported. The Pasha was able to acquire wood cheaply from Syria after he had gained control of that country. Nevertheless, the woodcutters he sent there were

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[24]Bowring, op. cit., p. 56.

[25]A group of Italians, who had some influence among key Ottoman administrators, attempted to obstruct Cérisy's projects whenever possible, due to their jealousy of his popularity with the Pasha. Douin, La première Guerre de Syrie, vol. I, p. 5: Mimaut à Sebastiani, le Caire, 8 mars 1831.

inexperienced and did not know how to discriminate between suitable and unsuitable material. Consequently, much poor quality wood was used at the Arsenal. In addition, because the Pasha was constantly in a hurry to have new ships completed, much wood was used that was insufficiently dried out.[26] Though it was not possible to trace any of the ships' service records, it can be assumed that they did not remain in service as long as they might have done, due to their hasty construction, with faulty materials, by inept workmen.[27] The following report by the French Captain of the Egyptian corvette Bruat illustrates some faults of ships under construction. Cerisy was the Director of the Arsenal when the report was written:

> Other than the 74 gunned vessel, all have a faulty side. The three decker has eight inches more beam on one side than the other, and her bow on one side falls 11 inches....It is, meanwhile, very high in the water because the gun batteries have been raised too much. The Pasha intended to have it cut down and was quite resolved in this matter, the pilots desired that the waterline should not rise beyond 22 feet. This vessel is endangered if it runs into bad weather on its departure.

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[26]Cattaui, op. cit., tome II, part 2, p. 472: Duhamel a Nesslerode, Alexandrie, le 2 octobre 1837. Mougil Bey, an engineer, related the following concerning the Pasha's constant haste to complete projects: "Mehmet Ali was always in a hurry. If I told him that a particular work could be effected by 60,000 men in ten weeks, he would offer me 600,000 men and require it completed in a week.

I had always to explain to him that the number of men who can be conveniently disposed, so as not to interfere with one another, and can be sufficiently superintended, is limited. He never was quite convinced of that. He never could comprehend why 4,000 men could not do in a week what 1,000 men could do in a month." Senior, op. cit., vol. I, p. 125.

[27]Ferdinand de Lesseps told William Senior that he had warned Muhammad Ali that a fleet "built....of unseasoned wood and by unpracticed work-men would not last six months." Senior, op. cit., vol. I, pp. 125-126.

> There is another vessel which needs 40 tons more balast on one side than the other in order to keep upright.[28]

By the late 1830's, the Pasha possessed an impressively large fleet. Despite its many faults, it was larger and more modern than any other fleet in Islam. In July, 1839, it consisted of 9 battleships of 100 or more guns, 2 of 80 guns, 4 frigates of 60 or more guns and one of 54 guns, 5 corvettes, 6 brigs, 2 cutters and 3 steamships.[29] Many of these had been built in Egypt, while the remainder had been purchased from European powers.[30] The battleships carried crews of from 1,000 to 1,200 men, the frigates from 500 to 700, the corvettes from 250 to 300, the brigs 150 to 200, and the cutters 100. The navy obviously placed a great strain, in addition to that caused by the army, on the Treasury. It was stipulated in the peace terms following the Second Syrian War, however, that Egypt was henceforth forbidden to build warships. Thus, concomitant to the army's drastic reduction in size, the vast majority of sailors were demobilized. At the same time, a number of naval vessels were disarmed and placed on the Nile as

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[28]Translated from French: Douin, La premiere Guerre de Syrie, vol. II, p. 388: Le Capitaine de corvette Bruat au Ministre de la Marine, Alexandrie, le 20 mai 1833.

[29]Driault, op. cit., pp. 115-116: M. Cochelet à son Excellence Monsieur le Maréchal Duc de Dabratie, Président du Conseil, Ministre des Affaires Etrangères, Alexandrie, le 5 juillet 1839.

[30]According to Bowring, the Pasha continued to purchase ships from other countries after Navarino. He lists 5 from Italy (Livorno and Genoa), 2 from England (London and Liverpool), and 1 from Algeria. Bowring, op. cit., p. 54.

river transports.[31]

Though the crews were far from efficient, the Pasha's warships provided a key means of transportation of men and supplies in the Syrian War. They also acted as a warning system against foreign seaborne incursions, by patrolling the Egyptian and Syrian coastlines. Several Turkish ships were captured in the vicinity of Syria during the period between the Syrian Wars.[32] The navy's ineffectiveness when confronted by ships of a more renowned naval power, however, is illustrated in the following reminiscence by Artin Bey, an engineer. It concerns the navy's lack of response to the presence of five or six hostile British ships, under the command of Admiral Napier, just outside Alexandria harbour during the Second Syrian War:

> we had about eighteen sail of the line, and twenty frigates, not less than fifty ships, but we could not rely on the Turkish sailors. They would have joined the English if we had allowed the ships to quit the port. Nor could we indeed trust the Egyptians, and as far as the artillerymen, they had spiked the guns on the batteries.[33]

It is perhaps unfair to judge the Egyptian navy in terms of the infinitely more experienced fleet of Britain. The fact remains, though, that the Pasha of Egypt, by his policy of expansion, exposed it prematurely to this confrontation with little regard for the limitations imposed by its induced development.

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[31]Rivlin, op. cit., pp. 209-210.

[32]Moustaffa Fahmy, La Révolution de l'industrie en Egypte et ses Conséquences sociales au 19e siècle, 1800-1850 (Leiden, 1955), p. 40.

[33]Senior, op. cit., vol. II, p. 174.

Chapter V

Priorities in Education

Muhammad Ali's educational reforms commenced as early as 1809, when he initiated Egyptian educational missions to Europe. Later, radical changes occurred in the domestic educational system. The Pasha's primary aim in education was rapidly to train personnel for responsible positions in the armed forces, industry and the administration. He never looked beyond this utilitarian end.[1]

The fact that he sent an education mission to Europe as early as 1809, indicates that the Pasha was planning to undertake major reforms early in his reign. Between 1809 and 1818, 28 students went to either Italy, France or England to study. They usually remained abroad approximately four years. Their major subjects included naval construction, engineering, printing and military science.[2] It appears that no missions went to Europe between 1818 and 1826. French military and naval missions were sent to Egypt during this period, however, to assist in military and naval training. The most important of these were

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[1] During the mid-1830's, Muhammad Ali mentioned in a note to his son Ibrahim that he was strongly against education spreading beyond the recruits for state education. Fritz Steppat, "National Education Projects in Egypt before the British Occupation," in Polk and Chambers, op. cit., p. 281.

[2] As mentioned earlier, there is a dearth of information on these students. Detailed facts are available on only two of them. Niqula Masabki studied printing in Rome between 1815 and 1820 and was Director of the Bulaq printing press between 1821 and 1831. Uthman Nūr al-Din studied naval and military sciences in Italy and France between 1809 and 1817 and subsequently became Admiral of the Egyptian Navy. Ibrahim Abu-Lughod, Arab Rediscovery of Europe (Princeton, 1963), p. 35.

the ones led by General Boyer, Colonel Rey and naval officer Letellier. The French Government hoped, by providing such assistance, to gain an influential position in Egypt. Though Muhammad Ali deliberately kept French political influence at a minimum, French military, naval and cultural influences greatly increased in Egypt during the 1820's and 1830's.

An Egyptian school was established in Paris in 1826 under the direction of Francois Jomard. Forty-two students were in attendance during its first year of operation - they ranged in age from 15 to 38. Their subjects of specialization were civil administration, naval administration, political science, hydraulics, mechanics, military engineering, artillery, metal founding, lithography and engraving, chemistry, medicine, surgery, hygiene, agriculture, biology, mining and translation. In addition, some students, who went there later, specialized in the manufacture of surgical instruments, textile manufacture and dyeing, shipbuilding and gun-powder making.[3] There were of course various advantages to having a relatively large number of students in one location, under a centralized group of instructors, rather than having them scattered about Europe.

Twenty-five of the initial forty-two students at the Paris school had previously undergone some training at industrial and military establishments in Egypt. In addition to their subjects of specialization, they had probably studied fundamentals of Arabic, Italian and mathematics. Besides these, there were three Azharites and five students drawn from special schools.

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[3]Radwan, op. cit., p. 87.

Turkish was the primary language of most of the students. It was reported, however, that virtually all of them were inordinately ignorant of even basic syntax of their respective native languages.

It was necessary for the students initially to study elementary courses due to their low educational level. Their progress was generally slow throughout their stay at the Paris School. With such students, it was unreal of Muhammad Ali, and subsequently of Jomard, to hope to train them rapidly in specialized subjects - the products of a totally alien culture. Better results than those achieved could conceivably have been attained had earlier groups of students to the school followed a uniform course of European studies. They could have then returned to Egypt to give preparatory training to other students, who could have, in turn, undertaken more advanced studies in Europe. Muhammad Ali was always in a hurry to see results once a project had been initiated and never carried out reforms in such a constructive manner.

The Pasha was disappointed with the generally undistinguished achievements of mission students.[4] Due to his total lack of experience in formal education, he failed to comprehend the great problems faced by the ill-prepared students. This was made manifest in the numerous letters he sent to them rebuking

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[4]Mission students were markedly unsuccessful in gaining important positions after they had returned to Egypt. This was considerably due to the fact that promotions for them were obstructed by Ottomans and Europeans in the Pasha's employ, who were intent upon maintaining their own positions. Hamont, op. cit., vol. II, p. 195, and Lane, op. cit., p. 228.

them for not translating European works in their spare time. He failed to realize that they were fully occupied in attempting to keep abreast of their studies.

He had a simplistic concept of western knowledge - a panacea to Egypt - apparently thinking that it, or at least selected portions of it, could be acquired by merely going through a series of mental exercises, at an educational institution, during a predetermined period of time. Moreover, he seems to have been unaware of the limitations of specialized education.[5] For instance, at an audience with a group of students newly returned from Europe, the Pasha was told by one of them that he had studied governmental affairs. On hearing this, the Pasha expostulated: "It is I who governs affairs of state; go to Cairo, you will translate military works." The student protested vainly: "Your Highness! I have not studied military administration at all."[6] A considerable number of the mission students were placed in positions that were totally unrelated to the subjects they had specialized in.[7] Between 1826 and 1848, 319 students went on educational missions to Europe. Of these, 35% studied military and naval sciences, 27%

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[5]Students were supposed to have been free to choose which subjects they would pursue at the Egyptian School in Paris. It appears, though that Jomard had a considerable amount to say regarding that choice. Nevertheless, the subjects studied did not always coincide with Egypt's immediate needs. Heyworth-Dunne, op. cit., pp. 164-165.

[6]Translated from French: Hamont, op. cit., vol. II, pp. 192-193.

[7]Louis Brehier, L'Egypte (Paris, 1903), p. 115.

industrial techniques, 18% engineering, 7% medicine, 6% administration, law and politics, 4% agriculture and agricultural engineering and 3% science.[8]

Muhammad Ali was solely responsible for the composition of educational policies until 1826. In January of that year, the Commission of Instruction was formed. It advised the Pasha on educational matters. The Commission - apparently subsidiary to the Diwan al-Jihadiyah - included three French officers, General Boyer and Colonels Rey and Gaudin, as well as a number of Ottomans. Education only occupied a fraction of its attention, since it was responsible for various other sectors of the economy.

Below the Commission of Instruction was the Diwan of Public Instruction and Public Works, responsible for educational administration. Considerable deliberate obstruction against educational reforms emanated from members of this body.[9] It seems that they were motivated to this by their hatred of Europeans, and European innovations, and by the fear that they would sooner or later be replaced by products of the education system who would be better qualified than themselves.[10] Apart from problems caused by obstruction, however, educational administrators in general were egregiously incompetent. Records, for

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[8]Abu-Lughod, op. cit., p. 35.

[9]Hamont said of this diwan: "They refused books and a special library for each school. They refused pens and paper. It was necessary to write twenty times in order to obtain materials that were indispensable for teaching the students." Translated from French: Hamont, op. cit., vol. II, p. 331.

[10]Ibid., p. 331.

example, were incomprehensible and schools frequently had to be closed temporarily because they had run out of food or other key supplies due to administrative failures.

Egyptian students were recruited by means of conscription. Since education was generally associated with military service, it was anathema to the fellahin. Clot Bey, one of Muhammad Ali's most ardent apologists, reported that: "Some parents mutilate their sons in order to prevent them from going to school."[11] Because boys who had attended kuttabs were most likely to be conscripted, many parents desisted from sending their children to these institutions. This factor, and a lack of money, due to the Pasha's confiscation of the waqf lands, resulted in the closure of many kuttabs. French traveller Poujoulat reported in a letter dated April 2, 1838, that: "all the Muslim religious schools which were attached to the Cairo mosques have closed."[12]

During the 1820's, Egyptian education was organized into a tripartite system, consisting of: primary, secondary and special schools. This was similar - on paper - to prevailing education systems in Western Europe. Fifty primary schools were established around the country. These accommodated a total of 5,500 students. The subjects studied were reading, writing, Arabic, elementary rules of arithmetic and religious instruction.

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[11]Translated from French: Clot Bey, op. cit., vol. II, pp. 253 and 316. It should be added however, that since the students in government schools were fed, lodged, clothed and given a spending allowance by the State, some parents, during periods of severe hardship, such as food shortages, were relatively willing to allow their children to be conscripted. Bowring, op. cit., pp. 36-37.

[12]Translated from French, quoted in Heyworth-Dunne, op. cit., p. 154.

Teaching at the primary schools was done by Azharites, there being virtually no other literate personnel available. (Artin Bey estimated that one percent of Egyptian adults were literate in 1830 and 3 percent in 1850).[13] There is no evidence to show that these Azharites underwent any formal training to enable them to teach a programme of primary studies consistent with the new educational system. Because of this, one can assume that the primary schools were little different from the kuttabs. They were not likely, consequently, to achieve their intended purpose of adequately preparing students for more advanced studies. The following observation by Hamont well illustrates some of the principal shortcomings of Egyptian primary education during the period in question:

> The school teachers are extremely incompetent and very superstitious. They teach the students to read and write by extraordinarily slow, ancient methods. The students, over a long period, learn the sacred book of Islam, concomitantly they internalize the professor's prejudices.[14]

In addition to the above problems, there was a total lack of textbooks on elementary subjects. At Egypt's only printing press - the Bulaq Press founded in 1822 - priority was given to

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[13]Al-Azhar supplied teachers, translators and students for the Pasha; however, once Azharites had undertaken such work, they "no longer belonged to the main stream of the ulama for they (had) rejected al-Azhar and were in turn ignored by it." Afaf Lutfi al-Sayyid, "The Beginnings of Modernization among the Rectors of al-Azhar, 1789-1879," in Polk and Chambers, op. cit., p. 276.

[14]Translated from French: Hamont, op. cit., vol. II, p. 320. It has been estimated that not more than five percent of children between 6 and 12 years of age received any formal education at all during Muhammad Ali's time. Gabriel Baer, "Social Change in Egypt: 1800-1914," in Holt, op. cit., p. 159.

the printing of books on military, naval, technical and medical subjects and on Arabic grammar. The needs of the elementary schools were ignored.[15]

Secondary schools formed the intermediate stage between primary and special schools. Two of these, one in Cairo, and one in Alexandria, which together accommodated 2,000 students, were established during the mid-1820's. Their curricula included French, Italian, history, geography, basic science and mathematics.[16] Like the primary schools, they were staffed by teachers who, apparently, had received no preparatory training, and who taught by traditional methods which were totally unsuitable for modern education. Hamont opined that with better teachers, secondary school students could have learned as much in one year as they did in four.[17]

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[15]The Bulaq Press was the first Egyptian printing press. The French took one to Egypt during the Occupation, but they only printed a few bulletins and a pamphlet on smallpox in Arabic. Arabic script printing blocks had been obtained from the Vatican.

Between 1822 and 1830, 56 books were published at Bulaq (20 were reprints of works translated and published previously in Istanbul, thus some of them were somewhat dated), 17 of these were on military or naval subjects and, rather surprisingly, 10 were on Arabic grammar. Between 1831 and 1842, 187 books were published, 31 of them concerned military or naval subjects, and 11 concerned Arabic grammar. Apart from the limitations of having only one printing press in the country, there was also, until the 1830's, a critical shortage of personnel able to translate European books into Turkish or Arabic. This was clearly manifested by the fact that, when the 1826 educational mission to Paris returned to Cairo in 1831, all of the students were locked in rooms in the Cairo Citadel and were ordered to translate various French works. They remained in such confinement for about three months. Y. Artin, L'Instruction publique en Egypte (Paris, 1890), p. 73, J. Heyworth-Dunne, "Printing and Translations under Muhammad Ali of Egypt," in Journal of the Asiatic Studies Society, London (1940), 333-335.

[16]Radwan, op. cit., p. 88.

[17]Hamont, op. cit., vol. II, p. 322.

Special schools formed the upper echelon of the education system. The following sixteen special schools were opened between 1824 and 1830: the School of Music, the Military Staff School, the Infantry School, the Cavalry School, the Artillery School, the Naval School, the School of Medicine and Pharmacy, the School of Industrial Chemistry, the School of Veterinary Medicine, the School of Mining, the Polytechnic School, the School of Agriculture, the School of Maternity, the School of Civil Administration and Accountancy, the School of Languages and Translation and the School of Arts and Crafts.[18] A considerable number of Europeans taught at these establishments.

It was not until 1830 that the first group of graduates emerged from the new secondary schools. In the meantime, the special schools carried on with whatever literate students they could find. These proved to be virtually impossible to train - to what might be regarded as an adequate level of proficiency - in the more complex fields of study. Non-Egyptian students, mostly Turks, Circassians and Mamluks, but also a few Greeks, Kurds, Albanians and Georgians, generally studied for high ranking military and civil positions. On the other hand, Egyptians studied for medical, veterinary, engineering and administrative services and school teaching. They were rarely, if ever, awarded high ranking positions.

Problems encountered at the School of Medicine, as well as the Staff College Madrasat Arkan - which has already been

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[18]Raoul de Chamberet, Enquête sur la Condition du Fellah égyptien (Dijon, 1909), p. 100.

discussed - reflect general difficulties that confronted instructors and students at the special schools.[19] Clot Bey, a French physician, was appointed as the Director of the Medical School during late 1826 or early 1827. Prior to this appointment he had instigated a number of significant medical improvements in the Egyptian Army. For example, he had organized the establishment of field hospitals, to which were attached doctors, medical aides and pharmacists. He had also instituted a central pharmacy in Cairo, which had branches in key locations throughout the country.[20]

The School of Medicine and Pharmacy - located at Abouzabel - was opened in February, 1827. Initially there were ten teachers, including Clot Bey. They represented a motley range of European nationalities. There were 4 Frenchmen, 3 Italians, 1 Bavarian, 1 Piedmontese and 1 Spaniard. This lack of national homogeneity was no doubt a cause of various problems in itself. The courses at the school included physics, chemistry, botany, zoology, physiology, pathology, internal medicine, therapeutics, pharmacy and French.[21] Since Ottomans regarded medicine as a demeaning profession, it was studied exclusively by Egyptian students, most of whom, it seems, were Azharites.

Various members of the political hierarchy attempted to prevent the establishment of a medical school, since they

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[19] See pages for the discussion of problems at Madrasat Arkan.

[20] Clot Bey, op. cit., vol. I, pp. 369-375.

[21] Chamberet, op. cit., p. 147.

regarded it as another potential stronghold of European influence. Clot Bey described the obstructive efforts of these individuals as follows:

> They made the obstacles, which were already large enough, appear larger to Muhammad Ali. They pretended that the Arabs had neither the intelligence nor the aptitude of other men; as if history does not prove them liars. They said that it was folly to hope to instruct men who could not understand the language of their professors.[22]

Once established, the Medical School was vehemently censured by the ulama. Their opposition was motivated by the fact that anatomical dissections - intrinsic to the teaching of modern medicine - were considered to be contrary to Islamic tenets.[23] Clot Bey was able to conciliate the ulama hierarchy, however, by secretly agreeing to carry out dissections "with all possible precautions" and by promising to prevent the public from witnessing them.[24]

There were a hundred students in the initial intake. Because of their ignorance, inhibitions, superstitions and prejudices they progressed very slowly in their studies. Realizing the hopelessness of the situation, Clot Bey added various non-medical courses to the curriculum including arith-

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[22]Translated from French: Clot Bey, op. cit., vol. I, p. 383.

[23]Soon after a bubonic plague epidemic, Muhammad Ali issued an edict in 1812 for the establishment of lazarets in Alexandria and Rosetta. There was considerable opposition to this from the ulama, they argued that it was contrary to the doctrine of predestination. Guémard, op. cit., p. 239. One religious fanatic broke into a classroom, and punched Clot Bey whilst he was in the midst of giving an anatomy lesson. Chamberet, op. cit., p. 147.

[24]Translated from French: Clot Bey, op. cit., vol. I, p. 384.

metic, geometry, cosmography and history. He hoped by these to develop the students' mental faculties in order to facilitate their medical studies. At the same time, the duration of the medical course was extended from four to six years. Many students were drawn prematurely from the course, however, and given medical positions in the army. By the end of the fifth year, only fifteen of the original hundred students were still enrolled at the Medical School.[25]

Initially there were great difficulties involved in getting medical lectures translated into Arabic, since the few interpreters available had no knowledge of medicine or medical terminology. During the first year of the Medical School's existence M. Don Raphael and M. Anhuri, a Syrian, acted as translators. Raphael knew Italian, French and Arabic, whilst Anhuri knew only Italian and Arabic.[26] Not surprisingly, the medical instructors' lectures were often grossly distorted by the translators because of their ignorance of medicine. Muhammad Ali attempted, with both efficiency and economy in mind, to persuade the instructors to learn Arabic. Like most Europeans in other fields, however, they adamantly refused to do so. Though they realized the gross inadequacies of the translation system, they argued that they had been hired to teach medicine, not to learn Arabic.

In addition to the many other problems, the medical students

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[25]Heyworth-Dunne, An Introduction to the History of Education in Modern Egypt, p. 164.

[26]Ibid., p. 127.

continued to learn by the traditional rote method. This resulted in physicians who had little, if any, understanding of how to practise medicine. Hamont - who frequently criticized the School of Medicine - opined that none of the medical graduates were fit to treat a fracture.[27] In the same vein, Duhamel reported that the School of Medicine "is perhaps the school which leaves the most to be desired so far."[28]

Clot Bey and his associates were well aware that various members of the political hierarchy would have relished any opportunity to engineer the closure of the Medical School. Thus they did all they could to conceal the students' mediocre achievement levels. For instance, they briefed the students on the answers to the annual examinations before they sat them.[29] The School's existence largely depended on results achieved at these examinations. Presumably, the instructors were hoping that results would be better in the near future, when they would be teaching graduates from the new secondary schools. During 1829, Muhammad Ali was persuaded by some of his confidants to close the Medical School and use the premises for a silk factory. But before the plan was implemented, some of Clot Bey's allies induced the Pasha to change his mind. Clot Bey numbered several French government officials among his patrons, including Mimaut and Boislecomte.[30]

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[27]Quoted in Guémard, op. cit., p. 234.

[28]Translated from French: Cattaui, op. cit., tome II, part 2, pp. 395-396: M. Duhamel à Nesslerode, Alexandrie, 6 juillet 1837.

[29]Hamont, op. cit., vol. II, pp. 96-101.

[30]Heyworth-Dunne, An Introduction to the History of Education in Modern Egypt, pp. 130-131.

Clot Bey was determined to maintain a favourable image for his school. Thus in 1831, when Monsieur Michaud of l'Académie Française was visiting Egypt, the Bey invited him to examine the French language capabilities of some of his students. The medical students studied French to enable them to read untranslated French medical texts. Clot Bey later published a long appreciation of the skill of the students in the French language, attributing the authorship to Michaud. Conversely, Michaud's account of the examination, given in his work Correspondance d'Orient, is highly unfavourable:

> I was delighted with everything I saw written on the blackboard, I wished to compliment the students; I congratulated myself in at last seeing the French language become one of the languages of Egypt, but what a surprise I had when I saw that nobody understood me and that my words were like a voice in the desert.... nobody had learned to speak it, not even the master (a Piedmontese) who approached me in order to explain his method and explained it to me as he could, not without making several mistakes in pronunciation.[31]

A large majority of students from the education system subsequently entered the armed forces. Consequently, following the Second Syrian War, when the army and navy underwent their aforementioned reductions in size, a number of schools were closed. Later in the same year (1841) the Pashas, Ibrahim, Abbas and Sharif (Sharif Pasha was a nephew of Muhammad Ali, and had been Governor of Syria) submitted a plan of economy measures to the disillusioned Muhammad Ali. According to Hamont, it included among its proposals the abolition of all primary, secondary and special schools. Most of those still in operation

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[31] Translated from French, quoted in ibid., pp. 128-129.

were soon closed.[32] In the last year of Muhammad Ali's reign, 1848, only five primary schools (there were fifty originally) and nine special schools were still operating. The special schools were as follows: the School of Artillery, the School of Infantry, the School of Cavalry, the Naval School, the School of Languages, the Veterinary School, the School of Engineers, the School of Arts and Crafts, and the High School at al-Khankah (classified as a special school).[33]

Muhammad Ali's educational reforms were the precursors of modern education in Egypt. It is not surprising that the reforms encountered formidable problems. At the time of the Pasha's accession Egyptian education was totally religio-centric and Western educational subjects were virtually unknown. The fact that most of those educational institutions founded by the Pasha were closed before his abdication was not, however, due so much to internal problems as it was to the fact that the schools had largely been established in order to train prospective or active military personnel. Consequently, soon after the Pasha was coerced into reducing his army, numerous schools were closed. Notwithstanding the many problems involved, a few noteworthy students emerged from the Pasha's educational system. Some of these later assisted Khedive Ismail in his reforms.

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[32]Hamont, op. cit., vol. II, p. 514. It is debatable whether Ibrahim, the leader of the group, was primarily interested in economy, or whether he was motivated by the opportunity to react against the innovations of his father, various of which he had long opposed. Heyworth-Dunne, An Introduction to the History of Education in Modern Egypt, pp. 130-131.

[33]Ibid., p. 234 and pp. 242-243.

Chapter VI

------ of Industrialization

Muhammad Ali founded Egypt's first modern industries. Their productivity was seriously handicapped by a multitude of problems. Apart from a small number of Europeans and a few graduates of the Egyptian educational missions abroad, none of the personnel had ever come into contact with modern industrial machinery and techniques. Despite such problems, the variety and size of industries established were quite remarkable. It is no coincidence that the initial large scale expansion of industry, and that of the armed forces, occurred during the early 1820's, the same time that long staple cotton was introduced to Egyptian agriculture. In fact it was largely the revenue from the exportation of this variety of cotton that enabled the Pasha to undertake and sustain his industrial and military-naval reforms.

The rapid growth in exports of long staple cotton is illustrated by the fact that 944 kantars were exported in 1821, the first year it was grown in Egypt, while 222,070 kantars were exported in 1824. The Government sold this for at least three times the price for which it had been purchased from the fellahin - agricultural produce having been monopolized, as mentioned earlier.[1] There were fluctuations in the European demand for Egyptian cotton during Muhammad Ali's reign, but it remained by far Egypt's major export commodity. In 1834, for example, it

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[1] Crouchley, op. cit., p. 63.

accounted for over 80 percent of Egypt's total exports, whilst wheat - the former principal export - accounted for only 5 percent.[2]

The Pasha was initially inspired to consider developing modern industries seriously by the Swedish consul, Joseph Bokty, in 1814.[3] This was when Egypt was under considerable financial strain due to the war against the Wahhabis in Arabia, which lasted from 1811 to 1818. Bokty had argued that Egyptian manufactured cotton textiles would have a distinct price advantage on the international market, since cotton could be grown inexpensively in Egypt and cheap labour was available. This argument - supported by various European merchants - prevailed, despite counter-arguments by Drovetti and members of the Pasha's family. Drovetti claimed, with considerable justification, that Egyptian workers could not possibly produce merchandise to compete in price and quality with that of European factories, which had the advantages of advanced technical knowledge and a skilled artisan class.[4]

The lack of a cheap and adequate source of motive power was one of the major problems that faced the development of modern industries in Egypt.[5] Imported steam engines were used

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[2]Ibid., p. 63.

[3]The Pasha gave Bokty a gift of 67,500 piastres for advising him to develop textile industries. Fahmy, op. cit., p. 10.

[4]Quoted in Rivlin, op. cit., p. 195.

[5]Napoleon's Commission des Arts studied and reported on the industrial potential of Egypt in 1799-1800. The savants recommended that a search for sources of power to motivate machinery contd:

to a considerable extent initially. Because of a lack of competent mechanics to service and repair them, however, most of them soon ceased to operate. In 1834 for example, it was reported that only two of all the steam engines in Egypt were serviceable.[6] And Richard Cobden observed, while he was in Egypt during the 1830's that:

> There is one mill built at the side of the river which presents a splendid appearance, the finest room of Sharp and Robert's looms that I ever saw. The engine of this does not work, and they have therefore turned these power looms into handlooms.[7]

The high cost of operating steam engines was an added reason for them rapidly to lose favour in Egypt. There were no domestic sources of a feasible combustible material, thus coal had to be imported.[8] It was estimated that a steam engine consumed at least £6 sterling worth of coal during a 12 hour period. In addition, engineers and stokers had to be employed to operate it and the machine depreciated with use. On the other hand, it cost only £4 sterling to employ 400 Egyptian factory workers for the same period.

Once steam engines had proved to be unfeasible under

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5 contd:
was necessary, and that at the outset, concentration should be on agricultural development.

[6]Auguste Colin, "Lettres sur l'Egypte. Industrie manufacturière," in Revue des deux Mondes, XIV, 4th series (May 15, 1838), 521.

[7]John Morley, The Life of Richard Cobden (London, 1903), p. 67.

[8]By the time that the Pasha had acquired Syria, which had coal deposits, most factories had been established for some time, and their motive power organized on a basis of previous available sources - largely oxen. It appears that the availability of Syrian coal had little effect on Egyptian factories.

current conditions, oxen were employed to motivate the vast majority of industrial machinery. This is somewhat reflective of the early stages of the British Industrial Revolution, when horses and mules were used for the same purpose. Eight oxen drove a wheel, which in turn operated a number of machines. The teams of oxen were changed three times during a twelve hour work day.[9] It cost approximately 2 piastres daily to feed and care for an ox. In comparison to steam engines, they ostensibly provided cheap power. But there were a number of serious problems associated with them. Periodically, large numbers of them died from epidemics of cattle disease. The power they provided was very limited. But most important, the jerky motion and changing pace of the animals (they slowed their pace when tired and suddenly quickened it when goaded) was responsible for frequent breakdowns of machinery.[10]

The total lack of native workers, skilled in modern industrial techniques, posed an even greater problem than that of motive power. In an attempt to overcome this, the Pasha employed some foreign skilled and semi-skilled workers. It is noteworthy that when, in 1817, the Pasha sent agents to Europe to recruit such personnel, the British and French Governments prohibited any from leaving their countries, since they wished

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[9]Referring specifically to a factory at Keneh, Colonel Campbell said: "during what is called the bersim season, or that of the grass harvest, the oxen are supplanted by men or boys." Bowring, op. cit., p. 37.

[10]Colonel Campbell estimated during 1829 that 3,000 oxen were employed in Egyptian industries. Ibid., p. 37.

to avoid leakages of industrial secrets.[11] Notwithstanding this, some British and French workers clandestinely left for Egypt.[12] In addition, several Maltese and Italian textile workers were employed. No attempt was made by their respective governments to prevent them from going to Egypt. The Italians were probably permitted to leave because there was an economic recession and widespread unemployment in their country.[13]

During 1816, the Pasha abolished the spinners' and weavers' guild, and compelled its members to become salaried government employees. Later they were absorbed into the newly established textile factories. Also in 1816, the Pasha appropriated all spinning and weaving cottage industries throughout the country. A new diwan was established to supervise them, and government co-ordinators were appointed.[14] In 1823, however, the Pasha decreed the closure of the cottage industries in order to prevent them from competing in the domestic market against the newly established textile factories, which were by then producing cotton goods on a relatively large scale.

The first two textile factories were built during 1817,

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[11] Driault, La Formation de l'Empire de Mohammed Aly de l'Arabie au Soudan, 1814-1823 (Cairo, 1923), p. 1.

[12] Drovetti reported in February, 1818 that 5 French industrial workers (5 blacksmiths and 1 hydraulics engineer) had arrived in Alexandria aboard the frigate that they had clandestinely boarded in France. Ibid., p. 149.

[13] Ibid., p. 64: Consul Roussie au Duc de Richelieu, Alexandrie, 22 juillet 1817.

[14] Within a year of the Government's takeover of the weaving industry, cotton cloth increased in price from 100 to 300 paras per piece, and canvas went from 200 to 600 paras per piece. Al-Jabarti, op. cit., vol. IX, p. 192.

at Khurunfish and Bulaq. Both were intended for the manufacture of fine woollen goods, Egypt's major import item. Wool being difficult to process, however, various virtually insoluble manufacturing problems were encountered. The establishments in question were consequently converted into cotton mills. During the ensuing decade or so, spinning, weaving and ancillary industries such as bleaching and dyeing establishments, rapidly increased in number.[15] The nascent industries suffered from a wide range of problems, nevertheless, their number and diversity were quite remarkable. Lavison, a Russian consular official, reported the following establishments to be in operation during 1837: 29 cotton spinning and weaving mills, 14 munitions factories, 1 iron foundry, the Alexandria Arsenal, 3 sugar refineries and rum distilleries, 1 printing centre and 1 fez factory.[16] August St. John further mentioned chemical works, copper mills and a paper mill.[17] In addition, traditional

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[15]When Muhammad Ali made his occasional visits to the textile factory at Bulaq, all the wheels would be set in motion so that the activity and noise of the plant might amuse him. "Even great men have their weakness," commented Drovetti. Quoted in Rivlin, op. cit., p. 195.

[16]Cattaui, op. cit., tome II, part 2, pp. 279-281: Lavison à Duhamel, Alexandrie, le 8 mars 1837.

[17]It is notable that Muhammad Ali was at one time intent upon dismantling the Pyramids at Gizah, in order to use the stones as construction material. He was persuaded against this by Europeans, who regarded it as impracticable. French engineer Linant de Belfonds, said of the Pasha, concerning his destruction of ancient monuments: "He remained till his death in this respect a rude Turk. No man destroyed more of them. He pulled down the Temples of Abydos, or Arsiro and many others to build manufactories. At last we persuaded him that this would render him unpopular in Europe, and he ordered the practice to be discontinued. But as he cared nothing for art or for antiquity, he did not look to the execution of his orders; he did not punish the breach of them." Senior, op. cit., vol. II, pp. 56-57.

native industries such as indigo production, rice husking (there were 12 indigo processing establishments and 4 rice mills in 1837), oil presses and flour mills were also under government control. Expenditures on industrial development are estimated to have reached £12,000,000 sterling by 1838.[18] A large proportion of the manufactured goods were consumed by the armed forces. Most of the remainder were given to cultivators in payment for agricultural produce, or sold - sometimes forcibly - to domestic merchants and retailers. A small percentage of Egyptian manufactured goods was exported, including some spun cotton to Europe and some cotton cloth to various areas of the Ottoman Empire.

Considering that there were neither feasible combustible materials, useful metal deposits, nor skilled native foundry workers in Egypt, the establishment of a large metal foundry at Bulaq was, even for Muhammad Ali, a venturesome undertaking. It would make a worthy subject for a case study of problems in establishing complex industry in a traditional ethos were more detailed information on it available. Built during the early 1820's under the direction of English engineer Galloway, it employed around 400 workers. Metal ores were smelted, and machine tools, spinning equipment, weaving looms and the like, were manufactured and repaired there.[19] Not surprisingly,

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[18]Charles Issawi, Egypt in Revolution (Oxford, 1963), p. 23.

[19]The industrial machinery made in Egypt was copied from European models, and did not have any modifications that would counteract problems peculiar to Egypt's atmospheric and climatic conditions, though these proved to be detrimental to the machinery. For example, the high level of atmospheric dust caused

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however, the foundry was a less than efficient operation.

Its eight furnaces, which had a productive capacity of 50 cwt. of iron per day, proportionately consumed too much fuel due to faulty design.[20] Castings were very frequently ruined due to the negligence of workers. The sand used for castings, for instance, was frequently insufficiently sifted and often the moulds had not been adequately dried out.[21] Bowring commented that when he visited the Bulaq foundry the floor was strewn with faulty castings.[22]

Like the Bulaq foundry, the Pasha's armament manufactories theoretically required a large proportion of skilled personnel. These, of course, were not forthcoming. Some cannons and small arms had been produced domestically during the early years of Muhammad Ali's reign, but by traditional means and not nearly enough for his requirements. Large quantitites of them had to be imported. Sensitive to Egypt's strategic vulnerability in this situation, the Pasha greatly expanded domestic arms production during the 1820's and early 1830's.[23] As mentioned

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19 contd:
clogging in machinery, which in turn caused breakdowns. This was especially true of carding and spinning machines.

[20]The coal mined in Syria, which came under the Pasha's control during the 1830's, was sulphurous coal, and could not be used in existent smelting processes. Thus it was necessary to continue importing coal from Europe, which was expensive. Cattaui, op. cit., vol. II, part 1, p. 292.

[21]Bowring, op. cit., p. 32.

[22]Bowring opined that at Bulaq "the waste must be very great - the control is so imperfect." Ibid., p. 43.

[23]St. John reported of the Cairo Musket Factory: "Here they repair monthly 1,600 old muskets, and manufacture 400 new
contd:

previously, there were 14 munitions factories in operation in 1837. Metal for arms production was, of course, drawn from the Bulaq foundry. Due to the inability of the workers, an inordinate number of firearms produced had to be scrapped. Cohorn contended, in 1829, taking this factor into account, that an Egyptian rifle cost six times more to produce than a French one.[24]

Contributing to the many production problems in all industries was the fact that machinery was invariably run until it was totally unserviceable.[25] According to Yusuf Hekekyan, an Armenian engineer, this was largely due to the fact that neither nazirs nor workers dared to close down a machine for repairs or adjustments.[26] For if a factory's production

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23 contd:
ones, under the direction of Ali Aga, a French renegade, with the rank of colonel." St. John, op. cit., vol. II, p. 424.

[24]Douin, L'Egypte de 1828 à 1830, p. 195: Le Rapport de Monsieur de Cohorn. Bowring reported that while he was in Egypt the Cairo Citadel was producing approximately: 20 sabres per day, 21-25 muskets per day, 625 bayonets per month and 3-4 cannons per month. Bowring, op. cit., p. 43.

[25]Boislecomte claimed that the Pasha was constantly overcharged for imported industrial machinery and that much of it was useless, because it lacked essential parts on arrival in Egypt. Douin, La Mission du Baron de Boislecomte, p. 91. Similarly, Bowring claimed that Muhammad Ali was overcharged by one third of the usual price for iron nails he purchased in Europe for use in mines in Syria. He added that this was normal practice for many European companies who sold to the Pasha. Bowring, op. cit., p. 30.

[26]Yusuf Hekekyan's varied education is noteworthy. He was born in Constantinople, and during his early years studied Armenian, Greek and French. In 1817 his father, who had worked for a brief period for Muhammad Ali in Egypt, sent him to England to study. He stayed at the Clapham Academy for three years, where he studied English, French, Latin, Geography, Elocution, Arithmetic and Geometry. He received a prize for
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quota was not reached, the management and workers were severely punished. Yet even if this threat had not existed, there were not sufficient competent mechanics to maintain and repair the machinery adequately. In addition, machines were frequently unserviceable for long periods due to difficulty in obtaining replacement parts.

There were never sufficient European skilled industrial workers in Egypt to train and supervise Egyptian personnel adequately. Notwithstanding this, the Pasha on occasion dismissed a significant number of them for economic reasons, since they were paid considerably more than the most highly trained Egyptians. Soon after the First Syrian War for instance, Boislecomte wrote that: "the foreigners have been sent back to Europe, and the factories are being run by Arabs." Such measures

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26 contd:
painting and drawing, was the best at military exercises and became bugler to the Academy. His father died during this period and Muhammad Ali became his protector, and maintained him in England. He then attended Stonyhurst College for three years and in 1824 went to the Catholic School at Carshalton. From this time he seems to have been attracted by military subjects and he gradually abandoned his classical studies in order to read military works, history, works on fortification and mathematics. Muhammad Ali sent orders that he was to study mechanics, thus he attended a school in Pimlico, and visited factories in Liverpool, Manchester, Glasgow and other industrial cities. During the latter part of his stay in England, he learnt French and Italian well and studied other subjects of his own accord such as hydraulics and hydrostatics. He appears to have gone to Egypt (for the first time) in 1830, where he was given a teaching post at Madrasat al-Muhandiskhanah - an engineering school - of which he became the nazir in 1834. Heyworth-Dunne, An Introduction to the History of Education in Modern Egypt, p. 174.

27 Translated from French: Douin, La Mission du Baron de Boislecomte, p. 93: Le Baron de Boislecomte au Ministre, Alexandrie, le 29 juin 1833. European industrial workers in Egypt received generous salaries. For instance, in 1821 two English technicians at a copper foundry are reported to have
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had detrimental effects upon industrial operations, since the Egyptians who replaced them were invariably inept. This latter point was partly due to deliberate policy on the part of Europeans. They knew that they would be dismissed as soon as a sufficient number of Egyptians had acquired the necessary industrial skills, thus, in the words of an English engineer: "the Frank....does all in his power to keep the Arab in the arrears of knowledge."[28]

Workers for the Pasha's industries were conscripted in the same indiscriminately brutal manner as was used for the armed forces.[29] Once placed in factories, no attempts were made to acclimatize them to their foreign surroundings. The factories were extremely noisy, poorly lit and inadequately ventilated, a drastic contrast to the fellahin's normal environment.[30] The conscripts' difficulties in psychologically adjusting to industrial work, and their dislike for it, are reflected in the following statement made by the factory nazir at Esneh, after British Consul-General, Colonel Campbell, had asked him why he

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27 contd:
received respectively 1,875 and 1,500 piastres per month and two semi-skilled English industrial workers received 500 piastres per month. In addition they probably got clothing and food allowances and free accommodation. On the other hand the best paid of those Egyptians who spent long periods in Europe studying industrial techniques, received no more than 500 piastres per month, and some were reported to be earning as low as 125 piastres. Of the 108 students studying at the expense of the Egyptian Government between 1829 and 1848, 69 were studying various aspects of industry. Heyworth-Dunne, An Introduction to the History of Education in Modern Egypt, p. 176, Madden, op. cit., p. 49 and Tomiche, op. cit., p. 260.

[28]Quoted in Bowring, op. cit., pp. 197-199.

[29]See pages 39 - 40 for military conscription techniques.

[30]"The Arabs generally show little aptitude for the loom, contd:

was constantly whipping his workers:

> How could it be otherwise? They are all ignorant people, they come from the fields, many of them with long beards, and see a factory for the first time in their lives, they are wholly unused to the employment.[31]

There were a number of major cases of sabotage of factory property and innumerable minor ones. August St. John reported that all of the 24 cotton mills in operation while he was in Egypt had at one time or another suffered large scale fires, due to accidents or sabotage.[32] In addition, there was a constant problem of workers fleeing from their factory jobs. Most industrial establishments employed five or six men to search for such fugitives.

As manpower became scarce, due to heavy conscription for the Pasha's various other projects, women and children were conscripted into factory work. This of course constituted a dramatic social change for the women involved, since they traditionally led cloistered lives. It is noteworthy that while working in the factories they remained veiled. Many women, however, exempted themselves from industrial work by mutilating or blinding themselves. Moreover, the mortality

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30 contd:
they have no previous education or habits to fit them for it. They do not begin their manufactory habits in early life, but are taken from the fields when they have reached manhood, and devoted to pursuits altogether in contrast with those they abandon." Bowring, op. cit., pp. 35-36.

31 Ibid., p. 38.

32 "The factory at Siout, which employed about six hundred hands, was purposely burned to the ground; and towards the close of December, 1831, the power-loom weaving mill of Khand-al-Merood was designedly destroyed by fire." In the latter establishment the loss was estimated at £35,000 sterling. St. John, op. cit., vol. II, p. 413.

rate among children working in factories was extremely high.[33]

No wage incentives were offered to factory workers.[34] Weavers were nominally paid 1½ piastres a day, at best a subsistence wage. Yet various factors significantly reduced the amount and real value of this.[35] Factory administrators bilked workers by deducting ostensible factory expenses from their wages, such as machinery repairs. Furthermore, because wages were virtually always several months in arrears, workers were forced to borrow money from moneylenders at 15-25 percent interest. Had they been treated more humanely, had salaries been better and the full amounts paid promptly and had there been financial inducements for diligent workmanship, a far more tolerant and productive attitude would conceivably have evolved among Egyptians towards industrial work.

Soon after the Pasha had embarked upon industrialization, a complex industrial administrative structure began to evolve. The body in charge of most factories, the Factory Board, was

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[33]Douin, La Mission du Baron de Boislecomte, p. 79.

[34]"Even supposing the manager should wish to raise the wages of a meritorious workman, it is a thing difficult to accomplish. It is necessary first to write to his next superior, then the order passes through 3 or 4 divans until it reaches the Board of Trade, which is composed of men of very ordinary abilities, and almost totally ignorant of the subjects upon which they have to decide. Hence it must proceed to his Highness, and if one of these divans negative the order, the demand is lost and occasionally the proposer gets a reprimand for extravagance." Bowring, op. cit., pp. 197-198, from a report of an unnamed English engineer.

[35]The value of the piastre, to the worker, is reflected in the following list of prices for various items during 1835: 1 litre of rice - 1.3 piastres, 1 ratle (15 3/4 ozs.) of mutton - 1 piastre, 1 fowl - 1.5 piastres, 3 eggs - ½ piastre, 1 ratle of coffee - 6.7 piastres, 1 ratle of sugar - 2 piastres. Lane, op. cit., p. 312.

founded in 1831. Subsidiary to it were the: "(i) Conseil de l'impression des étoffes (ii) Conseil de la métallurgie (iii) Conseil des Ventes (des produits fabriqués) (iv) Conseil des bestiaux."[36] Arsenals and munitions manufactories were controlled by the "(i) Conseil des arsenaux et (ii) Conseil des munitions de guerre," which were subsidiary to the Diwan al-Jihadiyah. The nascent administration was fraught with imperfections. The Factory Board's members lacked practical knowledge of industrial matters and, according to Colonel Campbell, frequently arrived at detrimental decisions. There were, moreover, many instances where factories had to close down temporarily because they had not received requisitioned supplies, due to administrative blunders. These frequently resulted from faulty co-ordination between the various authorities involved. When he needed raw materials the nazir of a wool processing factory, for example, had to order supplies of raw materials from the council he was responsible to, which in turn contacted the Department of Commerce, which requested agents in Europe to forward the needed commodities or endeavoured to procure them domestically.[37] This process took considerable time and was rife with pitfalls.

The factory nazirs - all of them Ottomans - officially held sway over all employees in their respective industrial establishments, even though many of their European subordinates

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[36]Fahmy, op. cit., p. 58.

[37]Ali al-Giritli, "The History of Industry in Egypt," in Charles Issawi (ed.), The Economic History of the Middle East, 1800-1914 (Chicago, 1966), pp. 399-400.

received much higher salaries.[38] They received little training in their intended duties, and were generally ignorant of industrial procedures.[39] The following comment by Colonel Campbell is representative of the disdain among Europeans for nazirs:

> a director of one of the manufactories cares little if the men are well or ill paid, or even if they are paid at all, or even if the place is well or ill supplied with necessaries; all he regards is his salary and to escape blame.[40]

Some European observers went as far as to blame the nazirs for the subsequent failure of the Pasha's industries. Such claims reveal those who made them as being ignorant of the profound and diverse complexities involved in industrial development, in such an ethos as that of nineteenth century Egypt. None the less, it is undeniable that the industries could have benefitted greatly by having competent management personnel.

As an economy measure, and also to release workers for military conscription, several factories were closed down during

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[38] Nazirs received a salary of approximately 500 piastres a month. Tomiche, op. cit., p. 260.

[39] Nazirs and other factory personnel including clerks, warehouse keepers and weighers embezzled inestimable amounts of operational funds and materials. But corruption was common to all responsible positions. Colonel Campbell claimed that it was thought that about 40% of the total amount of taxes collected never reached the Treasury. Similarly, Bowring reported that Government agents purchased indigo from the cultivators at around 100 piastres per oke and sold it at two or three times that amount but the government received only 40 percent profit on the original purchase price. Later in his report he stated that: "The amount of graft is immense - inestimable." Bowring, op. cit., pp. 44 and 47, Rivlin, op. cit., p. 83.

[40] Bowring, op. cit., p. 197.

1839 - the Second Syrian War broke out in May of that year.[41] Of the 29 cotton textile mills that were operating in 1837, only 15 were still open in the early months of 1840. During the latter part of 1840, while the War was still in progress, the Pasha issued an order that all factories not operating at a profit must close down. Many closed immediately. The remainder struggled on for a few more years.[42] By 1850 - the year after Muhammad Ali's death - according to French historian Gabriel Guémard: "All the State owned factories have been destroyed."[43]

Because of excessive production costs and inept workmanship, most industries had been operating under heavy deficits. Yet the Pasha was for a long time deluded by distorted reports from subordinates into thinking otherwise. Such deceit was bolstered by the erroneous cost assessment system then in operation. When costing a manufactured item, only labour and materials were taken into account. No allowance was made for factory construction costs, overheads, wasted materials, interest on loan capital, or depreciation of buildings and machinery. Bowring, among others, contended that even the cotton

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[41] Yates wrote: "No less than 12,000 workmen were sent at one time from the Cairo manufactories to the camp of Taura, where they were exercised. Vacancies left in the manufactories were filled up by Copts." But, many of the factories were left abandoned, and some of them had been that way for some time. Yates, op. cit., vol. I, p. 432.

[42] Crouchley, op. cit., p. 74.

[43] Translated from French: Guémard, op. cit., p. 445.

textile industry was operating at a heavy deficit.[44]

The Pasha repeatedly ordered all government departments to purchase Egyptian goods whenever possible, even if they were lower in quality and higher in price than imported goods.[45] Nevertheless, elsewhere in the domestic market - which was, of course, extremely weak in purchasing power - Egyptian goods had to compete against European imports. For by the Porte's Imperial Decree of 1820, foreign goods were permitted to enter into any part of the Ottoman Empire, on payment of a 3% import duty. The Pasha had striven to ignore this decree, but the European consuls in Egypt, most of whom were merchants, had pressured him into abiding by its principles. Hence, unlike some emerging industrial nations of a later period, such as Germany and the United States, Egypt was not able to protect her nascent industries with high import tariffs.

It has been argued by some historians that the Anglo-Turkish Convention of 1838 was the principal cause of the failure of Egyptian industry. By the Convention, British merchants were permitted to: (i) import and sell goods in any part of the Ottoman Empire upon payment of 5 percent duty and, (ii)

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[44]Bowring, op. cit., pp. 30-37. "Dr. Bowring found in 1838 that cotton cloth produced in Egypt cost 8.7 piastres per yard, whereas English cloth of the same quality could be bought in Egypt at 7½ piastres per yard. Even this did not take into account the enormous cost of new factories, machinery, spare parts, to say nothing of the restriction of agriculture because of the labour employed in the factories." Crouchley, op. cit., p. 73.

[45]For instance, he issued an order to the supervisor of buildings prohibiting the use of European glass. He admitted that the glass being produced at a glass factory in Alexandria was crude, however, he added that "one should prefer the fruits of one's own labour to those of others." Al-Giritli, op. cit., p. 391.

buy products of the soil or industry directly from producers within the Empire. The first part of the above was merely a revision of the Imperial Decree of 1820, which had been in effect for nearly two decades. The other part, far more crucial to Egypt, was intended by Turkey and Britain (Britain being in close liaison with Turkey, for strategic reasons) to reduce Muhammad Ali's military strength, by destroying his monopoly system - his primary source of revenue. Soon after the treaty's promulgation, France and other major European powers clamoured for, and were granted, similar concessions.

Muhammad Ali did not abide by the terms of the Anglo-Turkish Convention - and the subsequent treaties - until 1842, two years after his defeat in the Second Syrian War. At that time he succumbed to heavy pressure from foreign consuls and permitted European merchants to buy Egyptian cotton and other produce directly from the agriculturalists. By 1842, however, a large majority of Egyptian factories had closed down, and the remainder were floundering. It is therefore evident that the Convention did not play a significant role in the failure of Egyptian industry. It did, however, inadvertently assure that there would not be sufficient capital available for it to revive. Muhammad Ali's industries failed largely because they were developed too precipitately and on too large a scale in relation to available resources, especially human resources. These problems, a function of his ambition, plagued all of the Pasha's major reforms.

PART II Chapter VII

Ismail's Ambition

The final eight years of Muhammad Ali's reign, 1840-1848 - following the Second Syrian War - were essentially a period of peace and retrenchment. Disillusioned, in poor health and having been forced to reduce his army - formerly his raison d'être - to 18,000 men, the Pasha lost interest in the reforms he had instigated. The fifteen years between the end of Muhammad Ali's reign and Ismail's accession were largely uneventful as far as modernization was concerned, but there were a few noteworthy developments.

Ibrahim Pasha became leader of the Egyptian administration in July, 1848, after Muhammad Ali had abdicated due to failing physical and mental health. The new ruler died in November of the same year, however, and was succeeded by his nephew, Abbas I. A reactionary, Abbas abhored Europeans and European innovations. He closed down a number of the remaining institutions founded by his grandfather, dismissed many of the most able Egyptians and foreigners from government service and reduced the size of the already small army. Only in one instance can he be considered to have carried forward Muhammad Ali's reforms, namely the commencement of construction on the Alexandria to Suez railway. It had been tentatively discussed for more than two decades but had never materialized. Abbas was not in favour of the scheme, but he succumbed to heavy pressure from Britain, who wished to speed travel and the shipment of goods from England to the Far East - primarily India - and vice versa.

Concomitantly, the French had been pressing him, without success, to permit them to cut a canal from the Mediterranean to the Red Sea. Construction on the railway began in 1851. George Stephenson, whose father had invented the Stephenson Rocket, was appointed chief engineer. Under him were a number of European trained Egyptian engineers.

Abbas died in 1854 and was succeeded to the leadership of Egypt by Said Pasha. Unlike Abbas, Said had undergone a European form of education and was an admirer of western civilization and innovations. He was, moreover, intent upon carrying out major reforms but was impeded, initially, by the fact that Abbas had bequeathed him a treasury deficit of £E. 2,700,000 (not foreign, but internal debt).[1] One notable economy measure taken by Said early in his reign to counter this deficit was the closure of all schools not directly training personnel for the armed forces. He reopened them later.[2]

The most outstanding project undertaken in Egypt during Said's reign was the commencement of the digging of the Suez Canal. Ferdinand de Lesseps, director of the Suez Canal Company, had been able to persuade Said - who could easily be swayed - to approve the project and to grant his company extremely generous concessions. The Canal is discussed in more detail later in this thesis. Other major projects carried out in Said's reign included the completion of the Alexandria to Suez railway in 1857 (one of the first railway lines to be built outside of

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[1]Abdel-Maksud Hamza, The Public Debt of Egypt, 1854-1876 (Cairo, 1944), p. 7.

[2]Rifaat, op. cit., p. 96.

Europe), the extension of telegraph services, the deepening of major irrigation canals and the construction of a large graving dock at Suez for the repair of ocean-going vessels.

Ismail Pasha succeeded Said as leader of Egypt in January, 1863. Born in 1830, he received a western education, the latter part of it in Europe.[3] After completing his studies in Europe in 1849, he returned to Egypt and devoted himself initially to farm management, being the owner of extensive land-holdings. During this period he increased his holdings three-fold and by progressive efficient farming multiplied his income fivefold. His cotton was the finest in Egypt and his sugar refinery the most advanced.

Soon after becoming heir apparent, following the death of his older brother, Ismail was given a ministerial portfolio in Said's government. Later he was appointed President of the Deliberative Council to which was submitted important, non-routine government business. When, in 1861 and 1862, Said visited Mecca and Europe, Ismail acted as Regent and revealed himself to be a strikingly more efficient administrator than his uncle.[4]

At his investiture as ruler of Egypt in 1863, Ismail notably emphasized economy - beginning with himself:

> The basis of all good administration is order and

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[3]Regardless of his position as a Muslim ruler, Ismail continued such habits as eating ham and drinking wine, that he had acquired in Europe. His favourite vintages were Sauterne and Veuve Cliquot. J.C. McCoan, Egypt under Ismail (London, 1889), p. 28.

[4]David S. Landes, Bankers and Pashas (London, 1958), pp. 129-130.

> economy in finance; I shall seek this order and this economy by every means possible, and to give an example to all, at the same time as a proof of my firm intentions, I have decided as of now to abandon the system followed by my predecessors, and to set myself a civil list that I shall never exceed.[5]

His accession engendered high hopes for Egypt among various perceptive European observers. The following comment, reflective of this attitude, is by Edouard Dervieu, a French financier:

> With Ismail Pasha as Viceroy of Egypt, we are going to see the country prosper more than ever. He has a serious, thrifty disposition. We shall no longer see those government contracts yielding an incredible profit, those monstrous law suits, those rapid fortunes which characterized the reign of Said Pasha. We shall see business done regularly, coherently; we shall see the credit of Egypt establish and fortify itself.[6]

Once in power, however, Ismail's image as a parsimonious, cautious administrator soon dissipated. Solid and methodical in his everyday life, he was, nevertheless, a visionary. Like his grandfather, Muhammad Ali, he wished to accomplish in years what realistically should have evolved over decades. Some of the developments that he induced - notably public works - were far too precipitate and grandiose. Egypt's economic resources were inadequate for these undertakings, and the conditions under which Ismail borrowed to supplement these resources were ruinous.

High among Ismail's priorities was his intent to increase Egypt's autonomy and perhaps establish his own sovereignty. This would entail freeing Egypt from Turkish suzerainty and

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[5]Translated from French: Georges Douin, Histoire du règne du Khedive Ismail (Rome, 1933), vol. I, p. 1.

[6]Quoted in Landes, ibid., p. 135.

subjecting Europeans to Egyptian laws. He made marked progress in both these areas. Unfortunately, however, this progress was abortive. Subsequent events subjected Egyptian interests to those of Europe and ultimately to those of Britain.

Ismail greatly resented being subservient to the Porte and was determined to do all that was possible to modify this position. To subvert Turkish influence within Egypt he opened the lower echelons of the army officer corps to Egyptians. Formerly, the officer corps had largely been a reserve of Ottomans and Mamluks. Similarly, Arabic officially replaced Turkish as the language of government and as the language of command in the army.[7]

Within a few weeks of Ismail's investiture, Sultan Abdul Aziz visited Egypt - the first Sultan to do so since the Ottoman conquest in 1517. It was symbolic of Egypt's advance that Abdul Aziz took his first railway ride there. Ismail lavished luxuries on him and presented him with a large gift of money. At the same time, Fuad Pasha, the Ottoman Grand Vizier, received £E. 60,000 for helping to establish friendly relations between the Sultan and Ismail.[8] These and other substantial gifts and bribes, totalling in all around £E. 3,000,000, plus Ismail's promise to place 15,000 Egyptian troops at the Porte's disposal, resulted in the promulgation of the Imperial Firman of May 27, 1866.[9] This changed the existing law of succession in Egypt to

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[7]McCoan, op. cit., p. 115.

[8]Edward Dicey, The Story of the Khedivate (London, 1902), p. 57.

[9]Virtually all of the newspapers in Pera and Istanbul were contd:

one of primogeniture and permitted the Egyptian armed forces to be raised to a maximum strength of 30,000 men. It also stipulated that Egypt's annual tribute to Turkey was to be raised from £T. 400,000 to £T. 750,000 (equivalent to £681,818 sterling). Ismail had wanted the law of succession changed in order to prevent the heirs apparent, his brother Mustafa Fadel and his uncle Abdul Halim - both of whom he detested - from succeeding him to the throne.

Two days after the Firman of 1866 had been issued, some of the Egyptian troops Ismail had promised to place at the Sultan's disposal, sailed for Constantinople. In July of the same year the Porte ordered Ismail to send troops, in addition to those already promised, to Crete. Ironically - since Ismail himself was bent on freeing Egypt from Ottoman suzerainty - these were to assist in suppressing that island's rapidly growing independence movement. Ismail at first agreed to comply with the order, but then reneged. Only after the Sultan had applied political pressure were two regiments dispatched to Crete.[10]

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9 contd:
in Ismail's pay, as were various Turkish Government officials and religious leaders. McCoan, op. cit., p. 37. The 15,000 troops were to be stationed in Constantinople, Bosnia and along that part of the Danube that was still within the Ottoman Empire.

[10]There were other occasions when Egypt supplied troops to assist Turkey during Ismail's reign. For instance, in 1864, in compliance with an order from the Porte, Ismail sent 4 battalions of infantry and 400 irregular cavalrymen, approximately 3,500 men in all, to quell an uprising in the Hejaz. They remained there for more than two years. Moreover, approximately 30,000 Egyptian troops fought in the Russo-Turkish War of 1877-1878. Douin, Histoire du Règne du Khedive Ismail, vol. I, pp. 317 and 351-353 and Rifaat, op. cit., p. 150.

Ismail secured the title of 'khedive' in 1867. It is not known how much he spent on this, but his gifts to the Porte included an ironclad ship costing £160,000. He had desired a more regal title, but Abdul Aziz was not willing to confer one.[11] With the firman promoting him came the power to make treaties of a non-political nature and to initiate laws and regulations for the internal government of Egypt, independent of the Porte's approval.

Relations between Ismail and the Porte were often strained, particularly in 1869. Without consulting the Porte Ismail travelled to Europe to invite crowned heads and dignitaries to the inauguration of the Suez Canal. The deliberate breach of protocol infuriated Abdul Aziz. Ismail went further, however, he neglected to inform the Sultan officially of the Canal's inauguration until after it had taken place. Such overt disrespect, and the fact that the Egyptian army was rapidly expanding, convinced Abdul Aziz that Ismail was threatening a military confrontation with Turkey. Consequently, he issued the Imperial Firman of November 29, 1869, with the intention of preventing Ismail from imposing any new taxes and, more important, contracting any new foreign loans, without the Porte's consent. These prohibitions were, of course, contrary to the decree of 1867. Abdul Aziz had even wanted to strip Ismail of his new title. He refrained from doing so, however, after the British Consul-General, Clarendon, and other European diplomats in Turkey, warned that dangerous international repercussions might ensue.

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[11] George Young, Egypt (London, 1927), p. 75.

Despite the Firman of 1869, and the protests of the Porte, Ismail contracted, in the following year, a loan of foreign capital with the Franco-Egyptian Bank. The nominal sum was £E. 7,142,860, while the effective amount was £E. 5,000,000.[12] Notwithstanding this loan, which flagrantly contravened the Imperial Firman of 1869, Ismail journeyed to Constantinople in 1872, intent upon persuading the Sultan to permit him to legally contract foreign loans. While in Constantinople - according to Sir Henry Elliot, the British Ambassador to Turkey - he gave £900,000 to Abdul Aziz, £250,000 to the Grand Vizier, Aali Pasha, £150,000 to the Minister of War and £20,000 each to various other officials. In addition he presented the Sultan with 50,000 rifles and a French dinner service of gold and precious stones.[13] Abdul Aziz reciprocated on September 10, 1872 by rescinding the restrictions on the Firman of 1867. He informed Ismail that:

> In this state of things, thou hast submitted to me that some restrictions and exceptions contained in my Firman of the 22nd Chaban 1286 (November 29, 1869), were creating serious obstacles to the complete development of the prosperity of Egypt.
>
> It is evident that the prosperity of the country and the welfare of my subjects are both, in my eyes, of the highest importance, and the object of my dearest wishes.
>
> The realization of these wishes naturally depends on the means and facilities granted to satisfy requirements which result from them.
>
> As such has been my Imperial will, it is contrary to my desire that the progress and prosperity of Egypt

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[12] See page 136 of this thesis for a table of Ismail's foreign loans.

[13] McCoan, Egypt as it is (New York, 1902), pp. 144-145.

> should be obstructed by restrictions placed on the privileges which my sovereign munificence had granted to the Egyptian Government in its material and financial interest.
>
> I have therefore ordered the maintenance in full of the privileges granted by my Firman dated the 5th Safer 1284 (June 8, 1867), and I have issued this supreme order from my Sublime Porte, and given it to thee.[14]

Another firman, that of June 8, 1873, obtained after Ismail had distributed over £1,000,000 in gifts to the Sultan and to high ranking Ottoman officials, confirmed the permanency of all the concessions granted to Ismail.[15] These of course included the title of 'khedive', the order of succession of leadership, internal and financial autonomy. Egypt's independence was only circumscribed in that she could not send representatives to foreign courts, she was obligated to the yearly tribute and was prohibited from possession of armoured ships.[16] With money alone Ismail had been able to attain a status of quasi-independence for Egypt.

He did not, however, achieve such marked success with the other major infringement of his sovereignty, the capitulations. These were extra-territorial rights granted by the Porte to various European powers three centuries before Ismail's accession. They had not affected Egypt much until the time of Said Pasha. Then, foreign adventurers, who had gravitated to Egypt in the

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[14]See McCoan, Egypt under Ismail, pp. 310-311.

[15]Rifaat, op. cit., p. 115. It is timely at this juncture to mention that virtually none of the substantial expenditures on bribery and gifts, used to induce the issuance of imperial firmans, are included in the official financial records. One must assume that the money came from Ismail's private account.

[16]Ibid., p. 115.

wake of de Lesseps, began to demand their capitulatory privileges. Said, more docile than his predecessors, succumbed to these demands. Foreigners were thus literally placed above the law of the land. Furthermore, their consular officials, to whose legal jurisdiction they were responsible, were flagrantly open to bribes. Foreigners could be assured of obtaining a favourable decision on any legal matter. In fact numerous Europeans went as far as bringing ludicrous charges against Ismail in their consular courts. His defencelessness in such instances is illustrated in the following extract from a letter to The Times:

> Consuls-General....have made him (Ismail) pay enormous sums to foreign claimants on claims often without a shadow of foundation. Edmond About did not exaggerate when he quoted the instance of the Frenchman who got half a million francs for a café built too near the sea, and consequently washed away. Nubar Pasha once put the sum improperly paid at the instance of Consuls at two millions sterling, and the statement passed unchallenged.[17]

With this travesty of jurisdiction prevailing, Europeans could virtually do whatever they desired without legal action being taken against them, as is reflected in the following comment:

> If a European commits an outrage in the streets in the open day, the native police would as soon take up a red-hot poker as lay hands on him. The many murders committed in Alexandria by foreigners are practically unpunished, and justice is paralysed.[18]

There were approximately 100,000 Europeans in Egypt during the 1870's. Most of them had gone there with the hope of

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[17]From a letter signed Fiat Justitia, The Times, August 28, 1878, p. 3.

[18]The Times, June 30, 1874, p. 10.

getting some of the easy money that was rumoured to be available.[19] Europeans owned most of the commercial and financial enterprises in Egypt at this time, yet protected by the capitulations, they paid no taxes apart from minimal customs duties. Even these were easily circumvented since European ships were immune from customs inspection. Conversely, the fellahin, the vast majority of whom lived in abject poverty, were - due to Ismail's inordinate spending - burdened with a piteous tax load. Their pathetic situation in the mid-1870's was described by Wilfred Blunt as follows:

> It was rare....to see a man in the fields with a turban on his head, or more than a shirt on his back.... The principal towns on market days were full of women selling their clothes and their silver ornaments to the Greek usurers, because the tax collectors were in their villages, whip in hand.[20]

Despite Ismail's repeated pleas, none of the European powers would revoke their extraterritorial privileges. Nevertheless, Egypt made some headway in this area. After years of

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[19]The number of Europeans in Egypt during Muhammad Ali's reign reached approximately ten thousand, including 5,000 Greeks and 2,000 Italians. The financial and employment opportunities created by the cotton boom of the 1860's caused a large influx of Europeans: in 1862, 33,000 foreigners, including visitors, entered Egypt, in 1863, 43,000, in 1864, 56,000 and in 1865, 80,000. Many of the immigrants however, were of little or no real benefit to Egypt, as is indicated by Dicey: "all the adventurers of Europe swooped down on Egypt....the knights of industry - the investors who only required temporary advances to prove fabulous wealth for their patrons, the promotions of impracticable schemes, the holders of unappreciated patents, the jackals of finance....the applicants for concessions, the professional gamblers, the purveyors of all kinds of entertainments, the dramatic agents, the soldiers of fortune, the parasites of civilization, the social outcasts." Dicey, op. cit., p. 97 and Landes, op. cit., p. 88.

[20]W.S. Blunt, Secret History of the British Occupation of Egypt (New York, 1922), pp. 8-9.

haggling with European diplomats, Nubar Pasha, the Egyptian foreign minister, managed, in 1876, to get the powers to agree to the establishment of mixed courts in Egypt. These were empowered to adjudicate civil and commercial cases, when one or both of the parties were Europeans. Criminal cases, however, continued to be tried at consular courts.

The Egyptian judicial system, which had long been in a state of disarray, greatly benefitted from the presence of mixed courts. The law administered in the mixed courts was a modified version of the French civil and commercial codes. It was soon applied to the country at large, thus ensuring Egypt a uniform judicial system. This development caused whole generations of students, lawyers and judges to look to France, and Europe in general, as sources of inspiration for legal principles and practices. Thus it was instrumental in instructing them in the constitutional foundations of modern western law, and in the ideas of national rights, sovereignty of the people and civil liberty, which became the bases of the Egyptian nationalist movement of a later period. It also prepared the ground for substituting modern secular codes for Sharia law.

While Ismail had all but gained Egypt's independence from the Ottoman Empire, and had, by establishing mixed courts, at least partially curbed the power of Europeans in Egypt, his mismanagement of the country's finances was to subvert his real sovereign power. Early in 1876 the Cave Report was released to the public. This study of Egypt's financial records - undertaken by the British Government - revealed for the first time the full extent of Egypt's outstanding debt to be £75,000,000

sterling. It engendered a panic on the European market, which was already alarmed by Turkey's imminent bankruptcy. Egypt's international credit collapsed, leaving her insolvent. Under intense pressure from the major creditor nations, Ismail decreed the formation of the Caisse de la Dette Publique. Directed by an Englishman, a Frenchman, an Austrian and an Italian, this body was given control over certain of Egypt's major revenue sources, in order to organize the liquidation of her current debt and her bonds and debentures.[21] In short the baliffs had moved in.[22]

The Caisse's presence provoked profound discontent among the Egyptian intelligentsia. It was not only directed by appointees from the major creditor nations, but Europeans held most of the subsidiary positions. In addition to these factors, Europeans at all levels of the Caisse were paid inordinately high salaries. The directors, for example, voted themselves

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[21] Concerning such supranational representation, it was reported that: "International jealousy is strong in Egypt and, consequently, 2 or 3 men must be named to what is only the work of one, in order that each nationality should have its proper influence in the country. Thus an Englishman and a Frenchman must attend to the taxation; 2 Englishmen and a Frenchman control the railways; an Englishman, a Frenchman, an Italian and an Austrian attend to the public debt; and as many as 12 nationalities are represented on the judicial bench....Of course all this European talent is very highly paid." The Times, January 1, 1877, p. 9.

[22] Crouchley, op. cit., p. 123. Where foreign debt was concerned, Ismail might well have taken warning from events subsequent to Tunis' failure to pay service charges on her foreign loans of 1863 and 1865. A special financial commission of Europeans was established - chiefly Frenchmen, to ensure that taxes were set aside for the payment of interest on, and redemption of, the loans. This European interference resulted in the taking over of three ports of Tunis by France, England and Italy, in order that they might collect the customs revenues for the benefit of creditors from their respective countries. Hamza, op. cit., p. 147.

$30,000 (American dollars) per annum.[23] The following comment by a Times' correspondent adequately summarizes the salary situation:

> The new Controllers General of Taxation....are paid as highly as the President of the United States, or a Baron of the Exchequer. Even their deputies are to receive £2,500 a year, while £3,000 a year is not an uncommon salary to Europeans in other branches.[24]

The Caisse employed 119 Europeans in 1876 and added 76 in 1877 and 131 in 1878.[25]

Despite the generous salaries, the Caisse de la Dette instituted stringent retrenchment in other areas of government spending. Some of the effects of this - in Cairo - are illustrated in the following report:

> The consequent check to business has thrown hundreds out of employment, and the want of ready money has brought the trade of the retail dealers to a minimum as regards the necessaries of life, and to a standstill as regards luxuries. The stores of the furniture brokers are crammed with second-hand furniture; well-to-do people are living on the jewels of the family; carriages are to be had for half their price. The old bookstalls are filled with books that lately adorned the shelves of libraries. Hundreds of clerks are struggling through the bad times with nothing to do.... Economy has been practised in every department (of the government); salaries have been diminished; offices have been abolished; the Viceregal concerts and balls have been postponed to more prosperous times, the extravagance of the harems has been checked, a portion of the army has been disbanded; every payment that was not absolutely necessary has been put off to a more convenient season.[25]

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[23] W.S. Loring, A Confederate Soldier in Egypt (New York, 1884), p. 178.

[24] The Times, January 1, 1877, p. 7.

[25] Between 1864 and 1870, 160 Europeans received appointments in the Egyptian civil service, and between 1871 and 1875, 201. The Times, January 23, 1879, p. 10.

[26] The Times, January 3, 1877, p. 5.

By 1879, the Egyptian populace was generally incensed against the European interlopers. As can be seen in the following excerpt from a letter from Ismail to Cherif Pasha, who had resigned from a key government position in defiance of the Caisse, Ismail had by this juncture adopted the guise of a popular leader:

> As the head of State and as an Egyptian, I consider it my sacred duty to follow the opinion of my country and to give complete satisfaction to its legitimate aspirations.[27]

In an attempt to evade the virtual stranglehold of his foreign creditors, Ismail adamantly refused their demands to declare Egypt bankrupt. This, of course, infuriated the creditor nations. Shortly thereafter Britain and France jointly advised him to abdicate. In the meantime British and French diplomats were pressing the Sultan to depose him. When it became known that the Sultan had decided upon this course of action, the Khedive abdicated. He was replaced by his son Tewfik, considered by the powers to be more malleable.

Ismail's imprudent spending had saddled Egypt with a total consolidated debt of £E. 91,000,000, which would take five decades to liquidate. The immense strain that this exerted on the Egyptian economy is indicated by the fact that the interest alone accounted for 35.5 percent of the national revenue from 1880-1899.[28] The Khedive's celebrated statement made in 1878:

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[27]Translated from French, quoted in Rifaat, op. cit., p. 165.

[28]Crouchley, op. cit., p. 21.

"My country is no longer in Africa; we are now part of modern Europe," was an inadvertent double entendre that was more true in its unintended than in its intended sense.[29] While the Khedive meant to convey the impression that Egypt had to a large extent modernized, the statement could be taken to mean that Europe was dominant in Egypt, which in fact it was rapidly becoming.

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[29]Translated from French, quoted in Rifaat, op. cit., p. 161.

Chapter VIII
Problems of Productivity in Agriculture

Ismail's accession occurred in the midst of the cotton boom of 1861-1866, a period of unprecedented prosperity for Egypt. Though the cotton market later underwent wide fluctuations, and sugar cane cultivation was greatly expanded, cotton remained the mainstay of the Egyptian economy throughout Ismail's reign, as it had been for most of the Muhammad Ali Era.

In 1860, five-sixths of the cotton purchased by European countries came from the United States. When cotton crops were disrupted by the American Civil War of 1861-1865, European industrialists, in a state of panic, hunted for alternative sources of supply. Initially, Said Pasha did nothing to spur Egyptian agriculturalists into expanding their cotton output, though he and members of his family increased the cotton acreage on their own farms. As the crisis intensified however, British industrialists pressed Said, who in turn urged all farmers to sow at least one fourth of their land with cotton.[1] Between 1861 and 1865 cotton exports more than quadrupled,

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[1]During Said's administration fellahin, who had hitherto held their farm plots by usufruct, were recognized, by the Decree of A.H. 1247 (1858) as owners of their land, with full rights of selling, bequeathing, letting and mortgaging. This decree, combined with the reduction of export dues from 10% to 1%, gave considerable impetus to agriculture. Crouchley, op. cit., p. 111. Other countries which benefitted from the cotton crisis due to the American Civil War included: India, Brazil, and Turkey. Owen, op. cit., pp. 92-97.

while their value increased more than tenfold. These increases are illustrated in the following table, which provides the annual volume of cotton exports, and their value, during the boom period:

[2]

YEAR	KANTARS	£E
1861	596,000	1,430,880
1862	820,119	4,920,660
1863	1,287,000	9,356,490
1864	1,740,000	14,842,700
1865	2,507,169	15,443,120
1866	1,288,762	11,424,000

Ismail was aware, early in his administration, that the American Civil War would soon end and that cotton prices would subsequently decline. He was optimistic, nevertheless, that they would maintain a relatively high level, since he reasoned that America could not regain its former pre-eminence on the world market without slave labour.[3]

In the midst of the boom, however, a murrain epidemic killed the vast majority of Egypt's oxen - the principal motive power for irrigation devices and agricultural implements. Initially, the disease had been ignored, since animal, as well as human, mortality rates were always high and plagues were

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[2]Crouchley, op. cit., p. 135, and Owen, op. cit., p. 90. At this time an Egyptian pound was worth a little more than a pound sterling.

[3]W.B. Hesseltine and H.C. Wolf, The Blue and the Gray on the Nile (Toronto, 1961), p. 31.

endemic throughout the country. By June it was apparent that this disease was more severe than any within living memory. Previously unknown to Egypt, the murrain defied any then current treatment and killed within a few hours of the appearance of symptoms. There were, moreover, very few veterinarians available to devise and supervise counter measures, since the Veterinary School, opened in 1827, had been closed during the 1850's.[4] Altogether, according to Ismail, 700,000 animals died.[5]

The murrain momentarily induced relatively large scale agricultural modernization in Egypt. To counter the severe shortage of animals, Ismail and other rich landowners imported large numbers of steam pumps for irrigation, and steam ploughs. The cost of such implements from England alone, during the 1864-1865 period, amounted to £650,000 sterling. Ismail, who by May 1864 owned 200 steam ploughs, had taken the initiative in this rapid mechanization.[6] He remarked to a British diplomat on this

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[4]While the Veterinary School had been in existence, it had been obstructed and ridiculed by Ottoman administrators.

[5]Douin, Histoire du Règne du Khedive Ismail, vol. 1, p. 272.

[6]Ibid., p. 262. After his accession Ismail seemingly became obsessed with increasing his land holdings. Neither his relatives nor his friends were safe from his covetous eye. After he had offered what he felt was a reasonable price for a piece of land, the proprietor made haste to accept the honour, however much he may have been otherwise inclined to reject it. If he refused, he found his irrigation canals cut off and his fellahin gone in the night. By such means Ismail quickly doubled, tripled, eventually decupled the already enormous domains he held on his accession. By the latter part of his reign he owned one fifth of Egypt's cultivable land. Landes, op. cit., p. 189, and The Times, June 28, 1879, p. 5.

matter: "I wish to give an example to my compatriots."[7] Egyptian agriculture's precarious situation due to the murrain and the scale of the resultant mechanization, are indicated in this report of February, 1864:

> only 20 days now remain, by which time all seed must be in the ground. Every kind of animal is pressed into service - sometimes even fellahin are yoked to the ploughs. Unfortunately, but few steam engines have arrived. Hundreds are on the way, but they will be too late for this season.[8]

The key obstacle to a successful large scale transition to mechanized farming was the almost total lack of Egyptian personnel who could operate and/or repair the machinery involved. Such a problem is of course reminiscent of the Muhammad Ali Era. A number of European mechanics were hired to maintain and repair farm machinery. Notwithstanding this, a large proportion of it soon ceased to function and was subsequently abandoned. Within a relatively short time of the beginning of the mechanization experiment, most of the landowners involved had completely reverted to the use of traditional farm implements. It is notable, however, that at one establishment where mechanized farming persisted, the machinery is conjectured to have been a stimulus to increased mental acuity among the fellahin there:

> I lately heard that Halim Pasha, in conversing with his farm labourers had found the intellect of the lads who have grown up since the introduction of the new mechanical appliances was greatly in advance

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[7]Translated from French: Douin, Histoire du Règne du Khedive Ismail, vol. I, p. 262.

[8]The Times, February 29, 1864, p. 12.

> of that of the men who had reached manhood under the former primitive system of cultivation, when the ox was the all-in-all to the fellah, and when mind had no stimulus and no cause for thought or inquiry.[9]

The lack of domestic fuels was an additional barrier to the development of mechanized farming. Coal costing 12½ francs a ton at Newcastle or Cardiff, retailed at 75-100 francs in the interior of the Delta. Owing to uncertainties in the Egyptian railway system, and the lack of other adequate means of transportation, delivery of fuel was not reliable.[10] Coal that arrived at Alexandria in April, often did not reach its final destination until August or September, by which time the cotton had been harvested.[11]

The fellahin, who held the greater part of Egypt's arable land, were for the most part unaffected by the mechanization venture. They continued to use agricultural implements and techniques that dated from antiquity. The simple plough merely stirred the topsoil, leaving the subsoil unexposed to air, sun and water. Though cotton cultivation rapidly exhausted the earth, crop rotation was only used to a limited extent, and neither natural nor artificial fertilizers were applied to the

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[9] The Times, March 29, 1878, p. 5.

[10] Ismail sent expeditions to the east and south of the country in search of coal deposits. They were unsuccessful.

[11] During the extraordinarily high Nile flood of September, 1863, the Cairo to Alexandria railway line and its branch line were broken for some months. Ismail requisitioned the services of all steamers on the Nile in an attempt to ease the transportation problem. Nevertheless, a huge backlog of freight choked the railway system for some time after full service was resumed. It was estimated that 20,000 to 25,000 bales of cotton were destroyed by the flood and tens of thousands of bushels of grain. Serious food shortages ensued; thus foodstuffs, including wheat, had to be imported. Landes, op. cit., pp. 148-150, and Owen, op. cit., pp. 110-111.

soil. Such factors led to the deterioration of successive crops and the necessity of abandoning land until it had recuperated.[12] The extent of the backwardness of peasant agriculture is indicated in the claim, made by a French observer, that two Frenchmen with two horses harvested as much wheat in a day as ninety to a hundred fellahin. Ismail, who greatly relied upon revenue from the total agricultural community, never attempted to introduce agricultural reforms to the fellahin. Such reforms, even though unspectatular and slow to fructify, ultimately could have been of great benefit to Egypt.

The volume of cotton exports fell from 2,507,000 kantars at the height of the cotton boom in 1865, to 1,260,946 kantars in 1867 - the year immediately succeeding the boom period.[13] Similarly, the price of a pound of Egyptian 'fair' quality cotton fell from a high of 32 pence in 1864, to a low of $7\frac{3}{4}$ pence in 1867 (the average price in 1867 was $13\frac{3}{8}$ pence).[14] Such a slump in the cotton market induced a number of Egyptian farmers to revert to the cultivation of cereal products. Unfortunately, it soon became apparent that there was no longer a significant overseas market for Egyptian grains. In recent years grains from such developing countries as Australia, Canada, Argentina and Russia had inundated the international market. These were of much better quality and cheaper than

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[12] The Times, April 17, 1878, p. 5.

[13] Owen, op. cit., p. 90.

[14] Hamza, op. cit., p. 112, and Landes, op. cit., p. 234.

those grown in Egypt. With most of her agriculture in a primitive state, Egypt could not hope to compete in this market. Consequently, most Egyptian farmers were virtually compelled to rely upon cotton cultivation for their livelihood, with all the uncertainties that this reliance came to imply. The fluctuations in cotton exports and prices following the record year of the boom period, 1865, are illustrated in the following table:

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YEAR	KANTARS	AVERAGE PRICE IN RIALS PER KANTAR	YEAR	KANTARS	AVERAGE PRICE IN RIALS PER KANTAR
1865	2,507,169	45	1873	2,013,433	21
1866	1,288,762	21 1/4	1874	2,575,648	18 1/2
1867	1,260,946	35 1/4	1875	2,206,443	23
1868	1,253,455	22 1/2	1876	3,007,719	15 1/8
1869	1,289,714	19	1877	2,439,157	15 3/4
1870	1,351,797	22 1/2	1878	2,583,610	13 3/4
1871	1,966,215	19 1/2	1879	1,680,595	14 7/8
1872	2,108,500	15 3/4			

Fearing the economic consequences of declining cotton sales and prices during 1866, Ismail initiated the development of large scale sugar cane and sugar processing industries.[16] Only four sugar factories, which had opened before his accession,

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[15] Crouchley, op. cit., p. 135, and Owen, op. cit., p. 90.

[16] In order to facilitate the cultivation of sugar cane, the Ibrahimieh Canal, 180 miles long and 14 metres wide, was dug from Assiut to Bibieh, by 100,000 corvée labourers. Virtually all of the land bordering it was purchased by Ismail and added to his private estates. Those landowners who did not readily sell their property were coerced into doing so. Rifaat, op. cit., p. 104.

were in operation at this time.[17] These produced approximately 55,000 kantars of sugar annually, far below the amount consumed domestically. The balance was imported from England and France. By the mid-1870's, twenty-two sugar processing plants were operating. They had a combined capacity of 3,250,000 kantars, and were estimated to have cost around £E. 6,000,000 to construct and fit with modern machinery (a considerable part of this sum was wasted).[18] Egypt first exported processed sugar in 1867, competing relatively successfully against severe foreign competition. Nevertheless, throughout Ismail's time over-supply kept sugar prices on the world market at a low level.

It soon became apparent, in fact, that the sugar venture had been embarked on too hastily and had expanded too rapidly. Of the twenty-two factories operating in the mid-1870's, only ten were still open in 1878. Too few capable and experienced management personnel had been available to organize the nascent industry. It had expanded without consideration of the availability of sugar cane and of labour, skilled or

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[17]These factories had been built between 1845 and 1859. Owen, op. cit., p. 153.

[18]"The original cost in Europe of machinery for the larger factories is said to be about £130,000 each. Besides the machinery needed for the factories there has been brought out an extravagant quantity of extra machinery of all kinds, which is lying about as so much waste over the whole extent of the sugar country. This extravagance has doubtless arisen to great part from the rivalries of the French and English who have been interested in the erection of the factories. The canal (Ibrahimieh) has entirely destroyed the use of the pumping engines, and consequently they have been almost from the time of their erection lying idle. No care is taken on them and they are now quite worthless, the smaller working parts having been stolen. The average cost of these was about £23,000 so that the total loss is not inconsiderable." The Times, May 5, 1877, p. 6.

unskilled.[19] Shortages in both these areas forced frequent temporary closures of factories. The shortage of skilled labour was especially acute. English and French engineers were employed to train Egyptian personnel in various relevant methods and techniques. Unfortunately, the problems these advisors encountered in their task were not documented in the studies available to this student.

The inefficient transportation system throughout the sugar estates owned by Ismail was another aspect of bad management. The factories were located in the centres of the large plantations, far away from the railway that bordered them.[20] Apparently the planners of the factories failed to realize that efficient transportation links are essential to modern industries. This oversight forced the use of animal transportation over relatively long distances, frequently an inadequate means of supply for the factories.

Apart from the sugar processing industry, essentially an extension of agricultural policy, Ismail undertook only

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[19]It appears that there was no overt hostility from the fellahin to working in the sugar factories. Factories were no longer a totally new concept to them, as they had been during Muhammad Ali's reign, though only a few were in operation between Muhammad Ali's and Ismail's reigns. A Monsieur Garnier wrote of workers in a sugar factory at Rhoda: "Ils m'ont paru de bonne humeur, satisfait de leur condition et ne subir aucune contrainte." Douin, Histoire du Règne du Khedive Ismail, vol. 1, tome I, p. 263. Soldiers were sometimes used for harvesting sugar cane. Stephen Cave reported that: "On one estate we saw soldiers engaged in cane cutting, and we heard that the work performed by the soldiers was far superior to that of the ordinary labourer." Public Records Office, F.O. 407, vol. 7, p. 64. Letter 117: Mr. Cave to the Earl of Derby, Cairo, February 12, 1876.

[20]Rifaat, op. cit., p. 104.

one other major industrial project. This proved an abortive undertaking. Alfred Garwood, a British engineer, describes the unassembled machinery for an entire steel mill he found at Bulaq:

> Imagine, if you can, rolling mills to manufacture iron, with not a scrap of iron ore in the country, puddling furnaces with nothing to puddle, rolls and mills with no iron to roll, ... engines which had never put down; machinery still unpacked...His (Ismail's) advisers must have known that the whole thing was a gigantic fraud.[21]

Outside of the sugar industry, most of the manufactories operating during Ismail's reign were established before his accession. These included two cotton weaving mills, a tarboosh factory, a tannery, a paper mill, the National Printing Press, a number of bakeries and several armament manufactories.[22] A large proportion of the products of all of these enterprises went to the armed forces.

The failure of the sugar industry to develop into a profitable undertaking meant that Egypt essentially had a one crop economy, as had been the case during Muhammad Ali's administration. Cotton output had greatly increased since then. The highest volume of cotton exported during the Muhammad Ali Era was 315,470 kantars in 1837. Under Ismail it was 3,007,719

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[21] Alfred E. Garwood, Forty Years of an Engineer's Life (Newport, n.d.), pp. 98-101.

[22] According to the American Consul-General, the manufacture of cotton cloth was almost wholly discontinued around 1872. He felt that this was largely due to the high cost of coal and the fact that skilled labour had to be imported from Europe at inflated rates of pay. Owen, op. cit., p. 155. Small amounts of paper were exported to the Hejaz and India. J.C. McCoan, Egypt as it is, pp. 325-326.

kantars in 1876.[23] Yet this wide productivity differential is a misleading indicator of government revenue, as Muhammad Ali had enjoyed the profits of a monopoly system, an advantage that Ismail never possessed.

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[23]Crouchley, op. cit., p. 93 and p. 135.

Chapter IX

Public Works and the Public Debt

At the time of Ismail's accession in 1863, Egypt's national debt was approximately £E. 6,500,000, by the end of his reign, in 1879, it had reached £E. 91,000,000.[1] A large part of the increase can be attributed to extensive public works projects. These included beautification of the key cities and the construction of palaces and other monumental buildings, as well as the expansion of Egypt's infrastructure.

Spurred into embarking on extensive public works projects by the cotton boom, which inflated his concept of Egypt's economic potential beyond reason, Ismail made no attempt to gear public works expenditures to the limitations of the national revenue. Even when the cotton market was in a precarious condition, during the second half of the 1860's, the public works bonanza continued unabated. Ismail - profound egotism being a facet of his complex nature - used his public works projects as a means of demonstrating that he was a progressive leader. This is especially true of the Suez Canal, though it was essentially a French undertaking, and was a disappointment to Ismail.

At the Canal's inauguration he did virtually everything he could to impress foreign guests in Egypt of his personal greatness. In this manner he hoped to generate popularity for himself among European heads of state for pragmatic as well as

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[1] The £E. 6,500,000 does not include contingent liabilities left by Said, which largely entailed heavy expenditures on the Suez Canal. Hamza, op. cit., p. 64.

egotistical ends. In the pragmatic vein, he wished to win their assistance, or at least their moral support, in his attempts to gain independence from the Ottoman Empire. He also wanted to project an affluent image in order that he might, when necessary, raise loans on the international money market. Among the guests at the inauguration were: Francis Joseph, Emperor of Austria, Empress Eugénie of France, the Crown Prince of Russia and various lesser royal figures. There were in all 3,000 official foreign guests, each of whom was furnished with a free return passage to Egypt, free board and lodging and free passes for railroad travel. According to Edward Dicey any "of the Khedive's visitors might have spent two months in Egypt without ever needing to put his hand in his pocket for anything except personal expenses."[2]

The Suez Canal was the most spectacular public works project to be completed in Egypt during the nineteenth century; nevertheless, Ismail was averse to it. His antipathy stemmed from the extremely generous concessions that Said had awarded to the Canal Company and from his justifiable concern that the Company would infringe on his sovereignty. The concessions included a guarantee to provide four-fifths of the labour required - this was corvée labour - and the granting to the Company of all land on either side of the Canal within one kilometer of the centre of the channel (the land involved was exempt from taxation for ten years). The labour clause, which had originally been estimated to involve 6,000 men, actually

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[2]Dicey, op. cit., p. 75.

involved approximately 60,000 men: 25,000-30,000 working, while the remainder were travelling to or from the site.[3] The Company was content to dig the whole canal with the corvée labourers provided, since the machinery necessary to replace them would have been extremely expensive.[4] Such a system was, however, a severe drain on Egypt's labour resources, which were insufficient for her own needs.

Soon after his accession, Ismail received a formal letter from the Porte which contained three salient recommendations concerning the Canal. Firstly, that it should be used exclusively for commercial purposes; secondly, that the land awarded to the Canal Company should be repossessed by Egypt and thirdly, that the use of forced labour on the Canal should be abolished.[5] The Porte had undoubtedly been induced to make these recommendations by the British Government, who were intent upon doing what they could to prevent the Canal from being completed. Britain was extremely apprehensive about a French company controlling the shortest route from Europe to the Far East, for it

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[3]Due to cruelty and neglect of human needs on the part of the Canal Company, the mortality rate among members of the corvée was high. And many of those workers who survived, took weeks to recover from the ordeal. Elbert E. Farman, Egypt and its Betrayal (New York, 1908), pp. 203-206.

[4]See in Pierre Crabites, Ismail the Maligned Khedive (London, 1933), p. 48. Though this was forced labour, the Company paid each labourer 1 franc (5 piastres) a day, which is said to have been a relatively high wage. At this time, 1 kg. of bread cost ½ franc, 1 kg. of beef 0.99 francs, and 1 kg. of mutton 1.6 francs. Yet such workmen usually supported numerous members of their family as well as themselves. Z.Y. Hershlag, Introduction to the Modern Economic History of the Middle East (Leiden, 1964), p. 109.

[5]Rifaat, op. cit., p. 129.

would be of formidable strategic value to France should she choose to invade India. Ismail was essentially in accord with the Porte's suggestions, yet he was reluctant to expose himself to French hostility. Notwithstanding this, he aired grievances against the Company, and unilaterally reduced the number of corvée labourers working on the Canal to 6,000 men. Briefly thereafter he and de Lesseps agreed to permit Emperor Napoleon III to arbitrate differences between Egypt and the Canal Company. Ismail apparently believed that a man of such renown as the Emperor could be relied upon to be just, though his Empress was a cousin of de Lesseps.[6] The judgement, released on July 6, 1864, was flagrantly biased in favour of the Company. According to Judge Farman, the American Consul-General at Cairo, "it astonished the jurists of all Europe, and had it not been of so serious a character, would have been regarded as a judicial curiosity."[7] Egypt was ordered to pay 84,000,000 francs to the Company, almost half of its original capital. Thirty-eight million francs of this were designated for the hiring of European personnel and the purchasing of machinery, which was intended to replace the Egyptian corvée labour.[8] Thirty million francs

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[6] Ibid., p. 129.

[7] Quoted in Hamza, op. cit., p. 77. Ismail spent a large sum on preparing Egypt's case in the arbitration and a further large sum in payments to various European newspapers for propaganda purposes. Ibid., p. 78.

[8] Workers were imported from Southern Europe and the Levant and various steam driven machines were invented to take the place of Egyptian manpower. The Company spent £2,400,000 sterling on machinery and approximately £40,000 per month on fuel. Lord Kinross, Between Two Seas (London, 1968), p. 221.

were for land returned to Egyptian ownership (the Company retained sixty metres of land on either side of the Canal).[9] The remaining sixteen million francs were for various indemnities, including the Company's revocation of fishing rights to the Canal, which it had never technically possessed.[10]

The 84,000,000 francs indemnity, to be paid over sixteen years, was a boom to the Canal Company, on the verge of bankruptcy at the time of the award. Nevertheless, by 1866 the Company funds were again exhausted. De Lesseps managed, however, to press Ismail into agreeing to pay off the remainder of the indemnity much more rapidly than had originally been agreed, even though the Egyptian Treasury could ill afford this (the National Debt was about £E. 19,000,000 during the latter part of 1866). Fifty seven million, seven hundred and fifty thousand francs were to be paid off in monthly payments over three years. Ten millions were to be paid in six one monthly instalments from July to December, 1866. "To gild the lily," Ismail agreed to pay 10,000,000 francs for some buildings and land vacated by the Company, in six one monthly payments.

The Canal was estimated to have cost Egypt £12,098,616 sterling (this is the total expense after Ismail had sold his

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[9]The Company was awarded £20 per acre for the barren desert land which had been given to it. Some years later the Company required some of the same land to build wharves on; however, when the Egyptian Government asked £20 an acre for it, the Company protested that this was an absurd price for such land. They paid a small fraction of the price they had earlier received for it. Dicey, op. cit., p. 34.

[10]Crouchley, op. cit., p. 119 and Rifaat, op. cit., pp. 130-131.

shares to the British Government in 1875 for £3,976,583).[11] Her expenditure included the 84,000,000 franc indemnity, £6,663,103 interest on loans raised in order to pay expenses involving the Canal and £1,011,193 for inauguration festivities. Because of concessions to the Company and then the sale of Ismail's Canal shares, Egypt received little or none of the profits from the Canal's transit operations. Moreover, the profitable rail transit business, involving passengers, mail and goods from Europe en route to the Far East, and vice versa, was almost completely dissipated due to competition from ships using the Canal. Costly facilities had been built specifically for this service, including the Alexandria to Suez railroad. But the Canal was more than a huge financial liability for Egypt. Its strategic importance was a magnet for international rivalry. When Britain occupied Egypt in 1882, it was essentially to safeguard use of the Canal.

Unlike the Canal, the large amount of railroad construction completed during Ismail's rule was, despite shortcomings, of positive value to Egypt. At his accession there were 245 miles of railway, but the rails as well as the rolling stock were in a dilapidated condition and facilities for the storage

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[11] Hamza, op. cit., p. 278. In 1875, drastically short of money to pay his creditors, and tribute to Istanbul, Ismail sold his Suez Canal shares to Britain. Said had paid for 177,642 shares. When the shares were resold, however, it was discovered that there were only 176,602. What happened to the missing 1,040 shares has remained a mystery. Crouchley, op. cit., p. 122. A Frenchman, la Rose, wrote a farce called "C'est le Vice-roi qui paie," a performance of which was presented during the Canal's inauguration festivities. It was a great success, but was suppressed before a second performance was given. C. Chaillé-Long, My Life in four Continents (London, 1912), vol. I, p. 35.

and the loading and unloading of merchandise were extremely limited.[12] During Ismail's administration, all of these were greatly increased and improved. It is notable, moreover, that by the latter half of the 1870's, all of the European engine drivers had been replaced by Egyptians.[13]

Nine hundred and seventy-one miles of railway were constructed between 1863 and the mid-1870's, at a cost of £E. 13,000,000. A large part of the new rail complex, built primarily to transport agricultural produce, linked the major centres of the Delta Region. The remainder consisted of a line from Cairo to Upper Egypt.[14]

Early in Ismail's reign, when an extremely heavy flow of freight was being carried on the rail system due to the cotton boom, the railway's administration proved itself to be notably inefficient.[15] For example, there was an inordinate number of

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[12] A. Sammarco, Histoire de l'Egypte moderne (Cairo, 1937), tome III, p. 139.

[13] McCoan, Egypt under Ismail, p. 253. The following concerning wages of European engine drivers in Egypt, was written by Moberly Bell, an English merchant: "Among the engine-drivers on the Alexandria, Cairo and Suez line of the railway, a very large proportion are Englishmen. These men who took service under the Egyptian Government - deceived by the promise of wages higher than those in England, not taking into proportion the more than proportionate expenditure - have found that not only are these wages small, but that they are seldom if ever paid, while the other conditions of their contract are deliberately neglected." The Times, July 23, 1867, p. 12.

[14] McCoan noted that passenger and freight rates were much higher in Egypt than in Europe, even though labour was cheap, and the railways were estimated to have cost 46%-53% less than comparable European railways to construct. McCoan, Egypt under Ismail, pp. 253-256.

[15] The McCarthy cotton gin, which was a considerable improvement on previous ginning techniques, was increasingly being used in Egypt. Thus the bulk of the cotton crop was ready for ship-

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rail accidents due to faulty scheduling. In January, 1864 a Times correspondent opined that the railway complex "is in a state of confusion that has never been equalled."[16] A record sixteen train collisions in March of the same year gives credence to this statement. In answer to such problems, Ismail appointed two or three of his most capable administrators to key railway managerial positions. Alfred Garwood's description of the railroad workshops in Bulaq in 1877 indicates, however, that gross inefficiency persisted in management:

> I was astonished at the immense quantities of valuable material of every conceivable description for the repair and maintenance of rolling stock, railway plant, telegraphs, etc....In all my experience nothing I have seen has ever approached this....Then when one was informed that there were large quantities of stores at Galarri also, one had to marvel how such things could be. It was incredible, thousands of pounds worth of equipment decaying in the open air.[17]

As late as 1877 there were no regular timetables for goods trains. This was largely because there was an insufficient number of technicians to service and repair engines. Frequently, for example, a locomotive was discovered to be unserviceable just prior to its expected departure with a goods train. There would, consequently, be a long delay while a replacement was found. Under such circumstances it was futile to draw up

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ping within six months of harvesting; whereas previously the total crop would have taken approximately a year to gin. The extent of the freight crisis of the cotton boom period is indicated by the fact that it was estimated that a backlog of 100,000 freight packages was awaiting shipment in January, 1864. Douin, Histoire du Règne du Khedive Ismail, vol. I, p. 268 and Owen, op. cit., pp. 110-111.

[16]The Times, January 14, 1864, p. 9.

[17]Garwood, op. cit., pp. 98-99.

a schedule. The railway technicians' jobs were complicated by the no less than 62 different models among the 240 locomotives in Egypt in 1877![18]

During the early part of his administration, Ismail was assailed with complaints from European businessmen and diplomats concerning the railroads. In reply to criticisms of the rail system from the Manchester Chamber of Commerce, he wrote:

> People say that the railway is inadequate, but despite the state of the Treasury, have we not ordered from England a considerable quantity of equipment to increase the means of transportation? And furthermore can one do everything in an instant?[19]

Despite the apparent lack of sensitivity on the part of many Europeans to Ismail's problems, he persisted in his efforts to achieve his end.

At Ismail's accession the harbour facilities at Alexandria, Egypt's major port, were grossly inadequate. There were, for instance, no covered storage facilities and only one small quay and one crane. Goods therefore had to be stored in the open and the loading and unloading of the vast majority of ships had to be done via lighters. Such factors provoked bitter complaints to the Viceroy from foreign merchants, as did the bad road conditions from the Alexandria rail terminus to the dock area - the roads being unpaved, and often little more than quagmires.[20]

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[18] Ibid., pp. 100-103.

[19] Translated from French: Douin, Histoire du Règne du Khedive Ismail, vol. I, p. 273.

[20] The Times, March 25, 1864, p. 6. Foreign merchants also complained bitterly about obstructive customs officials, who held up shipments of goods for inordinate periods of time. Moreover, it is evident that some customs officials were extremely corrupt. It was estimated, by an independent

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The magnitude of the harbour improvements undertaken by Ismail is illustrated in the following report:

> Hundreds of lighters, with tug steamers, have been ordered in Europe....the construction of a new pier suited to large ships with steam cranes, has been confided to Europeans....the plans for the new customs-house and docks have been approved, and the financial arrangements necessary for their execution are nearly ....completed.[21]

The new docks, 1,400 acres in area, containing new jetties, wharves, warehouses, spacious areas of deep water and a large breakwater, were completed in 1880. But as was so often the case, Ismail was the victim of European cupidity. It was estimated that he was overcharged by at least 80% by Greenfield and Company, the English firm that constructed the docks (the total cost was £E. 2,905,000 including £E. 383,000 interest on loans).[22] Extensive harbour facilities, costing £E. 1,400,000 were also constructed at Suez.[23]

Ismail devoted attention to modernizing Cairo and other major urban centres, all of which were in a deplorably backward state at the time of his accession. Major streets were widened,

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authority, that the receipts from the customs-house at Alexandria, for the year 1872 alone, ought to have amounted to £558,727; whereas, the return of receipts from all the ports reached only £531,215. Stephen Cave, "The Cave Report," in McCoan, Egypt as it is, p. 426.

21 The Times, May 25, 1864, p. 6.

22 Similarly, Ismail was said to have been greatly overcharged by contractors involved in railway construction, sugar factories, waterworks, and so forth. M.G. Mulhall, "Egyptian Finance," in Contemporary Review (October, 1882), 530-531 and T. Rothstein, Egypt's Ruin, A financial and administrative record (London, 1910), p. 42.

23 Crouchley, op. cit., p. 139.

straightened, paved and provided with gas lighting.[24] Water and gas distribution facilities and sewers were installed.[25] Additional new public amenities included transportation services, parks, squares, public fountains, residential areas and a number of monumental buildings, including the Cairo Opera House and the Cairo Railway Station.[26] Also, a number of palaces were erected.

Sundry other important public works projects were undertaken by Ismail. These included the digging of 8,400 miles of new canals and the dredging of thousands of miles of older ones.[27]

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[24]"Cairo and Alexandria are well lit and their chief streets have recently been paved." The Times, January 6, 1876, p. 8. "All the new quarter of Cairo is well supplied with gas and water, and the roads are assuming a smooth macadamized surface by the constant action of oxen drawing heavy rollers over the material of which they are composed." The Times, March 4, 1873, p. 4.

[25]In Cairo, water, for all purposes, had previously been taken directly from the Nile, or a Canal that traversed the city. "In one respect, drainage, I fear the towns are still sadly wanting - thus disease deaths are still high." The Times, January 6, 1876, p. 8.

[26]Government subsidies to Cairo's opera house and its western style theatre were high, as is shown in the following report written during the retrenchment period of the mid-1870's: "£90,000 a year will be saved by the suppression of the opera and theatre at Cairo." The Times, December 13, 1876, p. 4.
"Many of the streets and squares familiar to Cairo's present residents and visitors alike - Muhammad Ali Street and Square, Ezbekiah, 'Abidin, Bab al-Luq and al Fajjalah - took shape at this time." L.M. Kenny, "Ali Mubarak: Nineteenth Century Egyptian Educator and Administrator," in Middle East Journal, XXI (Winter, 1967), 45. Sammarco wrote of Ezbekiah, that at the beginning of Ismail's reign, it was: "an inextricable jumble of vegetation; trees, hedges and branches were intermingled there in the middle of ditches which during the flood, were transformed into a vast swamp; it was a centre of infection and depravity, where assassination was not unknown. Ismail purified it and Cairo gained one of its most beautiful gardens and one of its most beautiful squares." Translated from French: Sammarco, op. cit., vol. III, pp. 283-284.

[27]The increase in canals, combined with Ismail's policy of contd:

Four hundred and thirty bridges, fifteen lighthouses, manned for the most part by Englishmen, and thousands of miles of roads were constructed.[28] Also, 5,200 miles of telegraph lines were laid. With the aid of railway, roads, telegraph and sea, river and canal transportation, a laudable mail service was established.[29]

Ismail accomplished impressive overt changes in Egypt with his precipitate public works schemes. The benefits of these were offset, however, by his inability to pay for them from ordinary revenues. Egyptian economist A.M. Hamza calculated,

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27 contd:
issuing concessions of large areas of waste-land to wealthy landowners at reduced rates of taxation, on condition that they were brought under cultivation, led to a significant expansion in agricultural land. The maximum amount of land under cultivation during Muhammad Ali's administration had been 3,856,000 feddans, in 1833. In 1863, 4,395,000 feddans were under cultivation and in 1879 4,810,000 feddans. The system of irrigation, however, remained defective and wasteful. The level of water in summer was many metres below the ground and the canals tended to silt up every year at the end of the flood. A great part of the agricultural labour force had to be employed in clearing mud from the canals in spring and in lifting the water to the land in summer. There were over 30,000 sakias, 70,000 shadoofs, 7,000 tabouts, and 500 steam pumps in use during Ismail's reign. Crouchley, op. cit., pp. 131-132 and O'Brien, op. cit., p. 172.

[28]The Times, January 6, 1878, p. 8.

[29]Ismail was a devotee of the sea and ships and one of his many ambitions was to give Egypt a merchant marine. In May 1863, he engineered the formation of a syndicate consisting of Egypt's most powerful nobles, European bankers Oppenheim and Dervieu and a Cairo banker named Sakakini. This group served as founders and directors of the Azizieh Company - also known as the Egyptian Steam Navigation Company. The firm was showered with favours by Ismail. For instance, he accorded it a thirty year monopoly for services in the Red Sea and the Mediterranean. A similar monopoly of steam haulage and navigation on the Nile was promised and an interest of 6 percent on the Company's shares was guaranteed by the Government. In return, the company took over the neglected fleets of the Medjidieh and Nile Navigation companies, which had begun operation and collapsed during Said Pasha's administration. It was reported that in 1873 the Azizieh Company had 16 ships operating in the Mediterranean
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from official records, that Ismail spent £47,178,943 sterling on public works - including the Suez Canal - from 1863 to 1874. During the same period, he paid £41,528,554 on interest and service charges for all government loans and sinking funds. Together these sums equal £88,707,497, which significantly surpasses the accumulated financial deficit of £63,948,409 for the same period.[30] Without heavy expenditures on public works, Ismail would have largely been able to avoid the need for financial loans and sinking funds. Government revenues from ordinary sources during the 1863-1874 period amounted to £94,281,401, while total Government expenditures equalled £158,229,810.[31]

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and 9 in the Red Sea. The company ran into severe financial difficulties during the early 1870's, apparently largely due to incompetent management. Landes, op. cit., pp. 149-150 and Rifaat, op. cit., pp. 109-110.

30 In addition to the £47,178,943 for public works and the £41,528,554 for interest and service charges for loans and sinking funds, the Government's other expenses were: £48,592,311 for administration, £7,592,872 for tribute to the Porte and £13,338,166 for miscellaneous items including military expenses. Hamza, op. cit., pp. 278-281.

31 It is of course impossible to estimate how much money government officials peculated, but there is no doubt that it was, collectively, a large sum. Notable among the embezzlers was Ismail Saddyk. Born a fellah, for many years a confidant of Ismail, he was appointed Minister of Finance in 1869. He received little if any formal education, but he was said to have been a genius in economic matters. Moreover, he was extremely capable when it came to devising methods of wringing taxes from fellahin. In 1876 two European financiers Joubert and Goschen travelled to Egypt to examine the Government's financial records. They were representatives of Egypt's European creditors, who had recently become extremely concerned about Egypt's financial condition. They found glaring irregularities in the accounts that Saddyk presented to them and accused him of malversation of government funds. Saddyk retaliated by threatening to disclose confidential information concerning the

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A large part of the deficit between revenues and expenses was made up by the effective proceeds of foreign loans. Such loans were mobilized by the release of debentures to the European public, who paid much below the nominal value. The total face value of Ismail's foreign loans was £73,704,360, but it was estimated that only £E. 47,949,000 was actually received by Egypt. The extraordinarily large differential between the two sums was accounted for by discounts, interest, commissions and so forth. Such hyper-generous terms of the loans inflated confidence among foreign investors. Even during the late 1860's, when Egypt was obviously in financial difficulties, the flow of investment capital from London and Paris, where there was an abundance of fluid capital at this time, did not diminish. The principal foreign loans, and the approximate amounts received were as follows:

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31 contd:
Khedive and attempting to incite public opinion against Goschen and Joubert. Within a short time Saddyk was arrested and given a summary trial by the Privy Council. A few hours after his arrest, he was placed under guard on a Nile steamer en route to Dongola, where he was to be imprisoned. It appears that he never reached his destination. A month after his arrest, the Government announced that he had died of natural causes, though, of course, it was generally believed that Ismail had ordered his execution. It should be noted that British Government official Stephen Cave, who had been in Egypt a short time before Goschen and Joubert, had also found considerable evidence of corrupt practices and had strongly suspected Saddyk. Ismail confiscated Saddyk's property, worth approximately £E. 3,000,000. Leon, op. cit., pp. 196-198, Loring, op. cit., p. 186 and Rifaat, op. cit., pp. 155-160.

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DATE	NOMINAL AMOUNT	ISSUED AT	RATE OF INTE-REST	NET AMOUNT RECEIVED	BANKER	WHERE ISSUED
	£.	%		£.		
1864	5,704,200	93	7	4,864,000	Fruhling and Gos-chen	London
1865	3,387,300	90	9	2,750,000	Anglo Egy-ptian Bank	London and Paris
1866	3,000,000	92	7	2,640,000	Fruhling and Gos-chen	London
1867	2,080,000	90	9	1,700,000	Imperial Ottoman Bank	London and Paris
1868	11,890,000	75	7	7,193,000	Société Générale Egyptienne	London, Paris and Alexan-dria
1870	7,142,860	75	7	5,000,000	Franco-Egyptian Bank	London and Paris
1873	32,000,000	70	7	17,810,000	Oppenheim	London and Paris
1879	8,500,000	73	7	5,992,000	Rothschild	London and Paris
TOTAL	73,704,360			47,949,000		

In addition to the aforementioned loans, Ismail accumulated a large floating debt, due to his inability to pay for multifarious goods, services, projects and short term credit transactions. For example, the floating debt was approximately £35,043,190 in 1873. That year alone, the service charges on the funded debt and the floating debt combined were £E. 7,206,544. This was almost 70 percent of Egypt's total revenue for the previous

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[32]Crouchley, op. cit., p. 122 and M.G. Mulhall, op. cit., p. 526.

year, £E. 10,363,815, which included £E. 1,575,730 from the Muqabala, a temporary source of income.[33]

The foreign financiers who engineered Ismail's loans obviously had few, if any, compunctions about making inordinate profits from the transactions. On the other hand, Ismail was for a long time heedless of the cost of the transactions and their contingent pitfalls. There are of course numerous cases in modern history where political leaders have financed induced developments from large foreign loans. The ultimate consequences have often been disastrous for the debtor countries, as they were with Egypt during Ismail's administration.

In acute contrast to Ismail - whose debts finally amounted to £91,000,000 - Muhammad Ali left Egypt debt free. He made various loans, but they were always relatively modest, short term ones, from businessmen within Egypt. Al-Jabarti noted as early as 1808 for instance, that the Pasha had asked a group of Cairo merchants to loan him 2,000 purses. He was on a number of occasions offered large loans by foreign financiers, but he never contracted any. In October 1833, after the First Syrian War (1832-1833), when Egypt was in financial difficulty, a

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[33]The Muqabala Law of 1871, a desperate attempt to mitigate a growing financial crisis, reflects Egypt's precarious financial position of the early 1870's. It offered anyone who paid six years' tax in a lump sum, or by instalments, freedom from half of his land tax liability in perpetuity. In other words, to gain urgently needed capital, the Government was prepared to halve its income from land tax - approximately £5,000,000 per annum at this time - six years hence. Even with such generous terms, the Government had to apply pressure on the landowners before a majority of them would accede. The sum eventually gathered via Muqabala totalled £9,500,000. Crouchley, op. cit., pp. 120-121 and Hamza, op. cit., pp. 189-190.

Monsieur de Cadalvene offered the Pasha, on behalf of a company of European capitalists and bankers, including the Rothschilds, a loan of one hundred million francs. This was to be paid over thirty-six years at five percent annual interest. The Pasha, however, refused the offer. Instead, he generated capital by selling all of the agricultural produce that had accumulated in government warehouses. At the same time, he economized by allowing the pay of government officials and the army to fall into arrears and by not paying his annual tribute to the Porte. The next year Monsieur de Cadalvene, armed with letters of recommendation from Monsieur Mimaut, the French Consul-General to Egypt and the Duke of Broglie, the French Minister of Foreign Affairs, offered the Pasha a loan of 30,000,000 francs. But, as on the previous occasion, the Pasha declined the offer.[34]

Ismail would have been well advised, of course, to have emulated his grandfather's conduct where foreign loans were concerned. Though he could not avoid the largely inherited commitments to the Canal Company, borrowing large amounts of money for other public works enterprises, especially those of an unproductive nature, was reckless. His economic priorities should have been to liquidate the debt that he had inherited from his predecessor and to work within the limitations of his government revenue. He was however, intent upon carrying out various costly reforms and was not prepared to coordinate them with budget surpluses, since this would have entailed gradual,

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[34]A.E. Crouchley, "The Development of Commerce in the Reign of Mohamed Ali," in Egypte contemporaine, XXVIII, No. 168 (February, 1937), 309 and Hamza, op. cit., pp. 3-5.

limited development. Thus he chose to finance them from foreign loans - paying little heed to the abnormally high interest rates and service charges. Eventually the accumulated foreign debt reached a level where Egypt was unable to meet the annual payments on it. To ensure the eventual liquidation of the debt, the Caisse de la Dette, under the protection of European powers, took over the management of major areas of Egypt's economy.

Chapter X

The Organization and Administration of Education

Himself tutored by Europeans, Ismail had a high regard for western education, which, on the day of his investiture, he referred to as "la base de tout progrès."[1] His reign witnessed considerable educational development. New institutions were opened, others were revived, and major reforms were promulgated.

During his first weeks in office Ismail re-established the Council of Schools - Diwan al-Madaris - which had been dissolved by Abbas in 1854. Muhammad Sharrif, one of the Pasha's most accomplished officials, was appointed director of this body. It appears that at this time no primary or secondary schools were open and that the School of Medicine was the only special school fully in operation.[2] Conversely, the number of katatib in operation had markedly increased since the Muhammad Ali Era. Because they lacked adequate financial support, however, they were generally in a severely degenerate condition.

A plan to integrate the katatib into the Government's education system and to broaden their curricula, was prepared by Adham Pasha, the Director of Education, during the latter part of Muhammad Ali's reign, but it was shelved. Adham Pasha and al-Tahtawi attempted to have it instituted during Said's

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[1] Douin, Histoire du Règne du Khedive Ismail, vol. 1, p. 2.

[2] McCoan, Egypt as it is, p. 227.

reign, but without success. However, key elements of it were included in the Law of the 10th Rajab, 1284 (November 7, 1867) promulgated by Ismail. The components of this law were based upon recommendations put forward by a special committee on education.[3] The committee's chairman was Ali Mubarak, the Assistant Director of Education.[4] He was an Egyptian who had studied in Egypt and Europe under the auspices of Muhammad Ali and strongly supported educational reform.

The most significant points of the Law of the 10th Rajab,

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[3]The special committee on education had been appointed by the National Assembly, a quasi-democratic body. The Assembly's deputies were elected by the notables of villages and towns. They served in a purely consultative capacity. It appears that Ismail had arranged the formation of the Assembly in order to add a democratic facade to his severe taxation system. From the outset, however, he had intended that the Assembly should play a role in the development of education. Even before it convened for its first session, well informed European newspapers prognosticated that it would instigate educational reforms. Steppat, op. cit., p. 292. The following critique of the National Assembly appeared in the Levant Herald, one of the few unsubsidized Constantinople journals: "the Viceroy has surrendered his absolute prerogative to a Chamber of Seventy, chosen - to top all - by ballot. Henceforth, no more arbitrary taxation, no abuse of personal liberty in Egypt. By a stroke of the Viceregal pen, forced labour, the courbash, and fiscal spoilations have been blotted out from Nubia to Port Said, and a new order of freedom, social progress and increasing revenue inaugurated throughout the dominions of Ismail. Mais réellement, Monsieur Nubar, tout ceci n'est pas trop drole. The clever gentleman to whom the credit of this device is due has done many smart things in finance, but in this latest stroke of genious he has reckoned too far on the credulity of Europe. No, Excellency, your Chamber will deceive nobody, and will certainly not remove a single difficulty in the way of a new loan." Quoted in McCoan, Egypt under Ismail, p. 47.

[4]Dor Bey, a European in the Khedive's employ, said of Ali Mubarak, who at different times served as a government administrator, an engineer, a teacher and an educational executive: "The present Minister of Public Education has more than anyone taken to heart the well being of the schools and effectively worked for their development." Translated from French: V. Edouard Dor, L'Instruction publique en Egypte (Paris, 1872), p. 215.

1284 were as follows. Urban kuttabs with more than seventy pupils were to adopt a curriculum similar to that of the two primary schools that had been opened early in Ismail's reign.[5] This entailed koranic studies, reading, writing and elementary arithmetic. The standard of education at the smaller urban and rural kuttabs was to be improved. Central schools, which were to prepare primary school graduates for entrance into secondary schools (two secondary schools had been opened early in Ismail's reign), were to be established in each province. The syllabus would be a continuation of that of the primary schools, plus zoology, botany and agriculture. The primary and central schools were to be subsidized to a large extent by religious endowments and public donations, thus reducing the government's financial responsibility.[6]

The obstacles that confronted the implementation of the Law of the 10th Rajab were formidable. Some kuttab teachers were illiterate. The majority of them were totally ignorant of arithmetic and many of them adamantly refused to study it.[7] It

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[5]Two primary schools had been opened during the early months of Ismail's reign. Heyworth-Dunne, An Introduction to the History of Education in Modern Egypt, p. 348.

[6]The most important donation to the Council of Schools was the land in Wadi Tumilat bought by Ismail from the Suez Canal Company. Its gross returns were said to be £E. 50,000 per annum. Rifaat, op. cit., p. 122. The Law of the 10th Rajab also stated that parents of students had to contribute money for their children's education, though no fees were fixed by the Law. On this subject de Leon noted that: "The boarders who are able, pay £26 per year; those who can pay a part only, do so; the poor pay nothing. The same is the case with the day scholars. The non-paying pupils however, are subject to the call of the Government, which passes them on through other schools and prepares them for public service." De Leon, op. cit., p. 274.

[7]Dor, op. cit., p. 111.

was said of some of the more flagrantly obstructive teachers that a rumour of a school inspector's approach to a village was often sufficient cause for the school to be temporarily closed down. Though the Government made a great effort to carry out reforms in the kuttabs, progress was very slow. Approximately 30 primary schools, 9 of them outside Cairo, were in operation at the time of Ismail's abdication.[8]

Several special schools were reopened and some new ones established during Ismail's reign. It was reported that the following numbers of students were attending specific special schools during 1870: the School of Law and Languages (formerly called the School of Administration and Languages), 50 students; the Polytechnic Institute,[9] 60 students; the Chemistry School, 25 students; the School of Arts and Crafts, 100 students; the School of Medicine and Pharmacy, 50 students (approximately seventy-five percent of the student body studied medicine); the School of Midwifery, 40 students and the Observatory, 4 students.[10] Special schools that were not mentioned in this

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[8]Steppat, op. cit., p. 293.

[9]The curriculum at the Polytechnic Institute, which had 15 instructors on its staff, 3 of whom were Europeans, is noteworthy for its breadth of content: mechanics, hydraulics, algebra, differential calculus, descriptive geometry, physics, chemistry, Arabic, Turkish, and the students could choose to study either English or French. Heyworth-Dunne, An Introduction to the History of Education in Modern Egypt, pp. 354-355.

[10]Baron de Malortie, Egypt (London, 1882), p. 89. According to Baron de Malortie, the best students were selected for the Polytechnical and Medical schools, whilst the poorer ones were sent to military schools. Nevertheless, the graduates of military schools were generally paid higher salaries than those of Polytechnical and Medical schools. A teacher said to Malortie: "I was first in my class, and consequently drafted into the

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report includes the School of Surveying and Accountancy, the Industrial School, the School of Drawing, and the School of Egyptology.[11] Apparently, Ismail's special schools were generally better training establishments than those of the Muhammad Ali Era. A major advantage they enjoyed was the fact that they possessed a small nucleus of Egyptian and Ottoman instructors, who had been trained at institutions initiated by Muhammad Ali.

Remarkably few Europeans taught in Egyptian Government schools during Ismail's reign. At the School of Medicine and Pharmacy, for example, all fourteen of the medical instructors were Egyptians. It was not possible to ascertain whether the majority of these did most of their medical training in Europe or in Egypt. Heyworth-Dunne claimed that in 1875 there were only thirty-one Europeans teaching in Egyptian schools (4 at military institutions, and 27 at other educational establishments). Notwithstanding this fact, there was considerable friction between Egyptian and Ottoman instructors on the one hand, and European instructors on the other. Dor Bey, a Swiss

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10 contd:
Polytechnical School; again among the first, the minister picked me out as a pupil-teacher; I have now been toiling for 12 years and I get £9 per month, whilst those of my schoolfellows who did not qualify for the technical classes and who entered a military school are most of them colonels with £40 a month: and I can assure you that if I had to begin again, I should certainly be found among the idlers." Ibid., pp. 101-102.

11 Ismail took a personal interest in Egyptology and related fields of study. His patronage of Egyptology revived wider interest in it. He also extended his patronage to music, poetry, public libraries, learned societies and scholarly research. Moreover, he founded the Geographical Society, the National Library, an observatory in Cairo and a museum at Bulaq. Vatikiotis, op. cit., pp. 86-88.

educator who was appointed by Ismail to the position of Inspector General of Schools, noted this friction engendered in the school system,

> a lack of togetherness and esprit de corps which cannot be favourable to the development of studies.[12]

A major reason why few European instructors were employed, was that it had been recognised by key Egyptian educational officials that teaching via consecutive translation was largely ineffectual.

To overcome the constant shortage of teaching personnel, a teacher training college, Dar al-Ulum, was established in 1872, largely due to the efforts of Ali Mubarak. It was decreed by Ismail that the number of students attending this institution would initially be limited to fifty, that they were to be between 20 and 30 years of age, and that on completion of their studies they would be appointed to teaching positions in the national school system. Azharites were encouraged to enroll as students at this establishment (no coercion was used). They were regarded as the most suitable group of personnel available. The student-teachers studied mathematics, geography, history, physics, chemistry, caligraphy, Arabic and religious subjects.

Ali Mubarak devised an ingenious method of drawing Azharites to the Dar al-Ulum. They were first attracted to the Darb al-Gamamiz, a cultural centre in Cairo, by a series of

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[12]Translated from French: Dor, op. cit., p. 244.

public lectures, arranged by Mubarak. The subjects of the lectures, given by Egyptian and European scholars, included fikh, Quranic Exegesis and hadith, literature, physics, astronomy, chemistry, railways, architecture, mechanics, botany and history.[13] Exposure to Western scientific and cultural ideas, reinforced by encouragement from Ali Mubarak, helped to persuade a considerable number of Azharites to volunteer for teacher training.

Judged by the general low standard of its graduates, Dar al-Ulum was not a success during Ismail's reign. Its major problem was one that has already been discussed concerning education during the Muhammad Ali Era, namely the rote method of education. It was the principal manner of teaching of virtually all of the Egyptian and Ottoman instructors and it was the habitual learning method of the students. Dor Bey observed that "memorization plays too preponderant a role," and Malortie remarked that the teachers "seem only to lay stress on the development of memory."[14] Regardless of the fact that the rote method was known to be inappropriate for much of modern education, neither learning nor teaching techniques were part of the curriculum at Dar al-Ulum. Between 1873 and 1878 only 27 student-teachers graduated from this institution.

Willingness to undergo a westernized form of education was

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[13]Heyworth-Dunne, An Introduction to the History of Education in Modern Egypt, p. 377.

[14]Translated from French: Dor, op. cit., p. 86 and de Malortie, op. cit., p. 102.

not unique to Azharites. It permeated a significant part of Egyptian Society. Due largely to government efforts to popularize Western education, there was a growing awareness among Egyptians that it could be instrumental in improving one's social lot. In some instances youths clubbed together to maintain one student at a school, so that he might teach them during the evenings.[15] In the vast majority of cases, however, the State subsidised students. In 1875, for example, 79 percent of students attending national schools were financed by the Government. Such students were indentured to work for the Government after graduation. Between 1865 and 1875, 63 percent of all graduating students were absorbed into the army, while a further 19 percent entered the civil service.[16]

A school of Muslim girls, initially planned in 1867, was opened in January, 1873. This was the second school for Muslim females to be established in Islam, the first having been Muhammad Ali's School of Midwifery. Unlike the School of Midwifery, however, it concentrated on providing its pupils with a general education. Students were at first recruited from among white slaves belonging to Ismail, members of his family and government officials. In 1875, there were 298 students, 203 of them boarders. Three shaykhs taught the Quran, one layman taught Turkish and another drawing. Four female instructors taught needlework, one piano and one laundry. A second girls'

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[15]Young, op. cit., p. 77.

[16]Charles Issawi, Egypt at Mid-Century, An Economic Survey (London, 1954), p. 28.

school, on the same lines as the first, was opened during 1875. It initially had 147 students. In 1878 construction on a third one was commenced, but owing to the Government's lack of capital it was not completed.[17] The emergence of general education institutions for female students appears to have been a first step beyond the stage whereby Egyptian schools essentially existed in order to prepare students for government employment. Had Ismail not become enmeshed in a web of financial problems, it is conceivable that he would have instigated a state system of popular education in Egypt.

Despite problems, Ismail's schools possessed considerable potential, though educational development during Ismail's reign fell far short of the image propogated by "The Cave Report." This stated in part:

> Education has been carefully attended to, the number of schools established on a European model having increased from 185 in 1862, to 4,817 in 1875. In the latter year there were 4,817 schools with 6,048 masters and 140,977 pupils....The quality of education necessarily varies, but....is in some cases of a very superior character.[18]

Cave's impressive figures, repeated verbatim by a number of historians, are highly misleading if not erroneous. Mr. Cave's mission to Egypt was rather hurried, thus he had little time to verify the information presented to him by Ismail and his officials.

Cave's figures of 4,817 schools operating in Egypt during

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[17]Heyworth-Dunne, An Introduction to the History of Education in Modern Egypt, p. 377 and Steppat, op. cit., pp. 291-292.

[18]Stephen Cave, "The Cave Report," Appendix G, McCoan, Egypt as it is, p. 430.

1875 was probably correct. The claim that they were all of a "European model" can be discounted. Dor Bey records 4,685 traditionally oriented kuttabs in Egypt during 1875. If these are subtracted from Cave's total, 132 modern schools remain. Of this number, however, 93 were western mission schools. Hence it appears that there were 39 government controlled schools on the "European model" in operation in 1875 - a more credible figure. The following table provides estimates of the numbers of students attending these schools during 1868 and 1869, and from 1872 to 1878:

[19]

YEAR	STUDENTS	YEAR	STUDENTS
1868	1,399	1875	4,998
1869	1,956	1876	4,861
1872	2,323	1877	4,401
1873	4,309	1878	4,445
1874	4,609		

There is no doubt that Ismail's educational reforms would have been carried out on a larger scale had they not been impeded by recurrent financial crises. During the first years of Ismail's reign, the Government contributed £E. 75,000 per annum to education. Soon after the cotton boom had receded, this contribution dropped to £E. 67,000, and in 1871 to £E. 50,000. The bottom was reached in 1878, however, when

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[19]Heyworth-Dunne, An Introduction to the History of Education in Modern Egypt, pp. 387-388. A hundred and seventy-two students went to Europe for further education during Ismail's administration. Steppat, op. cit., pp. 292-293.

£E. 35,000 was budgeted for education.[20]

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[20]Artin provided the following statistics on governmental contributions to education for the years 1871-1879:

YEAR	£E.	YEAR	£E.
1871	50,000	1876	61,309
1872	50,000	1877	41,267
1873	49,240	1878	35,040
1874	51,820	1879	45,108
1875	60,083		

Artin, op. cit., p. 33.

Ismail could hardly be described as a militarist, nevertheless, it is notable that his annual military expenditures far exceeded his annual educational expenditures. For example the military budget for the 1876/1877 fiscal year - a financial crisis period in Egypt - was £E. 750,000, while Artin contended that the Government's contribution to education in 1876 was £E. 61,309. The Times, February 17, 1876, p. 4.

Chapter XI

The Expansion and Organization of the Military

Ismail's military reforms were of a much more limited scale than those of Muhammad Ali. Ismail strongly desired to gain Egypt's independence from the Ottoman Empire, but, as has already been discussed, he progressed in this by bribery rather than military action. This was of course the more prudent of the two, especially since the Ottoman army had undergone modernization and had been greatly strengthened since the Second Syrian War.

At Ismail's accession the Egyptian Army consisted of 3,000 disorganized, poorly trained and ill-equipped troops.[1] The Egyptian Navy had 3 or 4 ships and about 600 men. The low standard of seamanship was reflected in the practice, common for a group of officers at sea, to work out individually their ship's position from instrument readings and then to accept the average of all the positions so calculated as the ship's real position.[2]

During 1863, reforms were introduced in the naval training school and a school of shipbuilding was opened. The students for both institutions were drawn from primary schools. The course at the naval school was of three year's duration. The subjects taught were gunnery, navigation, ships' management,

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[1] The Times, January 28, 1870, p. 10.

[2] A. Sacré and L. Outrebon, L'Egypte et Ismail Pacha (Paris, 1865), p. 175.

military law, mathematics, geography, physics, chemistry, Turkish and English. Most of the teachers were Egyptians and Ottomans, but there were some Europeans among them.[3]

Despite the early reforms, the Egyptian Navy remained a very negligible force throughout Ismail's reign. This was partly due to the fact that the late Sultan, Abdul Aziz, had decreed that Egypt could not possess any ironclads. Ismail attempted on numerous occasions to have this decree rescinded without success. McCoan listed Egypt's naval strength for the early 1870's as follows: two screw frigates, two corvettes, four gunboats, two sloops, one despatch boat and three Viceregal yachts which flew the Egyptian Navy's colours.[4] All of these were wooden ships. Some were constructed at Alexandria, while the remainder were purchased from European powers. It is not clear in what year this list of ships was compiled, but it is evident that Ismail's fleet was never much larger than this.[5]

Unable to do much with his Navy but concerned about his overall military weakness, Ismail rapidly embarked on a programme of expansion, equipment and reform in his army.[6] During his first year as Pasha of Egypt fifteen army officers were

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[3]Heyworth-Dunne, An Introduction to the History of Education in Modern Egypt, pp. 348-349.

[4]McCoan, Egypt as it is, p. 121.

[5]It was reported in 1877 that "all that Egypt possesses by way of a marine is a small fleet of wooden ships." The Times, June 1, 1877, p. 4.

[6]According to Ismail, the arsenals could only have equipped an army of 15,000-20,000 men with outdated equipment. The Times, January 28, 1870, p. 10.

dispatched to France to study military techniques. They returned to Egypt in 1870. During 1864, four French officers, under the auspices of their Government, arrived in Egypt and commenced military reorganization. Additional French instructors were soon employed and the army was rapidly expanded to 18,000 men, the maximum strength permitted by the khatt-i-sharrif of 1841. The French military manual provided the basis for the training of the Egyptian Army until soon after the Franco-Prussian War of 1870-1871. At this time a translated edition of the Prussian military manual was adopted and one or two Prussian instructors were employed. Due to Ismail's recurrent financial problems, however, the army's operational methods were only partly Prussianized.

During 1864 and 1865 infantry, cavalry, artillery, military engineering, and staff schools were opened.[7] In addition to military subjects, physics, chemistry, mechanics, mathematics, geography, French, English, Turkish and caligraphy were studied at these institutions.[8] The majority of the instructors were either Ottomans or Egyptians. In 1874 an

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[7]During 1870 there were 500 trainees at the Infantry School at Abbasieh, 100 trainees at the Cavalry School, 100 at the Artillery School and 30 at the Military Engineering School; moreover, there were 100 students from Egypt attending a military school in Paris. De Malortie, op. cit., p. 89.

[8]Four other schools were connected to the military schools. An agricultural school, 1867 and a veterinary school, 1868, were attached to the Cavalry School. A school of accountancy, 1867, was joined to the School of Cavalry, though the connection between the two is obscure. The fourth school, which was attached to the School of Artillery and Military Engineering, was opened in 1866. Students there were trained in irrigation and architectural and military engineering. Heyworth-Dunne, An Introduction to the History of Education in Modern Egypt, p. 350.

N.C.O.'s school was opened. Reading, writing, arithmetic and the keeping of regimental records were taught there.[9]

After Ismail had plied the Porte and various Turkish officials with substantial gifts, an imperial firman was issued in 1866, which, among other things, raised the permissible maximum number of troops in the Egyptian army from 18,000 to 30,000. Not satisfied with this concession, Ismail introduced a short-service system. Most of the conscripts, after undergoing training and a short period of service, returned home on leave for an indefinite period and were replaced by fresh recruits. These in turn were later similarly relieved by others. In 1872, another imperial firman removed all limitations on the size of the Egyptian armed forces. The army rapidly expanded to 60,000 men.[10] Due to the instability of Egypt's financial position, however, there were wide fluctuations in the number of men under arms.[11] Nevertheless, sufficient officers and non-commissioned officers were retained in regular service to command a large number of reserves, in addition to the troops already serving.[12]

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[9]Hesseltine and Wolf, op. cit., p. 86.

[10]As in the Muhammad Ali Era conscripted men were essentially in the armed services for life, since no time limitation was put upon the duration of their period of service. Fellahin could legally purchase exemption from service by paying the Government £E. 80. A serviceman could purchase his discharge by paying a sum of money to the Government, but the longer he served, the more he had to pay. The Times, September 20, 1878, p. 12.

[11]It was reported in February, 1870, for instance, that the army had been reduced from 30,000 to 15,000 men. The Times, February 4, 1870, p. 8.

[12]Unlike Muhammad Ali, Ismail used troops, when necessary, contd:

Various contemporary European observers shared the opinion that the officer corps was of a very low standard.[13] Ottomans filled its upper echelons, but the ranks up to that of colonel became increasingly accessible to Egyptians as Ismail's administration progressed. It is noteworthy that in 1870 two-thirds of the officer corps were said to be literate. This represents a dramatic increase in literacy among commissioned personnel since the Muhammad Ali Era. Ismail reinforced this trend when, upon the recommendations of one of his American advisors, General Stone, he decreed in 1870, that neither officers nor members of the lower ranks could be promoted if they were illiterate.[14] In the same year, Stone organized an education programme for the non-commissioned ranks. The men attended classes for 1½ hours a day, in addition to their regular duties. It was later claimed that largely because of this

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for agricultural work and for such tasks as building roads and railways. They were said to be considerably more productive than those fellahin who had not served in the armed forces. The Times, February 29, 1864, p. 12 and The Times, February 16, 1877, p. 8.

[13]Colonel Dye, an American military adviser and instructor to the Egyptian Army, said of its officers in general: "They have an inordinate amount of mental, as well as physical inertia - lying, duplicity and intrigue being as necessary to their distinctive manner of existence as marvel in an Egyptian story.... Nor is there anything about their daily life, or in their manner of executing their duties, calculated to inspire confidence." He also said that the Egyptian Army was "full of....cliques and conflicting interests, whose disorganizing intrigues are rendered more and more intense by the increasing possibilities even probabilities of success." W. McE. Dye, Moslem Egypt and Christian Abyssinia (New York, 1880), pp. 62 and 402.

[14]Ismail decreed in the late 1860's that, in the future, candidates would not be considered for military commissions unless they had graduated from both special schools and military training establishments. It appears, however, that this was not wholly implemented.

scheme 70% of the rank and file "could write well enough to make their own written applications for leave of absence and appeals for justice."[15] Stone's education programme was ultimately intended to develop some personnel to a level where they would be able to replace the large number of civilian Coptic clerks working at Egyptian military establishments.[16] Stone opined to Ismail that these clerks, renowned for their corrupt practices, were the army's "worst evil."[17]

Throughout Ismail's reign the same brutal conscription techniques were used as had been applied by Muhammad Ali's press gangs.[18] Men were chained together and herded to an induction centre, followed by a multitude of kin.[19] Yet it appears that there were no peasant uprisings against conscription during Ismail's reign.[20] Nevertheless, men still mutilated

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[15]Loring, op. cit., p. 349.

[16]Again due to Stone, free education was offered for sons of servicemen, with free room and board if the family lived a considerable distance from the father's camp. Most of the teaching was done by army officers. Apparently it was hoped that some of the students would volunteer for military service when old enough to do so. Hesseltine and Wolf, op. cit., pp. 85-86.

[17]Ibid., pp. 85-86.

[18]During 1878, when war between Turkey and Russia seemed imminent, it was reported that "the reserves are all called out, and old soldiers of the time of Muhammad Ali have been forced to resume their trade." The Times, January 21, 1878, p. 10.

[19]Non-Moslems were exempt from conscription. Edwin de Leon remarked that: "At Cairo and Alexandria you see numbers of Syrians, of Copts, of Armenians, of Israelites, of Berbers, of Nubians, Greeks and Turks all of whom numbering probably 150,000 are exempted from conscription in these two cities alone. This is among many unaccountable anomalies of the Egyptian administration." De Leon, op. cit., p. 371.

[20]If a serviceman deserted, his family was held respon-

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themselves in order to avoid conscription and some mothers purposely injured their offspring so that they would be unfit for military service later in life.[21] A Times correspondent aptly described the fellah's attachment to his home and his repugnance for military service thus:

> He has a catlike instinct in his attachment to his bit of a mud hut, where other men would find nothing but misery. Notwithstanding much better food and such clothes as he never gets at home, he hates enlistment, and will hide for weeks rather than take arms.[22]

Several infantry regiments of Sudanese conscripts were formed during Ismail's reign. These did not suffer the inordinately high mortality rate due to sickness and melancholy that had befallen Sudanese regiments during the Muhammad Ali Era. The reasons for this phenomenon are not clear, since it seems that there was little difference between basic conditions in Ismail's and Muhammad Ali's armies.

Ismail dismissed most French officers from his employ soon after Napoleon III had issued his judgement concerning the Suez Canal. During the late 1860's, he hired 20 - 30 American

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20 contd:
sible for his action. They either had to find him, or to provide two relatives to replace him. If the deserter had no relatives, his native village had to pay a fine. The Times, September 20, 1878, p. 4.

[21] Colonel Chaillé-Long, who had witnessed a number of incidents where recruits undergoing training had had parts of hands blown off by misfiring rifles, reported the incidents to his Commanding-General. The General informed him that some soldiers purposely dropped their greased cartridges into sand, so that the rifle would become blocked and would explode when fired, thus mutilating the soldiers involved, and gaining them discharges from the army. Chaillé-Long, op. cit., vol. I, p. 60.

[22] The Times, February 16, 1877, p. 8.

officers, veterans of the American Civil War. This appears to have been a deliberately shrewd move by Ismail, since the United States was unlikely to develop any imperialistic designs on Africa. The major European powers either had imperial possessions there, or were intent upon acquiring some. It was politic of Ismail to hire American military instructors, rather than emulate his grandfather's precedent of employing a large proportion of European ones.

The Americans were essentially adventurers who had found it difficult to adjust to peacetime conditions. When hired by Ismail's agent, Thadeus Mott, they were led to believe that they would be fighting to free Egypt from "Turkish tyranny." One of the Americans, Colonel Chaillé-Long recalls Ismail's injunction to him at their first meeting: "I count upon your discretion, devotion and zeal to aid me in the establishment of the independence of Egypt. When this shall have been accomplished, as it will be with God's help, I shall bestow upon you the highest honours."[23] Soon after the Americans had witnessed the condition of the army however, they concluded that it would be foolhardy for Egypt to provoke a war. Fortunately a war between Egypt and the Ottoman Empire did not materialize.

A dozen Americans, under the leadership of General Loring, worked on strengthening Egypt's dilapidated coastal defences.[24]

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[23]Quoted in Pierre Crabites, Americans in the Egyptian Army (London, 1938), p. 43.

[24]Some American heavy artillery guns, costing more than 100,000 francs each, were used for coastal defences in addition to previously installed guns. The defences were modernized, strengthened, reorganized and placed under a single system of

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The remainder worked on the general staff, organized and commanded by General Stone.[25] Though most of the Americans had had considerable battle experience, none of them were given line commands in the Egyptian Army. This was largely because Ismail did not wish to exacerbate the already inflamatory resentment of the Ottoman and Egyptian officers to the presence of Americans in Egypt.[26]

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24 contd:
control. Though it is not possible to estimate, with any accuracy, the cost of arms imported into Egypt during Ismail's reign, it was no doubt a large figure. For instance, a relatively large number of heavy field guns, manufactured by the Krupp and Wahrendroff companies, were purchased, as were some Gatling guns, large quantities of Remington rifles and Prussian needle rifles. Egyptian munitions' factories manufactured ammunition for all of the weapons used by Egyptian troops. McCoan, Egypt as it is, p. 119 and Sammarco, op. cit., vol. III, p. 157.

25After being appointed chief of the army general staff in 1870, General Stone was surprised to find that there was no general staff actually in existence. In fact one had not existed since the end of Muhammad Ali's reign. There was one French colonel of staff in office, but he was in England purchasing military materials and did not return to Egypt until 1880. Thus Stone appointed to his staff members of the initial military mission to France, 1863-1870 and American officers, some of whom had staff work experience. Colonel Dye described the duties of the general staff as: "To supply the army, move it, distribute the commander's orders in such a way among the several units as to preserve the harmonious relations of the parts, and their unity in and on the field. They are to keep the commander well informed of the enemy's conditions and movements, to learn the military nature of the country to be passed over, and its vicinity, that is to say, its facilities for supplying, moving or resisting an army." The most notable achievements of the general staff were the surveying, exploring and mapping of various areas of Central Africa. This work was done primarily as preparation for Egyptian expansion into this region, but it proved to be a great contribution to the study of the geography of this virtually unexplored - by white men - area of Africa. Dye, op. cit., p. 69 and Loring, op. cit., p. 349.

26Ismail warned the American officers to expect jealousy from the Egyptian and Ottoman officers, but implored them to: "Bear it with patience and indulgence." None of the Americans
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Actually, during early 1876, General Loring was tentatively appointed commander-in-chief of a 12,000 man force that was destined to invade Abyssinia. Ismail hoped to extend his domain into that country. But when the military hierarchy expressed profound discontent over his appointment, Loring was named chief-of-staff, while Ratib Pasha was appointed commander-in-chief. The staff had virtually no tactical influence on the expedition, since the Ottoman and Egyptian line officers remained hostile to Loring and his American aides. Despite this, the foreigners were blamed for the expedition's humiliating failure. The only battle ended in a stalemate, with the Egyptian force suffering heavy losses.

It is noteworthy that members of the military officer corps started to become politically active during 1879, the last year of Ismail's administration. In that year a number of officers rioted in opposition to a decree which, as an economy measure, placed 2,500 of them on half-pay. This was but one of many grievances that the officer corps had against the European controlled government. Soon after this incident, a military-political group, that came to be known as the Arabists, formed

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26 contd:
attempted to learn Turkish or Arabic. They remained as aloof as possible from Ottomans and Egyptians and abhorred many Eastern customs. For instance, one of them wrote that: "All the efforts His Highness can make to civilize his people will be useless until he abolishes all the Harems and Eunuchs from the Land." Equally repugnant to the Americans were polygamy and the ease of divorce. General Loring, who had fought against the (polygamous) Mormons on the Utah frontier, was particularly critical of plural marriages. He was invited as the guest of honour to the second wedding of one of his Egyptian officers, but while at the ceremony persisted in lecturing his host on the virtues of monogamy. Hesseltine and Wolf, op. cit., pp. 49 and 64.

under the leadership of Colonel Ahmad Arabi. This group rapidly gained widespread support. During 1882, by the use of force and threats, it attained political control of Egypt. The victory was ephemeral. In that same year Arabi's government was overthrown by the British in their occupation of Egypt.

Though considerable money and effort were spent on modernizing and expanding the army, Ismail demonstrated far less concern for Egypt's military strength than his grandfather had done. Moreover, Ismail's army was singularly unsuccessful in the field. In its major expeditions it was soundly defeated by an Abyssinian army in 1875 and, as already mentioned, fought an indecisive battle against an Abyssinian force in 1876. Its most salient positive feature was the fact that it was a key channel for literacy and formal education in Egypt.

CONCLUSION

The precipitate changes and reforms induced by Muhammad Ali were fraught with shortcomings. Considering that Egypt was a profoundly traditional society, however, it is remarkable they developed to the extent that they did. Such changes were totally inconceivable to the elements of Egyptian Society that prevailed prior to Muhammad Ali's advent.

The Pasha's paramount ambition was dynastic and political. For this he sought to create a modern army similar to those of France and Britain, units of which he had seen in action. He was not the first Ottoman leader to instigate western military reforms, Sultan Selim III had preceded him in this by more than two decades. Muhammad Ali, however, was more immediately successful, whereas reaction long delayed the changes initiated by Selim and his successor Mahmud II. Considering that the Pasha had manoeuvred his way to power in defiance of the Porte, and that Napoleon had demonstrated how strategically vulnerable Egypt was, his preponderant interest in establishing a modern army was justifiably expedient.

The tangible results of the precipitate changes and reforms induced by Muhammad Ali were largely dissipated by the time of his abdication. Yet, by planting the roots of a tradition of change and reform, he provided the less tangible precedents and incentives that ensured a greater degree of success for similar undertakings in the future. The crucial stumbling block to the Pasha's reforms was the conservatism and inexperience of almost

all the Ottoman administrators and the entire Egyptian labour force. The magnitude of the problem is underlined by the fact that he was attempting to establish modern factories the products of decades and centuries of Western technological evolution, in a society that had only recently re-established contact with the wheel. The vast majority of the labour force lacked any formal education, skills and work experience vaguely relevant to the wide spectrum of reforms undertaken. Not surprisingly, since the traditional Islamic culture was markedly antithetical to that of the West. Those Egyptians and Ottomans who received westernized training progressed extremely slowly, much more so than the Pasha and a number of his advisors had anticipated. A large number of skilled personnel were needed for the wide range of institutions the Pasha so rapidly set into motion. These included engineers, mechanics, fitters, maintenance personnel, armourers, ship-wrights, physicians and school teachers. In actuality there were from the outset too few so endowed, and most of them were Europeans attracted to Egypt by high wages. That the reforms were far too ambitious for the number of skilled personnel available, accounted for an inordinate proportion of the problems encountered.

To some extent the problems of cross-cultural education were slowly alleviated. The standard of graduates from some of the special schools improved considerably in time. That competent technicians were emerging is illustrated by the fact that engineers trained during the Muhammad Ali Era played major roles in the construction of Egypt's first railway, in the governorship of his successor Abbas. Unfortunately the founder

of the dynasty had only been interested in progress as far as it concerned strengthening his military power. When forced to reduce his army to a fraction of its former size, after the Second Syrian War, he lost interest in all other areas of development. Few of his undertakings were in operation at the time of his abdication. As indicated by the earlier example of success in cross-cultural education, Muhammad Ali, having coerced Egypt a significant step forward through the process of transition, failed to maintain the crucial momentum. The lasting effectiveness of his reforms was jeopardized when he allowed them to retrogress during the last six or seven years of his administration.

Unlike Muhammad Ali, Ismail was not essentially a militarist. His primary ambitions were considerably more diverse than those of his grandfather. No doubt this was partly due to his relatively sophisticated upbringing. He was tutored by Westerners in Egypt, studied for three years in France and travelled widely in Europe. Of course Muhammad Ali experienced no such educational advantages. He was completely illiterate until late in life, had worked as a tobacco merchant in Cavalla before joining the Ottoman army and had never travelled outside of the Ottoman Empire. Ismail, apart from his modern upbringing, was technically more secure in his position of leadership than Muhammad Ali had been for most of his administration. Hence he could afford to be more diverse in his ambitions. His base of power was protectected by international guarantees, secured by his grandfather at the end of the Second Syrian War. The fact that he was the fifth member of the Muhammad Ali dynasty to

govern Egypt, testified to his position of relative security. The army was just one of his list of priorities.

Ismail's reforms did not suffer nearly as severely as Muhammad Ali's had done from a lack of experienced administrators and skilled labour. This was, of course, largely due to the fact that there had been some continuity of development, though spasmodic, between the two administrations. At the time of his accession Ismail had at his disposal a small group of skilled indigenous personnel, as well as a considerable number of semi-skilled workers who had worked on such developmental projects as railway construction and the Suez Canal. Equally important, Ismail prudently refrained from attempting to establish complex industries, which required a high proportion of skilled labour. Presumably his grandfather's experience in this area repelled him from attempting such undertakings. The sugar factories were the only major manufactories he established. These required a relatively low proportion of skilled to unskilled workers.

It has been observed that developing countries outside of Europe and North America tend to pass through three developmental stages. Initially they go from a subsistence to an export-oriented economy, and from there to a complex economy. A subsistence economy of course is backward, few branches produce a surplus and internal communication links are poor. On the other hand, in an export-oriented economy one sector is usually developed far more intensively than others for overseas markets - cotton in Egypt's case - and a network of transport, commercial and financial services is established, primarily to facilitate

export trade. While a complex economy is characterized by a developed manufacturing sector and the use of progressive methods in other areas, though pockets of underdevelopment may exist.[1]

Muhammad Ali essentially attempted to induce Egypt from stage one, a subsistence economy, to stage three a modern complex economy. In this he failed, but instead initiated her into stage two, an export-oriented economy.[2] Ismail developed this stage by such significant undertakings as the development of modern harbour facilities, the improvement and large scale expansion of internal communication links, and the cutting of new irrigation arteries, which all facilitated agricultural expansion. Such changes in turn provided the basis for subsequent socio-economic developments. Ismail's period constitutes an important link in the reorientation of traditional society under the impact of European influences, a process termed modernization. This process, however, affects a vast entanglement of factors, political, social and economic. Ismail's policies helped trigger many of these by his imprudent haste and financial commitments. It took about half a century alone for Egypt to liquidate the debt he accumulated. More complicated was the chain of events triggered off by the direct intervention in Egyptian affairs by Europeans and some European powers acting on behalf of the creditors. This intervention

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[1]Charles Issawi, "Egypt since 1800: A study of lop-sided development," in The Journal of Economic History, XXI, No. 1 (March, 1961), 2-3.

[2]Ibid., p. 4.

ultimately clashed with the social and political changes associated in Egypt with the figure of Arabi Pasha, and culminated in the British occupation that introduced a new phase in the modernization of Egypt.

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